MITSUBISHI ELECTRIC

AC Servo System

MITSUBISHI ELECTRIC SERVO SYSTEM
MELSERVO-JET

MR-JET-G-N1
User's Manual
(Object Dictionary)

-MR-JET-_G_-_N1

SAFETY INSTRUCTIONS

Please read the instructions carefully before using the equipment.
To use the equipment correctly, do not attempt to install, operate, maintain, or inspect the equipment until you have read through this manual, installation guide, and appended documents carefully. Do not use the equipment until you have a full knowledge of the equipment, safety information and instructions.
In this manual, the safety instruction levels are classified into "WARNING" and "CAUTION".

⚠ **WARNING**	Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.
⚠ **CAUTION**	Indicates that incorrect handling may cause hazardous conditions, resulting in medium or slight injury.

Note that the CAUTION level may lead to a serious consequence depending on conditions.
Please follow the instructions of both levels because they are important to personnel safety.
Forbidden actions and required actions are indicated by the following diagrammatic symbols.

	Indicates a forbidden action. For example, "No Fire" is indicated by .
	Indicates a required action. For example, grounding is indicated by .

In this manual, precautions for hazards that can lead to property damage, instructions for other functions, and other information are shown separately in the "Point" area.
After reading this manual, keep it accessible to the operator.

[Installation/wiring]

⚠WARNING

- To prevent an electric shock, turn off the power and wait for 15 minutes or more before starting wiring and/or inspection.
- To prevent an electric shock, ground the servo amplifier.
- To prevent an electric shock, any person who is involved in wiring should be fully competent to do the work.
- To prevent an electric shock, mount the servo amplifier before wiring.
- To prevent an electric shock, connect the protective earth (PE) terminal of the servo amplifier to the protective earth (PE) of the cabinet, then connect the grounding lead wire to the ground.
- To prevent an electric shock, do not touch the conductive parts.

[Setting/adjustment]

⚠WARNING

- To prevent an electric shock, do not operate the switches with wet hands.

[Operation]

⚠WARNING

- To prevent an electric shock, do not operate the switches with wet hands.

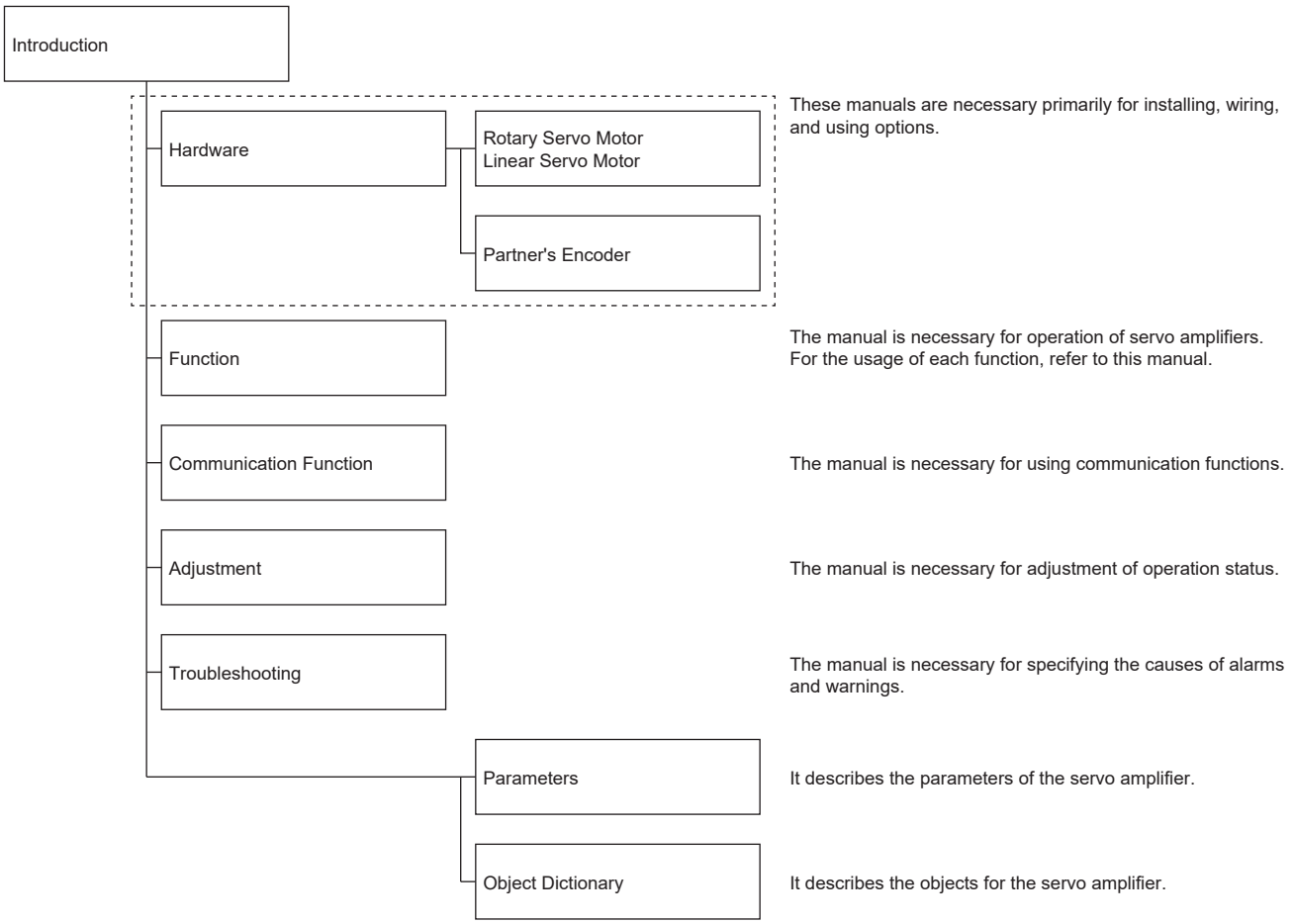
[Maintenance]

⚠WARNING

- To prevent an electric shock, any person who is involved in inspection should be fully competent to do the work.
- To prevent an electric shock, do not operate the switches with wet hands.

ABOUT THE MANUAL

If using the servo for the first time, prepare and use the following related manuals to ensure that the servo is used safely. For the related manuals, refer to the User's Manual (Introduction).



Global standards and regulations

Compliance with the indicated global standards and regulations is current as of the release date of this manual. Some standards and regulations may have been modified or withdrawn.

U.S. CUSTOMARY UNITS

U.S. customary units are not shown in this manual. Convert the values if necessary according to the following table.

Quantity	SI (metric) unit	U.S. customary unit
Mass	1 [kg]	2.2046 [lb]
Length	1 [mm]	0.03937 [inch]
Torque	1 [N•m]	141.6 [oz•inch]
Moment of inertia	1 [(× 10^{-4} kg•m^2)]	5.4675 [oz•$inch^2$]
Load (thrust load/axial load)	1 [N]	0.2248 [lbf]
Temperature	N [°C] × 9/5 + 32	N [°F]

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1 SUMMARY OF OBJECT DICTIONARY

Each data such as control parameters, command values, and feedback values is handled as an object composed of an Index value, object name, data type, access rule, and other elements. The object data can be exchanged between the master station (external device) and the slave stations (servo amplifiers). The aggregate of these objects is called an object dictionary.
This manual describes the object dictionary which is necessary for servo amplifiers to be used via EtherCAT communication.

1.1 Structure

The following shows the detailed structure of the object dictionary.

Item	Explanation
Data Type	Indicates the object size. I8: 8-bit signed integer (range: -128 (80h) to 127 (7Fh)) I16: 16-bit signed integer (range: -32768 (8000h) to 32767 (7FFFh)) I32: 32-bit signed integer (range: -2147483648 (80000000h) to 2147483647 (7FFFFFFFh)) I64: 64-bit signed integer (range: -9223372036854775808 (8000000000000000h) to 9223372036854775807 (7FFFFFFFFFFFFFFFh)) U8: 8-bit unsigned integer (range: 0 (0h) to 255 (FFh)) U16: 16-bit unsigned integer (range: 0 (0h) to 65535 (FFFFh)) U32: 32-bit unsigned integer (range: 0 (0h) to 4294967295 (FFFFFFFFh)) U64: 64-bit unsigned integer (range: 0 (0h) to 18446744073709551615 (7FFFFFFFFFFFFFFFh)) VISIBLE STRING: Character string BOOL: 1-bit unsigned integer (range: 0 (0h) to 1 (1h)) OCTET STRING (n): Binary character string. "n" in parentheses indicates the number of bytes.
Access	Indicates whether the object can be read or written. RO: Only reading is available RW: Reading and writing are available
Mapping	Indicates whether the object can be mapped in cyclic communication. Impossible: The object cannot be mapped to TxPDO or RxPDO. TxPDO: The object can be mapped to TxPDO. RxPDO: The object can be mapped to RxPDO. TxPDO/RxPDO: The object can be mapped to TxPDO and RxPDO.
Default	Indicates the initial value of the object.
Range	Indicates the object setting range. If a value outside the range is written, a parameter external error occurs.
Units	Indicates the object unit.
Save	Indicates whether data can be stored in the non-volatile memory for objects that can be used for model replacement. Impossible: Data cannot be stored in the non-volatile memory. The value of the data written from the controller returns to the value of "Default" when the power is shut off. Possible: Data can be stored in the non-volatile memory with [Store parameters (Obj. 1010h)]. Data is saved in the servo parameter corresponding to the object. For the corresponding servo parameters, refer to "Parameter".
Parameter	Indicates where data is stored in the non-volatile memory.
Description	Describes the object.
ECT	Indicates EtherCAT.

Object units

This section explains the pos units, vel units, and acc units used in this manual.
The degree unit is available on servo amplifiers with firmware version B6 or later.
The mm unit and inch unit are available on servo amplifiers with firmware version B8 or later in the positioning mode (point table method).

pos units

The standard unit can be changed using [Pr. PT01.2 Unit for position data] as shown in the following table.

Setting value	Standard unit
0	mm
1	inch
2	degree
3	pulse

vel units

The speed unit can be changed using [Pr. PT01.1 Speed/acceleration/deceleration unit selection] as shown in the following table. The command unit can be changed to "0.001 mm", "0.0001 inch", "0.001 degree", or "pulse" using [Pr. PT01.2].

Setting value	Unit
0	0.01 r/min, 0.01 mm/s *1
1	Command unit/s

*1 "0.01 mm/s" is used in the linear servo motor control mode.

acc units

The acceleration unit can be changed using [Pr. PT01.1] as shown in the following table. The command unit can be changed to "0.001 mm", "0.0001 inch", "0.001 degree", or "pulse" using [Pr. PT01.2].

Setting value	Unit
0	ms
1	Command unit/s^2

1.2 Reading/Writing in MR Configurator2

The objects of the servo amplifier can be read and written by using MR Configurator2.
The following combinations can be used to read and write the objects. However, some objects cannot be read or written.

—	Software version of MR Configurator2	Firmware version of the servo amplifier
Object reading	1.115V or later	B6 or later
Object writing	1.145B or later	D8 or later

When objects are read or written without being connected to the controller, some objects may behave differently than when connected to the controller.
The objects mapped to PDO cannot be written because they are overwritten by the instruction from the controller. Before writing objects, remove them from the PDO mapping.

1.3 Objects interlocked with servo parameters

The servo parameters can be changed by writing values on servo parameter objects. The servo parameters can also be changed with objects other than the servo parameter objects that change along with the servo parameters. The following table shows an example. Note that if the power is cycled, the changed settings are not retained at the next startup. To retain the changed settings even after cycling the power, save the servo parameter setting value to the non-volatile memory by using [Store parameters (Obj. 1010h)].

Servo parameter	Servo parameter object	Object other than servo parameter objects that changes along with the servo parameter
[Pr. PT45 Homing method]	[PT45 (Obj. 24ADh)]	[Homing method (Obj. 6098h)]

2 OBJECT DICTIONARY LIST

2.1 Section definition of object dictionary

The following shows the structure of an object dictionary.

Index	Description	Reference
1000h to 1FFFh	Communication profile	☞ Page 42 General Objects ☞ Page 51 PDO Mapping Objects ☞ Page 67 Sync Manager Communication Objects
2000h to 27FFh	Servo parameter	☞ Page 83 Parameter Objects
2800h to 29FFh	Point table	☞ Page 189 Point table Mode Objects
2A00h to 2A7Fh	Alarm	☞ Page 85 Alarm Objects
2B00h to 2BFFh	Monitor	☞ Page 95 Monitor Objects
2C00h to 2C7Fh	Diagnostics	☞ Page 111 Manufacturer Specific Control Object
2D00h to 2DFFh	Manufacturer defined control	☞ Page 111 Manufacturer Specific Control Object ☞ Page 189 Point table Mode Objects ☞ Page 201 Touch Probe Function Objects
2E00h to 5FFFh	Objects group defined by Mitsubishi Electric	—
6000h to 9FFFh	CiA 402 drive profile	☞ Page 42 General Objects ☞ Page 146 PDS Control Objects ☞ Page 159 Position Control Function Objects ☞ Page 164 Profile Velocity Mode Objects ☞ Page 168 Profile Torque Mode Objects ☞ Page 175 Profile Position Mode Objects ☞ Page 184 Homing Mode Objects ☞ Page 195 Factor Group Objects ☞ Page 201 Touch Probe Function Objects ☞ Page 211 Optional application FE Objects ☞ Page 217 Cyclic Synchronous Position Mode Objects
F000h to F0FFh	Semiconductor device profile	☞ Page 220 SEMI Device Profile Objects
E600h E700h E900h to E9FFh F601h to F60Fh F700h to F70Fh	FSoE CiA 402 drive profile	☞ Page 246 Safety Over EtherCAT Objects
F000h to FFFFh	Modular device profile	☞ Page 246 Safety Over EtherCAT Objects

2.2 General Objects

Index	Object name (Index)	Sub Index	Object name (Sub Index)
1000h	Device Type	00h	Device Type
1001h	Error Register	00h	Error Register
1008h	Manufacturer Device Name	00h	Manufacturer Device Name
1009h	Manufacturer Hardware Version	00h	Manufacturer Hardware Version
100Ah	Manufacturer Software Version	00h	Manufacturer Software Version
1010h	Store parameters	00h	Store parameters
		01h	Save all parameters
1011h	Restore default parameters	00h	Restore default parameters
		01h	Restore all default parameters
1018h	Identity Object	00h	Identity Object
		01h	Vendor ID
		02h	Product Code
		03h	Revision Number
		04h	Serial Number
10F1h	Error Settings	00h	Error Settings
		01h	Local Error Reaction
		02h	Sync Error Counter Limit
67FEh	Version number	00h	Version number
F050h	Detected Module List	00h	Detected Module List
		01h	Detected Module List Position 1
		⋮	⋮
		61h	Detected Module List Position 97

2.3 PDO Mapping Objects

Index	Object name (Index)	Sub Index	Object name (Sub Index)
1600h	1st Receive PDO Mapping	00h	1st Receive PDO Mapping
		01h	Mapped Object 001
		⋮	⋮
		20h	Mapped Object 032
1601h	2nd Receive PDO Mapping	00h	2nd Receive PDO Mapping
		01h	Mapped Object 001
		⋮	⋮
		20h	Mapped Object 032
1602h	3rd Receive PDO Mapping	00h	3rd Receive PDO Mapping
		01h	Mapped Object 001
		⋮	⋮
		20h	Mapped Object 032
1603h	4th Receive PDO Mapping	00h	4th Receive PDO Mapping
1608h	9th Receive PDO Mapping	00h	9th Receive PDO Mapping
		01h	Mapped Object 001
		⋮	⋮
		24h	Mapped Object 036
1A00h	1st Transmit PDO Mapping	00h	1st Transmit PDO Mapping
		01h	Mapped Object 001
		⋮	⋮
		20h	Mapped Object 032
1A01h	2nd Transmit PDO Mapping	00h	2nd Transmit PDO Mapping
		01h	Mapped Object 001
		⋮	⋮
		20h	Mapped Object 032
1A02h	3rd Transmit PDO Mapping	00h	3rd Transmit PDO Mapping
1A03h	4th Transmit PDO Mapping	00h	4th Transmit PDO Mapping
1A08h	9th Transmit PDO Mapping	00h	9th Transmit PDO Mapping
		01h	Mapped Object 001
		⋮	⋮
		24h	Mapped Object 036

2.4 Sync Manager Communication Objects

Index	Object name (Index)	Sub Index	Object name (Sub Index)
1C00h	Sync Manager Communication Type	00h	Sync Manager Communication Type
		01h	Sync Manager 0
		02h	Sync Manager 1
		03h	Sync Manager 2
		04h	Sync Manager 3
1C12h	Sync Manager RxPDO assign	00h	Sync Manager RxPDO assign
		01h	Assigned PDO 001
		02h	Assigned PDO 002
		03h	Assigned PDO 003
		04h	Assigned PDO 004
1C13h	Sync Manager TxPDO assign	00h	Sync Manager TxPDO assign
		01h	Assigned PDO 001
		02h	Assigned PDO 002
		03h	Assigned PDO 003
		04h	Assigned PDO 004
1C32h	SM output parameter	00h	SM output parameter
		01h	Synchronization Type
		02h	Cycle Time
		04h	Synchronization Types supported
		05h	Minimum Cycle Time
		06h	Calc and Copy Time
		09h	Delay Time
		0Bh	SM-Event Missed
		0Ch	Cycle Time Too Small
		0Dh	Shift Time Too Short
		20h	Sync Error
1C33h	SM input parameter	00h	SM input parameter
		01h	Synchronization Type
		02h	Cycle Time
		04h	Synchronization Types supported
		05h	Minimum Cycle Time
		06h	Calc and Copy Time
		09h	Delay Time
		0Bh	SM-Event Missed
		0Ch	Cycle Time Too Small
		0Dh	Shift Time Too Short
		20h	Sync Error

2.5 Parameter Objects

Index	Object name (Index)	Sub Index	Object name (Sub Index)
2001h ⋮ 202Ch	PA01 ⋮ PA44	—	—
2081h ⋮ 20DCh	PB01 ⋮ PB92	—	—
2101h ⋮ 2160h	PC01 ⋮ PC96	—	—
2181h ⋮ 21C8h	PD01 ⋮ PD72	—	—
2201h ⋮ 2258h	PE01 ⋮ PE88	—	—
2281h ⋮ 22E3h	PF01 ⋮ PF99	—	—
2401h ⋮ 2448h	PL01 ⋮ PL72	—	—
2481h ⋮ 24DAh	PT01 ⋮ PT90	—	—
2581h ⋮ 25A2h	PN01 ⋮ PN34	—	—
2691h	PV group parameters	00h	PV group parameters
		01h	PV01
		⋮	⋮
		28h	PV40

2.6 Alarm Objects

Index	Object name (Index)	Sub Index	Object name (Sub Index)
2A00h	Alarm history newest	00h	Alarm history newest
		01h	Alarm No.
		02h	Alarm time (Hour)
		03h	Alarm2 No.
		04h	Alarm time (second)
		05h	Alarm time (nanosecond)
		06h	Alarm time (time zone)
		07h	Alarm time (summer time)
2A01h ⋮ 2A0Fh	Alarm history 1 ⋮ Alarm history 15	—	—
2A40h	Clear alarm history	00h	Clear alarm history
2A41h	Current alarm	00h	Current alarm
2A43h	Point table error	00h	Point table error
		01h	Point table error No.
		02h	Point table error factor
2A44h	Parameter error number	00h	Parameter error number
2A45h	Parameter error list	00h	Parameter error list
		01h	Parameter error list 1
		⋮	⋮
		FEh	Parameter error list 254
2A46h	Reset alarm	00h	Reset alarm
2A70h	Drive recorder history newest	00h	Drive recorder history newest
		01h	Drive recorder history index
		02h	Drive recorder history alarm number
		03h	Drive recorder history power on time
		04h	Drive recorder history time (second)
		05h	Drive recorder history time (nanosecond)
		06h	Drive recorder history (time zone)
		07h	Drive recorder history (summer time)
2A71h ⋮ 2A7Fh	Drive recorder history 1 ⋮ Drive recorder history 15	—	—

2.7 Monitor Objects

Index	Object name (Index)	Sub Index	Object name (Sub Index)
2B01h	Cumulative feedback pulses	00h	Cumulative feedback pulses
2B02h	Servo motor speed	00h	Servo motor speed
2B03h	Droop pulses	00h	Droop pulses
2B04h	Cumulative command pulses	00h	Cumulative command pulses
2B05h	Command pulse frequency	00h	Command pulse frequency
2B08h	Regenerative load ratio	00h	Regenerative load ratio
2B09h	Effective load ratio	00h	Effective load ratio
2B0Ah	Peak load ratio	00h	Peak load ratio
2B0Bh	Instantaneous torque	00h	Instantaneous torque
2B0Ch	Within one-revolution position	00h	Within one-revolution position
2B0Dh	ABS counter	00h	ABS counter
2B0Eh	Load inertia moment ratio	00h	Load inertia moment ratio
2B0Fh	Bus voltage	00h	Bus voltage
2B10h	Load-side cumulative feedback pulses	00h	Load-side cumulative feedback pulses
2B11h	Load-side droop pulses	00h	Load-side droop pulses
2B12h	Load-side encoder information 1 Z-phase counter	00h	Load-side encoder information 1 Z-phase counter
2B13h	Load-side encoder information 2	00h	Load-side encoder information 2
2B18h	Motor-side cumu. feedback pulses (before gear)	00h	Motor-side cumu. feedback pulses (before gear)
2B19h	Electrical angle	00h	Electrical angle
2B23h	Motor-side/load-side position deviation	00h	Motor-side/load-side position deviation
2B24h	Motor-side/load-side speed deviation	00h	Motor-side/load-side speed deviation
2B25h	Internal temperature of encoder	00h	Internal temperature of encoder
2B26h	Settling time	00h	Settling time
2B27h	Oscillation detection frequency	00h	Oscillation detection frequency
2B28h	Number of tough drive operations	00h	Number of tough drive operations
2B2Ah	Internal temperature of amplifier	00h	Internal temperature of amplifier
2B2Dh	Unit power consumption	00h	Unit power consumption
2B2Eh	Unit total power consumption	00h	Unit total power consumption
2B2Fh	Current position	00h	Current position
2B30h	Command position	00h	Command position
2B31h	Remaining command distance	00h	Remaining command distance
2B32h	Command No.	00h	Command No.
2B3Fh	Error excessive alarm margin	00h	Error excessive alarm margin
2B40h	Overload alarm margin	00h	Overload alarm margin
2B41h	Overshoot amount	00h	Overshoot amount
2B42h	Torque/thrust equivalent to disturbance	00h	Torque/thrust equivalent to disturbance
2B43h	Unit power consumption 2	00h	Unit power consumption 2

2.8 Manufacturer Specific Control Object

Index	Object name (Index)	Sub Index	Object name (Sub Index)
2C02h	Drive recorder status	00h	Drive recorder status
2C03h	Clear drive recorder history	00h	Clear drive recorder history
2C11h	External output pin display	00h	External output pin display
		01h	External output pin display1
2C18h	Power ON cumulative time	00h	Power ON cumulative time
2C19h	Number of inrush relay on/off times	00h	Number of inrush relay on/off times
2C1Ah	Number of dynamic brake stop times	00h	Number of dynamic brake stop times
2C20h	Machine diagnostic status	00h	Machine diagnostic status
2C21h	Static friction torque at forward rotation	00h	Static friction torque at forward rotation
2C22h	Dynamic friction torque at forward rotation (at rated speed)	00h	Dynamic friction torque at forward rotation (at rated speed)
2C23h	Static friction torque at reverse rotation	00h	Static friction torque at reverse rotation
2C24h	Dynamic friction torque at reverse rotation (at rated speed)	00h	Dynamic friction torque at reverse rotation (at rated speed)
2C25h	Oscillation frequency during motor stop	00h	Oscillation frequency during motor stop
2C26h	Vibration level during motor stop	00h	Vibration level during motor stop
2C27h	Oscillation frequency during motor operating	00h	Oscillation frequency during motor operating
2C28h	Vibration level during motor operating	00h	Vibration level during motor operating
2C2Fh	Machine total distance	00h	Machine total distance
2C31h	Friction estimate status	00h	Friction estimate status
2C37h	Phase current	00h	Phase current
		01h	U phase current
		02h	V phase current
		03h	W phase current
2D00h	Supported Control DI	00h	Supported Control DI
		01h	Supported Control DI 1
		02h	Supported Control DI 2
		03h	Supported Control DI 3
		04h	Supported Control DI 4
		05h	Supported Control DI 5
		06h	Supported Control DI 6
		07h	Supported Control DI 7
		08h	Supported Control DI 8
		09h	Supported Control DI 9
		0Ah	Supported Control DI 10
2D01h	Control DI 1	00h	Control DI 1
2D02h	Control DI 2	00h	Control DI 2
2D03h	Control DI 3	00h	Control DI 3
2D04h	Control DI 4	00h	Control DI 4
2D05h	Control DI 5	00h	Control DI 5

Index	Object name (Index)	Sub Index	Object name (Sub Index)
2D06h	Control DI 6	00h	Control DI 6
2D07h	Control DI 7	00h	Control DI 7
2D08h	Control DI 8	00h	Control DI 8
2D09h	Control DI 9	00h	Control DI 9
2D0Ah	Control DI 10	00h	Control DI 10
2D10h	Supported Status DO	00h	Supported Status DO
		01h	Supported Status DO 1
		02h	Supported Status DO 2
		03h	Supported Status DO 3
		04h	Supported Status DO 4
		05h	Supported Status DO 5
		06h	Supported Status DO 6
		07h	Supported Status DO 7
		08h	Supported Status DO 8
		09h	Supported Status DO 9
		0Ah	Supported Status DO 10
2D11h	Status DO 1	00h	Status DO 1
2D12h	Status DO 2	00h	Status DO 2
2D13h	Status DO 3	00h	Status DO 3
2D14h	Status DO 4	00h	Status DO 4
2D15h	Status DO 5	00h	Status DO 5
2D16h	Status DO 6	00h	Status DO 6
2D17h	Status DO 7	00h	Status DO 7
2D18h	Status DO 8	00h	Status DO 8
2D19h	Status DO 9	00h	Status DO 9
2D1Ah	Status DO 10	00h	Status DO 10
2D20h	Velocity limit value	00h	Velocity limit value
2D28h	Motor rated speed	00h	Motor rated speed
2D30h	Manufacturer Device Name 2	00h	Manufacturer Device Name 2
2D33h	Serial Number 2	00h	Serial Number 2
2D35h	Encoder status	00h	Encoder status
		01h	Encoder status 1
		02h	Encoder status 2
2D36h	Scale cycle counter	00h	Scale cycle counter
2D37h	Scale ABS counter	00h	Scale ABS counter
2D38h	Scale measurement encoder resolution	00h	Scale measurement encoder resolution
2D3Ch	Scale measurement encoder reception status	00h	Scale measurement encoder reception status
2D46h	Servo motor serial number	00h	Servo motor serial number

Index	Object name (Index)	Sub Index	Object name (Sub Index)
2D48h	Motor data 2	00h	Motor data 2
		01h	Motor ID 1
		02h	Motor ID 2
		03h	Encoder ID 1
		04h	Encoder ID 2
2D50h	One-touch tuning mode	00h	One-touch tuning mode
2D51h	One-touch tuning status	00h	One-touch tuning status
2D52h	One-touch tuning Stop	00h	One-touch tuning Stop
2D53h	One-touch tuning Clear	00h	One-touch tuning Clear
2D54h	One-touch tuning Error Code	00h	One-touch tuning Error Code
2D5Fh	Software reset	00h	Software reset
2DB0h	Speed override	00h	Speed override

2.9 PDS Control Objects

Index	Object name (Index)	Sub Index	Object name (Sub Index)
603Fh	Error code	00h	Error code
6040h	Controlword	00h	Controlword
6041h	Statusword	00h	Statusword
605Ah	Quick stop option code	00h	Quick stop option code
605Dh	Halt option code	00h	Halt option code
6060h	Modes of operation	00h	Modes of operation
6061h	Modes of operation display	00h	Modes of operation display
6502h	Supported drive modes	00h	Supported drive modes

2.10 Position Control Function Objects

Index	Object name (Index)	Sub Index	Object name (Sub Index)
6062h	Position demand value	00h	Position demand value
6063h	Position actual internal value	00h	Position actual internal value
6064h	Position actual value	00h	Position actual value
6065h	Following error window	00h	Following error window
6066h	Following error time out	00h	Following error time out
6067h	Position window	00h	Position window
6068h	Position window time	00h	Position window time
60F2h	Positioning option code	00h	Positioning option code
60F4h	Following error actual value	00h	Following error actual value
60FAh	Control effort	00h	Control effort

2.11 Profile Velocity Mode Objects

Index	Object name (Index)	Sub Index	Object name (Sub Index)
606Bh	Velocity demand value	00h	Velocity demand value
606Ch	Velocity actual value	00h	Velocity actual value
606Dh	Velocity window	00h	Velocity window

Index	Object name (Index)	Sub Index	Object name (Sub Index)
606Eh	Velocity window time	00h	Velocity window time
606Fh	Velocity threshold	00h	Velocity threshold
6070h	Velocity threshold time	00h	Velocity threshold time
60FFh	Target velocity	00h	Target velocity

2.12 Profile Torque Mode Objects

Index	Object name (Index)	Sub Index	Object name (Sub Index)
2D6Dh	Positive/Negative torque limit 2	00h	Positive/Negative torque limit 2 setting
		01h	Positive/Negative torque limit 2 select
		02h	Positive torque limit value 2
		03h	Negative torque limit value 2
6071h	Target torque	00h	Target torque
6072h	Max torque	00h	Max torque
6073h	Max current	00h	Max current
6074h	Torque demand value	00h	Torque demand value
6076h	Motor rated torque	00h	Motor rated torque
6077h	Torque actual value	00h	Torque actual value
6078h	Current actual value	00h	Current actual value
6087h	Torque slope	00h	Torque slope
6088h	Torque profile type	00h	Torque profile type
60E0h	Positive torque limit value	00h	Positive torque limit value
60E1h	Negative torque limit value	00h	Negative torque limit value

2.13 Profile Position Mode Objects

Index	Object name (Index)	Sub Index	Object name (Sub Index)
607Ah	Target position	00h	Target position
607Bh	Position range limit	00h	Position range limit
		01h	Min position range limit
		02h	Max position range limit
607Dh	Software position limit	00h	Software position limit
		01h	Min position limit
		02h	Max position limit
607Fh	Max profile velocity	00h	Max profile velocity
6080h	Max motor speed	00h	Max motor speed
6081h	Profile velocity	00h	Profile velocity
6083h	Profile acceleration	00h	Profile acceleration
6084h	Profile deceleration	00h	Profile deceleration
6085h	Quick stop deceleration	00h	Quick stop deceleration
6086h	Motion profile type	00h	Motion profile type
60C5h	Max acceleration	00h	Max acceleration
60C6h	Max deceleration	00h	Max deceleration

2.14 Homing Mode Objects

Index	Object name (Index)	Sub Index	Object name (Sub Index)
607Ch	Home offset	00h	Home offset
6098h	Homing method	00h	Homing method
6099h	Homing speeds	00h	Homing speeds
		01h	Speed during search for switch
		02h	Speed during search for zero
609Ah	Homing acceleration	00h	Homing acceleration
60E3h	Supported homing methods	00h	Supported homing methods
		01h	1st supported homing method
		⋮	⋮
		2Fh	47th supported homing method

2.15 Point table Mode Objects

Index	Object name (Index)	Sub Index	Object name (Sub Index)
2801h	Point table 001	00h	Point table 001
		01h	Point data
		02h	Speed
		03h	Acceleration
		04h	Deceleration
		05h	Dwell
		06h	Auxiliary
		07h	M code
2802h ⋮ 28FFh	Point table 002 ⋮ Point table 255	—	—
2D60h	Target point table	00h	Target point table
2D68h	Point demand value	00h	Point demand value
2D69h	Point actual value	00h	Point actual value
2D6Ah	M code actual value	00h	M code actual value

2.16 Factor Group Objects

Index	Object name (Index)	Sub Index	Object name (Sub Index)
607Eh	Polarity	00h	Polarity
608Fh	Position encoder resolution	00h	Position encoder resolution
		01h	Encoder increments
		02h	Motor revolutions
6091h	Gear ratio	00h	Gear ratio
		01h	Motor revolutions
		02h	Shaft revolutions
6092h	Feed constant	00h	Feed constant
		01h	Feed
		02h	Shaft revolutions
60A8h	SI unit position	00h	SI unit position
60A9h	SI unit velocity	00h	SI unit velocity
60AAh	SI unit acceleration	00h	SI unit acceleration

2.17 Touch Probe Function Objects

Index	Object name (Index)	Sub Index	Object name (Sub Index)
2DE8h	Touch probe function 2	00h	Touch probe function 2
2DE9h	Touch probe status 2	00h	Touch probe status 2
2DEAh	Touch probe 3 positive edge	00h	Touch probe 3 positive edge
2DEBh	Touch probe 3 negative edge	00h	Touch probe 3 negative edge
2DF8h	Touch probe time stamp 3 positive value	00h	Touch probe time stamp 3 positive value
2DF9h	Touch probe time stamp 3 negative value	00h	Touch probe time stamp 3 negative value
60B8h	Touch probe function	00h	Touch probe function
60B9h	Touch probe status	00h	Touch probe status
60BAh	Touch probe 1 positive edge	00h	Touch probe 1 positive edge
60BBh	Touch probe 1 negative edge	00h	Touch probe 1 negative edge
60BCh	Touch probe 2 positive edge	00h	Touch probe 2 positive edge
60BDh	Touch probe 2 negative edge	00h	Touch probe 2 negative edge
60D1h	Touch probe time stamp 1 positive value	00h	Touch probe time stamp 1 positive value
60D2h	Touch probe time stamp 1 negative value	00h	Touch probe time stamp 1 negative value
60D3h	Touch probe time stamp 2 positive value	00h	Touch probe time stamp 2 positive value
60D4h	Touch probe time stamp 2 negative value	00h	Touch probe time stamp 2 negative value

2.18 Optional application FE Objects

Index	Object name (Index)	Sub Index	Object name (Sub Index)
60FDh	Digital inputs	00h	Digital inputs
60FEh	Digital outputs	00h	Digital outputs
		01h	Physical outputs
		02h	Bitmask

2.19 Cyclic Synchronous Position Mode Objects

Index	Object name (Index)	Sub Index	Object name (Sub Index)
60B0h	Position offset	00h	Position offset
60B1h	Velocity offset	00h	Velocity offset
60B2h	Torque offset	00h	Torque offset

2.20 SEMI Device Profile Objects

Index	Object name (Index)	Sub Index	Object name (Sub Index)
100Bh	Manufacturer Bootloader Version	00h	Manufacturer Bootloader Version
10F8h	Timestamp Object	00h	Timestamp Object
F000h	Semiconductor Device Profile	00h	Semiconductor Device Profile
		01h	Index Distance
		02h	Maximum Number of Modules
F010h	Module Profile List	00h	Module Profile List
		01h	Profile Number
		02h	Profile Number
		03h	Profile Number
F380h	Active Exception Status	00h	Active Exception Status
F381h	Active Device Warning Details	00h	Active Device Warning Details
		01h	Active Device Warning Details
		02h	Active Device Warning Details
		03h	Active Device Warning Details
F383h	Active Device Error Details	00h	Active Device Error Details
		01h	Active Device Error Details
		02h	Active Device Error Details
		03h	Active Device Error Details
F390h	Latched Exception Status	00h	Latched Exception Status
F391h	Latched Device Warning Details	00h	Latched Device Warning Details
		01h	Latched Device Warning Details
		02h	Latched Device Warning Details
		03h	Latched Device Warning Details
F393h	Latched Device Error Details	00h	Latched Device Error Details
		01h	Latched Device Error Details
		02h	Latched Device Error Details
		03h	Latched Device Error Details

Index	Object name (Index)	Sub Index	Object name (Sub Index)
F3A1h	Device Warning Mask	00h	Device Warning Mask
		01h	Device Warning Mask
		02h	Device Warning Mask
		03h	Device Warning Mask
F3A3h	Device Error Mask	00h	Device Error Mask
		01h	Device Error Mask
		02h	Device Error Mask
		03h	Device Error Mask
F6F0h	Input Latch Local Timestamp	00h	Input Latch Local Timestamp
		01h	Input Latch Local Timestamp
		02h	Input Latch Local Timestamp
		03h	Input Latch Local Timestamp
F9F0h	Manufacturer Serial Number	00h	Manufacturer Serial Number
F9F1h	CDP Functional Generation Number	00h	CDP Functional Generation Number
		01h	CDP Functional Generation Number
		02h	CDP Functional Generation Number
		03h	CDP Functional Generation Number
F9F2h	SDP Functional Generation Number	00h	SDP Functional Generation Number
		01h	SDP Functional Generation Number
		02h	SDP Functional Generation Number
		03h	SDP Functional Generation Number
F9F3h	Vendor Name	00h	Vendor Name
F9F4h	Semiconductor SDP Device Name	00h	Semiconductor SDP Device Name
		01h	Semiconductor SDP Device Name
		02h	Semiconductor SDP Device Name
		03h	Semiconductor SDP Device Name
F9F5h	Output Identifier	00h	Output Identifier
		01h	Output Identifier
		02h	Output Identifier
		03h	Output Identifier
F9F6h	Time since power on	00h	Time since power on
F9F7h	Total time powered	00h	Total time powered
F9F8h	Firmware Update Functional Generation Number	00h	Firmware Update Functional Generation Number
FBF0h	Device Reset Command	00h	Device Reset Command
		01h	Command
		02h	Status
		03h	Response
FBF1h	Exception Reset Command	00h	Exception Reset Command
		01h	Command
		02h	Status
		03h	Response

Index	Object name (Index)	Sub Index	Object name (Sub Index)
FBF2h	Store Parameters Command	00h	Store Parameters Command
		01h	Command
		02h	Status
		03h	Response
FBF3h	Calculate Checksum Command	00h	Calculate Checksum Command
		01h	Command
		02h	Status
		03h	Response
FBF4h	Load Parameters Command	00h	Load Parameters Command
		01h	Command
		02h	Status
		03h	Response

2.21 Safety Over EtherCAT Objects

Index	Object name (Index)	Sub Index	Object name (Sub Index)
E600h	FSoE Slave Frame elements	00h	FSoE Slave Frame elements
		01h	FSoE Slave Command
		02h	FSoE Slave ConnectionID
		03h	FSoE Slave CRC_0
		04h	FSoE Slave CRC_1
E700h	FSoE Master Frame elements	00h	FSoE Master Frame elements
		01h	FSoE Master Command
		02h	FSoE Master ConnectionID
		03h	FSoE Master CRC_0
		04h	FSoE Master CRC_1
E901h	FSoE Communication Parameter	00h	FSoE Communication Parameter
		01h	Version
		02h	FSoE Slave Address
		03h	ConnectionID
		04h	Watchdog Time
		06h	Connection Type
		07h	Communication Parameter Length
		08h	Application Parameter Length
F601h	SafeInputs	00h	SafeInputs
		01h	STO Status
		02h	SSM Status
		04h	Error
		05h	SS1 Status
		07h	SDIP Status
		08h	SDIN Status
		09h	SLS1 Status
		0Ah	SLS2 Status
		0Bh	SLS3 Status
		0Ch	SLS4 Status
		0Dh	SBC Status
		0Fh	SLT1 Status
		10h	SLT2 Status
		11h	SLT3 Status
		12h	SLT4 Status
F701h	SafeOutputs	00h	SafeOutputs
		01h	STO Command
		02h	SS1 Command
		04h	SDIP Command
		05h	SDIN Command
		06h	Error Ack
		07h	SLS1 Command
		08h	SLS2 Command
		09h	SLS3 Command
		0Ah	SLS4 Command
		0Ch	SLT1 Command
		0Dh	SLT2 Command
		0Eh	SLT3 Command
		0Fh	SLT4 Command
F980h	Device FSoE Slave Address	00h	Device FSoE Slave Address
		01h	FSoE Address

3 General Objects

3.1 [Device Type (Obj. 1000h)]

[Device Type (Obj. 1000h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	00020192h	00020192h (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Indicates supported profile information. The value "00020192h" which indicates a servo drive defined with the CiA 402 profile is returned.

Bit	Symbol	Description
0 to 15	—	0192h (CiA 402)
16 to 31	—	0002h (Servo drive)

3.2 [Error Register (Obj. 1001h)]

[Error Register (Obj. 1001h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	00h to 01h	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Whether an alarm has occurred is returned.

Bit	Symbol	Description
0	—	Always on while an alarm is occurring.
1 to 7	—	—

3.3 [Manufacturer Device Name (Obj. 1008h)]

[Manufacturer Device Name (Obj. 1008h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
VISIBLE STRING	RO	Impossible	—	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The model name of the servo amplifier is returned.

Ex.

If MR-JET-10G-N1 is used, the model name is returned as shown below.

"MR-JET-G-N1 " (Empty spaces after the model name are filled with blank spaces to make the name 32 characters long.)

3.4 [Manufacturer Hardware Version (Obj. 1009h)]

[Manufacturer Hardware Version (Obj. 1009h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
VISIBLE STRING	RO	Impossible	—	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The hardware version of the servo amplifier is returned.

3.5 [Manufacturer Software Version (Obj. 100Ah)]

[Manufacturer Software Version (Obj. 100Ah: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
VISIBLE STRING	RO	Impossible	—	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The firmware version of the servo amplifier is returned.

3.6 [Store parameters (Obj. 1010h)]

[Store parameters (Obj. 1010h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

Default	Range	Description
01h	01h (fixed)	Sub Index 1 is supported.

[Save all parameters (Obj. 1010h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	Impossible	00000001h	00000000h to FFFFFFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Writing "save" (= 65766173h) saves all parameters (servo parameters, network parameters, and point table data) that can be stored in the non-volatile memory.

The descriptions of the read values are as follows.

Bit	Symbol	Description
0	—	0: The parameters cannot be saved with the command. (The parameters are being saved.) 1: The parameters can be saved with the command. (No parameters are being saved.)
1	—	0: The parameters are not automatically saved.
2 to 7	—	—

3.7 [Restore default parameters (Obj. 1011h)]

[Restore default parameters (Obj. 1011h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

Default	Range	Description
01h	01h (fixed)	Sub Index 1 is supported.

[Restore all default parameters (Obj. 1011h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	Impossible	00000001h	00000000h to FFFFFFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

All parameters (servo parameters, network parameters, and point table data) that can be stored in the non-volatile memory can be reset to the factory setting. To reset the servo parameters and network parameters to the factory setting, write "64616F6Ch" (= reverse order of ASCII code of "load") in this object, and cycle the power or reset the software.
The read value is always "00000001h" (initializing values).

3.8 [Identity Object (Obj. 1018h)]

[Identity Object (Obj. 1018h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	04h	04h (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

[Vendor ID (Obj. 1018h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	00000A1Eh (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The vendor ID of the servo amplifier is returned.

[Product Code (Obj. 1018h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	00000000h to FFFFFFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The product code of the selected servo amplifier is returned. The following shows the product code for each model.

- MR-JET-_G-N1: 00000305h
- MR-JET-_G_-HSN1: 0000030Fh

[Revision Number (Obj. 1018h: 03h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	00000000h to FFFFFFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The revision number of the selected servo amplifier is returned.

[Serial Number (Obj. 1018h: 04h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	00000000h to FFFFFFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The serial number of the selected servo amplifier is returned. The value "00000000h" is returned.

3.9 [Error Settings (Obj. 10F1h)]

[Error Settings (Obj. 10F1h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	02h	02h (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

[Local Error Reaction (Obj. 10F1h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	Impossible	—	00000000h (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Reserved

[Sync Error Counter Limit (Obj. 10F1h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	Impossible	9	0 to 32767	—	Impossible	[Pr. PN18]
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set the threshold until [AL. 086.1 Network receive data error (Network communication error 1)] is detected.

When "0" is set, [AL. 086.1] does not occur.

If PDO data is not updated with Sync0, the internal error counter will be added by "3".

When the PDO data is updated successfully, the internal error counter is subtracted by "1".

Refer to the following for the example of the counter.

Receive (SM2) Event	1	0	1	0	1	0	1	0	1	0	1
Internal Error Counter (Setting value = 9)	0	3	2	5	4	7	6	9 (error)	9	9	9

The internal error counter can be checked with the graph function "EtherCAT communication error counter" of MR Configurator2.

For the check method, refer to "Establishing the communication" in the following manual.

MR-JET-G-N1 User's Manual (Communication Function)

If detection of [AL. 086.1] is disabled, the servo motor cannot be stopped at occurrence of a communication error. The larger the setting value, the longer it takes to stop the servo motor when there is a communication error. Be careful when changing the set value as there is a danger of collision.

3.10 [Version number (Obj. 67FEh)]

[Version number (Obj. 67FEh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	00040100h	00040100h (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The version number of the supported CiA 402 profile is returned.

Bit	Symbol	Description
0 to 7	—	Sub version No. (0)
8 to 15	—	Minor version No. (1)
16 to 23	—	Major version No. (4)
24 to 31	—	Reserved (0)

3.11 [Detected Module List (Obj. F050h)]

[Detected Module List (Obj. F050h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	21h (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D8	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

[Detected Module List Position 1 (Obj. F050h: 01h)] - [Detected Module List Position 97 (Obj. F050h: 61h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D8	—	—	—	—	—	—	—

Description

The supported "Module ID" is returned. Refer to the following for details.

Sub Index	Details
01h	CiA 402 ID
02h	Parameter ID
03h	Point table ID
04h to 20h	Unassigned
21h	FSoE ID *1

*1 When the safety communication function is disabled, "00000000h" is returned.

4 PDO Mapping Objects

4.1 [1st Receive PDO Mapping (Obj. 1600h)]

[1st Receive PDO Mapping (Obj. 1600h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RW	Impossible	—	00h to 20h	—	Impossible	PDO mapping

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Indicates the total number of objects included in PDO. To set a value in an object of Sub Index 1 or later, use the following procedure.

1. Write "00h" in the object.
2. Write values in objects of Sub Index 1 or later.
3. Write the total number of objects in which values have been written in step 2 in this object.

[Mapped Object 001 (Obj. 1600h: 01h)] - [Mapped Object 032 (Obj. 1600h: 20h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	Impossible	—	00000000h to FFFFFFFFh	—	Impossible	PDO mapping

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set the object to be mapped to RPDO.

Some controllers may have restrictions on settings, such as PDO mapping arrangement in units of two bytes. Refer to the manual for the controller being used.

To adjust the PDO mapping arrangement, set the values of the Index and Sub Index of the object respectively to "0000h" and "00h" as free space.

Index	Sub	Name	Default
1600h	00h	1st Receive PDO Mapping	0Ah
	01h	Mapped Object 001	60600008h
	02h	Mapped Object 002	00000008h
	03h	Mapped Object 003	60400010h
	04h	Mapped Object 004	2D010010h
	05h	Mapped Object 005	2D020010h
	06h	Mapped Object 006	2D030010h
	07h	Mapped Object 007	607A0020h
	08h	Mapped Object 008	60FF0020h
	09h	Mapped Object 009	2D200020h
	0Ah	Mapped Object 010	60710010h
	0Bh	Mapped Object 011	00000000h
	0Ch	Mapped Object 012	00000000h
	0Dh	Mapped Object 013	00000000h
	0Eh	Mapped Object 014	00000000h
	0Fh	Mapped Object 015	00000000h
	10h	Mapped Object 016	00000000h
	11h	Mapped Object 017	00000000h
	12h	Mapped Object 018	00000000h
	13h	Mapped Object 019	00000000h
	14h	Mapped Object 020	00000000h
	15h	Mapped Object 021	00000010h
	16h	Mapped Object 022	00000000h
	17h	Mapped Object 023	00000000h
	18h	Mapped Object 024	00000000h
	19h	Mapped Object 025	00000000h
	1Ah	Mapped Object 026	00000010h
	1Bh	Mapped Object 027	00000000h
	1Ch	Mapped Object 028	00000000h
	1Dh	Mapped Object 029	00000000h
	1Eh	Mapped Object 030	00000000h
	1Fh	Mapped Object 031	00000000h
	20h	Mapped Object 032	00000000h

4.2 [2nd Receive PDO Mapping (Obj. 1601h)]

[2nd Receive PDO Mapping (Obj. 1601h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RW	Impossible	—	00h to 20h	—	Impossible	PDO mapping
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Indicates the total number of objects included in PDO. To set a value in an object of Sub Index 1 or later, write "00h" in the object. After setting the value for objects of Sub Index 1 or later, write the total number of objects mapped to PDO.

[Mapped Object 001 (Obj. 1601h: 01h)] - [Mapped Object 032 (Obj. 1601h: 20h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	Impossible	—	00000000h to FFFFFFFFh	—	Impossible	PDO mapping

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set the object to be mapped to RPDO.

Some controllers may have restrictions on settings, such as PDO mapping arrangement in units of two bytes. Refer to the manual for the controller being used.

To adjust the PDO mapping arrangement, set the values of the Index and Sub Index of the object respectively to "0000h" and "00h" as free space.

Index	Sub	Name	Default
1601h	00h	2nd Receive PDO Mapping	0Eh
	01h	Mapped Object 001	60600008h
	02h	Mapped Object 002	00000008h
	03h	Mapped Object 003	60400010h
	04h	Mapped Object 004	2D010010h
	05h	Mapped Object 005	2D020010h
	06h	Mapped Object 006	2D030010h
	07h	Mapped Object 007	607A0020h
	08h	Mapped Object 008	60FF0020h
	09h	Mapped Object 009	2D200020h
	0Ah	Mapped Object 010	60710010h
	0Bh	Mapped Object 011	60810020h
	0Ch	Mapped Object 012	60830020h
	0Dh	Mapped Object 013	60840020h
	0Eh	Mapped Object 014	60870020h
	0Fh	Mapped Object 015	00000000h
	10h	Mapped Object 016	00000000h
	11h	Mapped Object 017	00000000h
	12h	Mapped Object 018	00000000h
	13h	Mapped Object 019	00000000h
	14h	Mapped Object 020	00000000h
	15h	Mapped Object 021	00000000h
	16h	Mapped Object 022	00000000h
	17h	Mapped Object 023	00000000h
	18h	Mapped Object 024	00000000h
	19h	Mapped Object 025	00000000h
	1Ah	Mapped Object 026	00000000h
	1Bh	Mapped Object 027	00000000h
	1Ch	Mapped Object 028	00000000h
	1Dh	Mapped Object 029	00000000h
	1Eh	Mapped Object 030	00000000h
	1Fh	Mapped Object 031	00000000h
	20h	Mapped Object 032	00000000h

4.3 [3rd Receive PDO Mapping (Obj. 1602h)]

[3rd Receive PDO Mapping (Obj. 1602h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RW	Impossible	—	00h to 20h	—	Impossible	PDO mapping
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Indicates the total number of objects included in PDO. To set a value in an object of Sub Index 1 or later, write "00h" in the object. After setting the value for objects of Sub Index 1 or later, write the total number of objects mapped to PDO.

[Mapped Object 001 (Obj. 1602h: 01h)] - [Mapped Object 032 (Obj. 1602h: 20h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	Impossible	—	00000000h to FFFFFFFFh	—	Impossible	PDO mapping

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set the object to be mapped to RPDO.

Some controllers may have restrictions on settings, such as PDO mapping arrangement in units of two bytes. Refer to the manual for the controller being used.

To adjust the PDO mapping arrangement, set the values of the Index and Sub Index of the object respectively to "0000h" and "00h" as free space.

Index	Sub	Name	Default
1602h	00h	3rd Receive PDO Mapping	0Ah
	01h	Mapped Object 001	60600008h
	02h	Mapped Object 002	00000008h
	03h	Mapped Object 003	60400010h
	04h	Mapped Object 004	2D010010h
	05h	Mapped Object 005	2D020010h
	06h	Mapped Object 006	2D030010h
	07h	Mapped Object 007	2D600010h
	08h	Mapped Object 008	60810020h
	09h	Mapped Object 009	60830020h
	0Ah	Mapped Object 010	60840020h
	0Bh	Mapped Object 011	00000000h
	0Ch	Mapped Object 012	00000000h
	0Dh	Mapped Object 013	00000000h
	0Eh	Mapped Object 014	00000000h
	0Fh	Mapped Object 015	00000000h
	10h	Mapped Object 016	00000000h
	11h	Mapped Object 017	00000000h
	12h	Mapped Object 018	00000000h
	13h	Mapped Object 019	00000000h
	14h	Mapped Object 020	00000000h
	15h	Mapped Object 021	00000000h
	16h	Mapped Object 022	00000000h
	17h	Mapped Object 023	00000000h
	18h	Mapped Object 024	00000000h
	19h	Mapped Object 025	00000000h
	1Ah	Mapped Object 026	00000000h
	1Bh	Mapped Object 027	00000000h
	1Ch	Mapped Object 028	00000000h
	1Dh	Mapped Object 029	00000000h
	1Eh	Mapped Object 030	00000000h
	1Fh	Mapped Object 031	00000000h
	20h	Mapped Object 032	00000000h

4.4 [4th Receive PDO Mapping (Obj. 1603h)]

[4th Receive PDO Mapping (Obj. 1603h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RW	Impossible	—	00h to 20h	—	Impossible	PDO mapping
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Indicates the total number of objects included in PDO. To set a value in an object of Sub Index 1 or later, write "00h" in the object. After setting the value for objects of Sub Index 1 or later, write the total number of objects mapped to PDO.

4.5 [9th Receive PDO Mapping (Obj. 1608h)]

[9th Receive PDO Mapping (Obj. 1608h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	24h (fixed)	—	—	Impossible	PDO mapping

Supported firmware version							
ECT	—	—	—	—	—	—	—
E4	—	—	—	—	—	—	—

Description

Indicates the total number of objects included in PDO.

[Mapped Object 001 (Obj. 1608h: 01h)] - [Mapped Object 036 (Obj. 1608h: 24h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	00000000h to FFFFFFFFh	—	Impossible	PDO mapping

Supported firmware version							
ECT	—	—	—	—	—	—	—
E4	—	—	—	—	—	—	—

Description

The objects mapped to RPDO are returned.

Some controllers may have restrictions on settings, such as PDO mapping arrangement in units of two bytes. Refer to the manual for the controller being used.

To adjust the PDO mapping arrangement, set the values of the Index and Sub Index of the object respectively to "0000h" and "00h" as free space.

Index	Sub	Name	Default
1608h	00h	9th Receive PDO Mapping	24h
	01h	Mapped Object 001	E7000108h
	02h	Mapped Object 002	F7010101h
	03h	Mapped Object 003	F7010201h
	04h	Mapped Object 004	F7010301h
	05h	Mapped Object 005	00000001h
	06h	Mapped Object 006	00000001h
	07h	Mapped Object 007	F7010401h
	08h	Mapped Object 008	F7010501h
	09h	Mapped Object 009	F7010601h
	0Ah	Mapped Object 010	F7010701h
	0Bh	Mapped Object 011	F7010801h
	0Ch	Mapped Object 012	F7010901h
	0Dh	Mapped Object 013	F7010A01h
	0Eh	Mapped Object 014	F7010B01h
	0Fh	Mapped Object 015	F7010C01h
	10h	Mapped Object 016	F7010D01h
	11h	Mapped Object 017	F7010E01h
	12h	Mapped Object 018	E7000310h
	13h	Mapped Object 019	F7010F01h
	14h	Mapped Object 020	00000001h
	15h	Mapped Object 021	00000001h
	16h	Mapped Object 022	00000001h
	17h	Mapped Object 023	00000001h
	18h	Mapped Object 024	00000001h
	19h	Mapped Object 025	00000001h
	1Ah	Mapped Object 026	00000001h
	1Bh	Mapped Object 027	00000001h
	1Ch	Mapped Object 028	00000001h
	1Dh	Mapped Object 029	00000001h
	1Eh	Mapped Object 030	00000001h
	1Fh	Mapped Object 031	00000001h
	20h	Mapped Object 032	00000001h
	21h	Mapped Object 033	00000001h
	22h	Mapped Object 034	00000001h
	23h	Mapped Object 035	E7000410h
	24h	Mapped Object 036	E7000210h

4.6 [1st Transmit PDO Mapping (Obj. 1A00h)]

[1st Transmit PDO Mapping (Obj. 1A00h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RW	Impossible	—	00h to 20h	—	Impossible	PDO mapping
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of objects included in PDO is returned. To set a value in an object of Sub Index 1 or later, write "00h" in the object. After setting the value for objects of Sub Index 1 or later, write the total number of objects mapped to PDO.

[Mapped Object 001 (Obj. 1A00h: 01h)] - [Mapped Object 032 (Obj. 1A00h: 20h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	Impossible	—	00000000h to FFFFFFFFh	—	Impossible	PDO mapping

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set the object to be mapped to TPDO.

Some controllers may have restrictions on settings, such as PDO mapping arrangement in units of two bytes. Refer to the manual for the controller being used.

To adjust the PDO mapping arrangement, set the values of the Index and Sub Index of the object respectively to "0000h" and "00h" as free space.

Index	Sub	Name	Default
1A00h	00h	1st Transmit PDO Mapping	0Ah
	01h	Mapped Object 001	60610008h
	02h	Mapped Object 002	00000008h
	03h	Mapped Object 003	60410010h
	04h	Mapped Object 004	2D110010h
	05h	Mapped Object 005	2D120010h
	06h	Mapped Object 006	2D130010h
	07h	Mapped Object 007	60640020h
	08h	Mapped Object 008	606C0020h
	09h	Mapped Object 009	60F40020h
	0Ah	Mapped Object 010	60770010h
	0Bh	Mapped Object 011	00000000h
	0Ch	Mapped Object 012	00000000h
	0Dh	Mapped Object 013	00000000h
	0Eh	Mapped Object 014	00000000h
	0Fh	Mapped Object 015	00000000h
	10h	Mapped Object 016	00000000h
	11h	Mapped Object 017	00000000h
	12h	Mapped Object 018	00000000h
	13h	Mapped Object 019	00000000h
	14h	Mapped Object 020	00000000h
	15h	Mapped Object 021	00000000h
	16h	Mapped Object 022	00000000h
	17h	Mapped Object 023	00000000h
	18h	Mapped Object 024	00000000h
	19h	Mapped Object 025	00000000h
	1Ah	Mapped Object 026	00000000h
	1Bh	Mapped Object 027	00000000h
	1Ch	Mapped Object 028	00000000h
	1Dh	Mapped Object 029	00000000h
	1Eh	Mapped Object 030	00000000h
	1Fh	Mapped Object 031	00000000h
	20h	Mapped Object 032	00000000h

4.7 [2nd Transmit PDO Mapping (Obj. 1A01h)]

[2nd Transmit PDO Mapping (Obj. 1A01h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RW	Impossible	—	00h to 20h	—	Impossible	PDO mapping
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of objects included in PDO is returned. To set a value in an object of Sub Index 1 or later, write "00h" in the object. After setting the value for objects of Sub Index 1 or later, write the total number of objects mapped to PDO.

[Mapped Object 001 (Obj. 1A01h: 01h)] - [Mapped Object 032 (Obj. 1A01h: 20h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	Impossible	—	00000000h to FFFFFFFFh	—	Impossible	PDO mapping

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set the object to be mapped to TPDO.

Some controllers may have restrictions on settings, such as PDO mapping arrangement in units of two bytes. Refer to the manual for the controller being used.

To adjust the PDO mapping arrangement, set the values of the Index and Sub Index of the object respectively to "0000h" and "00h" as free space.

Index	Sub	Name	Default
1A01h	00h	2nd Transmit PDO Mapping	10h
	01h	Mapped Object 001	60610008h
	02h	Mapped Object 002	00000008h
	03h	Mapped Object 003	60410010h
	04h	Mapped Object 004	2D110010h
	05h	Mapped Object 005	2D120010h
	06h	Mapped Object 006	2D130010h
	07h	Mapped Object 007	2D150010h
	08h	Mapped Object 008	2D170010h
	09h	Mapped Object 009	60640020h
	0Ah	Mapped Object 010	606C0020h
	0Bh	Mapped Object 011	60F40020h
	0Ch	Mapped Object 012	60770010h
	0Dh	Mapped Object 013	2D6A0008h
	0Eh	Mapped Object 014	00000008h
	0Fh	Mapped Object 015	2D680010h
	10h	Mapped Object 016	2D690010h
	11h	Mapped Object 017	00000000h
	12h	Mapped Object 018	00000000h
	13h	Mapped Object 019	00000000h
	14h	Mapped Object 020	00000000h
	15h	Mapped Object 021	00000000h
	16h	Mapped Object 022	00000000h
	17h	Mapped Object 023	00000000h
	18h	Mapped Object 024	00000000h
	19h	Mapped Object 025	00000000h
	1Ah	Mapped Object 026	00000000h
	1Bh	Mapped Object 027	00000000h
	1Ch	Mapped Object 028	00000000h
	1Dh	Mapped Object 029	00000000h
	1Eh	Mapped Object 030	00000000h
	1Fh	Mapped Object 031	00000000h
	20h	Mapped Object 032	00000000h

4.8 [3rd Transmit PDO Mapping (Obj. 1A02h)]

[3rd Transmit PDO Mapping (Obj. 1A02h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RW	Impossible	—	00h to 20h	—	Impossible	PDO mapping

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of objects included in PDO is returned. To set a value in an object of Sub Index 1 or later, write "00h" in the object. After setting the value for objects of Sub Index 1 or later, write the total number of objects mapped to PDO.

4.9 [4th Transmit PDO Mapping (Obj. 1A03h)]

[4th Transmit PDO Mapping (Obj. 1A03h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RW	Impossible	—	00h to 20h	—	Impossible	PDO mapping

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of objects included in PDO is returned. To set a value in an object of Sub Index 1 or later, write "00h" in the object. After setting the value for objects of Sub Index 1 or later, write the total number of objects mapped to PDO.

4.10 [9th Transmit PDO Mapping (Obj. 1A08h)]

[9th Transmit PDO Mapping (Obj. 1A08h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	24h (fixed)	—	—	Impossible	PDO mapping
Supported firmware version							
ECT	—	—	—	—	—	—	—
E4	—	—	—	—	—	—	—

Description

Indicates the total number of objects included in PDO.

[Mapped Object 001 (Obj. 1A08h: 01h)] - [Mapped Object 036 (Obj. 1A08h: 24h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	00000000h to FFFFFFFFh	—	Impossible	PDO mapping
Supported firmware version							
ECT	—	—	—	—	—	—	—
E4	—	—	—	—	—	—	—

Description

The objects mapped to TPDO are returned.

Some controllers may have restrictions on settings, such as PDO mapping arrangement in units of two bytes. Refer to the manual for the controller being used.

To adjust the PDO mapping arrangement, set the values of the Index and Sub Index of the object respectively to "0000h" and "00h" as free space.

Index	Sub	Name	Default
1A08h	00h	9th Transmit PDO Mapping	24h
	01h	Mapped Object 001	E6000108h
	02h	Mapped Object 002	F6010101h
	03h	Mapped Object 003	F6010201h
	04h	Mapped Object 004	00000001h
	05h	Mapped Object 005	F6010301h
	06h	Mapped Object 006	00000001h
	07h	Mapped Object 007	00000001h
	08h	Mapped Object 008	00000001h
	09h	Mapped Object 009	F6010401h
	0Ah	Mapped Object 010	F6010501h
	0Bh	Mapped Object 011	F6010601h
	0Ch	Mapped Object 012	F6010701h
	0Dh	Mapped Object 013	F6010801h
	0Eh	Mapped Object 014	F6010901h
	0Fh	Mapped Object 015	F6010A01h
	10h	Mapped Object 016	F6010B01h
	11h	Mapped Object 017	F6010C01h
	12h	Mapped Object 018	E6000310h
	13h	Mapped Object 019	F6010D01h
	14h	Mapped Object 020	F6010E01h
	15h	Mapped Object 021	F6010F01h
	16h	Mapped Object 022	F6011001h
	17h	Mapped Object 023	F6011101h
	18h	Mapped Object 024	F6011201h
	19h	Mapped Object 025	00000001h
	1Ah	Mapped Object 026	00000001h
	1Bh	Mapped Object 027	00000001h
	1Ch	Mapped Object 028	00000001h
	1Dh	Mapped Object 029	00000001h
	1Eh	Mapped Object 030	00000001h
	1Fh	Mapped Object 031	00000001h
	20h	Mapped Object 032	00000001h
	21h	Mapped Object 033	00000001h
	22h	Mapped Object 034	00000001h
	23h	Mapped Object 035	E6000410h
	24h	Mapped Object 036	E6000210h

5 Sync Manager Communication Objects

5.1 [Sync Manager Communication Type (Obj. 1C00h)]

[Sync Manager Communication Type (Obj. 1C00h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	04h	04h (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes (= 4) is returned.

[Sync Manager 0 (Obj. 1C00h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	01h	01h (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

This means Mailbox Write (from the master station to the slave station).

[Sync Manager 1 (Obj. 1C00h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	02h	02h (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

This means Mailbox Read (from the slave station to the master station).

[Sync Manager 2 (Obj. 1C00h: 03h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	03h	03h (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

This means Process Data Write (Outputs) (from the master station to the slave station).

[Sync Manager 3 (Obj. 1C00h: 04h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	04h	04h (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

This means Process Data Read (Inputs) (from the slave station to the master station).

5.2 [Sync Manager RxPDO assign (Obj. 1C12h)]

[Sync Manager RxPDO assign (Obj. 1C12h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RW	Impossible	01h	00h to 04h	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes (= 4) is returned.

[Assigned PDO 001 (Obj. 1C12h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	Impossible	1600h	1600h to 1603h	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set which mapping table to be assigned to Sync Manager 2 (RxPDO). Select an object from [1st Receive PDO Mapping (Obj. 1600h)] to [4th Receive PDO Mapping (Obj. 1603h)].
When using the safety communication function, assign [9th Receive PDO Mapping (Obj. 1608h)] to Sync Manager 2 (RxPDO) in addition to the above.

[Assigned PDO 002 (Obj. 1C12h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	Impossible	—	1600h to 1603h	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set which mapping table to be assigned to Sync Manager 2 (RxPDO). Refer to the following for details.
☞ Page 69 [Assigned PDO 001 (Obj. 1C12h: 01h)]

[Assigned PDO 003 (Obj. 1C12h: 03h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	Impossible	—	1600h to 1603h	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set which mapping table to be assigned to Sync Manager 2 (RxPDO). Refer to the following for details.

☞ Page 69 [Assigned PDO 001 (Obj. 1C12h: 01h)]

[Assigned PDO 004 (Obj. 1C12h: 04h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	Impossible	—	1600h to 1603h	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set which mapping table to be assigned to Sync Manager 2 (RxPDO). Refer to the following for details.

☞ Page 69 [Assigned PDO 001 (Obj. 1C12h: 01h)]

5.3 [Sync Manager TxPDO assign (Obj. 1C13h)]

[Sync Manager TxPDO assign (Obj. 1C13h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RW	Impossible	01h	00h to 04h	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes (= 4) is returned.

[Assigned PDO 001 (Obj. 1C13h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	Impossible	1A00h	1A00h to 1A03h	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set which mapping table to be assigned to Sync Manager 3 (TxPDO). Select an object from [1st Transmit PDO Mapping (Obj. 1A00h)] to [4th Transmit PDO Mapping (Obj. 1A03h)].
When using the safety communication function, assign [9th Transmit PDO Mapping (Obj. 1A08h)] to Sync Manager 3 (TxPDO) in addition to the above.

[Assigned PDO 002 (Obj. 1C13h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	Impossible	—	1A00h to 1A03h	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set which mapping table to be assigned to Sync Manager 3 (TxPDO). Refer to the following for details.
☞ Page 71 [Assigned PDO 001 (Obj. 1C13h: 01h)]

[Assigned PDO 003 (Obj. 1C13h: 03h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	Impossible	—	1A00h to 1A03h	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set which mapping table to be assigned to Sync Manager 3 (TxPDO). Refer to the following for details.

☞ Page 71 [Assigned PDO 001 (Obj. 1C13h: 01h)]

[Assigned PDO 004 (Obj. 1C13h: 04h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	Impossible	—	1A00h to 1A03h	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set which mapping table to be assigned to Sync Manager 3 (TxPDO). Refer to the following for details.

☞ Page 71 [Assigned PDO 001 (Obj. 1C13h: 01h)]

5.4 [SM output parameter (Obj. 1C32h)]

[SM output parameter (Obj. 1C32h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	20h	20h (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

[Synchronization Type (Obj. 1C32h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	Impossible	—	0000h or 0002h	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Select synchronous mode or asynchronous mode.

00h: Free Run

01h: Synchronous (not supported)

02h: DC Sync0

03h: DC Sync1 (not supported)

This can be rewritten only in the Pre-Operational state.

If the setting value of [Obj. 1C33h: 01h] is changed, this object also changes to the same value as [Obj. 1C32h: 01h].

[Cycle Time (Obj. 1C32h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	Impossible	250000	Refer to the following.	ns	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Select an RxPDO communication cycle.

125000: 0.125 ms

250000: 0.25 ms

500000: 0.5 ms

1000000: 1 ms

2000000: 2 ms

4000000: 4 ms

8000000: 8 ms

Rewriting during the Pre-Operational state can change the PDO communication cycle.

Only the communication cycles shown above can be set.

The communication cycles are limited depending on the servo amplifiers and the functions to be used. For details, refer to "Restrictions on the MR-JET-_G_" in the following manual.

📖MR-JET-G-N1 User's Manual (Introduction)

[Synchronization Types supported (Obj. 1C32h: 04h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	0005h	0005h (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Bit 0: FreeRun supported
Bit 1: Synchronous supported (not supported)
Bit 2 to Bit 4: DC Type supported
000 = No DC (not supported)
001 = DC Sync0
010 = DC Sync1 (not supported)
100 = Subordinated Application with fixed Sync0 (not supported)
Bit 5 to Bit 6: Shift settings
00 = No Output Shift supported
01 = Output Shift with local time (not supported)
10 = Output Shift with Sync1 (not supported)
Bit 7 to Bit 9: Reserved
Bit 10: Delay Time should be measured (not supported)
Bit 11: Delay Time is fix. (not supported)
Bit 12 to Bit 13: Reserved
Bit 14: Dynamic Cycle Times (not supported)
Bit 15: Reserved

[Minimum Cycle Time (Obj. 1C32h: 05h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	—	ns	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The minimum communication cycle is returned.

Servo amplifier	Minimum communication cycle
MR-JET-_G_-_N1	125000

[Calc and Copy Time (Obj. 1C32h: 06h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	—	ns	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The minimum value of the delay time from data receiving to outputting is returned. The received value varies depending on the setting of the communication cycle.

[Delay Time (Obj. 1C32h: 09h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	0	0 (fixed)	ns	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

"0" is returned.

[SM-Event Missed (Obj. 1C32h: 0Bh)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

For the synchronous mode (DC mode), the value of Sync Error Counter is returned. For the asynchronous mode (Free-run mode), "0" is returned.

[Cycle Time Too Small (Obj. 1C32h: 0Ch)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	0	0 (fixed)	ns	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

"0" is returned.

[Shift Time Too Short (Obj. 1C32h: 0Dh)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	0000h	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

"0000h" is returned.

[Sync Error (Obj. 1C32h: 20h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	Impossible	0	Refer to the following.	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The following information is returned.

0: no Synchronization Error or Sync Error not supported

1: Synchronization Error

5.5 [SM input parameter (Obj. 1C33h)]

[SM input parameter (Obj. 1C33h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	20h	20h (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

[Synchronization Type (Obj. 1C33h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	Impossible	—	0000h or 0002h	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Select synchronous mode or asynchronous mode.

00h: Free Run

01h: Synchronous (not supported)

02h: DC Sync0

03h: DC Sync1 (not supported)

This can be rewritten only in the Pre-Operational state.

If the setting value of [Obj. 1C32h: 01h] is changed, this object also changes to the same value as [Obj. 1C32h: 01h].

[Cycle Time (Obj. 1C33h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	Impossible	250000	Refer to the following.	ns	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Select a TxPDO communication cycle.

125000: 0.125 ms

250000: 0.25 ms

500000: 0.5 ms

1000000: 1 ms

2000000: 2 ms

4000000: 4 ms

8000000: 8 ms

Rewriting during the Pre-Operational state can change the PDO communication cycle.

Only the communication cycles shown above can be set.

If the setting value of [Obj. 1C32h: 02h] is changed, this object also changes to the same value as [Obj. 1C32h: 01h].

The communication cycles are limited depending on the servo amplifiers and the functions to be used. For details, refer to "Restrictions on the MR-JET-_G_" in the following manual.

MR-JET-G-N1 User's Manual (Introduction)

[Synchronization Types supported (Obj. 1C33h: 04h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	0005h	0005h (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Bit 0: FreeRun supported
Bit 1: Synchronous supported (not supported)
Bit 2 to Bit 4: DC Type supported
000 = No DC (not supported)
001 = DC Sync0
010 = DC Sync1 (not supported)
100 = Subordinated Application with fixed Sync0 (not supported)
Bit 5 to Bit 6: Shift settings
00 = No Output Shift supported
01 = Output Shift with local time (not supported)
10 = Output Shift with Sync1 (not supported)
Bit 7 to Bit 9: Reserved
Bit 10: Delay Time should be measured (not supported)
Bit 11: Delay Time is fix. (not supported)
Bit 12 to Bit 13: Reserved
Bit 14: Dynamic Cycle Times (not supported)
Bit 15: Reserved

[Minimum Cycle Time (Obj. 1C33h: 05h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	—	ns	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The minimum communication cycle is returned.

Servo amplifier	Minimum communication cycle
MR-JET-_G_-_N1	125000

[Calc and Copy Time (Obj. 1C33h: 06h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	—	ns	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The minimum value of the delay time from data inputting to transmitting is returned. The received value varies depending on the setting of the communication cycle.

[Delay Time (Obj. 1C33h: 09h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	0	0 (fixed)	ns	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The delay time from Sync0 to input is returned. The received value varies depending on the setting of the communication cycle.

[SM-Event Missed (Obj. 1C33h: 0Bh)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

For the synchronous mode (DC mode), the value of Sync Error Counter is returned. For the asynchronous mode (Free-run mode), "0" is returned.

[Cycle Time Too Small (Obj. 1C33h: 0Ch)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	0	0 (fixed)	ns	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

"0" is returned.

[Shift Time Too Short (Obj. 1C33h: 0Dh)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	0000h	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

"0000h" is returned.

[Sync Error (Obj. 1C33h: 20h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	Impossible	0	Refer to the following.	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The following information is returned.

0: no Synchronization Error or Sync Error not supported

1: Synchronization Error

6 Parameter Objects

The objects of Parameter Objects are structured as follows. Access servo parameters other than [PV group parameters] with Sub Index set to 00h.

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RW	Impossible	—	—	—	Possible	*1

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

*1 Corresponds to servo parameters [Pr. PA _ _] to [Pr. PN _ _].

6.1 [PA01 (Obj. 2001h)] - [PA44 (Obj. 202Ch)]

The values of the basic setting servo parameters ([Pr. PA _ _]) can be obtained and set.

6.2 [PB01 (Obj. 2081h)] - [PB92 (Obj. 20DCh)]

The values of the gain/filter setting servo parameters ([Pr. PB _ _]) can be obtained and set.

6.3 [PC01 (Obj. 2101h)] - [PC96 (Obj. 2160h)]

The values of the extension setting servo parameters ([Pr. PC _ _]) can be obtained and set.

6.4 [PD01 (Obj. 2181h)] - [PD72 (Obj. 21C8h)]

The values of the I/O setting servo parameters ([Pr. PD _ _]) can be obtained and set.

6.5 [PE01 (Obj. 2201h)] - [PE88 (Obj. 2258h)]

The values of the extension setting 2 servo parameters ([Pr. PE _ _]) can be obtained and set.

6.6 [PF01 (Obj. 2281h)] - [PF99 (Obj. 22E3h)]

The values of the extension setting 3 servo parameters ([Pr. PF _ _]) can be obtained and set.

6.7 [PL01 (Obj. 2401h)] - [PL72 (Obj. 2448h)]

The values of the servo motor extension setting servo parameters ([Pr. PL _ _]) can be obtained and set.

6.8 [PT01 (Obj. 2481h)] - [PT90 (Obj. 24DAh)]

The values of the positioning control servo parameters ([Pr. PT _ _]) can be obtained and set.

6.9 [PN01 (Obj. 2581h)] - [PN34 (Obj. 25A2h)]

The values of the network setting servo parameters ([Pr. PN_ _]) can be obtained and set.

6.10 [PV group parameters (Obj. 2691h)]

The values of the positioning extension setting servo parameters ([Pr. PV _ _]) can be obtained and set. 01h to 28h of Sub Indexes correspond to [Pr. PV01] to [Pr. PV40].

[PV group parameters (Obj. 2691h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	40	40 (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes (= 40) is returned.

[PV01 (Obj. 2691h: 01h)] - [PV32 (Obj. 2691h: 20h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RW	Impossible	—	—	—	Possible	[Pr. PV01] - [Pr. PV32]

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The values of [Pr. PV01] to [Pr. PV32] can be obtained and set.

[PV33 (Obj. 2691h: 21h)] - [PV40 (Obj. 2691h: 28h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RW	Impossible	—	—	—	Possible	[Pr. PV33] - [Pr. PV40]

Supported firmware version							
ECT	—	—	—	—	—	—	—
D0	—	—	—	—	—	—	—

Description

The values of [Pr. PV33] to [Pr. PV40] can be obtained and set.

7 Alarm Objects

7.1 [Alarm history newest (Obj. 2A00h)]

[Alarm history newest (Obj. 2A00h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	7	7 (fixed)	—	Impossible	Alarm history

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes (= 7) is returned.

[Alarm No. (Obj. 2A00h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	00000000h	00000000h to FFFFFFFFh	—	Impossible	Alarm history

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The number of the alarm that has occurred is returned. The description is as follows.

When there is no history, "00000000h" is returned.

Bit 0 to Bit 15: Alarm detail number

Bit 16 to Bit 31: Alarm number

For example, if [AL. 538.1] occurs, "05380001h" is returned.

[Alarm time (Hour) (Obj. 2A00h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	00000000h	00000000h to FFFFFFFFh	hour	Impossible	Alarm history

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The accumulated power-on time from time of factory shipment until an alarm occurrence is returned. When there is no history, "00000000h" is returned.

[Alarm2 No. (Obj. 2A00h: 03h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	0000h	0000h to FFFFh	—	Impossible	Alarm history

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The value "0000h" is returned.

Bit 0 to Bit 7: Alarm detail number

Bit 8 to Bit 15: Alarm number

[Alarm time (second) (Obj. 2A00h: 04h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	00000000h	00000000h to FFFFFFFFh	second	Impossible	Alarm history

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The alarm time is returned as a 32-bit integer (time passed from January 1, 1970, 0:00:00.000000000).

If time data cannot be obtained from the network, alarm occurrence time shows the cumulative power-on time from January 1, 1970, 0:00:00.000000000.

Use this object together with [Alarm time (nanosecond) (Obj. 2A00h: 05h)] according to the system.

[Alarm time (nanosecond) (Obj. 2A00h: 05h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	00000000h	00000000h to FFFFFFFFh	nanosecond	Impossible	Alarm history

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The digits after the ones indicating a second in alarm time are returned as a 32-bit integer. A value is returned in units of nanoseconds, but only the values in milliseconds increase.

For example, if an alarm occurs on January 1, 2000, 12:00:00.001, "000F4240h (1000000)" will be returned.

[Alarm time (time zone) (Obj. 2A00h: 06h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	Impossible	00000000h	80000000h to 7FFFFFFFh	minute	Impossible	Alarm history
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The time zone at an alarm occurrence time is returned as a 32-bit integer.

If no setting exists, "80000000h" will be returned.

[Alarm time (summer time) (Obj. 2A00h: 07h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	Impossible	00000000h	80000000h to 7FFFFFFFh	minute	Impossible	Alarm history
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The daylight saving time at an alarm occurrence time is returned as a 32-bit integer.

If no setting exists, "80000000h" will be returned.

7.2 [Alarm history 1 (Obj. 2A01h)] - [Alarm history 15 (Obj. 2A0Fh)]

The second (2A01h) to 16th (2A0Fh) latest alarm information of the alarm history is returned. The description of each Sub Index is the same as that of [Alarm history newest (Obj. 2A00h)].

☞ Page 85 [Alarm history newest (Obj. 2A00h)]

7.3 [Clear alarm history (Obj. 2A40h)]

[Clear alarm history (Obj. 2A40h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	Impossible	0000h	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Writing "1EA5h" clears the alarm history.

When the object is read, "0000h" is returned.

7.4 [Current alarm (Obj. 2A41h)]

[Current alarm (Obj. 2A41h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	TxPDO	00000000h	00000000h to FFFFFFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The latest alarm that has occurred in the servo amplifier is returned. When no alarm has occurred, "00000000h" is returned.

Bit 0 to Bit 15: Alarm detail number

Bit 16 to Bit 31: Alarm number

For example, if [AL. 538.1] occurs, "05380001h" is returned.

7.5 [Point table error (Obj. 2A43h)]

[Point table error (Obj. 2A43h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	2	2 (fixed)	—	Impossible	Point table

Supported firmware version							
ECT	—	—	—	—	—	—	—
B8	—	—	—	—	—	—	—

Description

The total number of Sub Indexes (= 2) is returned.

[Point table error No. (Obj. 2A43h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	00000000h	00000000h to FFFFFFFFh	—	Impossible	Point table

Supported firmware version							
ECT	—	—	—	—	—	—	—
B8	—	—	—	—	—	—	—

Description

The point table error number is returned.

[Point table error factor (Obj. 2A43h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	00000000h	00000000h to FFFFFFFFh	—	Impossible	Point table

Supported firmware version							
ECT	—	—	—	—	—	—	—
B8	—	—	—	—	—	—	—

Description

The point table error element is returned.

b0: Target position

b1: —

b2: Speed

b3: Acceleration time constant/acceleration

b4: Deceleration time constant/deceleration

b5: Dwell time

b6: Auxiliary function

b7: M code

7.6 [Parameter error number (Obj. 2A44h)]

[Parameter error number (Obj. 2A44h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	0000h	0000h to FFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

During [AL. 037 Parameter error] occurrence, the number of the servo parameters that caused the error is returned.
Refer to the following object for the number of each servo parameter which causes the error.
☞ Page 91 [Parameter error list 1 (Obj. 2A45h: 01h)] - [Parameter error list 254 (Obj. 2A45h: FEh)]

7.7 [Parameter error list (Obj. 2A45h)]

[Parameter error list (Obj. 2A45h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	254	254 (fixed)	—	Impossible	Parameter error list

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes (= 254) is returned.

[Parameter error list 1 (Obj. 2A45h: 01h)] - [Parameter error list 254 (Obj. 2A45h: FEh)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	0000h	0000h to FFFFh	—	Impossible	Parameter error list

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

During [AL. 037 Parameter error] occurrence, a list of servo parameter numbers that caused the alarm is returned.

The descriptions of [Parameter error list 1 (Obj. 2A45h: 01h)] to [Parameter error list 254 (Obj. 2A45h: FEh)] are as follows.

For example, if [Pr. PC01] is the cause of the error, "0201h" is returned.

When no error has occurred, "0000h" is returned.

Bit	Description
0 to 7	Servo parameter number
8 to 15	Servo parameter group number 00h: [Pr. PA _ _] 01h: [Pr. PB _ _] 02h: [Pr. PC _ _] 03h: [Pr. PD _ _] 04h: [Pr. PE _ _] 05h: [Pr. PF _ _] 0Bh: [Pr. PL _ _] 0Ch: [Pr. PT _ _] 0Eh: [Pr. PN _ _] 11h: [Pr. PV _ _]

7.8 [Reset alarm (Obj. 2A46h)]

[Reset alarm (Obj. 2A46h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	Impossible	0000h	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The alarm that has occurred in the servo amplifier is cleared.

Writing "1EA5h" resets an alarm. Any value other than "1EA5h" is invalid.

When the object is read, "0000h" is returned.

7.9 [Drive recorder history newest (Obj. 2A70h)]

[Drive recorder history newest (Obj. 2A70h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	7	7 (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes (= 7) is returned.

The data of a different history number may be read from the drive recorder depending on when [Drive recorder history newest (Obj. 2A70h)] is read and when the history is recorded in the drive recorder. Check if the data of the desired history number has been read.

[Drive recorder history index (Obj. 2A70h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	0	0 to 9999	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The save Index of the drive recorder is returned.

[Drive recorder history index] displays drive record data using consecutive numbers from 0 to 9999. When data is recorded in the drive recorder, the number will increase. If the number exceeds "9999", it will return to "0" and increase again.

If the drive recorder history is cleared, counting for the save Index will start from "0".

When reading data of a specific history number with the drive recorder, if the value stored in the save Index is the same before and after reading, the read data is the data of the same history number.

[Drive recorder history alarm number (Obj. 2A70h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	00000000h	00000000h to FFFFFFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The alarm number that occurred when data was recorded using the drive recorder is returned. The description is as follows.

When there is no history or the data of the drive recorder is recorded with the user settings, "00000000h" is returned.

Bit 0 to Bit 15: Alarm detail number

Bit 16 to Bit 31: Alarm number

For example, if [AL. 538.1] occurs, "05380001h" is returned.

[Drive recorder history power on time (Obj. 2A70h: 03h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	00000000h	00000000h to FFFFFFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Returns the power-on cumulative time when data was recorded using the drive recorder. When there is no history, "00000000h" is returned.

[Drive recorder history time (second) (Obj. 2A70h: 04h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	00000000h	00000000h to FFFFFFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The time at when recorded data in the drive recorder is returned as a 32-bit integer (time passed from January 1, 1970, 0:00:00.000000000).

If time data cannot be obtained from the network, alarm occurrence time shows the cumulative power-on time from January 1, 1970, 0:00:00.000000000.

Use this object together with [Drive recorder history time (nanosecond) (Obj. 2A70h: 05h)] according to the system.

[Drive recorder history time (nanosecond) (Obj. 2A70h: 05h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	00000000h	00000000h to FFFFFFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Returns the digits after the ones indicating seconds in the recording time of the drive recorder as a 32-bit integer. A value is returned in units of nanoseconds, but only the values in milliseconds increase.
For example, if an alarm occurs on January 1, 2000, 12:00:00.001, "000F4240h (1000000)" will be returned.

[Drive recorder history (time zone) (Obj. 2A70h: 06h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	Impossible	00000000h	80000000h to 7FFFFFFFh	minute	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Returns the time zone of the time at when recorded the drive recorder.
If no setting exists, "80000000h" will be returned.

[Drive recorder history (summer time) (Obj. 2A70h: 07h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	Impossible	00000000h	80000000h to 7FFFFFFFh	minute	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Returns the daylight saving time at when recorded data in the drive recorder.
If no setting exists, "80000000h" will be returned.

7.10 [Drive recorder history 1 (Obj. 2A71h)] - [Drive recorder history 15 (Obj. 2A7Fh)]

The second (2A71h) to 16th (2A7Fh) of the latest history information in the drive recorder is returned. The description of each Sub Index is the same as that of [Drive recorder history newest (Obj. 2A70h)].
☞ Page 92 [Drive recorder history newest (Obj. 2A70h)]

8 Monitor Objects

Point

For the contents of the monitor signals, refer to "Monitor signal (analog)" in the following manual.
MR-JET User's Manual (Function)

8.1 [Cumulative feedback pulses (Obj. 2B01h)]

[Cumulative feedback pulses (Obj. 2B01h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RW	TxPDO	—	—	pulse	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The cumulative feedback pulses are returned.
The returned value is limited within the range from C4653601h (-999999999) to 3B9AC9FFh (999999999). If the value exceeds the upper or lower limit value, it changes to "00000000h". The cumulative feedback pulses can be cleared by writing "00001EA5h".

8.2 [Servo motor speed (Obj. 2B02h)]

[Servo motor speed (Obj. 2B02h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	—	r/min mm/s	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The servo motor speed is returned.

8.3 [Droop pulses (Obj. 2B03h)]

[Droop pulses (Obj. 2B03h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	—	pulse	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The value of droop pulses (encoder pulse unit) is returned.

8.4 [Cumulative command pulses (Obj. 2B04h)]

[Cumulative command pulses (Obj. 2B04h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	—	pulse	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The value of cumulative command pulses (command pulse unit) is returned.
The returned value is limited within the range from C4653601h (-999999999) to 3B9AC9FFh (999999999). If the value exceeds the upper or lower limit value, it changes to "00000000h".

8.5 [Command pulse frequency (Obj. 2B05h)]

[Command pulse frequency (Obj. 2B05h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	—	kpulse/s	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The command pulse frequency is returned.

8.6 [Regenerative load ratio (Obj. 2B08h)]

[Regenerative load ratio (Obj. 2B08h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	TxPDO	—	—	%	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The regenerative load ratio is returned.

8.7 [Effective load ratio (Obj. 2B09h)]

[Effective load ratio (Obj. 2B09h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	TxPDO	—	—	%	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The effective load ratio is returned.

8.8 [Peak load ratio (Obj. 2B0Ah)]

[Peak load ratio (Obj. 2B0Ah: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	TxPDO	—	—	%	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The peak load ratio is returned.

8.9 [Instantaneous torque (Obj. 2B0Bh)]

[Instantaneous torque (Obj. 2B0Bh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	TxPDO	—	—	%	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The instantaneous torque is returned.

8.10 [Within one-revolution position (Obj. 2B0Ch)]

[Within one-revolution position (Obj. 2B0Ch: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	—	pulse	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The position within one-revolution (encoder pulse unit) is returned.

The returned value range differs depending on the encoder resolution.

For the HG series rotary servo motor, the range is from 00000000h (0) to 00400000h (4194304).

For the encoder resolution of the servo motor, refer to the user's manual of each servo motor.

8.11 [ABS counter (Obj. 2B0Dh)]

[ABS counter (Obj. 2B0Dh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	—	rev	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The ABS counter is returned.

The ABS counter returns the travel distance from the home position as a multi-revolution counter value of the absolution position encoder in the absolution position detection system.

For the linear servo motor control mode, the value for manufacturer setting is returned.

For the fully closed loop control mode, the ABS counter is returned in the servo motor encoder unit.

For the HG series rotary servo motor, the maximum rotation range of a multi-revolution counter is FFFF8000h (-32768 rev) to 00007FFFh (32767 rev) from the home position.

For details, refer to "Absolute position detection system" in the following manual.

MR-JET User's Manual (Hardware)

8.12 [Load inertia moment ratio (Obj. 2B0Eh)]

[Load inertia moment ratio (Obj. 2B0Eh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	TxPDO	—	—	0.01 times	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The load to motor inertia ratio/load to motor mass ratio are returned.

For example, if the value of this object is 1000 in decimal, the load to motor inertia ratio/load to motor mass ratio will be 10.00 times as the unit is "0.01 times".

8.13 [Bus voltage (Obj. 2B0Fh)]

[Bus voltage (Obj. 2B0Fh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	TxPDO	—	—	V	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The bus voltage is returned.

8.14 [Load-side cumulative feedback pulses (Obj. 2B10h)]

[Load-side cumulative feedback pulses (Obj. 2B10h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	—	pulse	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—

Description

The cumulative feedback pulses from the load-side encoder are returned.

The returned value is limited within the range from C4653601h (-999999999) to 3B9AC9FFh (999999999). If the value exceeds the upper or lower limit value, it changes to "00000000h".

8.15 [Load-side droop pulses (Obj. 2B11h)]

[Load-side droop pulses (Obj. 2B11h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	—	pulse	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—

Description

The load-side droop pulses (load-side encoder pulse unit) are returned.

8.16 [Load-side encoder information 1 Z-phase counter (Obj. 2B12h)]

[Load-side encoder information 1 Z-phase counter (Obj. 2B12h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	—	pulse	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—

Description

The load-side encoder information 1 is returned.

The information to be returned varies as follows in accordance with the encoder being connected on the load side.

For a rotary servo motor, the position within one-revolution is returned.

For an absolute position linear encoder, the absolute position data is returned.

For an incremental linear encoder, the Z-phase counter (the distance from the linear encoder home position (reference mark)) is returned in 32-bit data after the Z-phase is passed. The value before the Z-phase is passed is undefined.

For an A/B/Z-phase differential output linear encoder, the Z-phase counter (the distance from the linear encoder home position (Z-phase)) is returned in 16-bit data (FFFF8000h (-32768) to 00007FFFh (32767)) after the Z-phase is passed. Before the Z-phase is passed, this object returns the value of the free-run counter, which changes to "00000000h" when the power is cycled.

When the position within one-revolution is returned by an A/B/Z-phase differential output rotary encoder, set the value of the load-side encoder resolution in [Pr. PE51 Load-side encoder resolution setting].

📖MR-JET-G User's Manual (Parameters)

8.17 [Load-side encoder information 2 (Obj. 2B13h)]

[Load-side encoder information 2 (Obj. 2B13h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	—	rev	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—

Description

The load-side encoder information 2 is returned.

The information to be returned varies as follows in accordance with the encoder being connected on the load side.

For a rotary servo motor, this object returns the value of the multi-revolution ABS counter, which maintains the counter value even when the power is cycled. Note that, when using an HK-MT_VW, this object returns the value of the multi-revolution counter, which changes to "00000000h" when the power is cycled.

For an absolute position linear encoder, "00000000h" is returned.

For an incremental linear encoder, "00000000h" is returned.

For an A/B/Z-phase differential output linear encoder, "00000000h" is returned.

For an A/B/Z-phase differential output rotary encoder, "00000000h" is returned.

8.18 [Motor-side cumu. feedback pulses (before gear) (Obj. 2B18h)]

[Motor-side cumu. feedback pulses (before gear) (Obj. 2B18h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	—	pulse	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The servo motor-side cumulative feedback pulses (before gear) (motor unit) are returned.

The returned value is limited within the range from C4653601h (-999999999) to 3B9AC9FFh (999999999). If the value exceeds the upper or lower limit value, it changes to "00000000h".

8.19 [Electrical angle (Obj. 2B19h)]

[Electrical angle (Obj. 2B19h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	—	pulse	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The electrical angle is returned.

8.20 [Motor-side/load-side position deviation (Obj. 2B23h)]

[Motor-side/load-side position deviation (Obj. 2B23h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	—	pulse	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—

Description

The motor/load-side position deviation (load-side encoder pulse unit) is returned.

8.21 [Motor-side/load-side speed deviation (Obj. 2B24h)]

[Motor-side/load-side speed deviation (Obj. 2B24h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	—	r/min	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—

Description

The motor/load-side speed deviation is returned.

8.22 [Internal temperature of encoder (Obj. 2B25h)]

[Internal temperature of encoder (Obj. 2B25h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	TxPDO	—	—	°C	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The internal temperature of the encoder is returned.

For servo amplifiers with firmware version earlier than F4, when an HK series servo motor is connected, the display range of the internal temperature of encoder is "0 to 127" and "216 to 255". Interpret "216 to 255" as "-40 to -1".

For servo amplifiers with firmware version F4 or later, when an HK series servo motor is connected, the display range of the internal temperature of encoder is "-40 to 127".

8.23 [Settling time (Obj. 2B26h)]

[Settling time (Obj. 2B26h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	TxPDO	—	—	ms	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The settling time is returned.

8.24 [Oscillation detection frequency (Obj. 2B27h)]

[Oscillation detection frequency (Obj. 2B27h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	TxPDO	—	—	Hz	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The oscillation detection frequency is returned.

8.25 [Number of tough drive operations (Obj. 2B28h)]

[Number of tough drive operations (Obj. 2B28h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	TxPDO	—	—	number of times	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The number of tough drive operations is returned.

8.26 [Internal temperature of amplifier (Obj. 2B2Ah)]

[Internal temperature of amplifier (Obj. 2B2Ah: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	TxPDO	—	—	°C	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The internal temperature of the servo amplifier is returned.

8.27 [Unit power consumption (Obj. 2B2Dh)]

[Unit power consumption (Obj. 2B2Dh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	TxPDO	—	—	W	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The unit power consumption of the servo amplifier is returned.

8.28 [Unit total power consumption (Obj. 2B2Eh)]

[Unit total power consumption (Obj. 2B2Eh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	—	Wh	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The unit total power consumption of the servo amplifier is returned.

8.29 [Current position (Obj. 2B2Fh)]

[Current position (Obj. 2B2Fh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	—	pos units	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
B2	—	—	—	—	—	—	—

Description

The current position is returned.

This object is only available in the profile position mode and positioning mode (point table method).

8.30 [Command position (Obj. 2B30h)]

[Command position (Obj. 2B30h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	—	pos units	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
B2	—	—	—	—	—	—	—

Description

The command position is returned.

This object is only available in the profile position mode and positioning mode (point table method).

8.31 [Remaining command distance (Obj. 2B31h)]

[Remaining command distance (Obj. 2B31h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	—	pos units	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
B2	—	—	—	—	—	—	—

Description

The command remaining distance is returned.

This object is only available in the profile position mode and positioning mode (point table method).

8.32 [Command No. (Obj. 2B32h)]

[Command No. (Obj. 2B32h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	TxPDO	—	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
B8	—	—	—	—	—	—	—

Description

The point table number is returned.

8.33 [Error excessive alarm margin (Obj. 2B3Fh)]

[Error excessive alarm margin (Obj. 2B3Fh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	—	pulse	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The excessive error alarm margin (encoder pulse unit) is returned.

8.34 [Overload alarm margin (Obj. 2B40h)]

[Overload alarm margin (Obj. 2B40h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	TxPDO	—	—	0.1 %	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The overload alarm margin is returned.

For example, if the value of this object is 100 in decimal, 10.0 % will be indicated as the unit of the overload alarm margin is 0.1 %.

8.35 [Overshoot amount (Obj. 2B41h)]

[Overshoot amount (Obj. 2B41h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	—	pulse	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The overshoot amount (encoder pulse unit) is returned.

8.36 [Torque/thrust equivalent to disturbance (Obj. 2B42h)]

[Torque/thrust equivalent to disturbance (Obj. 2B42h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	TxPDO	—	—	0.1 %	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The value for torque/thrust equivalent to disturbance is returned.

For example, if the value of this object is 100 in decimal, 10.0 % will be indicated as the unit of the torque/thrust equivalent to disturbance is 0.1 %.

8.37 [Unit power consumption 2 (Obj. 2B43h)]

[Unit power consumption 2 (Obj. 2B43h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	—	W	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The unit power consumption of the servo amplifier is returned.

8.38 [FSoE safety statusword monitor (Obj. 2DC5h)]

[FSoE safety statusword monitor (Obj. 2DC5h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	01h	01h (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The number of entries is returned.

This object is available when the safety communication function is used.

[FSoE safety statusword 1 monitor (Obj. 2DC5h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	TxPDO	00000000h	00000000h to FFFFFFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The output status of the safety sub-function sent by FSoE Slave is returned.

Bit	Description
0	STOS (STO output) is returned.
1	SSMS (SSM output) is returned.
2	—
3	Error (Error status) is returned.
4	SS1S (SS1 output) is returned.
5	—
6	SDIPS (SDIP output) is returned.
7	SDINS (SDIN output) is returned.
8	SLS1S (SLS1 output) is returned.
9	SLS2S (SLS2 output) is returned.
10	SLS3S (SLS3 output) is returned.
11	SLS4S (SLS4 output) is returned.
12	SBCS (SBC output) is returned.
13	—
14	SLT1S (SLT1 output) is returned.
15	SLT2S (SLT2 output) is returned.
16	SLT3S (SLT3 output) is returned.
17	SLT4S (SLT4 output) is returned.
18 to 31	Reserved

8.39 [FSoE safety controlword monitor (Obj. 2DC6h)]

[FSoE safety controlword monitor (Obj. 2DC6h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	01h	01h (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The number of entries is returned.

This object is available when the safety communication function is used.

[FSoE safety controlword 1 monitor (Obj. 2DC6h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	TxPDO	00000000h	00000000h to FFFFFFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The input status of the safety sub-function sent by FSoE Master is returned.

Bit	Description
0	STOC (STO command) is returned.
1	SS1C (SS1 command) is returned.
2	—
3	SDIPC (SDIP command) is returned.
4	SDINC (SDIN command) is returned.
5	Error Ack (Error clear command) is returned.
6	SLS1C (SLS1 command) is returned.
7	SLS2C (SLS2 command) is returned.
8	SLS3C (SLS3 command) is returned.
9	SLS4C (SLS4 command) is returned.
10	—
11	SLT1C (SLT1 command) is returned.
12	SLT2C (SLT2 command) is returned.
13	SLT3C (SLT3 command) is returned.
14	SLT4C (SLT4 command) is returned.
15 to 31	Reserved

9 Manufacturer Specific Control Object

9.1 [Drive recorder status (Obj. 2C02h)]

[Drive recorder status (Obj. 2C02h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	0	0 to 1	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The enabled/disabled status of the drive recorder is returned.

When the drive recorder does not operate or when the single sampling ends in manual setting mode, this object returns "0" (disabled status).

When the drive recorder function is operating, this object returns "1" (enabled status).

0: Disabled status

1: Enabled status

9.2 [Clear drive recorder history (Obj. 2C03h)]

[Clear drive recorder history (Obj. 2C03h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	Impossible	0000h	0000h to FFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Writing "1EA5h", cycling the power, or performing a software reset clears the data in the drive recorder history.

When the object is read, "0000h" is returned.

9.3 [External output pin display (Obj. 2C11h)]

[External output pin display (Obj. 2C11h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	1	00h to FFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
B6	—	—	—	—	—	—	—

Description

The number of entries in external output pin status is returned.

[External output pin display1 (Obj. 2C11h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	TxPDO	—	00000000h to FFFFFFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
B6	—	—	—	—	—	—	—

Description

The external output pin status 1 is returned.

• MR-JET-_G-N1

Bit	Connector pin	Bit	Connector pin	Bit	Connector pin	Bit	Connector pin
0	CN3-13	8	—	16	—	24	—
1	CN3-15	9	—	17	—	25	—
2	CN3-9	10	—	18	—	26	—
3	—	11	—	19	—	27	—
4	—	12	—	20	—	28	—
5	—	13	—	21	—	29	—
6	—	14	—	22	—	30	—
7	—	15	—	23	—	31	—

• MR-JET-_G_-HSN1

Bit	Connector pin	Bit	Connector pin	Bit	Connector pin	Bit	Connector pin
0	CN3-1B	8	—	16	—	24	—
1	CN3-2B	9	—	17	—	25	—
2	CN3-2A	10	—	18	—	26	—
3	—	11	—	19	—	27	—
4	—	12	—	20	—	28	—
5	—	13	—	21	—	29	—
6	—	14	—	22	—	30	—
7	—	15	—	23	—	31	—

9.4 [Power ON cumulative time (Obj. 2C18h)]

[Power ON cumulative time (Obj. 2C18h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	00000000h to FFFFFFFFh	hour	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The cumulative energization time of the servo amplifier is returned.

9.5 [Number of inrush relay on/off times (Obj. 2C19h)]

[Number of inrush relay on/off times (Obj. 2C19h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	00000000h to FFFFFFFFh	number of times	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The number of times that the inrush relay of the servo amplifier has been turned on/off is returned.

9.6 [Number of dynamic brake stop times (Obj. 2C1Ah)]

[Number of dynamic brake stop times (Obj. 2C1Ah: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	00000000h to FFFFFFFFh	number of times	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The number of times that the dynamic brake of the servo amplifier has been stopped is returned.

9.7 [Machine diagnostic status (Obj. 2C20h)]

[Machine diagnostic status (Obj. 2C20h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The machine diagnostic status is returned.
[Bit 0 to 3: Friction estimation status at forward rotation]
0: Estimation in progress. (normal)
1: Estimation has finished. (normal)
2: The motor may have rotated/traveled more frequently in one direction than the other. (warning)
3: The servo motor speed may be too slow for friction estimation. (warning)
4: The change in the servo motor speed may be too small for friction estimation. (warning)
5: The acceleration/deceleration time constants may be too short for friction estimation. (warning)
6: The operation time may be insufficient. (warning)
When warning conditions for 2 to 6 are met at the same time, the lower number takes priority.
Even if a warning occurs during estimation, upon completion the status will change to "Estimation has finished".
[Bit 4 to 7: Friction estimation status at reverse rotation]
0: Estimation in progress. (normal)
1: Estimation has finished. (normal)
2: The motor may have rotated/traveled more frequently in one direction than the other. (warning)
3: The servo motor speed may be too slow for friction estimation. (warning)
4: The change in the servo motor speed may be too small for friction estimation. (warning)
5: The acceleration/deceleration time constants may be too short for friction estimation. (warning)
6: The operation time may be insufficient. (warning)
When warning conditions for 2 to 6 are met at the same time, the lower number takes priority.
Even if a warning occurs during estimation, upon completion the status will change to "Estimation has finished".
[Bit 8 to 11: Vibration estimation status]
0: Estimation in progress.
1: Estimation has finished.
[Bit 12 to 15: reserved]

9.8 [Static friction torque at forward rotation (Obj. 2C21h)]

[Static friction torque at forward rotation (Obj. 2C21h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	Impossible	—	-32768 to 32767	0.1 %	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The static friction at forward rotation torque is returned.

9.9 [Dynamic friction torque at forward rotation (at rated speed) (Obj. 2C22h)]

[Dynamic friction torque at forward rotation (at rated speed) (Obj. 2C22h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	Impossible	—	-32768 to 32767	0.1 %	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The dynamic friction at forward rotation torque at the rated speed is returned.

9.10 [Static friction torque at reverse rotation (Obj. 2C23h)]

[Static friction torque at reverse rotation (Obj. 2C23h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	Impossible	—	-32768 to 32767	0.1 %	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The static friction at reverse rotation torque is returned.

9.11 [Dynamic friction torque at reverse rotation (at rated speed) (Obj. 2C24h)]

[Dynamic friction torque at reverse rotation (at rated speed) (Obj. 2C24h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	Impossible	—	-32768 to 32767	0.1 %	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The dynamic friction at reverse rotation torque at the rated speed is returned.

9.12 [Oscillation frequency during motor stop (Obj. 2C25h)]

[Oscillation frequency during motor stop (Obj. 2C25h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	Impossible	—	-32768 to 32767	Hz	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The vibration frequency during stop and servo-lock is returned.

9.13 [Vibration level during motor stop (Obj. 2C26h)]

[Vibration level during motor stop (Obj. 2C26h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	Impossible	—	-32768 to 32767	0.1 %	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The vibration level during stop/servo-lock is returned.

9.14 [Oscillation frequency during motor operating (Obj. 2C27h)]

[Oscillation frequency during motor operating (Obj. 2C27h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	Impossible	—	-32768 to 32767	Hz	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The vibration frequency during operation is returned.

9.15 [Vibration level during motor operating (Obj. 2C28h)]

[Vibration level during motor operating (Obj. 2C28h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	Impossible	—	-32768 to 32767	0.1 %	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The vibration level during operation is returned.

9.16 [Machine total distance (Obj. 2C2Fh)]

[Machine total distance (Obj. 2C2Fh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	00000000h to FFFFFFFFh	rev m	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The machine total travel distance is returned.

9.17 [Friction estimate status (Obj. 2C31h)]

[Friction estimate status (Obj. 2C31h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	0 to 100	%	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The progress of friction estimation is returned.

9.18 [Phase current (Obj. 2C37h)]

[Phase current (Obj. 2C37h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	3 (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
B0	—	—	—	—	—	—	—

Description

The total number of Sub Indexes (= 3) is returned.

[U phase current (Obj. 2C37h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	TxPDO	—	-32768 to 32767	0.1 %	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
B0	—	—	—	—	—	—	—

Description

The U-phase current value is displayed in increments of 0.1 % in relation to the rated current as 100 %.

[V phase current (Obj. 2C37h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	TxPDO	—	-32768 to 32767	0.1 %	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
B0	—	—	—	—	—	—	—

Description

The V-phase current value is displayed in increments of 0.1 % in relation to the rated current as 100 %.

[W phase current (Obj. 2C37h: 03h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	TxPDO	—	-32768 to 32767	0.1 %	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
B0	—	—	—	—	—	—	—

Description

The W-phase current value is displayed in increments of 0.1 % in relation to the rated current as 100 %.

9.19 [Supported Control DI (Obj. 2D00h)]

[Supported Control DI (Obj. 2D00h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	10	10 (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The number of supported Control DI is returned.

[Supported Control DI 1 (Obj. 2D00h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The supported input device is returned. When the input device is supported, the corresponding bit becomes 1. For details on each bit, refer to "Bit definition of Control DI" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

[Supported Control DI 2 (Obj. 2D00h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The supported input device is returned. When the input device is supported, the corresponding bit becomes 1. For details on each bit, refer to "Bit definition of Control DI" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

[Supported Control DI 3 (Obj. 2D00h: 03h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	0000h to FFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The supported input device is returned. When the input device is supported, the corresponding bit becomes 1. For details on each bit, refer to "Bit definition of Control DI" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

[Supported Control DI 4 (Obj. 2D00h: 04h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	0000h to FFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The supported input device is returned. When the input device is supported, the corresponding bit becomes 1. For details on each bit, refer to "Bit definition of Control DI" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

[Supported Control DI 5 (Obj. 2D00h: 05h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	0000h to FFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The supported input device is returned. When the input device is supported, the corresponding bit becomes 1. For details on each bit, refer to "Bit definition of Control DI" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

[Supported Control DI 6 (Obj. 2D00h: 06h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	0000h to FFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The supported input device is returned. When the input device is supported, the corresponding bit becomes 1. For details on each bit, refer to "Bit definition of Control DI" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

[Supported Control DI 7 (Obj. 2D00h: 07h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	0000h to FFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The supported input device is returned. When the input device is supported, the corresponding bit becomes 1. For details on each bit, refer to "Bit definition of Control DI" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

[Supported Control DI 8 (Obj. 2D00h: 08h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	0000h to FFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The supported input device is returned. When the input device is supported, the corresponding bit becomes 1. For details on each bit, refer to "Bit definition of Control DI" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

[Supported Control DI 9 (Obj. 2D00h: 09h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The supported input device is returned. When the input device is supported, the corresponding bit becomes 1. For details on each bit, refer to "Bit definition of Control DI" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

[Supported Control DI 10 (Obj. 2D00h: 0Ah)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The supported input device is returned. When the input device is supported, the corresponding bit becomes 1. For details on each bit, refer to "Bit definition of Control DI" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

9.20 [Control DI 1 (Obj. 2D01h)]

[Control DI 1 (Obj. 2D01h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	0000h	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The input device status is returned and set. For details, refer to "Bit definition of Control DI" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

9.21 [Control DI 2 (Obj. 2D02h)]

[Control DI 2 (Obj. 2D02h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	0000h	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The input device status is returned and set. For details, refer to "Bit definition of Control DI" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

9.22 [Control DI 3 (Obj. 2D03h)]

[Control DI 3 (Obj. 2D03h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	0000h	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The input device status is returned and set. For details, refer to "Bit definition of Control DI" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

9.23 [Control DI 4 (Obj. 2D04h)]

[Control DI 4 (Obj. 2D04h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	0000h	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The input device status is returned and set. For details, refer to "Bit definition of Control DI" in the following manual.

MR-JET-G-N1 User's Manual (Communication Function)

9.24 [Control DI 5 (Obj. 2D05h)]

[Control DI 5 (Obj. 2D05h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	0000h	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The input device status is returned and set. For details, refer to "Bit definition of Control DI" in the following manual.

MR-JET-G-N1 User's Manual (Communication Function)

9.25 [Control DI 6 (Obj. 2D06h)]

[Control DI 6 (Obj. 2D06h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	0000h	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The input device status is returned and set. For details, refer to "Bit definition of Control DI" in the following manual.

MR-JET-G-N1 User's Manual (Communication Function)

9.26 [Control DI 7 (Obj. 2D07h)]

[Control DI 7 (Obj. 2D07h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	0000h	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The input device status is returned and set. For details, refer to "Bit definition of Control DI" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

9.27 [Control DI 8 (Obj. 2D08h)]

[Control DI 8 (Obj. 2D08h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	0000h	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The input device status is returned and set. For details, refer to "Bit definition of Control DI" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

9.28 [Control DI 9 (Obj. 2D09h)]

[Control DI 9 (Obj. 2D09h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	0000h	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The input device status is returned and set. For details, refer to "Bit definition of Control DI" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

9.29 [Control DI 10 (Obj. 2D0Ah)]

[Control DI 10 (Obj. 2D0Ah: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	0000h	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The input device status is returned and set. For details, refer to "Bit definition of Control DI" in the following manual.

MR-JET-G-N1 User's Manual (Communication Function)

9.30 [Supported Status DO (Obj. 2D10h)]

[Supported Status DO (Obj. 2D10h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	10	10 (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The number of supported Status DO is returned.

[Supported Status DO 1 (Obj. 2D10h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The supported output device is returned. When the output device is supported, the corresponding bit becomes 1. For details on each bit, refer to "Bit definition of Status DO" in the following manual.

MR-JET-G-N1 User's Manual (Communication Function)

[Supported Status DO 2 (Obj. 2D10h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	0000h to FFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The supported output device is returned. When the output device is supported, the corresponding bit becomes 1. For details on each bit, refer to "Bit definition of Status DO" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

[Supported Status DO 3 (Obj. 2D10h: 03h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	0000h to FFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The supported output device is returned. When the output device is supported, the corresponding bit becomes 1. For details on each bit, refer to "Bit definition of Status DO" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

[Supported Status DO 4 (Obj. 2D10h: 04h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	0000h to FFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The supported output device is returned. When the output device is supported, the corresponding bit becomes 1. For details on each bit, refer to "Bit definition of Status DO" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

[Supported Status DO 5 (Obj. 2D10h: 05h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The supported output device is returned. When the output device is supported, the corresponding bit becomes 1. For details on each bit, refer to "Bit definition of Status DO" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

[Supported Status DO 6 (Obj. 2D10h: 06h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The supported output device is returned. When the output device is supported, the corresponding bit becomes 1. For details on each bit, refer to "Bit definition of Status DO" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

[Supported Status DO 7 (Obj. 2D10h: 07h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The supported output device is returned. When the output device is supported, the corresponding bit becomes 1. For details on each bit, refer to "Bit definition of Status DO" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

[Supported Status DO 8 (Obj. 2D10h: 08h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	0000h to FFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The supported output device is returned. When the output device is supported, the corresponding bit becomes 1. For details on each bit, refer to "Bit definition of Status DO" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

[Supported Status DO 9 (Obj. 2D10h: 09h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	0000h to FFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The supported output device is returned. When the output device is supported, the corresponding bit becomes 1. For details on each bit, refer to "Bit definition of Status DO" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

[Supported Status DO 10 (Obj. 2D10h: 0Ah)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	0000h to FFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The supported output device is returned. When the output device is supported, the corresponding bit becomes 1. For details on each bit, refer to "Bit definition of Status DO" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

9.31 [Status DO 1 (Obj. 2D11h)]

[Status DO 1 (Obj. 2D11h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	TxPDO	0000h	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The output device status is returned. For details, refer to "Bit definition of Status DO" in the following manual.

MR-JET-G-N1 User's Manual (Communication Function)

9.32 [Status DO 2 (Obj. 2D12h)]

[Status DO 2 (Obj. 2D12h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	TxPDO	0000h	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The output device status is returned. For details, refer to "Bit definition of Status DO" in the following manual.

MR-JET-G-N1 User's Manual (Communication Function)

9.33 [Status DO 3 (Obj. 2D13h)]

[Status DO 3 (Obj. 2D13h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	TxPDO	0000h	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The output device status is returned. For details, refer to "Bit definition of Status DO" in the following manual.

MR-JET-G-N1 User's Manual (Communication Function)

9.34 [Status DO 4 (Obj. 2D14h)]

[Status DO 4 (Obj. 2D14h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	TxPDO	0000h	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The output device status is returned. For details, refer to "Bit definition of Status DO" in the following manual.

MR-JET-G-N1 User's Manual (Communication Function)

9.35 [Status DO 5 (Obj. 2D15h)]

[Status DO 5 (Obj. 2D15h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	TxPDO	0000h	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The output device status is returned. For details, refer to "Bit definition of Status DO" in the following manual.

MR-JET-G-N1 User's Manual (Communication Function)

9.36 [Status DO 6 (Obj. 2D16h)]

[Status DO 6 (Obj. 2D16h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	TxPDO	0000h	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The output device status is returned. For details, refer to "Bit definition of Status DO" in the following manual.

MR-JET-G-N1 User's Manual (Communication Function)

9.37 [Status DO 7 (Obj. 2D17h)]

[Status DO 7 (Obj. 2D17h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	TxPDO	0000h	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The output device status is returned. For details, refer to "Bit definition of Status DO" in the following manual.

MR-JET-G-N1 User's Manual (Communication Function)

9.38 [Status DO 8 (Obj. 2D18h)]

[Status DO 8 (Obj. 2D18h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	TxPDO	0000h	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The output device status is returned. For details, refer to "Bit definition of Status DO" in the following manual.

MR-JET-G-N1 User's Manual (Communication Function)

9.39 [Status DO 9 (Obj. 2D19h)]

[Status DO 9 (Obj. 2D19h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	TxPDO	0000h	0000h to FFFFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The output device status is returned. For details, refer to "Bit definition of Status DO" in the following manual.

MR-JET-G-N1 User's Manual (Communication Function)

9.40 [Status DO 10 (Obj. 2D1Ah)]

[Status DO 10 (Obj. 2D1Ah: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	TxPDO	0000h	0000h to FFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The output device status is returned. For details, refer to "Bit definition of Status DO" in the following manual.

MR-JET-G-N1 User's Manual (Communication Function)

9.41 [Velocity limit value (Obj. 2D20h)]

[Velocity limit value (Obj. 2D20h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	RxPDO	Refer to the following.	0 to 4294967295	vel units	Possible	Refer to the following.

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set the speed limit value of the cyclic synchronous torque mode (csv) and the profile torque mode (tq).

The input value will be clamped at the servo motor maximum speed. When changing the speed to the permissible speed, set the speed in [Pr. PA28.4 Speed range limit selection].

The description of the object varies as shown in the table below, depending on the combination of the settings of [Pr. PT01.2 Unit for position data], [Pr. PT01.1 Speed/acceleration/deceleration unit selection], and the connected servo motor.

[Pr. PT01.2]	[Pr. PT01.1]	Connected servo motor	Default	Units	Parameter
—	0 (encoder unit)	Rotary servo motor	300000	0.01 r/min	[Pr. PT67]
		Linear servo motor		0.01 mm/s	
2 (degree)	1 (command unit)	—	2147483647	0.001 degree/s	[Pr. PV21]
3 (pulse)				pulse/s	

9.42 [Motor rated speed (Obj. 2D28h)]

[Motor rated speed (Obj. 2D28h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	0 to 4294967295	Refer to the following.	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The servo motor rated speed is returned. The unit of the returned data varies depending on the combination of the settings of [Pr. PT01.2 Unit for position data], [Pr. PT01.1 Speed/acceleration/deceleration unit selection], and the connected servo motor.

[Pr. PT01.2]	[Pr. PT01.1]	Connected servo motor	Units
—	0 (encoder unit)	Rotary servo motor	r/min
		Linear servo motor	mm/s
0 (mm)	1 (command unit)	—	0.001 mm/s
1 (inch)			0.0001 inch/s
2 (degree)			0.001 degree/s
3 (pulse)			pulse/s

9.43 [Manufacturer Device Name 2 (Obj. 2D30h)]

[Manufacturer Device Name 2 (Obj. 2D30h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
VISIBLE STRING	RO	Impossible	—	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
B2	—	—	—	—	—	—	—

Description

The model name including the capacity of the servo amplifier (Example: MR-JET-10G-N1) is returned.

9.44 [Serial Number 2 (Obj. 2D33h)]

[Serial Number 2 (Obj. 2D33h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
VISIBLE STRING	RO	Impossible	—	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
B2	—	—	—	—	—	—	—

Description

The serial number of the servo amplifier is returned.

9.45 [Encoder status (Obj. 2D35h)]

[Encoder status (Obj. 2D35h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	2	2 (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The number of entries of the encoder status is returned.

[Encoder status 1 (Obj. 2D35h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	00000000h to 00000001h	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The encoder status is returned.

Bit	Description
0	The encoder status is returned by the servo amplifier and confirms whether it is an absolute position detection system. 0: Incremental system 1: Absolute position detection system
1 to 31	—

[Encoder status 2 (Obj. 2D35h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	00000000h to 00000007h	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The status of the scale measurement encoder is returned.

When the scale measurement mode is disabled, "00000000h" is returned.

Bit	Description
0	The encoder status is returned by the servo amplifier and confirms whether it is an absolute position detection system. 0: Incremental system 1: Absolute position detection system
1	The encoder status is returned by the servo amplifier and confirms whether the scale measurement function is enabled or disabled. 0: Disabled 1: Enabled
2	The encoder status is returned by the servo amplifier and confirms whether the currently connected scale measurement encoder is an absolute position type. 0: Incremental type 1: Absolute position type
3 to 31	—

9.46 [Scale cycle counter (Obj. 2D36h)]

[Scale cycle counter (Obj. 2D36h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	TxPDO	—	0 to 4294967295	pulse	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
E4	—	—	—	—	—	—	—

Description

The position within one-revolution of the scale measurement encoder is returned. The description varies depending on the scale measurement encoder type.

When the scale measurement encoder is disabled, "0" is returned.

Scale measurement encoder	Description
Linear encoder A/B/Z-phase differential output type Incremental type	Scale free-run counter
Rotary encoder A/B/Z-phase differential output type Incremental type	Cycle counter

9.47 [Scale ABS counter (Obj. 2D37h)]

[Scale ABS counter (Obj. 2D37h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	-2147483648 to 2147483647	rev	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
E4	—	—	—	—	—	—	—

Description

The ABS counter of the scale measurement encoder is returned. The description varies depending on the scale measurement encoder type.

When the scale measurement encoder is disabled, "0" is returned.

Scale measurement encoder	Description
Linear encoder A/B/Z-phase differential output type Incremental type	Fixed to 0
Rotary encoder A/B/Z-phase differential output type Incremental type	Fixed to 0

9.48 [Scale measurement encoder resolution (Obj. 2D38h)]

[Scale measurement encoder resolution (Obj. 2D38h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	0 to 4294967295	inc/rev	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
E4	—	—	—	—	—	—	—

Description

The resolution of the scale measurement encoder is returned.

When the scale measurement encoder is disabled, "0" is returned.

Scale measurement encoder	Description
Linear encoder A/B/Z-phase differential output type Incremental type	Fixed to 0
Rotary encoder A/B/Z-phase differential output type Incremental type	Encoder resolution

9.49 [Scale measurement encoder reception status (Obj. 2D3Ch)]

[Scale measurement encoder reception status (Obj. 2D3Ch: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	TxPDO	—	00000000h to FFFFFFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
E4	—	—	—	—	—	—	—

Description

The alarm data of the scale measurement encoder is returned.

When the scale measurement encoder is disabled, "00000000h" is returned.

0: Normal

Other than 0: Error

9.50 [Servo motor serial number (Obj. 2D46h)]

[Servo motor serial number (Obj. 2D46h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
VISIBLE STRING	RO	Impossible	—	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
B2	—	—	—	—	—	—	—

Description

The serial number of the servo motor is returned.

When the serial number cannot be read, an empty value is returned.

9.51 [Motor data 2 (Obj. 2D48h)]

[Motor data 2 (Obj. 2D48h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	00h	00h to 04h	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
B2	—	—	—	—	—	—	—

Description

The number of entries is returned.

[Motor ID 1 (Obj. 2D48h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
B2	—	—	—	—	—	—	—

Description

The servo motor series ID is returned.

When an encoder is not connected, "00000000h" is returned.

For the correspondence between ID codes and servo motor models, refer to "Rotary servo motor ID codes" in the following manual.

Rotary Servo Motor User's Manual (For MR-JET)

[Motor ID 2 (Obj. 2D48h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
B2	—	—	—	—	—	—	—

Description

The servo motor type ID is returned.

When an encoder is not connected, "00000000h" is returned.

For the correspondence between ID codes and servo motor models, refer to "Rotary servo motor ID codes" in the following manual.

📖Rotary Servo Motor User's Manual (For MR-JET)

[Encoder ID 1 (Obj. 2D48h: 03h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
B2	—	—	—	—	—	—	—

Description

The encoder ID is returned.

When an encoder is not connected, "00000000h" is returned.

For the correspondence between ID codes and servo motor models, refer to "Rotary servo motor ID codes" in the following manual.

📖Rotary Servo Motor User's Manual (For MR-JET)

[Encoder ID 2 (Obj. 2D48h: 04h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
B2	—	—	—	—	—	—	—

Description

The value for manufacturer setting is returned.

9.52 [One-touch tuning mode (Obj. 2D50h)]

[One-touch tuning mode (Obj. 2D50h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RW	Impossible	00h	00h to 03h	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

One-touch tuning command is returned and set. After one-touch tuning, the setting value automatically changes to "00h".

00h: One-touch tuning stop in progress

01h: Basic mode

02h: High mode

03h: Low mode

9.53 [One-touch tuning status (Obj. 2D51h)]

[One-touch tuning status (Obj. 2D51h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I8	RO	Impossible	—	0 to 100	%	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The one-touch tuning progress is returned. Regardless of whether one-touch tuning is properly completed or not, "100" is returned at the completion.

9.54 [One-touch tuning Stop (Obj. 2D52h)]

[One-touch tuning Stop (Obj. 2D52h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	Impossible	0000h	0000h, 1EA5h	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set a one-touch tuning stop command. To check whether the setting is reflected, read [One-touch tuning mode (Obj. 2D50h)].

- 1EA5h: Stops one-touch tuning.
- Other than 1EA5h: Triggers a parameter out of range error.

When the object is read, whether one-touch tuning can be stopped is returned.

Bit	Description
0	0: One-touch tuning can be stopped with the command. (One-touch tuning in progress) 1: One-touch tuning cannot be stopped with the command. (One-touch tuning not in progress)
1 to 31	—

9.55 [One-touch tuning Clear (Obj. 2D53h)]

[One-touch tuning Clear (Obj. 2D53h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	Impossible	0000h	0000h to 0001h	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The servo parameter that was changed in one-touch tuning is returned to the value before the change. To check whether the setting is reflected, read [One-touch tuning mode (Obj. 2D50h)].

- 0000h: Restores to factory setting
- 0001h: Restores to the value from before one-touch tuning

When the object is read, whether the servo parameter that changed in one-touch tuning can be restored to the value before the change is returned.

Bit	Description
0	0: Cannot be restored to factory setting with the command. (One-touch tuning in progress) 1: Can be restored to factory setting with the command. (One-touch tuning not in progress)
1	0: Cannot be restored to the value before one-touch tuning with the command. (One-touch tuning has not been performed for the axis, one-touch tuning is in progress for the axis, or an incorrect axis was selected.) 1: Can be restored to the value before one-touch tuning with the command. (One-touch tuning executed)
2 to 31	—

9.56 [One-touch tuning Error Code (Obj. 2D54h)]

[One-touch tuning Error Code (Obj. 2D54h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	Refer to the following.	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

An error code of the one-touch tuning is returned.

Refer to "One-touch tuning error" in the following manual.

📖MR-JET User's Manual (Adjustment)

0000h: Properly completed

C000h: Tuning canceled

C_01h: Overshoot exceeded

C_02h: Servo-off during tuning

C_03h: Control mode error

C_04h: Time-out

C_05h: Load inertia moment ratio misestimated

C_06h: Servo amplifier built-in command start error

C_07h: Servo amplifier built-in command generation error

C_08h: Stop signal

C_09h: Parameter

C_0Ah: Alarm

C00Fh: One-touch tuning disabled

9.57 [Software reset (Obj. 2D5Fh)]

[Software reset (Obj. 2D5Fh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	Impossible	0000h	0000h to FFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—

Description

Writing "1EA5h" performs the software reset. Writing a value other than "1EA5h" triggers a parameter out of range error.

When the object is read, "0000h" is returned.

9.58 [Speed override (Obj. 2DB0h)]

[Speed override (Obj. 2DB0h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	100	0 to 360	%	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The override value is returned and set.

When the setting value of [Pr. PT38.1 Override selection] is "3" (the override function is enabled) and C_OVR (Override selection) (bit 7 of [Control DI 7 (Obj.2D07h)]) is turned on, the setting value of this object is enabled.

10 PDS Control Objects

10.1 [Error code (Obj. 603Fh)]

[Error code (Obj. 603Fh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	TxPDO	0000h	0000h to FFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The No. of the latest error which occurred after power-on is returned.

Ex.
When [AL. 118.1 Encoder communication circuit diagnosis in progress] occurs, this object returns "0118h".

10.2 [Controlword (Obj. 6040h)]

[Controlword (Obj. 6040h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	0000h	0000h to FFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

PDS status switching command is given, or control commands are returned and set.

Use bit 0 to bit 3 and bit 7 in the PDS status transition.

Bit	Name	Description
0	SO	Switch-on
1	EV	Enable voltage
2	QS	Quick stop
3	EO	Enable operation
4	OMS	Differs depending on the value of [Modes of operation (Obj. 6060h)]. Refer to the following for details. ☞ Page 148 [Bit 4: OMS]
5	OMS	Differs depending on the value of [Modes of operation]. Refer to the following for details. ☞ Page 148 [Bit 5: OMS]
6	OMS	Differs depending on the value of [Modes of operation]. Refer to the following for details. ☞ Page 148 [Bit 6: OMS]
7	FR	Fault reset
8	HALT	0: Operation ready 1: Pauses the operation according to [Halt option code (Obj. 6050h)]. Refer to the following for details. ☞ Page 149 [Bit 8: OMS]
9	OMS	Differs depending on the value of [Modes of operation]. Refer to the following for details. ☞ Page 149 [Bit 9: OMS]
10	—	—
11	CPTL	Positive Torque Limit switching
12	CNTL	Negative Torque Limit switching
13	—	—
14		
15		

■[Bit 4: OMS]

Setting value	Symbol	Description
1 (pp) *1	New set-point	Obtains a new positioning parameter at bit rising
3 (pv) *1	—	—
4 (tq) *1		
6 (hm)	HOS	Homing operation start 0: Do not start homing procedure 1: Start or continue homing procedure
8 (csp)	—	—
9 (csv)		
10 (cst)		
-100 (jg) *2	Rotation start	0: Servo motor stop 1: Servo motor start
-101 (pt) *2	New set-point	Starts operation from the point table specified with [Target point table (Obj. 2D60h)] at bit rising.

*1 Available on servo amplifiers with firmware version B2 or later.
*2 Available on servo amplifiers with firmware version B8 or later.

■[Bit 5: OMS]

Setting value	Symbol	Description
1 (pp) *1	Change set immediately	0: Set of set-points 1: Single set-point
3 (pv) *1	—	—
4 (tq) *1		
6 (hm)		
8 (csp)		
9 (csv)		
10 (cst)		
-100 (jg) *2	Direction	0: Forward rotation (Address increasing) 1: Reverse rotation (Address decreasing)
-101 (pt) *2	—	—

*1 Available on servo amplifiers with firmware version B2 or later.
*2 Available on servo amplifiers with firmware version B8 or later.

■[Bit 6: OMS]

Setting value	Symbol	Description
1 (pp) *1	abs/rel	0: Absolute position command 1: Relative position command
3 (pv) *1	—	—
4 (tq) *1		
6 (hm)		
8 (csp)		
9 (csv)		
10 (cst)		
-100 (jg) *2		
-101 (pt) *2		

*1 Available on servo amplifiers with firmware version B2 or later.
*2 Available on servo amplifiers with firmware version B8 or later.

■[Bit 8: OMS]

Setting value	Symbol	Description
1 (pp) *1	HALT	0: Drives the servo motor. 1: Stops the servo motor according to [Halt option code (Obj. 605Dh)].
3 (pv) *1		
4 (tq) *1		
6 (hm)		
8 (csp)	—	—
9 (csv)		
10 (cst)		
-100 (jg) *2	HALT	0: Drives the servo motor. 1: Stops the servo motor according to [Halt option code (Obj. 605Dh)].
-101 (pt) *2		

*1 Available on servo amplifiers with firmware version B2 or later.
*2 Available on servo amplifiers with firmware version B8 or later.

■[Bit 9: OMS]

Setting value	Symbol	Description
1 (pp) *1	Change on setpoint	Enabled only in Set of set-points (when the bit 5 of [Obj. 6040h: 00h] is "0"). 0: Shifts to the next positioning after completing the current positioning. 1: Shifts to the next positioning after performing positioning up to the current set-point with the setting of [profile velocity (Obj. 6081h)].
3 (pv) *1	—	—
4 (tq) *1		
6 (hm)		
8 (csp)		
9 (csv)		
10 (cst)		
-100 (jg) *2		
-101 (pt) *2		

*1 Available on servo amplifiers with firmware version B2 or later.
*2 Available on servo amplifiers with firmware version B8 or later.

10.3 [Statusword (Obj. 6041h)]

[Statusword (Obj. 6041h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	TxPDO	—	0000h to FFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The PDS status transition and other drive conditions are returned.

Bit	Symbol	Description
0	RTSO	Ready-to-switch-on
1	SO	Switch-on
2	OE	Operation-enabled
3	F	Fault
4	VE	Voltage-enabled 0: The bus voltage is lower than the specified (RA) level. 1: The bus voltage is equal to or higher than the specified level.
5	QS	Quick stop When [Pr. PF29.1 State selection with forced stop in progress] is set to "1" (Quick stop active), the value of this bit changes to "0" during a forced stop. 0: In a Quick stop 1: Not in a Quick stop (including in the test mode)
6	SOD	Switch on disabled
7	W	Warning 0: No warning has occurred. 1: A warning has occurred.
8	—	—
9	RM	Remote 0: Not following the Controlword 1: In operation following the Controlword
10	OMS	Differs depending on the value of [Modes of operation (Obj. 6060h)]. Refer to the following for details. ☞ Page 151 [Bit 10: OMS]
11	ILA	Internal limit active 0: The forward rotation stroke end, reverse rotation stroke end, and software position limit have not been reached. 1: The forward rotation stroke end, reverse rotation stroke end, or software position limit has been reached. (Enabled in csp, csv, and hm mode)
12	OMS	Differs depending on the value of [Modes of operation (Obj. 6060h)]. Refer to the following for details. ☞ Page 152 [Bit 12: OMS]
13	OMS	Differs depending on the value of [Modes of operation (Obj. 6060h)]. Refer to the following for details. ☞ Page 152 [Bit 13: OMS]
14	—	—
15	—	—

■[Bit 10: OMS]

Setting value	Name	Description
1 (pp) *1	Target reached	0: Halt (Bit 8) = 0: Target position not reached. 0: Halt (Bit 8) = 1: Axis decelerates. 1: Halt (Bit 8) = 0: Target position reached. 1: Halt (Bit 8) = 1: Velocity of axis is 0. Judgment condition of Target position reached: When the time set in [Position window time (Obj. 6068h)] elapses in a state where the difference between the values in [Position actual value (Obj. 6064h)] and [Target position (Obj. 607Ah)] is equal to or below the value set in [Position window (Obj. 6067h)], the state becomes "Target position reached".
3 (pv) *1		0: Halt (Bit 8) = 0: Target velocity not reached. 0: Halt (Bit 8) = 1: Axis decelerates. 1: Halt (Bit 8) = 0: Target velocity reached. 1: Halt (Bit 8) = 1: Velocity of axis is 0. Judgment condition of Target velocity reached: When the time set in [Velocity window time (Obj. 606Eh)] elapses in a state where the difference between the values in [Velocity actual value (Obj. 606Ch)] and [Target velocity (Obj. 60FFh)] is equal to or below the value set in [Velocity window (Obj. 606Dh)], the state becomes "Target velocity reached".
4 (tq) *1	Target reached (not supported)	0: Halt (Bit 8) = 0: Target torque not reached. 0: Halt (Bit 8) = 1: Axis decelerates. 1: Halt (Bit 8) = 0: Target torque reached. 1: Halt (Bit 8) = 1: Velocity of axis is 0. Judgment condition of Target torque reached: When the time set in [Torque window time] elapses in a state where the difference between the values in [Torque actual value (Obj. 6077h)] and [Target torque (Obj. 6071h)] is equal to or below the value set in [Torque window], the state becomes "Target torque reached".
6 (hm)	Target reached	Bit 13 off/bit 12 off/bit 10 off: Homing procedure is in progress. Bit 13 off/bit 12 off/bit 10 on: Homing procedure is interrupted or not started. Bit 13 off/bit 12 on/bit 10 off: Homing is attained, but target is not reached. Bit 13 off/bit 12 on/bit 10 on: Homing procedure is completed successfully. Bit 13 on/bit 12 off/bit 10 off: Homing error occurred, velocity is not 0. Bit 13 on/bit 12 off/bit 10 on: Homing error occurred, velocity is 0. Bit 13 on/bit 12 on/bit 10 off: -
8 (csp)	—	—
9 (csv)		
10 (cst)		
-100 (jg) *2	Target reached	0: Halt (Bit 8) = 0: Target position not reached. 0: Halt (Bit 8) = 1: Axis decelerates. 1: Halt (Bit 8) = 0: Target position reached. 1: Halt (Bit 8) = 1: Velocity of axis is 0. Judgment condition of Target position reached: When the time set in [Position window time (Obj. 6068h)] elapses in a state where the difference between the current position and the command position is equal to or below the value set in [Position window (Obj. 6067h)], the state becomes "Target position reached".
-101 (pt) *2		0: Halt (Bit 8) = 0: Target position not reached. 0: Halt (Bit 8) = 1: Axis decelerates. 1: Halt (Bit 8) = 0: Target position reached. 1: Halt (Bit 8) = 1: Velocity of axis is 0. Judgment condition of Target position reached: When the time set in [Position window time (Obj. 6068h)] elapses in a state where the difference between the current position and the point table command position is equal to or below the value set in [Position window (Obj. 6067h)], the state becomes "Target position reached".

*1 Available on servo amplifiers with firmware version B2 or later.

*2 Available on servo amplifiers with firmware version B8 or later.

■[Bit 12: OMS]

Setting value	Name	Description
1 (pp) *1	Set-point acknowledge	0: Positioning completed (waiting for next command) 1: Positioning in progress (possible to overwrite a setpoint)
3 (pv) *1	Speed	0: Speed is not equal 0 1: Speed is equal 0 Judgment condition of Speed is not equal 0: When the time set in [Velocity threshold time (Obj. 6070h)] elapses in a state where the absolute value of [Velocity actual value (Obj. 606Ch)] is equal to or above the setting value of [Velocity threshold (Obj. 606Fh)], the bit becomes "Speed is not equal 0".
4 (tq) *1	—	—
6 (hm)	Homing attained	Refer to the following. ☞ Page 151 [Bit 10: OMS]
8 (csp)	Drive follows the command value	0: [Target position (Obj. 607Ah)] is being discarded. 1: [Target position (Obj. 607Ah)] is being used as a position control loop input.
9 (csv)		0: [Target velocity (Obj. 60FFh)] is being discarded. 1: [Target velocity (Obj. 60FFh)] is being used as a speed control loop input.
10 (cst)		0: [Target torque (Obj. 6071h)] is being discarded. 1: [Target torque (Obj. 6071h)] is being used as a torque control loop input.
-100 (jg) *2	—	—
-101 (pt) *2	Set-point acknowledge	0: Positioning completed (waiting for next command) 1: Positioning in progress

*1 Available on servo amplifiers with firmware version B2 or later.
*2 Available on servo amplifiers with firmware version B8 or later.

■[Bit 13: OMS]

Setting value	Name	Description
1 (pp) *1	Following error	0: No following error 1: Following error
3 (pv) *1	Max slippage error	0: Maximum slippage not reached 1: Maximum slippage reached (not supported) Max slippage is the maximum slippage of the asynchronous servo motor.
4 (tq) *1	—	—
6 (hm)	Homing error	Refer to the following. ☞ Page 151 [Bit 10: OMS]
8 (csp)	Following error	0: No following error 1: Following error When the time set in [Following error time out (Obj. 6066h)] elapses in a state where the value of [Following error actual value (Obj. 60F4h)] exceeds the value set in [Following error window (Obj. 6065h)], this bit becomes "1".
9 (csv)	—	—
10 (cst)		
-100 (jg) *2	Following error	0: No following error 1: Following error
-101 (pt) *2		

*1 Available on servo amplifiers with firmware version B2 or later.
*2 Available on servo amplifiers with firmware version B8 or later.

10.4 [Quick stop option code (Obj. 605Ah)]

[Quick stop option code (Obj. 605Ah: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RW	Impossible	2	0 to 6	—	Possible	[Pr. PT68.0]
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set how to decelerate the servo motor to a stop at Quick Stop reception.

Forced stop deceleration by turning off EM2 (Forced stop 2) is the same as "2" (servo-off after deceleration to a stop with [Quick stop deceleration (Obj. 6085h)]) regardless of the setting value of this object.

When [Pr. PA04.3 Forced stop deceleration function selection] is set to "0" (forced stop deceleration function disabled), the servo motor stops with the dynamic brake regardless of the setting value of this object.

Setting value	Description
0 *1	Stop with dynamic brake The state shifts immediately to "Switch On Disabled" (ready-off/servo-off), and the servo motor stops with the dynamic brake.
1 *1	Servo-off after deceleration to a stop at the deceleration time constant of any of the control modes In the cyclic synchronous positioning/velocity mode (csp/csv), the servo motor decelerates to a stop with [Quick stop deceleration (Obj. 6085h)] and the state shifts to "Switch On Disabled" (ready-off/servo-off). In the cyclic synchronous torque mode (cst), the profile torque mode (tq), and the continuous operation to torque control mode (ct), the state immediately shifts to "Switch On Disabled" (ready-off/servo-off) and the servo motor stops with the dynamic brake. In the profile positioning/velocity mode (pp/pv) and JOG operation mode (jg), the servo motor decelerates to a stop with [Profile deceleration (Obj. 6084h)] and the state shifts to "Switch On Disabled" (ready-off/servo-off). In the homing mode (hm), the servo motor decelerates to a stop with [Homing acceleration (Obj. 609Ah)] and the state shifts to "Switch On Disabled" (ready-off/servo-off). In the point table mode (pt), the servo motor decelerates to a stop at the deceleration time constant of the point table number during positioning operation, and the state shifts to "Switch On Disabled" (ready-off/servo-off).
2	Servo-off after deceleration to a stop with [Quick stop deceleration (Obj. 6085h)] In the cyclic synchronous positioning/velocity mode (csp/csv), profile positioning/velocity mode (pp/pv), point table mode (pt), JOG operation mode (jg), and homing mode (hm), the servo motor decelerates to a stop with [Quick stop deceleration (Obj. 6085h)] and the state shifts to "Switch On Disabled" (ready-off/servo-off). In the cyclic synchronous torque mode (cst), the profile torque mode (tq), and the continuous operation to torque control mode (ct), the state immediately shifts to "Switch On Disabled" (ready-off/servo-off) and the servo motor stops with the dynamic brake.
3 (not supported)	—
4 (not supported)	
5 *1 *2 *3	Maintain servo-on after deceleration to a stop at the deceleration time constant of any of the control modes In the cyclic synchronous positioning/velocity mode (csp/csv), the servo motor decelerates to a stop with [Quick stop deceleration (Obj. 6085h)] and the state remains as "Quick Stop Active". (Servo-on is maintained.) In the cyclic synchronous torque mode (cst), the profile torque mode (tq), and the continuous operation to torque control mode (ct), the state immediately shifts to "Switch On Disabled" (ready-off/servo-off) and the servo motor stops with the dynamic brake. In the profile positioning/velocity mode (pp/pv) and JOG operation mode (jg), the servo motor decelerates to a stop with [Profile deceleration (Obj. 6084h)] and the state remains as "Quick Stop Active". (Servo-on is maintained.) In the homing mode (hm), the servo motor decelerates to a stop with [Homing acceleration (Obj. 609Ah)] and the state remains as "Quick Stop Active". (Servo-on is maintained.) In the point table mode (pt), the servo motor decelerates to a stop at the deceleration time constant of the point table number during positioning operation, and the state remains as "Quick Stop Active". (Servo-on is maintained.)
6 *1 *2 *3	Maintain servo-on after deceleration to a stop with [Quick stop deceleration (Obj. 6085h)] In the cyclic synchronous positioning/velocity mode (csp/csv), profile positioning/velocity mode (pp/pv), point table mode (pt), JOG operation mode (jg), and homing mode (hm), the servo motor decelerates to a stop with [Quick stop deceleration (Obj. 6085h)] and the state remains as "Quick Stop Active". (Servo-on is maintained.) In the cyclic synchronous torque mode (cst), the profile torque mode (tq), and the continuous operation to torque control mode (ct), the state immediately shifts to "Switch On Disabled" (ready-off/servo-off) and the servo motor stops with the dynamic brake.
7 (not supported)	—
8 (not supported)	

*1 Available on servo amplifiers with firmware version D0 or later.

*2 When canceling Quick stop in the cyclic synchronous position mode (csp), cancel it after servo-off or perform position follow-up with the controller. If Quick stop is canceled without performing position follow-up, the servo motor may suddenly accelerate.

*3 When the controller being used cannot perform follow-up in the "Quick stop active" state (during servo-on), do not use this setting value in the cyclic synchronous position mode (csp). For information on whether the controller being used can perform follow-up in the "Quick stop active" state, refer to the manual for the controller.

10.5 [Halt option code (Obj. 605Dh)]

[Halt option code (Obj. 605Dh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RW	Impossible	1	1 (fixed)	—	Possible	[Pr. PT68.2]

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set how to decelerate the servo motor to a stop at Halt reception.

Setting value	Description
0	—
1	The servo motor decelerates to a stop in accordance with [Profile deceleration (Obj. 6084h)] during the profile positioning/velocity mode (pp/pv) and JOG operation mode (jg), in accordance with the point table deceleration time constant/point table deceleration during the point table mode (pt), and in accordance with [Homing acceleration (Obj. 609Ah)] during the homing mode (hm), and the servo motor remains "Operation Enabled". During the profile torque mode (tq), [Torque demand value (Obj. 6074h)] becomes "0" stopping the servo motor in accordance with the amount of torque change set in [Torque slope (Obj. 6087h)], and the state remains "Operation Enabled".
2 (unsupported)	—
3 (not supported)	
4 (not supported)	

The following shows the case where Halt Bit (Bit 8 of [Controlword (Obj. 6040h)]) is set to "1" and "0", and the reflective timing of the deceleration time setting in each control mode.

Control mode	Halt Bit is set to "1"	Halt Bit is set to "0"	Reflective timing of deceleration time setting
Profile position mode (pp)	The servo motor decelerates to a stop in accordance with [Profile deceleration (Obj. 6084h)].	The operation resumes after decelerating to a stop.	Reflected when New set-point (bit 4 of [Controlword (Obj. 6040h)]) is set to "1".
Profile velocity mode (pv)	The servo motor decelerates to a stop in accordance with [Profile deceleration (Obj. 6084h)].	The operation resumes after decelerating to a stop.	Reflected constantly.
Profile torque mode (tq)	[Torque demand value (Obj. 6074h)] becomes "0" stopping the servo motor in accordance with the amount of torque change set in [Torque slope (Obj. 6087h)].	The operation resumes after [Torque demand value (Obj. 6074h)] changes to "0".	Reflected constantly.
Point table mode (pt)	The servo motor decelerates to a stop in accordance with the point table deceleration time constant/point table deceleration.	The operation resumes after decelerating to a stop.	Reflected when New set-point (bit 4 of [Controlword (Obj. 6040h)]) is set to "1". In the continuous operation, reflected when it is switched to next point table.
JOG operation mode (jg)	The servo motor decelerates to a stop in accordance with [Profile deceleration (Obj. 6084h)].	The operation resumes after decelerating to a stop.	Reflected when Rotation start (bit 4 of [Controlword (Obj. 6040h)]) is set to "1".
Homing mode (hm)	When Halt Bit is set to "1", the servo motor decelerates to a stop with [Homing acceleration (Obj. 609Ah)], and the status remains as "Operation Enabled (servo-on)". Then, homing is restarted with the following procedure: (1) set Halt Bit to "0", (2) reset Homing Operation Start (Bit 4 of [Controlword (Obj. 6040h)]) to "0", and (3) change Homing Operation Start (Bit 4 of [Controlword (Obj. 6040h)]) to "1".		Reflected when "Homing Operation Start" is set to "1".

10.6 [Modes of operation (Obj. 6060h)]

[Modes of operation (Obj. 6060h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I8	RW	RxPDO	0	Refer to the following.	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set a control mode.

The available control modes are limited depending on the setting values of [Pr. PA01.0 Control mode selection] and [Pr. PT01.2 Unit for position data]. Refer to "Selecting control mode (Modes of operation)" in the following manual.

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Setting value	Description
0	No mode change
1 *1	Profile position mode (pp)
2	—
3 *1	Profile velocity mode (pv)
4 *1	Profile torque mode (tq)
5	—
6	Homing mode (hm)
7	—
8	Cyclic synchronous position mode (csp)
9	Cyclic synchronous velocity mode (csv)
10	Cyclic synchronous torque mode (cst)
-100 *2	Jog mode (jg)
-101 *2	Point table mode (pt)

*1 Available on servo amplifiers with firmware version B2 or later.

*2 Available on servo amplifiers with firmware version B8 or later.

10.7 [Modes of operation display (Obj. 6061h)]

[Modes of operation display (Obj. 6061h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I8	RO	TxPDO	—	Refer to the following.	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The current control mode is returned.

The value to be returned as the initial value varies depending on the setting values of [Pr. PA01.0 Control mode selection] and [Pr. PT01.2 Unit for position data]. Refer to "Selecting control mode (Modes of operation)" in the following manual.

📖MR-JET-G-N1 User's Manual (Communication Function)

Even if [Modes of operation (Obj. 6060h)] is set to "0", this object does not return "0".

Setting value	Description
0	No mode change/No mode assigned
1 *1	Profile position mode (pp)
2	—
3 *1	Profile velocity mode (pv)
4 *1	Profile torque mode (tq)
5	—
6	Homing mode (hm)
7	—
8	Cyclic synchronous position mode (csp)
9	Cyclic synchronous velocity mode (csv)
10	Cyclic synchronous torque mode (cst)
-1	Test Operation mode: JOG Operation
-2	Test Operation mode: Positioning Operation
-4	Test Operation mode: DO forced output
-6	Test Operation mode: Machine analyzer
-9	Test Operation mode: Test Exit
-10 *2	Test Operation mode: Single-step feed
-100 *2	Jog mode (jg)
-101 *2	Point table mode (pt)

*1 Available on servo amplifiers with firmware version B2 or later.

*2 Available on servo amplifiers with firmware version B8 or later.

10.8 [Supported drive modes (Obj. 6502h)]

[Supported drive modes (Obj. 6502h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	TxPDO	—	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
B2	—	—	—	—	—	—	—

Description

"1" is returned to the supported control mode. The available control modes vary depending on the setting of [Pr. PA01.0 Control mode selection] and the network settings.

Bit	Description	Defined value
0	Profile position mode (pp) *1	1: Supported
1	Velocity mode (vl)	0
2	Profile velocity mode (pv) *1	1: Supported
3	Profile torque mode (tq) *1	1: Supported
4	Reserved	0
5	Homing mode (hm)	1: Supported
6	Interpolated position mode (ip)	0
7	Cyclic synchronous position mode (csp)	1: Supported
8	Cyclic synchronous velocity mode (csv)	1: Supported
9	Cyclic synchronous torque mode (cst)	1: Supported
10	Cyclic synchronous torque mode with communication angle (cstca)	0
11 to 15	Reserved	0
16	Jog mode (jg) *2	1: Supported
17	Point table mode (pt) *2	1: Supported
18 to 31	Reserved	0

*1 Available on servo amplifiers with firmware version B2 or later.
*2 Available on servo amplifiers with firmware version B8 or later.

11 Position Control Function Objects

11.1 [Position demand value (Obj. 6062h)]

[Position demand value (Obj. 6062h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	-2147483648 to 2147483647	pos units	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
B6	—	—	—	—	—	—	—

Description

The command position inside the servo amplifier is returned.

Depending on the electronic gear setting, a fraction may occur relative to the command position. When a fraction occurs, an error of ±1 relative to the command position may occur.

11.2 [Position actual internal value (Obj. 6063h)]

[Position actual internal value (Obj. 6063h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	-2147483648 to 2147483647	inc	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The current position is returned.

11.3 [Position actual value (Obj. 6064h)]

[Position actual value (Obj. 6064h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	-2147483648 to 2147483647	pos units	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The current position of the command unit is returned.

11.4 [Following error window (Obj. 6065h)]

[Following error window (Obj. 6065h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	RxPDO	00C00000h	00000000h to FFFFFFFFh	pos units	Possible	[Pr. PC67]

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

In the cyclic synchronous position mode (csp), profile position mode (pp), point table mode (pt), and JOG operation mode (jg), when the time set with [Following error time out (Obj. 6066h)] elapses with the number of droop pulses exceeding the setting value of this object, bit 13 of [Statusword (Obj. 6041h)] is turned on. When the setting value of this object is "FFFFFFFFh", bit 13 of [Statusword] is always off.

11.5 [Following error time out (Obj. 6066h)]

[Following error time out (Obj. 6066h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	10	0 to 65535	ms	Possible	[Pr. PC69]

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Refer to the following object.

☞ Page 160 [Following error window (Obj. 6065h)]

11.6 [Position window (Obj. 6067h)]

[Position window (Obj. 6067h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	RxPDO	00000064h	—	pos units	Possible	[Pr. PC70]

Supported firmware version							
ECT	—	—	—	—	—	—	—
B2	—	—	—	—	—	—	—

Description

The descriptions of this object is as follows.

Setting value	Detailed explanation
00000000h to FFFFFFFEh	In the profile position mode (pp), point table mode (pt), and JOG operation mode (jg), when the time set with [Position window time (Obj. 6068h)] elapses with the number of droop pulses under the setting value of this object, bit 10 of [Statusword (Obj. 6041h)] is turned on.
FFFFFFFFh	In the profile position mode (pp), point table mode (pt), and JOG operation mode (jg), bit 10 of [Statusword (Obj. 6041h)] is always turned on.

11.7 [Position window time (Obj. 6068h)]

[Position window time (Obj. 6068h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	10	0 to 65535	ms	Possible	[Pr. PC71]

Supported firmware version							
ECT	—	—	—	—	—	—	—
B2	—	—	—	—	—	—	—

Description

Refer to the following object.

☞ Page 161 [Position window (Obj. 6067h)]

11.8 [Positioning option code (Obj. 60F2h)]

[Positioning option code (Obj. 60F2h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	0000h	0000h (fixed)	—	Possible	[Pr. PT03.2]

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set the following conditions of the profile position mode (pp).

Bit	Detailed explanation	Defined value
0 to 1	00b: Operates at the relative position determined by the internal absolute target position. 01b: Operates at the relative position determined by [Position demand actual value (Obj. 60FCh)]. (Not supported) 10b: Operates at the relative position determined by [Position actual value (Obj. 6064h)]. (Not supported) 11b: reserved	00b
2 to 3	00b: Immediately reflects new information including [Target position (Obj. 607Ah)], [Profile velocity (Obj. 6081h)], and Acceleration. 01b: Continues positioning, and reflects new information including [Target position (Obj. 607Ah)], [Profile velocity (Obj. 6081h)], and Acceleration when reaching the target position. (Not supported) 10b: reserved 11b: reserved	00b
4 to 5	Reserved	0
6 to 7 (not supported)	00b: Rotates to the target position in the direction specified with the sign of the position data. 01b: Rotates in the address decreasing direction regardless of the sign of the position data. 10b: Rotates in the address increasing direction regardless of the sign of the position data. 11b: Rotates in the direction with the shorter distance from the current position to the target position. If the distance from the current position to the target position is the same in the CCW and CW directions, the servo motor rotates in the CCW direction.	00b
8 to 15	Reserved	0

11.9 [Following error actual value (Obj. 60F4h)]

[Following error actual value (Obj. 60F4h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	-2147483648 to 2147483647	pos units	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The droop pulses are returned.

11.10 [Control effort (Obj. 60FAh)]

[Control effort (Obj. 60FAh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	-2147483648 to 2147483647	vel units	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The speed command is returned. The unit of the returned data varies depending on the combination of the settings of [Pr. PT01.2 Unit for position data], [Pr. PT01.1 Speed/acceleration/deceleration unit selection], and the connected servo motor.

[Pr. PT01.2]	[Pr. PT01.1]	Connected servo motor	Units
—	0 (encoder unit)	Rotary servo motor	0.01 r/min
		Linear servo motor	0.01 mm/s
0 (mm)	1 (command unit) *1	—	0.001 mm/s
1 (inch)			0.0001 inch/s
2 (degree)			0.001 degree/s
3 (pulse)			pulse/s

*1 When [Pr. PT01.1] is set to "1", the returned value may differ due to unit conversion.

12 Profile Velocity Mode Objects

12.1 [Velocity demand value (Obj. 606Bh)]

[Velocity demand value (Obj. 606Bh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	-2147483648 to 2147483647	vel units	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The speed command is returned. The unit of the returned data varies depending on the combination of the settings of [Pr. PT01.2 Unit for position data], [Pr. PT01.1 Speed/acceleration/deceleration unit selection], and the connected servo motor.

[Pr. PT01.2]	[Pr. PT01.1]	Connected servo motor	Units
—	0 (encoder unit)	Rotary servo motor	0.01 r/min
		Linear servo motor	0.01 mm/s
2 (degree)	1 (command unit) *1	—	0.001 degree/s
3 (pulse)			pulse/s

*1 When [Pr. PT01.1] is set to "1", the returned value may differ due to unit conversion.

12.2 [Velocity actual value (Obj. 606Ch)]

[Velocity actual value (Obj. 606Ch: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	—	-2147483648 to 2147483647	vel units	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The current speed is returned. The unit of the returned data varies depending on the combination of the settings of [Pr. PT01.2 Unit for position data], [Pr. PT01.1 Speed/acceleration/deceleration unit selection], and the connected servo motor.

[Pr. PT01.2]	[Pr. PT01.1]	Connected servo motor	Units
—	0 (encoder unit)	Rotary servo motor	0.01 r/min
		Linear servo motor	0.01 mm/s
0 (mm)	1 (command unit) *1	—	0.001 mm/s
1 (inch)			0.0001 inch/s
2 (degree)			0.001 degree/s
3 (pulse)			pulse/s

*1 When [Pr. PT01.1] is set to "1", the returned value may differ due to unit conversion.

12.3 [Velocity window (Obj. 606Dh)]

[Velocity window (Obj. 606Dh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	Refer to the following.	0 to 65535	vel units	Possible	Refer to the following.

Supported firmware version							
ECT	—	—	—	—	—	—	—
B2	—	—	—	—	—	—	—

Description

In the profile velocity mode (pv), when the time set in [Velocity window time (Obj. 606Eh)] elapses in a state where the difference between the command velocity and the current velocity is equal to or below the setting value of this object, bit 10 of [Statusword (Obj. 6041h)] turns on.

The description of the object varies as shown in the table below, depending on the combination of the settings of [Pr. PT01.2 Unit for position data], [Pr. PT01.1 Speed/acceleration/deceleration unit selection], and the connected servo motor.

[Pr. PT01.2]	[Pr. PT01.1]	Connected servo motor	Default	Units	Parameter
—	0 (encoder unit)	Rotary servo motor	2000	0.01 r/min	[Pr. PC72]
		Linear servo motor		0.01 mm/s	
2 (degree)	1 (command unit)	—	20000	0.001 degree/s	[Pr. PV19]
3 (pulse)				pulse/s	

12.4 [Velocity window time (Obj. 606Eh)]

[Velocity window time (Obj. 606Eh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	10	0 to 65535	ms	Possible	[Pr. PC73]

Supported firmware version							
ECT	—	—	—	—	—	—	—
B2	—	—	—	—	—	—	—

Description

Refer to the following object.

☞ Page 165 [Velocity window (Obj. 606Dh)]

12.5 [Velocity threshold (Obj. 606Fh)]

[Velocity threshold (Obj. 606Fh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	Refer to the following.	0 to 65535	vel units	Possible	Refer to the following.

Supported firmware version							
ECT	—	—	—	—	—	—	—
B2	—	—	—	—	—	—	—

Description

In the profile velocity mode (pv), when the time set in [Velocity threshold time (Obj. 6070h)] elapses in a state where the current velocity is equal to or below the setting value of this object, bit 12 of [Statusword (Obj. 6041h)] turns on.
The description of the object varies as shown in the table below, depending on the combination of the settings of [Pr. PT01.2 Unit for position data], [Pr. PT01.1 Speed/acceleration/deceleration unit selection], and the connected servo motor.

[Pr. PT01.2]	[Pr. PT01.1]	Connected servo motor	Default	Units	Parameter
—	0 (encoder unit)	Rotary servo motor	5000	0.01 r/min	[Pr. PC65]
		Linear servo motor		0.01 mm/s	
2 (degree)	1 (command unit)	—	20	0.001 degree/s	[Pr. PV20]
3 (pulse)				pulse/s	

12.6 [Velocity threshold time (Obj. 6070h)]

[Velocity threshold time (Obj. 6070h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	10	0 to 65535	ms	Possible	[Pr. PC66]

Supported firmware version							
ECT	—	—	—	—	—	—	—
B2	—	—	—	—	—	—	—

Description

Refer to the following object.
☞ Page 166 [Velocity threshold (Obj. 606Fh)]

12.7 [Target velocity (Obj. 60FFh)]

[Target velocity (Obj. 60FFh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RW	RxPDO	0	-2147483648 to 2147483647	vel units	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set the speed command used in the cyclic synchronous velocity mode (csv) and the profile velocity mode (pv). The description of the object varies as shown in the table below, depending on the combination of the settings of [Pr. PT01.2 Unit for position data], [Pr. PT01.1 Speed/acceleration/deceleration unit selection], and the connected servo motor.

[Pr. PT01.2]	[Pr. PT01.1]	Connected servo motor	Units
—	0 (encoder unit)	Rotary servo motor	0.01 r/min
		Linear servo motor	0.01 mm/s
2 (degree)	1 (command unit)	—	0.001 degree/s
3 (pulse)			pulse/s

13 Profile Torque Mode Objects

13.1 [Positive/Negative torque limit 2 (Obj. 2D6Dh)]

[Positive/Negative torque limit 2 setting (Obj. 2D6Dh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	03h	03h (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

[Positive/Negative torque limit 2 select (Obj. 2D6Dh: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	Impossible	0000h	0000h to 0001h	—	Possible	[Pr. PC42]

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Select the torque limit. The description is as follows.

[Pr. PC42.0]/ [Positive/Negative torque limit 2 select (Obj. 2D6Dh: 01h)]	Forward rotation torque limit value		Reverse rotation torque limit value	
	CPTL: 0	CPTL: 1	CNTL: 0	CNTL: 1
0h/ 0000h	[Pr. PA11]/ [Positive torque limit value (Obj. 60E0h)]	[Pr. PA11]/ [Positive torque limit value (Obj. 60E0h)]	[Pr. PA12]/ [Negative torque limit value (Obj. 60E1h)]	[Pr. PA12]/ [Negative torque limit value (Obj. 60E1h)]
1h/ 0001h	[Pr. PA11]/ [Positive torque limit value (Obj. 60E0h)]	[Pr. PC43]/ [Positive torque limit value2 (Obj. 2D6Dh: 02h)]	[Pr. PA12]/ [Negative torque limit value (Obj. 60E1h)]	[Pr. PC44]/ [Negative torque limit value2 (Obj. 2D6Dh: 03h)]

[Positive torque limit value 2 (Obj. 2D6Dh: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	Impossible	10000	0 to 10000	0.1 %	Possible	[Pr. PC43]/[Pr. PC44]

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The torque generated by the servo motor or the thrust generated by the linear servo motor can be limited. Set the limit value of the torque of the servo motor for CCW power running or CW regeneration, or the limit value of the thrust of the linear servo motor for positive direction power running or negative direction regeneration.
If this object is set to "0", the servo motor does not generate torque or thrust.
When POL is disabled, the value of [Pr. PC43 Forward rotation torque limit 2] will be set, and when POL is enabled, the value of [Pr. PC44 Reverse rotation torque limit 2] will be set.

[Negative torque limit value 2 (Obj. 2D6Dh: 03h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	Impossible	10000	0 to 10000	0.1 %	Possible	[Pr. PC43]/[Pr. PC44]

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The torque generated by the servo motor or the thrust generated by the linear servo motor can be limited. Set the limit value of the torque of the servo motor for CW power running or CCW regeneration, or the limit value of the thrust of the linear servo motor for negative direction power running or positive direction regeneration.
If this object is set to "0", the servo motor does not generate torque or thrust.
When POL is disabled, the value of [Pr. PC44 Reverse rotation torque limit 2] will be set, and when POL is enabled, the value of [Pr. PC43 Forward rotation torque limit 2] will be set.

13.2 [Target torque (Obj. 6071h)]

[Target torque (Obj. 6071h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RW	RxPDO	—	-32768 to 32767	0.1 %	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set the torque command used in the cyclic synchronous torque mode (cst) and the profile torque mode (tq).

13.3 [Max torque (Obj. 6072h)]

[Max torque (Obj. 6072h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	—	0 to 10000	0.1 %	Possible	[Pr. PE53]

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The maximum torque of the servo motor is returned.

When [Pr. PC78.1] is set to "0" (disabled), the torque limit with this object and the torque limit with the value of [Pr. PE53] will be disabled. The values notified by this object are the maximum current and feedback values and may not match the maximum torque described in the user's manual for the servo motor being used.

When [Pr. PC78.1] is set to "1" (enabled), the torque or thrust generated by the servo motor can be limited with the setting value of this object.

When this object is set to "0", the torque limit is disabled.

The PDO Mapping attribute can be changed with the setting value of [Pr. PN03.3 Object attribute selection]. For details, refer to "[Pr. PN03.3 Object attribute selection]" in the following manual.

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13.4 [Max current (Obj. 6073h)]

[Max current (Obj. 6073h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	—	0 to 65535	0.1 %	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
C0	—	—	—	—	—	—	—

Description

The maximum current of the servo motor is returned.

This object is automatically set by the servo motor being connected. Do not write a value to this object. Writing a value will result in a write error. In addition, the maximum current values notified by this object may not match the maximum current value described in the user's manual for the servo motor being used.

Unit: 0.1 % (with rated current being 100 %)

13.5 [Torque demand value (Obj. 6074h)]

[Torque demand value (Obj. 6074h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	TxPDO	—	-32768 to 32767	0.1 %	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The torque command is returned.

13.6 [Motor rated torque (Obj. 6076h)]

[Motor rated torque (Obj. 6076h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	0 to 4294967295	mN•m, mN	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
C0	—	—	—	—	—	—	—

Description

The rated torque of the motor is returned.

The unit is [mN•m] in control modes other than the linear servo motor control mode, and [mN] in the linear servo motor control mode. In addition, the maximum torque values notified by this object may not match the rated torque value described in the user's manual for the servo motor being used.

13.7 [Torque actual value (Obj. 6077h)]

[Torque actual value (Obj. 6077h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	TxPDO	—	-32768 to 32767	0.1 %	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The current torque is returned.

13.8 [Current actual value (Obj. 6078h)]

[Current actual value (Obj. 6078h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	TxPDO	—	-32768 to 32767	0.1 %	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
B6	—	—	—	—	—	—	—

Description

The actual current value is returned.

Unit: 0.1 % (with rated current being 100 %)

The value is equivalent to [Torque actual value (Obj. 6077h)].

13.9 [Torque slope (Obj. 6087h)]

[Torque slope (Obj. 6087h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	RxPDO	0	0 to 10000000	0.1 %/s	Possible	[Pr. PT53]
Supported firmware version							
ECT	—	—	—	—	—	—	—
B2	—	—	—	—	—	—	—

Description

Set the amount of change in the torque command per second which is used in the profile torque mode. When "0" is set, the amount of change cannot be set. In this case, the torque command will be input by step input.

13.10 [Torque profile type (Obj. 6088h)]

[Torque profile type (Obj. 6088h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RW	RxPDO	0	0 (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set the torque command pattern. Only the value "0" can be set.

Setting value	Description
0	Linear ramp
1	$\sin^2$ ramp (Not supported)

13.11 [Positive torque limit value (Obj. 60E0h)]

[Positive torque limit value (Obj. 60E0h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	—	0 to 10000	0.1 %	Possible	[Pr. PA11]/[Pr. PA12]

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The torque generated by the servo motor or the thrust generated by the linear servo motor can be limited. Set the limit value of the torque of the servo motor for CCW power running or CW regeneration, or the limit value of the thrust of the linear servo motor for positive direction power running or negative direction regeneration.

If this object is set to "0", the servo motor does not generate torque or thrust.

When POL is disabled, the value of [Pr. PA11 Forward rotation torque limit] will be set, and when POL is enabled, the value of [Pr. PA12 Reverse rotation torque limit] will be set.

13.12 [Negative torque limit value (Obj. 60E1h)]

[Negative torque limit value (Obj. 60E1h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	—	0 to 10000	0.1 %	Possible	[Pr. PA11]/[Pr. PA12]

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The torque generated by the servo motor or the thrust generated by the linear servo motor can be limited. Set the limit value of the torque of the servo motor for CW power running or CCW regeneration, or the limit value of the thrust of the linear servo motor for negative direction power running or positive direction regeneration.

If this object is set to "0", the servo motor does not generate torque or thrust.

When POL is disabled, the value of [Pr. PA12 Reverse rotation torque limit] will be set, and when POL is enabled, the value of [Pr. PA11 Forward rotation torque limit] will be set.

14 Profile Position Mode Objects

14.1 [Target position (Obj. 607Ah)]

[Target position (Obj. 607Ah: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RW	RxPDO	—	Refer to the following.	pos units	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set the position command used in the cyclic synchronous position mode (csp) and the profile position mode (pp). Check the setting value of [Gear ratio (Obj. 6091h)] before setting a value in this object.

The setting range varies depending on the value of [Pr. PT01.2 Unit for position data].

Control mode	[Pr. PT01.2]	Range
Cyclic synchronous position mode (csp)	—	80000000h to 7FFFFFFFh (-2147483648 to 2147483647)
Profile position mode (pp)	2 (degree)	FFFA81C0h to 00057E40h (-360000 to 360000)
	3 (pulse)	80000000h to 7FFFFFFFh (-2147483648 to 2147483647)

14.2 [Position range limit (Obj. 607Bh)]

[Position range limit (Obj. 607Bh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	2	2 (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes (= 2) is returned.

[Min position range limit (Obj. 607Bh: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RW	RxPDO	—	Refer to the following.	pos units	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set the range for limiting the command position. The setting range varies depending on the value of [Pr. PT01.2 Unit for position data].

[Position range limit] is automatically set in accordance with [Pr. PT01.2]. Do not write a value to [Position range limit]. Writing a value will result in a write error.

[Pr. PT01.2]	Range
0 (mm)	80000000h to 7FFFFFFFh (-2147483648 to 2147483647)
1 (inch)	80000000h to 7FFFFFFFh (-2147483648 to 2147483647)
2 (degree)	00000000h to 00057E3Fh (0 to 359999)
3 (pulse)	80000000h to 7FFFFFFFh (-2147483648 to 2147483647)

[Max position range limit (Obj. 607Bh: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RW	RxPDO	—	—	pos units	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Refer to the following object.

☞ Page 176 [Min position range limit (Obj. 607Bh: 01h)]

14.3 [Software position limit (Obj. 607Dh)]

[Software position limit (Obj. 607Dh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	2	2 (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes (= 2) is returned.

[Min position limit (Obj. 607Dh: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RW	RxPDO	0	-2147483648 to 2147483647	pos units	Possible	[Pr. PT17]
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set the range for limiting the command position.

For [Min position limit (Obj. 607Dh: 01h)], set the stroke limit value for the address increasing direction in units of commands.

For [Max position limit (Obj. 607Dh: 02h)], set the stroke limit value for the address decreasing direction in units of commands.

[Target position (Obj. 607Ah)] is limited within the range between [Min position limit (Obj. 607Dh: 01h)] and [Max position limit (Obj. 607Dh: 02h)].

If the same value is set for [Min position limit (Obj. 607Dh: 01h)] and [Max position limit (Obj. 607Dh: 02h)], the function of [Software position limit (Obj. 607Dh)] is disabled.

Setting [Home offset (Obj. 607Ch)] will compensate for the software position limit.

After compensation, [Max position range limit] = [Max position range limit] - [Home offset]

After compensation, [Min position range limit] = [Min position range limit] - [Home offset]

• When the unit is set to "mm", "inch", or "pulse"

When [Min position limit (Obj. 607Dh: 01h)] is set to a value greater than [Max position limit (Obj. 607Dh: 02h)], the function of [Software position limit (Obj. 607Dh)] is disabled.

• When the unit is set to "degree"

Set [Min position limit] as the starting point and [Max position limit] as the ending point. For details, refer to "Software position limit" in the following manual.

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[Max position limit (Obj. 607Dh: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RW	RxPDO	0	-2147483648 to 2147483647	pos units	Possible	[Pr. PT15]

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Refer to the following object.

☞ Page 177 [Min position limit (Obj. 607Dh: 01h)]

14.4 [Max profile velocity (Obj. 607Fh)]

[Max profile velocity (Obj. 607Fh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	RxPDO	Refer to the following.	Refer to the following.	vel units	Possible	Refer to the following.

Supported firmware version							
ECT	—	—	—	—	—	—	—
B2	—	—	—	—	—	—	—

Description

Set the speed limit value of the profile position mode (pp), profile velocity mode (pv), and JOG operation mode (jg). When a value exceeding the value in this object or in [Max motor speed (Obj. 6080h)] is set in [Target velocity (Obj. 60FFh)] or [Profile velocity (Obj. 6081h)], the servo motor operates limiting the speed. The speed limit with [Max motor speed (Obj. 6080h)] has the priority.

The description of the object varies as shown in the table below, depending on the combination of the settings of [Pr. PT01.2 Unit for position data], [Pr. PT01.1 Speed/acceleration/deceleration unit selection], and the connected servo motor.

[Pr. PT01.2]	[Pr. PT01.1]	Connected servo motor	Default	Range	Units	Parameter
—	0 (encoder unit)	Rotary servo motor	2000000	0 to 2000000	0.01 r/min	[Pr. PT66]
		Linear servo motor			0.01 mm/s	
0 (mm)	1 (command unit)	—	2147483647	0 to 4294967295	0.001 mm/s	[Pr. PV03]
1 (inch)					0.0001 inch/s	
2 (degree)					0.001 degree/s	
3 (pulse)					pulse/s	

14.5 [Max motor speed (Obj. 6080h)]

[Max motor speed (Obj. 6080h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	RxPDO	10000	0 to 4294967295	Refer to the following.	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The maximum speed of the servo motor is returned. Operation cannot be performed at a speed exceeding the value of this object.

The data unit changes depending on the connected servo motor.

When changing the returning value to the permissible speed, set "1" in [Pr. PA28.4 Speed range limit selection].

Connected servo motor	Unit
Rotary servo motor	r/min
Linear servo motor	mm/s

The PDO Mapping attribute can be changed with the setting value of [Pr. PN03.3 Object attribute selection]. For details, refer to "[Pr. PN03.3 Object attribute selection]" in the following manual.

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14.6 [Profile velocity (Obj. 6081h)]

[Profile velocity (Obj. 6081h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	RxPDO	Refer to the following.	0 to maximum speed	vel units	Possible	Refer to the following.

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set the speed command to be used in the profile position mode (pp) and JOG operation mode (jg). If [Pr. PT02.7 Internal position command - Process speed selection] is set to "0" and the set speed exceeds 8000 r/min (or mm/s), the servo motor speed is clamped at 8000 r/min (or mm/s). When changing the maximum value of "Range" to the permissible speed, set [Pr. PA28.4 Speed range limit selection] to "1". The description of the object varies as shown in the table below, depending on the combination of the settings of [Pr. PT01.2 Unit for position data], [Pr. PT01.1 Speed/acceleration/deceleration unit selection], and the connected servo motor.

[Pr. PT01.2]	[Pr. PT01.1]	Connected servo motor	Default	Units	Parameter
—	0 (encoder unit)	Rotary servo motor	10000	0.01 r/min	[Pr. PT65]
		Linear servo motor		0.01 mm/s	
0 (mm)	1 (command unit)	—	0	0.001 mm/s	[Pr. PV01]
1 (inch)				0.0001 inch/s	
2 (degree)				0.001 degree/s	
3 (pulse)				pulse/s	

14.7 [Profile acceleration (Obj. 6083h)]

[Profile acceleration (Obj. 6083h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	RxPDO	Refer to the following.	Refer to the following.	acc units	Possible	Refer to the following.

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set the acceleration time constant or acceleration to be used in the profile position mode (pp), profile velocity mode (pv), and JOG operation mode (jg). The description of the object varies as shown in the table below depending on the settings of [Pr. PT01.2 Unit for position data] and [Pr. PT01.1 Speed/acceleration/deceleration unit selection]. When [Pr. PT01.1] is set to "0", set the time required for the servo motor to reach the rated speed. The value that can be set varies for each control mode.

[Pr. PT01.2]	[Pr. PT01.1]	Default	Range	Units	Parameter
—	0 (encoder unit)	0	pp: 0 to 20000 pv: 0 to 50000 jg: 0 to 20000	ms	[Pr. PT49]
0 (mm)	1 (command unit)	0	0 to 4294967295 *1	0.001 mm/s^2	[Pr. PV05]
1 (inch)				0.0001 inch/s^2	
2 (degree)				0.001 degree/s^2	
3 (pulse)				pulse/s^2	

*1 When "0" is set, the servo motor accelerates in accordance with the setting value of [Pr. PT49].

14.8 [Profile deceleration (Obj. 6084h)]

[Profile deceleration (Obj. 6084h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	RxPDO	Refer to the following.	Refer to the following.	acc units	Possible	Refer to the following.

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set the deceleration time constant or deceleration to be used in the profile position mode (pp), profile velocity mode (pv), and JOG operation mode (jg). The description of the object varies as shown in the table below depending on the settings of [Pr. PT01.2 Unit for position data] and [Pr. PT01.1 Speed/acceleration/deceleration unit selection]. When [Pr. PT01.1] is set to "0", set the time required for the servo motor to reach the rated speed. The value that can be set varies for each control mode.

[Pr. PT01.2]	[Pr. PT01.1]	Default	Range	Units	Parameter
—	0 (encoder unit)	0	pp: 0 to 20000 pv: 0 to 50000 jg: 0 to 20000	ms	[Pr. PT50]
0 (mm)	1 (command unit)	0	0 to 4294967295 *1	0.001 mm/s^2	[Pr. PV07]
1 (inch)				0.0001 inch/s^2	
2 (degree)				0.001 degree/s^2	
3 (pulse)				pulse/s^2	

*1 When "0" is set, the servo motor decelerates in accordance with the setting value of [Pr. PT50].

14.9 [Quick stop deceleration (Obj. 6085h)]

[Quick stop deceleration (Obj. 6085h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	RxPDO	Refer to the following.	Refer to the following.	acc units	Possible	Refer to the following.

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set the deceleration time constant or deceleration for the Quick stop function. When [Pr. PT01.1] is set to "0", set the time required for the servo motor to stop from the rated speed.

The description of the object varies as shown in the table below depending on the settings of [Pr. PT01.2 Unit for position data] and [Pr. PT01.1 Speed/acceleration/deceleration unit selection].

[Pr. PT01.2]	[Pr. PT01.1]	Default	Range	Units	Parameter
—	0 (encoder unit)	100	0 to 20000 *1	ms	[Pr. PC24]
0 (mm)	1 (command unit)	0	0 to 4294967295 *2	0.001 mm/s^2	[Pr. PV09]
1 (inch)				0.0001 inch/s^2	
2 (degree)				0.001 degree/s^2	
3 (pulse)				pulse/s^2	

*1 When the setting value of this object is "0", the deceleration time constant is 100 ms.

*2 When "0" is set, the servo motor decelerates in accordance with the setting value of [Pr. PC24].

14.10 [Motion profile type (Obj. 6086h)]

[Motion profile type (Obj. 6086h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RW	RxPDO	-1	-1 (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
B2	—	—	—	—	—	—	—

Description

Set the acceleration/deceleration pattern applied in the profile position mode (pp). The description is as follows.
The value of this object always returns "-1". Only the value "-1" can be set.

Setting value	Description
-1	S-pattern
0	Linear ramp (not supported)
1	Sin^2 ramp (not supported)
2	Jerk-free ramp (not supported)
3	Jerk-limited ramp (not supported)

14.11 [Max acceleration (Obj. 60C5h)]

[Max acceleration (Obj. 60C5h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	RxPDO	—	0 to 4294967295	acc units	Impossible	[Pr. PV29]

Supported firmware version							
ECT	—	—	—	—	—	—	—
C0	—	—	—	—	—	—	—

Description

Set the acceleration limit value of the profile position mode (pp), profile velocity mode (pv), homing mode (hm), and JOG operation mode (jg).
The unit can be changed to 0.001 mm/s^2, 0.0001 inch/s^2, 0.001 degree/s^2, or pulse/s^2 with [Pr. PT01.2 Unit for position data].
When this object is set to "0", the acceleration limit is disabled.
This function is enabled when [Pr. PT01.1 Speed/acceleration/deceleration unit selection] is set to "1".
The servo motor accelerates by the setting value of this object when the following conditions are met:

- The setting value of [Profile acceleration (Obj. 6083h)] is "0" in pp, pv, or jg mode
- The setting value of [Homing acceleration (Obj. 609Ah)] is "0" in hm mode

14.12 [Max deceleration (Obj. 60C6h)]

[Max deceleration (Obj. 60C6h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	RxPDO	—	0 to 4294967295	acc units	Impossible	[Pr. PV31]
Supported firmware version							
ECT	—	—	—	—	—	—	—
C0	—	—	—	—	—	—	—

Description

Set the deceleration limit value of the profile position mode (pp), profile velocity mode (pv), homing mode (hm), and JOG operation mode (jg).

The unit can be changed to 0.001 mm/s^2, 0.0001 inch/s^2, 0.001 degree/s^2, or pulse/s^2 with [Pr. PT01.2 Unit for position data].

When this object is set to "0", the deceleration limit is disabled.

This function is enabled when [Pr. PT01.1 Speed/acceleration/deceleration unit selection] is set to "1".

The servo motor accelerates by the setting value of this object when the following conditions are met:

- The setting value of [Profile deceleration (Obj. 6084h)] is "0" in pp, pv, or jg mode
- The setting value of [Homing acceleration (Obj. 609Ah)] is "0" in hm mode

15 Homing Mode Objects

15.1 [Home offset (Obj. 607Ch)]

[Home offset (Obj. 607Ch: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RW	RxPDO	0	-2147483648 to 2147483647	pos units	Possible	[Pr. PT08]

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set the difference between zero position of the machine coordinate system and homing position.

The PDO Mapping attribute can be changed with the setting value of [Pr. PN03.3 Object attribute selection]. For details, refer to "[Pr. PN03.3 Object attribute selection]" in the following manual.

📖MR-JET-G-N1 User's Manual (Introduction)

15.2 [Homing method (Obj. 6098h)]

[Homing method (Obj. 6098h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I8	RW	RxPDO	37	-43 to 37	—	Possible	[Pr. PT45]

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set a homing method.

For the contents of the homing methods, refer to "Homing method list" in the following manual.

📖MR-J5 User's Manual (Function)

15.3 [Homing speeds (Obj. 6099h)]

[Homing speeds (Obj. 6099h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	2	2 (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes (= 2) is returned.

[Speed during search for switch (Obj. 6099h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	RxPDO	Refer to the following.	0 to maximum speed	vel units	Possible	Refer to the following.
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set the servo motor speed for homing. If [Pr. PT02.7 Internal position command - Process speed selection] is set to "0" and the set speed exceeds 8000 r/min (or mm/s), the servo motor speed is clamped at 8000 r/min (or mm/s). When changing the maximum value of "Range" to the permissible speed, set [Pr. PA28.4 Speed range limit selection] to "1". The description of the object varies as shown in the table below, depending on the combination of the settings of [Pr. PT01.2 Unit for position data], [Pr. PT01.1 Speed/acceleration/deceleration unit selection], and the connected servo motor.

[Pr. PT01.2]	[Pr. PT01.1]	Connected servo motor	Default	Units	Parameter
—	0 (encoder unit)	Rotary servo motor	10000	0.01 r/min	[Pr. PT05]
		Linear servo motor		0.01 mm/s	
0 (mm)	1 (command unit)	—	500000	0.001 mm/s	[Pr. PV11]
1 (inch)				0.0001 inch/s	
2 (degree)				0.001 degree/s	
3 (pulse)				pulse/s	

[Speed during search for zero (Obj. 6099h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	RxPDO	Refer to the following.	0 to maximum speed	vel units	Possible	Refer to the following.

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set a creep speed after proximity dog at homing. If [Pr. PT02.7 Internal position command - Process speed selection] is set to "0" and the set speed exceeds 8000 r/min (or mm/s), the servo motor speed is clamped at 8000 r/min (or mm/s). When changing the maximum value of "Range" to the permissible speed, set [Pr. PA28.4 Speed range limit selection] to "1". The description of the object varies as shown in the table below, depending on the combination of the settings of [Pr. PT01.2 Unit for position data], [Pr. PT01.1 Speed/acceleration/deceleration unit selection], and the connected servo motor.

[Pr. PT01.2]	[Pr. PT01.1]	Connected servo motor	Default	Units	Parameter
—	0 (encoder unit)	Rotary servo motor	1000	0.01 r/min	[Pr. PT06]
		Linear servo motor		0.01 mm/s	
0 (mm)	1 (command unit)	—	100000	0.001 mm/s	[Pr. PV13]
1 (inch)				0.0001 inch/s	
2 (degree)				0.001 degree/s	
3 (pulse)				pulse/s	

15.4 [Homing acceleration (Obj. 609Ah)]

[Homing acceleration (Obj. 609Ah: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	RxPDO	Refer to the following.	Refer to the following.	acc units	Possible	Refer to the following.

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set the acceleration/deceleration time constants at homing. Set a time for the servo motor to reach the rated speed. The description of the object varies as shown in the table below depending on the settings of [Pr. PT01.2 Unit for position data] and [Pr. PT01.1 Speed/acceleration/deceleration unit selection].

[Pr. PT01.2]	[Pr. PT01.1]	Default	Range	Units	Parameter
—	0 (encoder unit)	0	0 to 20000	ms	[Pr. PT56]
0 (mm)	1 (command unit)	0	0 to 4294967295 *1	0.001 mm/s^2	[Pr. PV15]
1 (inch)				0.0001 inch/s^2	
2 (degree)				0.001 degree/s^2	
3 (pulse)				pulse/s^2	

*1 When "0" is set, the servo motor decelerates in accordance with the setting value of [Pr. PT56].

15.5 [Supported homing methods (Obj. 60E3h)]

[Supported homing methods (Obj. 60E3h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

[1st supported homing method (Obj. 60E3h: 01h)] - [47th supported homing method (Obj. 60E3h: 2Fh)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I8	RO	Impossible	—	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The supported homing type is returned. "Range" is fixed to the value in "Default".

For the contents of the homing methods, refer to "Homing method list" in the following manual.

📖MR-J5 User's Manual (Function)

The following table lists the homing methods and "Default" values for firmware version C0.

Sub Index	Name	Default
01h	1st supported homing method	37
02h	2nd supported homing method	35
03h	3rd supported homing method	34
04h	4th supported homing method	33
05h	5th supported homing method	28
06h	6th supported homing method	27
07h	7th supported homing method	24
08h	8th supported homing method	23
09h	9th supported homing method	22
0Ah	10th supported homing method	21
0Bh	11th supported homing method	20
0Ch	12th supported homing method	19
0Dh	13th supported homing method	18
0Eh	14th supported homing method	17
0Fh	15th supported homing method	14
10h	16th supported homing method	13
11h	17th supported homing method	12
12h	18th supported homing method	11
13h	19th supported homing method	10
14h	20th supported homing method	9
15h	21st supported homing method	8
16h	22nd supported homing method	7
17h	23rd supported homing method	6
18h	24th supported homing method	5
19h	25th supported homing method	4
1Ah	26th supported homing method	3
1Bh	27th supported homing method	2
1Ch	28th supported homing method	1
1Dh	29th supported homing method	-1
1Eh	30th supported homing method	-2
1Fh	31st supported homing method	-3
20h	32nd supported homing method	-4
21h	33rd supported homing method	-6
22h	34th supported homing method	-7
23h	35th supported homing method	-8
24h	36th supported homing method	-9
25h	37th supported homing method	-10
26h	38th supported homing method	-11
27h	39th supported homing method	-33
28h	40th supported homing method	-34
29h	41st supported homing method	-36
2Ah	42nd supported homing method	-38
2Bh	43rd supported homing method	-39
2Ch	44th supported homing method	-40
2Dh	45th supported homing method	-41
2Eh	46th supported homing method	-42
2Fh	47th supported homing method	-43

16 Point table Mode Objects

16.1 [Point table 001 (Obj. 2801h)]

[Point table 001 (Obj. 2801h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	7	7 (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
B8	—	—	—	—	—	—	—

Description

The total number of Sub Indexes (= 7) is returned.

[Point data (Obj. 2801h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RW	Impossible	0	Refer to the following.	pos units	Possible	Point table

Supported firmware version							
ECT	—	—	—	—	—	—	—
B8	—	—	—	—	—	—	—

Description

Set the travel distance of the point table.

The setting range varies depending on the value of [Pr. PT01.2 Unit for position data].

[Pr. PT01.2]	Range
0 (mm)	80000000h to 7FFFFFFFh (-2147483648 to 2147483647)
1 (inch)	80000000h to 7FFFFFFFh (-2147483648 to 2147483647)
2 (degree)	FFFA81C0h to 00057E40h (-360000 to 360000)
3 (pulse)	80000000h to 7FFFFFFFh (-2147483648 to 2147483647)

[Speed (Obj. 2801h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RW	Impossible	0	0 to maximum speed	vel units	Possible	Point table

Supported firmware version							
ECT	—	—	—	—	—	—	—
B8	—	—	—	—	—	—	—

Description

Set the command speed of the servo motor while positioning is executed.

When changing the maximum value of "Range" to the permissible speed, set [Pr. PA28.4 Speed range limit selection] to "1". When "0" is set and the servo motor is started, it is not driven. Refer to "Interruption of point table operation" in the following manual and clear the remaining distance.

📖MR-JET User's Manual (Function)

The description of the object varies as shown in the table below, depending on the combination of the settings of [Pr. PT01.2 Unit for position data], [Pr. PT01.1 Speed/acceleration/deceleration unit selection], and the connected servo motor.

[Pr. PT01.2]	[Pr. PT01.1]	Connected servo motor	Units
—	0 (encoder unit)	Rotary servo motor	0.01 r/min
		Linear servo motor	0.01 mm/s
0 (mm)	1 (command unit)	—	0.001 mm/s
1 (inch)			0.0001 inch/s
2 (degree)			0.001 degree/s
3 (pulse)			pulse/s

[Acceleration (Obj. 2801h: 03h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RW	Impossible	0	Refer to the following.	acc units	Possible	Point table

Supported firmware version							
ECT	—	—	—	—	—	—	—
B8	—	—	—	—	—	—	—

Description

Set a time required for the servo motor to reach the rated speed or the acceleration to reach the command speed.

The description of the object varies as shown in the table below depending on the settings of [Pr. PT01.2 Unit for position data] and [Pr. PT01.1 Speed/acceleration/deceleration unit selection].

[Pr. PT01.2]	[Pr. PT01.1]	Range	Units
—	0 (encoder unit)	0 to 20000	ms
0 (mm)	1 (command unit)	0 to 2147483647 *1	0.001 mm/s^2
1 (inch)			0.0001 inch/s^2
2 (degree)			0.001 degree/s^2
3 (pulse)			pulse/s^2

*1 When "0" is set, the servo motor accelerates in accordance with the setting value of [Pr. PT49].

[Deceleration (Obj. 2801h: 04h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RW	Impossible	0	Refer to the following.	acc units	Possible	Point table

Supported firmware version							
ECT	—	—	—	—	—	—	—
B8	—	—	—	—	—	—	—

Description

Set the time required for the servo motor to stop from the rated speed or the deceleration from the command speed to the stop.

The description of the object varies as shown in the table below depending on the settings of [Pr. PT01.2 Unit for position data] and [Pr. PT01.1 Speed/acceleration/deceleration unit selection].

[Pr. PT01.2]	[Pr. PT01.1]	Range	Units
—	0 (encoder unit)	0 to 20000	ms
0 (mm)	1 (command unit)	0 to 2147483647 *1	0.001 mm/s^2
1 (inch)			0.0001 inch/s^2
2 (degree)			0.001 degree/s^2
3 (pulse)			pulse/s^2

*1 When "0" is set, the servo motor decelerates in accordance with the setting value of [Pr. PT50].

[Dwell (Obj. 2801h: 05h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RW	Impossible	0	0 to 20000	ms	Possible	Point table

Supported firmware version							
ECT	—	—	—	—	—	—	—
B8	—	—	—	—	—	—	—

Description

Set the dwell time of point table.

When the dwell is set, the position command of the selected point table is completed, and the position command for the next point table is started after the set dwell elapses.

When "0" or "2" is set for the auxiliary function, dwell is disabled.

When "1", "3", "8", "9", "10", or "11" is set for the auxiliary function and "0" is set in the dwell, continuous operation is executed.

[Auxiliary (Obj. 2801h: 06h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RW	Impossible	0	0 to 3, 8 to 11	—	Possible	Point table

Supported firmware version							
ECT	—	—	—	—	—	—	—
B8	—	—	—	—	—	—	—

Description

Set the auxiliary function of the point table.

Setting "1" or "3" for the last point table triggers an alarm.

• Absolute position command method

0: Execute the automatic operation of one selected point table.

1: Execute the automatic continuous operation without stopping the next point table.

8: Execute the automatic continuous operation without stopping the point table selected at startup.

9: Execute the automatic continuous operation without stopping the point table No.1.

• Relative position command method

2: Execute the automatic operation of one selected point table.

3: Execute the automatic continuous operation without stopping the next point table.

10: Execute the automatic continuous operation without stopping the point table selected at startup.

11: Execute the automatic continuous operation without stopping the point table No.1.

[M code (Obj. 2801h: 07h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RW	Impossible	0	0 to 255	—	Possible	Point table

Supported firmware version							
ECT	—	—	—	—	—	—	—
B8	—	—	—	—	—	—	—

Description

Set the code to be outputted when the positioning operation is completed.

16.2 [Point table 002 (Obj. 2802h)] - Point table 255 (Obj. 28FFh)]

Positioning data of the point table can be obtained and set.

The contents of each Sub Index are the same as [Point table 001].

16.3 [Target point table (Obj. 2D60h)]

[Target point table (Obj. 2D60h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RW	RxPDO	0	-1 to 255	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
B8	—	—	—	—	—	—	—

Description

The values of the specified point table number can be obtained and set.

Operation mode	Description
Point table mode (pt)	0: Does not operate. 1 to 255: Specified point table execution -1: Positioning to the home

16.4 [Point demand value (Obj. 2D68h)]

[Point demand value (Obj. 2D68h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	TxPDO	—	-1 to 255	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
B8	—	—	—	—	—	—	—

Description

The point table number which is currently being commanded is returned.

When the servo motor is stopped, the setting value of [Target point table] is returned.

Operation mode	Description
Point table mode (pt)	0: Not specified 1 to 255: The point table number which is currently being commanded -1: Positioning to the home

16.5 [Point actual value (Obj. 2D69h)]

[Point actual value (Obj. 2D69h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RO	TxPDO	—	0 to 255	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
B8	—	—	—	—	—	—	—

Description

The point table number at which operation has completed most recently is returned.

Operation mode	Description
Point table mode (pt)	0: Homing completion 1 to 255: Point table number at which operation has completed most recently

16.6 [M code actual value (Obj. 2D6Ah)]

[M code actual value (Obj. 2D6Ah: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	TxPDO	—	0 to 255	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
B8	—	—	—	—	—	—	—

Description

The M code of the point table at which execution has completed is returned.

When the mode is other than the point table mode (pt), "0" is returned.

17 Factor Group Objects

17.1 [Polarity (Obj. 607Eh)]

[Polarity (Obj. 607Eh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RW	RxPDO	00h	00h to E0h	—	Possible	[Pr. PA14] [Pr. PC29.3]

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The rotation direction selection can be set.

Bit	Description
0	reserved
1	reserved
2	reserved
3	reserved
4	reserved
5	0: Servo motor CCW rotation at positive torque 1: Servo motor CW rotation at positive torque
6	0: Servo motor CCW rotation at positive speed 1: Servo motor CW rotation at positive speed
7	0: Servo motor CCW rotation in the positioning address increase direction 1: Servo motor CW rotation in the positioning address increase direction

17.2 [Position encoder resolution (Obj. 608Fh)]

[Position encoder resolution (Obj. 608Fh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	2	2 (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes (= 2) is returned.

[Encoder increments (Obj. 608Fh: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	RxPDO	—	0 to 4294967295	inc	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The encoder resolution is returned. When the linear servo motor is connected, the virtual resolution per revolution is returned. When the servo motor is used on a fully closed loop system configuration, the number of the load-side pulses of one revolution of the servo motor-side is returned.

Writing a value triggers an error.

The PDO Mapping attribute can be changed with the setting value of [Pr. PN03.3 Object attribute selection]. For details, refer to "[Pr. PN03.3 Object attribute selection]" in the following manual.

MR-JET-G-N1 User's Manual (Introduction)

[Motor revolutions (Obj. 608Fh: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	RxPDO	1	1 (fixed)	rev	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The number of revolutions of the servo motor is returned. The value for the number of revolutions of the servo motor is fixed to "1".

Writing a value triggers an error.

The PDO Mapping attribute can be changed with the setting value of [Pr. PN03.3 Object attribute selection]. For details, refer to "[Pr. PN03.3 Object attribute selection]" in the following manual.

MR-JET-G-N1 User's Manual (Introduction)

17.3 [Gear ratio (Obj. 6091h)]

[Gear ratio (Obj. 6091h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	2	2 (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes (= 2) is returned.

[Motor revolutions (Obj. 6091h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	RxPDO	1	1 to 2147483647	rev	Possible	[Pr. PA06]
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The number of revolutions of the servo motor shaft (numerator) can be set. Refer to "[Pr. PA06 Electronic gear numerator (*CMX)]" in the following manual for the range of settable values.

MR-JET-G User's Manual (Parameters)

[Shaft revolutions (Obj. 6091h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	RxPDO	1	1 to 2147483647	rev	Possible	[Pr. PA07]
Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The number of revolutions of the drive shaft (denominator) can be set. Refer to "[Pr. PA07 Electronic gear denominator (*CDV)]" in the following manual for the range of settable values.

MR-JET-G User's Manual (Parameters)

17.4 [Feed constant (Obj. 6092h)]

[Position actual value (Obj. 6064h)] is calculated from [Gear ratio (Obj. 6091h)] and [Feed constant (Obj. 6092h)] as follows.

$$[\text{Position actual value (Obj. 6064h)}] = \frac{[\text{Position actual internal value (Obj. 6063h)}] \times [\text{Feed constant (Obj. 6092h)}]}{[\text{Position encoder resolution (Obj. 608Fh)}] \times [\text{Gear ratio (Obj. 6091h)}]}$$

The following table shows the description returned by [Feed (Obj. 6092h: 01h)] and [Shaft revolutions (Obj. 6092h: 02h)].

[Pr. PT01.2]	[Feed]	[Shaft revolutions]
0 (mm)	Connected servo motor encoder resolution	1
1 (inch)	Connected servo motor encoder resolution	1
2 (degree)	360000	1
3 (pulse)	Connected servo motor encoder resolution	1

[Feed constant (Obj. 6092h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	2	2 (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes (= 2) is returned.

[Feed (Obj. 6092h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	RxPDO	—	—	pos units	Possible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The travel distance per revolution of the output shaft is returned. [Feed] is automatically set in accordance with [Pr. PT01.2 Unit for position data]. Do not write a value to [Feed]. Writing a value triggers an error.

[Shaft revolutions (Obj. 6092h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	RxPDO	—	1 to 1000	rev	Possible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The number of revolutions of the servo motor is returned. Writing a value triggers an error.

17.5 [SI unit position (Obj. 60A8h)]

[SI unit position (Obj. 60A8h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	Impossible	—	Refer to the following.	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

This object value is automatically set in accordance with [Pr. PT01.2 Unit for position data].

[Pr. PT01.2]	Range
0 (mm)	FA010000h (0.001 mm)
1 (inch)	FCC00000h (0.0001 inch)
2 (degree)	FD410000h (0.001 degree)
3 (pulse)	00000000h (1 pulse)

17.6 [SI unit velocity (Obj. 60A9h)]

[SI unit velocity (Obj. 60A9h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	Impossible	—	Refer to the following.	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The SI unit velocity is returned.

The SI unit velocity is automatically set in accordance with the combination of the settings of [Pr. PT01.2 Unit for position data], [Pr. PT01.1 Speed/acceleration/deceleration unit selection], and the connected servo motor.

[Pr. PT01.2]	[Pr. PT01.1]	Connected servo motor	Range
—	0 (encoder unit)	Rotary servo motor	FEB44700h (0.01 r/min)
		Linear servo motor	FB010300h (0.01 mm/s)
0 (mm)	1 (command unit)	—	FA010300h (0.001 mm/s)
1 (inch)			FCC00300h (0.0001 inch/s)
2 (degree)			FD410300h (0.001 degree/s)
3 (pulse)			00000300h (pulse/s)

17.7 [SI unit acceleration (Obj. 60AAh)]

[SI unit acceleration (Obj. 60AAh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RW	Impossible	—	Refer to the following.	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The SI unit acceleration is returned.

The SI unit acceleration is automatically set in accordance with the combination of the settings of [Pr. PT01.2 Unit for position data] and [Pr. PT01.1 Speed/acceleration/deceleration unit selection].

[Pr. PT01.2]	[Pr. PT01.1]	Range
—	0 (encoder unit)	FD030000h (ms)
0 (mm)	1 (command unit)	FA015700h (0.001 mm/s^2)
1 (inch)		FCC05700h (0.0001 inch/s^2)
2 (degree)		FD415700h (0.001 degree/s^2)
3 (pulse)		00005700h (pulse/s^2)

18 Touch Probe Function Objects

18.1 [Touch probe function 2 (Obj. 2DE8h)]

[Touch probe function 2 (Obj. 2DE8h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	—	0000h to 0037h	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—

Description

Set the detail of the touch probe function.

By setting [Pr. PT26.4 Touch probe latch position selection], the reflecting patterns of [Pr. PA14 Travel direction selection] and [Pr. PT08 Homing position data] to the latched position feedback can be changed.

When the touch probe function is not available for the servo amplifier being used, set "0000h".

Bit	Description
0	0: Touch probe 3 disabled 1: Touch probe 3 enabled
1	0: Single trigger mode 1: Continuous trigger mode
2	0: Triggered by inputting touch probe 3 1: Triggered at the zero point of the encoder
3	(reserved) The value at reading is undefined. Set "0" when writing.
4	0: Stop sampling the rising edge of touch probe 3 1: Start sampling the rising edge of touch probe 3 If input of touch probe 3 is set as a trigger (bit 2 = 0), the position feedback latched at the rising edge of touch probe 3 is stored in [Touch probe 3 positive edge (Obj. 2DEAh)], and the time stamp in [Touch probe time stamp 3 positive value (Obj. 2DF8h)]. If the zero point of the encoder is set as a trigger (bit 2 = 1), the position feedback at passing the zero point of the encoder *1 is stored in [Touch probe 3 positive edge (Obj. 2DEAh)].
5	0: Stop sampling the falling edge of touch probe 3 1: Start sampling the falling edge of touch probe 3 If input of touch probe 3 is set as a trigger (bit 2 = 0), the position feedback latched at the falling edge of touch probe 3 is stored in [Touch probe 3 negative edge (Obj. 2DEBh)], and the time stamp in [Touch probe time stamp 3 negative value (Obj. 2DF9h)]. If the zero point of the encoder is set as a trigger (bit 2 = 1), the position feedback at passing the zero point of the encoder *1 is stored in [Touch probe 3 negative edge (Obj. 2DEBh)].
6	(reserved) The value at reading is undefined. Set "0" when writing.
7	
8 to 15	

*1 For linear servo motors, the zero point of the encoder is a position between homing stop intervals [pulse] (changeable with [Pr. PL01.2 Homing stop interval setting]) based on the linear encoder home position. When multiple linear encoder home positions exist during the full stroke of the linear encoder, the trigger cannot be set to the zero point of the encoder.

18.2 [Touch probe status 2 (Obj. 2DE9h)]

[Touch probe status 2 (Obj. 2DE9h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	TxPDO	—	0000h to 00FFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—

Description

The status of the touch probe function is returned.

Bit	Description
0	0: Touch probe 3 disabled 1: Touch probe 3 enabled
1	0: The position at the rising edge of touch probe 3 has not been stored. 1: The position at the rising edge of touch probe 3 has been stored. When the position feedback is stored in [Touch probe 3 positive edge (Obj. 2DEAh)] and the time stamp is stored in [Touch probe time stamp 3 positive value (Obj. 2DF8h)], "1" is set. This bit is cleared to "0" when bit 4 of [Touch probe function 2 (Obj. 2DE8h)] is set to "0".
2	0: The position at the falling edge of touch probe 3 has not been stored. 1: The position at the falling edge of touch probe 3 has been stored. When the position feedback is stored in [Touch probe 3 negative edge (Obj. 2DEBh)] and the time stamp is stored in [Touch probe time stamp 3 negative value (Obj. 2DF9h)], "1" is set. This bit is cleared to "0" when bit 5 of [Touch probe function 2 (Obj. 2DE8h)] is set to "0".
3 to 5	(reserved) The value at reading is undefined.
6	Toggle status for latch completion at the rising edge of touch probe 3 0 or 1: When bit 1 of [Touch probe function 2 (Obj. 2DE8h)] is set to "1" (continuous trigger mode), the status toggles between "0" and "1" every time the position feedback is stored in [Touch probe 3 positive edge (Obj. 2DEAh)] and the time stamp is stored in [Touch probe time stamp 3 positive value (Obj. 2DF8h)].
7	Toggle status for latch completion at the falling edge of touch probe 3 0 or 1: When bit 1 of [Touch probe function 2 (Obj. 2DE8h)] is set to "1" (continuous trigger mode), the status toggles between "0" and "1" every time the position feedback is stored in [Touch probe 3 negative edge (Obj. 2DEBh)] and the time stamp is stored in [Touch probe time stamp 3 negative value (Obj. 2DF9h)].
8 to 15	(reserved) The value at reading is undefined.

18.3 [Touch probe 3 positive edge (Obj. 2DEAh)]

[Touch probe 3 positive edge (Obj. 2DEAh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	0	-2147483648 to 2147483647	pos units	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—

Description

The position latched at the rising edge of touch probe 3 is returned.

18.4 [Touch probe 3 negative edge (Obj. 2DEBh)]

[Touch probe 3 negative edge (Obj. 2DEBh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	0	-2147483648 to 2147483647	pos units	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—

Description

The position latched at the falling edge of touch probe 3 is returned.

18.5 [Touch probe time stamp 3 positive value (Obj. 2DF8h)]

[Touch probe time stamp 3 positive value (Obj. 2DF8h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	TxPDO	0	0 to 4294967295	ns	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—

Description

The time stamp latched at the rising edge of touch probe 3 (the lower 32 bits of the network time (unit: ns)) is returned.

"0" is returned in the following cases.

- The touch probe function is disabled.
- The servo amplifier does not support the touch probe function.
- Bit 2 of [Touch probe function 2 (Obj. 2DE8h: 00h)] is set to "1".

18.6 [Touch probe time stamp 3 negative value (Obj. 2DF9h)]

[Touch probe time stamp 3 negative value (Obj. 2DF9h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	TxPDO	0	0 to 4294967295	ns	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—

Description

The time stamp latched at the falling edge of touch probe 3 (the lower 32 bits of the network time (unit: ns)) is returned.

"0" is returned in the following cases.

- The touch probe function is disabled.
- The servo amplifier does not support the touch probe function.
- Bit 2 of [Touch probe function 2 (Obj. 2DE8h: 00h)] is set to "1".

18.7 [Touch probe function (Obj. 60B8h)]

[Touch probe function (Obj. 60B8h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RW	RxPDO	—	0000h to FFFFh	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—

Description

Set the detail of the touch probe function.

By setting [Pr. PT26.4 Touch probe latch position selection], the reflecting patterns of [Pr. PA14 Travel direction selection] and [Pr. PT08 Homing position data] to the latched position feedback can be changed.

When the touch probe function is not available for the servo amplifier being used, set "0000h".

Bit	Description
0	0: Touch probe 1 disabled 1: Touch probe 1 enabled
1	0: Single trigger mode 1: Continuous trigger mode
2	0: Triggered by inputting touch probe 1 1: Triggered at the zero point of the encoder
3	(reserved) The value at reading is undefined. Set "0" when writing.
4	0: Stop sampling the rising edge of touch probe 1 1: Start sampling the rising edge of touch probe 1 If input of touch probe 1 is set as a trigger (bit 2 = 0), the position feedback latched at the rising edge of touch probe 1 is stored in [Touch probe 1 positive edge (Obj. 60BAh)], and the time stamp in [Touch probe time stamp 1 positive value (Obj. 60D1h)]. If the zero point of the encoder is set as a trigger (bit 2 = 1), the position feedback at passing the zero point of the encoder *1 is stored in [Touch probe 1 positive edge (Obj. 60BAh)].
5	0: Stop sampling the falling edge of touch probe 1 1: Start sampling the falling edge of touch probe 1 If input of touch probe 1 is set as a trigger (bit 2 = 0), the position feedback latched at the falling edge of touch probe 1 is stored in [Touch probe 1 negative edge (Obj. 60BBh)], and the time stamp in [Touch probe time stamp 1 negative value (Obj. 60D2h)]. If the zero point of the encoder is set as a trigger (bit 2 = 1), the position feedback at passing the zero point of the encoder *1 is stored in [Touch probe 1 negative edge (Obj. 60BBh)].
6	(reserved) The value at reading is undefined. Set "0" when writing.
7	
8	0: Touch probe 2 disabled 1: Touch probe 2 enabled
9	0: Single trigger mode 1: Continuous trigger mode
10	0: Triggered by inputting touch probe 2 1: Triggered at the zero point of the encoder
11	(reserved) The value at reading is undefined. Set "0" when writing.
12	0: Stop sampling the rising edge of touch probe 2 1: Start sampling the rising edge of touch probe 2 If input of touch probe 2 is set as a trigger (bit 10 = 0), the position feedback latched at the rising edge of touch probe 2 is stored in [Touch probe 2 positive edge (Obj. 60BCh)], and the time stamp in [Touch probe time stamp 2 positive value (Obj. 60D3h)]. If the zero point of the encoder is set as a trigger (bit 10 = 1), the position feedback at passing the zero point of the encoder *1 is stored in [Touch probe 2 positive edge (Obj. 60BCh)].
13	0: Stop sampling the falling edge of touch probe 2 1: Start sampling the falling edge of touch probe 2 If input of touch probe 2 is set as a trigger (bit 10 = 0), the position feedback latched at the falling edge of touch probe 2 is stored in [Touch probe 2 negative edge (Obj. 60BDh)], and the time stamp in [Touch probe time stamp 2 negative value (Obj. 60D4h)]. If the zero point of the encoder is set as a trigger (bit 10 = 1), the position feedback at passing the zero point of the encoder *1 is stored in [Touch probe 2 negative edge (Obj. 60BDh)].
14	(reserved) The value at reading is undefined. Set "0" when writing.
15	

*1 For linear servo motors, the zero point of the encoder is a position between homing stop intervals [pulse] (changeable with [Pr. PL01.2 Homing stop interval setting]) based on the linear encoder home position. When multiple linear encoder home positions exist during the full stroke of the linear encoder, the trigger cannot be set to the zero point of the encoder.

18.8 [Touch probe status (Obj. 60B9h)]

[Touch probe status (Obj. 60B9h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	TxPDO	—	0000h to 0707h	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—

Description

The status of the touch probe function is returned.

When the touch probe function is disabled or when the function is not available for the servo amplifier used, "0000h" is returned.

Bit	Description
0	0: Touch probe 1 disabled 1: Touch probe 1 enabled
1	0: The data at the rising edge of touch probe 1 has not been stored. 1: The data at the rising edge of touch probe 1 has been stored. When the position feedback is stored in [Touch probe 1 positive edge (Obj. 60BAh)] and the time stamp is stored in [Touch probe time stamp 1 positive value (Obj. 60D1h)], "1" is set. This bit is cleared to "0" when bit 4 of [Touch probe function (Obj. 60B8h)] is set to "0".
2	0: The data at the falling edge of touch probe 1 has not been stored. 1: The data at the falling edge of touch probe 1 has been stored. When the position feedback is stored in [Touch probe 1 negative edge (Obj. 60BBh)] and the time stamp is stored in [Touch probe time stamp 1 negative value (Obj. 60D2h)], "1" is set. This bit is cleared to "0" when bit 5 of [Touch probe function (Obj. 60B8h)] is set to "0".
3 to 5	(reserved) The value at reading is undefined. Set "0" when writing.
6	Toggle status for latch completion at the rising edge of touch probe 1 0 or 1: When bit 1 of [Touch probe function (Obj. 60B8h)] is set to "1" (continuous trigger mode), the status toggles between "0" and "1" every time the position feedback is stored in [Touch probe 1 positive edge (Obj. 60BAh)] and the time stamp is stored in [Touch probe time stamp 1 positive value (Obj. 60D1h)].
7	Toggle status for latch completion at the falling edge of touch probe 1 0 or 1: When bit 1 of [Touch probe function (Obj. 60B8h)] is set to "1" (continuous trigger mode), the status toggles between "0" and "1" every time the position feedback is stored in [Touch probe 1 negative edge (Obj. 60BBh)] and the time stamp is stored in [Touch probe time stamp 1 negative value (Obj. 60D2h)].
8	0: Touch probe 2 disabled 1: Touch probe 2 enabled
9	0: The data at the rising edge of touch probe 2 has not been stored. 1: The data at the rising edge of touch probe 2 has been stored. When the position feedback is stored in [Touch probe 2 positive edge (Obj. 60BCh)] and the time stamp is stored in [Touch probe time stamp 2 positive value (Obj. 60D3h)], "1" is set. This bit is cleared to "0" when bit 12 of [Touch probe function (Obj. 60B8h)] is set to "0".
10	0: The data at the falling edge of touch probe 2 has not been stored. 1: The data at the falling edge of touch probe 2 has been stored. When the position feedback is stored in [Touch probe 2 negative edge (Obj. 60BDh)] and the time stamp is stored in [Touch probe time stamp 2 negative value (Obj. 60D4h)], "1" is set. This bit is cleared to "0" when bit 13 of [Touch probe function (Obj. 60B8h)] is set to "0".
11 to 13	(reserved) The value at reading is undefined. Set "0" when writing.
14	Toggle status for latch completion at the rising edge of touch probe 2 0 or 1: When bit 9 of [Touch probe function (Obj. 60B8h)] is set to "1" (continuous trigger mode), the status toggles between "0" and "1" every time the position feedback is stored in [Touch probe 2 positive edge (Obj. 60BCh)] and the time stamp is stored in [Touch probe time stamp 2 positive value (Obj. 60D3h)].
15	Toggle status for latch completion at the falling edge of touch probe 2 0 or 1: When bit 9 of [Touch probe function (Obj. 60B8h)] is set to "1" (continuous trigger mode), the status toggles between "0" and "1" every time the position feedback is stored in [Touch probe 2 negative edge (Obj. 60BDh)] and the time stamp is stored in [Touch probe time stamp 2 negative value (Obj. 60D4h)].

18.9 [Touch probe 1 positive edge (Obj. 60BAh)]

[Touch probe 1 positive edge (Obj. 60BAh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	0	-2147483648 to 2147483647	pos units	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—

Description

The position latched at the rising edge of touch probe 1 is returned.

When the touch probe function is disabled or when the function is not available for the servo amplifier used, "0" is returned.

18.10 [Touch probe 1 negative edge (Obj. 60BBh)]

[Touch probe 1 negative edge (Obj. 60BBh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	0	-2147483648 to 2147483647	pos units	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—

Description

The position latched at the falling edge of touch probe 1 is returned.

When the touch probe function is disabled or when the function is not available for the servo amplifier used, "0" is returned.

18.11 [Touch probe 2 positive edge (Obj. 60BCh)]

[Touch probe 2 positive edge (Obj. 60BCh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	0	-2147483648 to 2147483647	pos units	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—

Description

The position latched at the rising edge of touch probe 2 is returned.

When the touch probe function is disabled or when the function is not available for the servo amplifier used, "0" is returned.

18.12 [Touch probe 2 negative edge (Obj. 60BDh)]

[Touch probe 2 negative edge (Obj. 60BDh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RO	TxPDO	0	-2147483648 to 2147483647	pos units	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—

Description

The position latched at the falling edge of touch probe 2 is returned.

When the touch probe function is disabled or when the function is not available for the servo amplifier used, "0" is returned.

18.13 [Touch probe time stamp 1 positive value (Obj. 60D1h)]

[Touch probe time stamp 1 positive value (Obj. 60D1h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	TxPDO	0	0 to 4294967295	ns	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—

Description

The time stamp latched at the rising edge of touch probe 1 (the lower 32 bits of the network time (unit: ns)) is returned.

"0" is returned in the following cases.

- The touch probe function is disabled.
- The servo amplifier does not support the touch probe function.
- Bit 2 of [Touch probe function (Obj. 60B8h: 00h)] is set to "1".

18.14 [Touch probe time stamp 1 negative value (Obj. 60D2h)]

[Touch probe time stamp 1 negative value (Obj. 60D2h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	TxPDO	0	0 to 4294967295	ns	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—

Description

The time stamp latched at the falling edge of touch probe 1 (the lower 32 bits of the network time (unit: ns)) is returned.

"0" is returned in the following cases.

- The touch probe function is disabled.
- The servo amplifier does not support the touch probe function.
- Bit 2 of [Touch probe function (Obj. 60B8h: 00h)] is set to "1".

18.15 [Touch probe time stamp 2 positive value (Obj. 60D3h)]

[Touch probe time stamp 2 positive value (Obj. 60D3h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	TxPDO	0	0 to 4294967295	ns	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—

Description

The time stamp latched at the rising edge of touch probe 2 (the lower 32 bits of the network time (unit: ns)) is returned.

"0" is returned in the following cases.

- The touch probe function is disabled.
- The servo amplifier does not support the touch probe function.
- Bit 10 of [Touch probe function (Obj. 60B8h: 00h)] is set to "1".

18.16 [Touch probe time stamp 2 negative value (Obj. 60D4h)]

[Touch probe time stamp 2 negative value (Obj. 60D4h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	TxPDO	0	0 to 4294967295	ns	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—

Description

The time stamp latched at the falling edge of touch probe 2 (the lower 32 bits of the network time (unit: ns)) is returned.

"0" is returned in the following cases.

- The touch probe function is disabled.
- The servo amplifier does not support the touch probe function.
- Bit 10 of [Touch probe function (Obj. 60B8h: 00h)] is set to "1".

19 Optional application FE Objects

19.1 [Digital inputs (Obj. 60FDh)]

[Digital inputs (Obj. 60FDh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	TxPDO	—	00000000h to 037F0007h	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

The ON/OFF status of the input device connected to the servo amplifier is returned.

Bit	Name	DI pin	
		MR-JET-_G-N1	MR-JET-_G_-HSN1
17	DI1	CN3-2	CN3-5A
18	DI2	CN3-12	CN3-5B
19	DI3	CN3-19	CN3-6B
20	DI4	CN3-10 *1	CN3-4A
21	DI5	CN3-1 *1	CN3-4B
22	EM2/EM1	CN3-20	CN3-3B

*1 Available on servo amplifiers with firmware version C4 or later and manufactured in July 2022 or later.

Bit	Description
0	Negative limit switch The output can be reversed with the [Pr. PC76.3 Limit switch status read selection] setting. When [Pr. PA14] is set to "0": 0: LSN (Reverse rotation stroke end) off 1: LSN (Reverse rotation stroke end) on When [Pr. PA14] is set to "1": 0: LSP (Forward rotation stroke end) off 1: LSP (Forward rotation stroke end) on
1	Positive limit switch The output can be reversed with the [Pr. PC76.3] setting. When [Pr. PA14] is set to "0": 0: LSP (Forward rotation stroke end) off 1: LSP (Forward rotation stroke end) on When [Pr. PA14] is set to "1": 0: LSN (Reverse rotation stroke end) off 1: LSN (Reverse rotation stroke end) on
2	Home switch 0: DOG (Proximity dog) off 1: DOG (Proximity dog) on
3 to 16	(reserved) The value at reading is undefined.
17	DI1 Refer to the following for details. ☞ Page 212 DI1
18	DI2 Refer to the following for details. ☞ Page 213 DI2
19	DI3 Refer to the following for details. ☞ Page 213 DI3

Bit	Description
20	DI4 Refer to the following for details. ☞Page 214 DI4
21	DI5 Refer to the following for details. ☞Page 214 DI5
22	EM2/EM1 Refer to the following for details. ☞Page 214 EM2/EM1
23	(reserved) The value at reading is undefined.
24 *1	Safe torque off 1 0: STO1 off 1: STO1 on
25 *1	Safe torque off 2 0: STO2 off 1: STO2 on
26 to 31	(reserved) The value at reading is undefined.

*1 The value at reading is undefined for servo amplifiers other than the MR-JET-_G_-HSN1.

■DI1

[Pr. PC79.0] Setting digit (BIN): _ _ x _ *1	[Pr. PD03.0-1] *2*3	[Pr. PD60.0] Setting digit (BIN): _ _ _ x *4	Description of DI1 *5
0	With assigned function	—	0: Input device selected with [Pr. PD03.0-1] is turned off 1: Input device selected with [Pr. PD03.0-1] is turned on
	No assigned function	0	0: Input 0 V to DI1 pin 1: Input 24 V to DI1 pin
		1	0: Input 24 V to DI1 pin 1: Input 0 V to DI1 pin
1	—	0	0: Input 0 V to DI1 pin 1: Input 24 V to DI1 pin
		1	0: Input 24 V to DI1 pin 1: Input 0 V to DI1 pin

*1 With the setting value of this servo parameter, whether to return the on/off state of the input device selected in [Pr. PD03.0-1] or to return the on/off state of DI1 pin can be selected.

*2 With the setting value of this servo parameter, the input device to be assigned to DI1 pin can be changed. When LSP/LSN is assigned, the output can be reversed with the [Pr. PC76.3] setting.

*3 "With assigned function" is applicable when this servo parameter is set to specific values such as "04 (PC)" and "0A (LSP)" and a device is assigned to DI1 pin.

*4 With the setting value of this servo parameter, the polarity of DI1 pin can be selected.

*5 Refer to "[Pr. PD03 Input device selection 1 (*DI1)]" in the following manual for DI pins which correspond to DI1.
MR-JET-G User's Manual (Parameters)

■DI2

[Pr. PC79.0] Setting digit (BIN): _ x _ _ *1	[Pr. PD04.0-1] *2*3	[Pr. PD60.0] Setting digit (BIN): _ _ x _ *4	Description of DI2 *5
0	With assigned function	—	0: Input device selected with [Pr. PD04.0-1] is turned off 1: Input device selected with [Pr. PD04.0-1] is turned on
	No assigned function	0	0: Input 0 V to DI2 pin 1: Input 24 V to DI2 pin
		1	0: Input 24 V to DI2 pin 1: Input 0 V to DI2 pin
1	—	0	0: Input 0 V to DI2 pin 1: Input 24 V to DI2 pin
		1	0: Input 24 V to DI2 pin 1: Input 0 V to DI2 pin

*1 With the setting value of this servo parameter, whether to return the on/off state of the input device selected in [Pr. PD04.0-1] or to return the on/off state of DI2 pin can be selected.

*2 With the setting value of this servo parameter, the input device to be assigned to DI2 pin can be changed. When LSP/LSN is assigned, the output can be reversed with the [Pr. PC76.3] setting.

*3 "With assigned function" is applicable when this servo parameter is set to specific values such as "04 (PC)" and "0A (LSP)" and a device is assigned to DI2 pin.

*4 With the setting value of this servo parameter, the polarity of DI2 pin can be selected.

*5 Refer to "[Pr. PD04 Input device selection 2 (*DI2)]" in the following manual for DI pins which correspond to DI2.
MR-JET-G User's Manual (Parameters)

■DI3

[Pr. PC79.0] Setting digit (BIN): x _ _ _ *1	[Pr. PD05.0-1] *2*3	[Pr. PD60.0] Setting digit (BIN): _ x _ _ *4	Description of DI3 *5
0	With assigned function	—	0: Input device selected with [Pr. PD05.0-1] is turned off 1: Input device selected with [Pr. PD05.0-1] is turned on
	No assigned function	0	0: Input 0 V to DI3 pin 1: Input 24 V to DI3 pin
		1	0: Input 24 V to DI3 pin 1: Input 0 V to DI3 pin
1	—	0	0: Input 0 V to DI3 pin 1: Input 24 V to DI3 pin
		1	0: Input 24 V to DI3 pin 1: Input 0 V to DI3 pin

*1 With the setting value of this servo parameter, whether to return the on/off state of the input device selected in [Pr. PD04.0-1] or to return the on/off state of DI3 pin can be selected.

*2 With the setting value of this servo parameter, the input device to be assigned to DI3 pin can be changed. When LSP/LSN is assigned, the output can be reversed with the [Pr. PC76.3] setting.

*3 "With assigned function" is applicable when this servo parameter is set to specific values such as "04 (PC)" and "0A (LSP)" and a device is assigned to DI3 pin.

*4 With the setting value of this servo parameter, the polarity of DI3 pin can be selected.

*5 Refer to "[Pr. PD05 Input device selection 3 (*DI3)]" in the following manual for DI pins which correspond to DI3.
MR-JET-G User's Manual (Parameters)

■DI4

[Pr. PC79.1] Setting digit (BIN): _ _ _ x *1	[Pr. PD38.0-1] *2*3	[Pr. PD60.0] Setting digit (BIN): x _ _ _ *4	Description of DI4 *5
0	With assigned function	—	0: Input device selected with [Pr. PD38.0-1] is turned off 1: Input device selected with [Pr. PD38.0-1] is turned on
	No assigned function	0	0: Input 0 V to DI4 pin 1: Input 24 V to DI4 pin
		1	0: Input 24 V to DI4 pin 1: Input 0 V to DI4 pin
1	—	0	0: Input 0 V to DI4 pin 1: Input 24 V to DI4 pin
		1	0: Input 24 V to DI4 pin 1: Input 0 V to DI4 pin

*1 With the setting value of this servo parameter, whether to return the on/off state of the input device selected in [Pr. PD38.0-1] or to return the on/off state of DI4 pin can be selected.

*2 With the setting value of this servo parameter, the input device to be assigned to DI4 pin can be changed. When LSP/LSN is assigned, the output can be reversed with the [Pr. PC76.3] setting.

*3 "With assigned function" is applicable when this servo parameter is set to specific values such as "04 (PC)" and "0A (LSP)" and a device is assigned to DI4 pin.

*4 With the setting value of this servo parameter, the polarity of DI4 pin can be selected.

*5 Refer to "[Pr. PD38 Input device selection 4 (*DI4)]" in the following manual for DI pins which correspond to DI4.
MR-JET-G User's Manual (Parameters)

■DI5

[Pr. PC79.1] Setting digit (BIN): _ _ x _ *1	[Pr. PD39.0-1] *2*3	[Pr. PD60.1] Setting digit (BIN): _ _ _ x *4	Description of DI5 *5
0	With assigned function	—	0: Input device selected with [Pr. PD39.0-1] is turned off 1: Input device selected with [Pr. PD39.0-1] is turned on
	No assigned function	0	0: Input 0 V to DI5 pin 1: Input 24 V to DI5 pin
		1	0: Input 24 V to DI5 pin 1: Input 0 V to DI5 pin
1	—	0	0: Input 0 V to DI5 pin 1: Input 24 V to DI5 pin
		1	0: Input 24 V to DI5 pin 1: Input 0 V to DI5 pin

*1 With the setting value of this servo parameter, whether to return the on/off state of the input device selected in [Pr. PD39.0-1] or to return the on/off state of DI5 pin can be selected.

*2 With the setting value of this servo parameter, the input device to be assigned to DI5 pin can be changed. When LSP/LSN is assigned, the output can be reversed with the [Pr. PC76.3] setting.

*3 "With assigned function" is applicable when this servo parameter is set to specific values such as "04 (PC)" and "0A (LSP)" and a device is assigned to DI5 pin.

*4 With the setting value of this servo parameter, the polarity of DI5 pin can be selected.

*5 Refer to "[Pr. PD39 Input device selection 5 (*DI5)]" in the following manual for DI pins which correspond to DI5.
MR-JET-G User's Manual (Parameters)

■EM2/EM1

[Pr. PC79.1] Setting digit (BIN): _ x _ _ *1	[Pr. PA04.3]	Description of EM2/EM1 *2
0	2	0: EM2 (Forced stop 2) off 1: EM2 (Forced stop 2) on
	0	0: EM1 (Forced stop 1) off 1: EM1 (Forced stop 1) on
1	—	0: Input 24 V to EM2/EM1 pin 1: Input 0 V to EM2/EM1 pin

*1 With the setting value of this servo parameter, whether to return the on/off state of EM2 (Forced stop 2)/EM1 (Forced stop 1) or to return the on/off state of EM2/EM1 pin can be selected.

*2 The DI pin corresponding to EM2/EM1 is the CN3-20 pin.

19.2 [Digital outputs (Obj. 60FEh)]

[Digital outputs (Obj. 60FEh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	2	2 (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
B6	—	—	—	—	—	—	—

Description

The total number of Sub Indexes (= 2) is returned.

[Physical outputs (Obj. 60FEh: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	RxPDO	00000000h	00000000h to 000E0000h	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
B6	—	—	—	—	—	—	—

Description

Set the ON/OFF states of the output devices connected to the servo amplifier.

When DOA, DOB, and DOC are disabled with [Bitmask (Obj. 60FEh: 02h)], the values of bits 17, 18, and 19 in [Physical outputs (Obj. 60FEh: 01h)] are "0" regardless of the values.

Bit	Description
0 to 16	(reserved) The value at reading is undefined.
17	DO1 0: DOA (general-purpose output A) off 1: DOA (general-purpose output A) on To turn on or off the general-purpose output with the settings of this object, use [Pr. PD07] to [Pr. PD09] to assign general-purpose output A (DOA) to any of the pins in the table below.
18	DO2 0: DOB (general-purpose output B) off 1: DOB (general-purpose output B) on To turn on or off the general-purpose output with the settings of this object, use [Pr. PD07] to [Pr. PD09] to assign general-purpose output B (DOB) to any of the pins in the table below.
19	DO3 0: DOC (general-purpose output C) off 1: DOC (general-purpose output C) on To turn on or off the general-purpose output with the settings of this object, use [Pr. PD07] to [Pr. PD09] to assign general-purpose output C (DOC) to any of the pins in the table below.
20 to 31	(reserved) The value at reading is undefined.

Servo amplifier	Corresponding pin
MR-JET-_G-N1	CN3-9 pin, CN3-13 pin, CN3-15 pin
MR-JET-_G_-HSN1	CN3-2A pin, CN3-1B pin, CN3-2B pin

[Bitmask (Obj. 60FEh: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	RxPDO	00000000h	00000000h to 000E0000h	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
B6	—	—	—	—	—	—	—

Description

Set masks for the output devices connected to the servo amplifier.

When DOA, DOB, and DOC are disabled with [Bitmask (Obj. 60FEh: 02h)], the values of bits 17, 18, and 19 in [Physical outputs (Obj. 60FEh: 01h)] are "0" regardless of the values.

Bit	Description
0 to 16	(reserved) The value at reading is undefined.
17	DO1 0: DOA (general-purpose output A) disabled 1: DOA (general-purpose output A) enabled
18	DO2 0: DOB (general-purpose output B) disabled 1: DOB (general-purpose output B) enabled
19	DO3 0: DOC (general-purpose output C) disabled 1: DOC (general-purpose output C) enabled
20 to 31	(reserved) The value at reading is undefined.

20 Cyclic Synchronous Position Mode Objects

20.1 [Position offset (Obj. 60B0h)]

[Position offset (Obj. 60B0h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RW	RxPDO	0	80000000h to 7FFFFFFFh	pos units	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set the position offset.

20.2 [Velocity offset (Obj. 60B1h)]

[Velocity offset (Obj. 60B1h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I32	RW	RxPDO	0	-2147483648 to 2147483647	vel units	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set the velocity offset.

The description of the object varies as shown in the table below, depending on the combination of the settings of [Pr. PT01.2 Unit for position data], [Pr. PT01.1 Speed/acceleration/deceleration unit selection], and the connected servo motor.

[Pr. PT01.2]	[Pr. PT01.1]	Connected servo motor	Units
—	0 (encoder unit)	Rotary servo motor	0.01 r/min
		Linear servo motor	0.01 mm/s
0 (mm)	1 (command unit)	—	0.001 mm/s
1 (inch)			0.0001 inch/s
2 (degree)			0.001 degree/s
3 (pulse)			pulse/s

20.3 [Torque offset (Obj. 60B2h)]

[Torque offset (Obj. 60B2h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
I16	RW	RxPDO	0	-32768 to 32767	0.1 % (with rated torque being 100 %)	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
A4	—	—	—	—	—	—	—

Description

Set the torque offset.

21 SEMI Device Profile Objects

21.1 [Manufacturer Bootloader Version (Obj. 100Bh)]

[Manufacturer Bootloader Version (Obj. 100Bh: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
VISIBLE STRING	RO	Impossible	—	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The bootloader version of the servo amplifier is returned.

21.2 [Timestamp Object (Obj. 10F8h)]

[Timestamp Object (Obj. 10F8h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U64	RO	Impossible	—	0000000000000000h to FFFFFFFFFFFFFFFFh	ns	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The value of the local time stamp of the servo amplifier is returned in units of nanoseconds.

21.3 [Semiconductor Device Profile (Obj. F000h)]

[Semiconductor Device Profile (Obj. F000h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	02h	02h (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

[Index Distance (Obj. F000h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	1000h	1000h (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

For the object groups defined by Mitsubishi Electric (2000h to 5FFFh), "1000h", which is the Index offset, is returned.

[Maximum Number of Modules (Obj. F000h: 02h)

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The number of supported modules is returned.

"0001h" is returned.

21.4 [Module Profile List (Obj. F010h)]

[Module Profile List (Obj. F010h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.
"01h" is returned.

[Profile Number (Obj. F010h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	00000000h	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The supported profile number is returned.

21.5 [Active Exception Status (Obj. F380h)]

[Active Exception Status (Obj. F380h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	TxPDO	—	Refer to the following.	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The overview of the warnings and alarms of [Active Device Warning Details (Obj.F381h)] and [Active Device Error Details (Obj. F383h)] is returned. The values masked by [Device Warning Mask (Obj. F3A1h)] and [Device Error Mask (Obj. F3A3h)] are returned.

Bit	Description
0	Device Warning (0: Not occur, 1: Occur)
1	Manufacturer Warning (fixed to 0)
2	Device Error (0: Not occur, 1: Occur)
3	Manufacturer Error (fixed to 0)
4 to 7	Reserved

21.6 [Active Device Warning Details (Obj. F381h)]

[Active Device Warning Details (Obj. F381h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

"01h" is returned.

[Active Device Warning Details (Obj. F381h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	TxPDO	—	Refer to the following.	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The warning status is returned.

The status changes if a warning occurs in the servo amplifier.

Bit	Description
0	Warning Present (0: Warning not occur, 1: Warning occurs)
1 to 31	Reserved

21.7 [Active Device Error Details (Obj. F383h)]

[Active Device Error Details (Obj. F383h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

"01h" is returned.

[Active Device Error Details (Obj. F383h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	TxPDO	—	Refer to the following.	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The error status is returned.

The status changes if an alarm occurs in the servo amplifier.

Bit	Description
0	Error Present (0: Alarm not occur, 1: Alarm occurs)
1 to 31	Reserved

21.8 [Latched Exception Status (Obj. F390h)]

[Latched Exception Status (Obj. F390h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	TxPDO	—	Refer to the following.	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The overview of the warnings and alarms of [Latched Device Warning Details (Obj. F391h)] and [Latched Device Error Details (Obj. F393h)] is returned. The values masked by [Device Warning Mask (Obj. F3A1h)] and [Device Error Mask (Obj. F3A3h)] are returned.

Bit	Description
0	Device Warning (0: Not occur, 1: Occur)
1	Manufacturer Warning (fixed to 0)
2	Device Error (0: Not occur, 1: Occur)
3	Manufacturer Error (fixed to 0)
4 to 7	Reserved

21.9 [Latched Device Warning Details (Obj. F391h)]

[Latched Device Warning Details (Obj. F391h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

"01h" is returned.

[Latched Device Warning Details (Obj. F391h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	TxPDO	—	Refer to the following.	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The warning status is returned.

The status changes if a warning occurs in the servo amplifier. The status is held until the power is cycled, the software is reset, and [Exception Reset Command (Obj. FBF1h)] is executed. The status does not change even if the alarm is reset.

Bit	Description
0	Warning Present (0: Warning not occur, 1: Warning occurs)
1 to 31	Reserved

21.10 [Latched Device Error Details (Obj. F393h)]

[Latched Device Error Details (Obj. F393h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

"01h" is returned.

[Latched Device Error Details (Obj. F393h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	TxPDO	—	Refer to the following.	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The error status is returned.

The status changes if an alarm occurs in the servo amplifier. The status is held until the power is cycled, the software is reset, and [Exception Reset Command (Obj. FBF1h)] is executed. The status does not change even if the alarm is reset.

Bit	Description
0	Error Present (0: Alarm not occur, 1: Alarm occurs)
1 to 31	Reserved

21.11 [Device Warning Mask (Obj. F3A1h)]

[Device Warning Mask (Obj. F3A1h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

"01h" is returned.

[Device Warning Mask (Obj. F3A1h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	Impossible	—	Refer to the following.	—	Possible	[Pr. PN33]
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

Set the mask values in [Active Device Warning Details (Obj. F381h: 01h)] and [Latched Device Warning Details (Obj. F391h: 01h)].

Bit	Description
0	Warning Present (0: Masked, 1: Not masked)
1 to 31	Reserved

21.12 [Device Error Mask (Obj. F3A3h)]

[Device Error Mask (Obj. F3A3h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

"01h" is returned.

[Device Error Mask (Obj. F3A3h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RW	Impossible	—	Refer to the following.	—	Possible	[Pr. PN34]
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

Set the mask values in [Active Device Error Details (Obj. F383h: 01h)] and [Latched Device Error Details (Obj. F393h: 01h)].

Bit	Description
0	Error Present (0: Masked, 1: Not masked)
1 to 31	Reserved

21.13 [Input Latch Local Timestamp (Obj. F6F0h)]

[Input Latch Local Timestamp (Obj. F6F0h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

"01h" is returned.

[Input Latch Local Timestamp (Obj. F6F0h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	TxPDO	—	00000000h to FFFFFFFFh	µs	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The time when PDO data is written to Input SyncManager is returned in units of microseconds.

21.14 [Manufacturer Serial Number (Obj. F9F0h)]

[Manufacturer Serial Number (Obj. F9F0h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
VISIBLE STRING	RO	Impossible	—	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The serial number of the servo amplifier is returned.

21.15 [CDP Functional Generation Number (Obj. F9F1h)]

[CDP Functional Generation Number (Obj. F9F1h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

"01h" is returned.

[CDP Functional Generation Number (Obj. F9F1h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	00000002h	00000002h (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

Common Device Profile Functional Generation Number is returned.

21.16 [SDP Functional Generation Number (Obj. F9F2h)]

[SDP Functional Generation Number (Obj. F9F2h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

"01h" is returned.

[SDP Functional Generation Number (Obj. F9F2h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	00000000h	00000000h (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

Specific Device Profile Functional Generation Number is returned.

"00000000h" is returned.

21.17 [Vendor Name (Obj. F9F3h)]

[Vendor Name (Obj. F9F3h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
VISIBLE STRING	RO	Impossible	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The vendor name is returned.

21.18 [Semiconductor SDP Device Name (Obj. F9F4h)]

[Semiconductor SDP Device Name (Obj. F9F4h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

"01h" is returned.

[Semiconductor SDP Device Name (Obj. F9F4h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
VISIBLE STRING	RO	Impossible	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

Semiconductor SDP Device Name is returned.

"N/A" is returned.

21.19 [Output Identifier (Obj. F9F5h)]

[Output Identifier (Obj. F9F5h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

"01h" is returned.

[Output Identifier (Obj. F9F5h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RW	TxPDO/RxPDO	00h	00h to FFh	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The value written from the controller is returned.

21.20 [Time since power on (Obj. F9F6h)]

[Time since power on (Obj. F9F6h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	00000000h to FFFFFFFFh	second	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The cumulative time from power-on is returned in units of seconds.

When the software is reset, the cumulative time from power-on is cleared.

21.21 [Total time powered (Obj. F9F7h)]

[Total time powered (Obj. F9F7h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	—	00000000h to FFFFFFFFh	second	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The cumulative energization time of the servo amplifier is returned in units of seconds.
When the software is reset or the power is cycled, the energization time may return to the time last stored in the non-volatile memory.

21.22 [Firmware Update Functional Generation Number (Obj. F9F8h)]

[Firmware Update Functional Generation Number (Obj. F9F8h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U32	RO	Impossible	00000001h	00000001h (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

Firmware Update Functional Generation Number is returned.

21.23 [Device Reset Command (Obj. FBF0h)]

[Device Reset Command (Obj. FBF0h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	03h	03h (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

[Command (Obj. FBF0h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
OCTET STRING (6)	RW	Impossible	—	Refer to the following.	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

When the following command is sent, the servo amplifier resets the software.

Byte	Device reset
0	0x74
1	0x65
2	0x73
3	0x65
4	0x72
5	0x00

[Status (Obj. FBF0h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	Refer to the following.	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

Status is returned.

Value	Description
0	Default value
1	Reserved
2	last command completed, error, no response
3 to 254	Reserved
255	command is executing

[Response (Obj. FBF0h: 03h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
OCTET STRING (2)	RO	Impossible	—	Refer to the following.	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

Response is returned.

Byte	Description
0	Refer to the following. ☞ Page 237 [Status (Obj. FBF0h: 02h)]
1	Unused (0x00)

21.24 [Exception Reset Command (Obj. FBF1h)]

[Exception Reset Command (Obj. FBF1h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	03h	03h (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

[Command (Obj. FBF1h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
OCTET STRING (5)	RW	Impossible	—	Refer to the following.	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

When the following command is sent, [Latched Device Warning Details (Obj. F391h)] and [Latched Device Error Details (Obj.F393h)] are cleared.

Byte	Device reset
0	0x74
1	0x65
2	0x73
3	0x65
4	0x72

[Status (Obj. FBF1h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	Refer to the following.	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

Status is returned.

Value	Description
0	last command completed, no error, no response
1	Reserved
2	last command completed, error, no response
3 to 254	Reserved
255	command is executing

[Response (Obj. FBF1h: 03h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
OCTET STRING (2)	RO	Impossible	—	Refer to the following.	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

Response is returned.

Byte	Description
0	Refer to the following. ☞ Page 239 [Status (Obj. FBF1h: 02h)]
1	Unused (0x00)

21.25 [Store Parameters Command (Obj. FBF2h)]

[Store Parameters Command (Obj. FBF2h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	03h	03h (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

[Command (Obj. FBF2h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
OCTET STRING (4)	RW	Impossible	—	Refer to the following.	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

Executing the following command saves all the parameters (servo parameters, network parameters, and point table data) that can be stored in the non-volatile memory.

Byte	Write
0	0x73
1	0x61
2	0x76
3	0x65

When the object is read, the value is returned as shown in the following table.

Byte	Read
0	0x01 (slave saves the non-volatile parameters when writing FBF2h:01 with 0x65766173)
1	0x00
2	0x00
3	0x00

[Status (Obj. FBF2h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	Refer to the following.	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

Status is returned.

Value	Description
0	last command completed, no error, no response
1	Reserved
2	last command completed, error, no response
3 to 254	Reserved
255	command is executing

[Response (Obj. FBF2h: 03h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
OCTET STRING (2)	RO	Impossible	—	Refer to the following.	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

Response is returned.

Byte	Description
0	Refer to the following. ☞ Page 241 [Status (Obj. FBF2h: 02h)]
1	Unused (0x00)

21.26 [Calculate Checksum Command (Obj. FBF3h)]

[Calculate Checksum Command (Obj. FBF3h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	03h	03h (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

[Command (Obj. FBF3h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
OCTET STRING (4)	RW	Impossible	—	Refer to the following.	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

Executing the following command calculates the checksum of the parameters (servo parameters, network parameters, and point table data) stored in the non-volatile memory.

Byte	Bit	Write
0	0	Use default checksum algorithm of the slave
	1	CRC-32
	2	MD5 (unsupported)
	3	SHA-1 (unsupported)
	4 to 6	Reserved
	7	Other algorithm (unsupported)
1	—	0x00
2	—	0x00
3	—	0x00

When the object is read, "00000003h" is returned. For details, refer to the following table.

Byte	Bit	Read
0	0	Non-volatile parameters supported
	1	CRC-32
	2	MD5 (unsupported)
	3	SHA-1 (unsupported)
	4 to 6	Reserved
	7	Other algorithm (unsupported)
1	—	0x00
2	—	0x00
3	—	0x00

[Status (Obj. FBF3h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	Refer to the following.	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

Status is returned.

Value	Description
0	Default value if the command has not been initiated
1	last command completed, no error, reply there
2	last command completed, error, no response
3 to 254	Reserved
255	command is executing

[Response (Obj. FBF3h: 03h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
OCTET STRING (6)	RO	Impossible	—	Refer to the following.	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

Response is returned.

Byte	Description
0	Refer to the following. ☞ Page 243 [Status (Obj. FBF3h: 02h)]
1	Unused (0x00)
2 to 5	Checksum return value.

21.27 [Load Parameters Command (Obj. FBF4h)]

[Load Parameters Command (Obj. FBF4h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	03h	03h (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

The total number of Sub Indexes is returned.

[Command (Obj. FBF4h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
OCTET STRING (4)	RW	Impossible	—	Refer to the following.	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

Executing the following command reads all the parameters (servo parameters, network parameters, and point table data) stored in the non-volatile memory.

Do not execute the command during operation. The operation may become unstable.

Byte	Write
0	0x6C
1	0x6F
2	0x61
3	0x64

When the object is read, the value is returned as shown in the following table.

Byte	Read
0	0x01 (slave loads the non-volatile parameters when writing FBF4h:01 with 0x64616F6C)
1	0x00
2	0x00
3	0x00

[Status (Obj. FBF4h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	Refer to the following.	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

Status is returned.

Value	Description
0	last command completed, no error, no response
1	Reserved
2	last command completed, error, no response
3 to 254	Reserved
255	command is executing

[Response (Obj. FBF4h: 03h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
OCTET STRING (2)	RO	Impossible	—	Refer to the following.	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
D4	—	—	—	—	—	—	—

Description

Response is returned.

Byte	Description
0	Refer to the following. ☞ Page 245 [Status (Obj. FBF4h: 02h)]
1	Unused (0x00)

22 Safety Over EtherCAT Objects

22.1 [FSoE Slave Frame elements (Obj. E600h)]

[FSoE Slave Frame elements (Obj. E600h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	04h (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The number of entries is returned.

[FSoE Slave Command (Obj. E600h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	SFTxPDO	00h	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

"Command" sent by FSoE Slave is returned.

[FSoE Slave ConnectionID (Obj. E600h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	SFTxPDO	0000h	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

"Connection ID" sent by FSoE Slave is returned.

[FSoE Slave CRC_0 (Obj. E600h: 03h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	SFTxPDO	0000h	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

"CRC_0" sent by FSoE Slave is returned.

[FSoE Slave CRC_1 (Obj. E600h: 04h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	SFTxPDO	0000h	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

"CRC_1" sent by FSoE Slave is returned.

22.2 [FSoE Master Frame elements (Obj. E700h)]

[FSoE Master Frame elements (Obj. E700h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	—	04h (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The number of entries is returned.

[FSoE Master Command (Obj. E700h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	SFTxPDO	00h	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

"Command" sent by FSoE Master is returned.

[FSoE Master ConnectionID (Obj. E700h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	SFTxPDO	0000h	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

"Connection ID" sent by FSoE Master is returned.

[FSoE Master CRC_0 (Obj. E700h: 03h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	SFTxPDO	0000h	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

"CRC_0" sent by FSoE Master is returned.

[FSoE Master CRC_1 (Obj. E700h: 04h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	SFTxPDO	0000h	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

"CRC_1" sent by FSoE Master is returned.

22.3 [FSoE Communication Parameter (Obj. E901h)]

[FSoE Communication Parameter (Obj. E901h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	08h	08h (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The number of entries is returned.

[Version (Obj. E901h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
VISIBLE STRING	RO	Impossible	—	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The version of FSoE is returned.

The character string "01" is returned.

[FSoE Slave Address (Obj. E901h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	0000h	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

"Safety Address" of FSoE Slave is returned.

The value set in [Pr. PSC07 FSoE Address setting] is returned.

[ConnectionID (Obj. E901h: 03h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	SP	0000h	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

"Connection ID" is returned.

[Watchdog Time (Obj. E901h: 04h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	SP	0064h	—	ms	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

"FSoE Watchdog Time" set on the controller is returned.

[Connection Type (Obj. E901h: 06h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	0001h	0001h (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The connection type of FSoE is returned.

"0001h" that indicates the slave connection is returned.

[Communication Parameter Length (Obj. E901h: 07h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	SP	0002h	0002h (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The data length of "Communication parameter" mapped to "Safety Parameter Set" is returned.

"0002h" is returned.

[Application Parameter Length (Obj. E901h: 08h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	SP	0000h	0000h (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The data length of "Application parameter" mapped to "Safety Parameter Set" is returned.

"0000h" is returned.

22.4 [SafeInputs (Obj. F601h)]

[SafeInputs (Obj. F601h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	12h	12h (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The number of entries is returned.

[STO Status (Obj. F601h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The output status of the functional safety sent by FSoE Slave is returned. STOS (STO output) is returned.

[SSM Status (Obj. F601h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The output status of the functional safety sent by FSoE Slave is returned. SSMS (SSM output) is returned.

[Error (Obj. F601h: 04h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The error status of the functional safety sent by FSoE Slave is returned.

[SS1 Status (Obj. F601h: 05h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The output status of the functional safety sent by FSoE Slave is returned. SS1S (SS1 output) is returned.

[SDIP Status (Obj. F601h: 07h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The output status of the functional safety sent by FSoE Slave is returned. SDIPS (SDIP output) is returned.

[SDIN Status (Obj. F601h: 08h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The output status of the functional safety sent by FSoE Slave is returned. SDINS (SDIN output) is returned.

[SLS1 Status (Obj. F601h: 09h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The output status of the functional safety sent by FSoE Slave is returned. SLS1S (SLS1 output) is returned.

[SLS2 Status (Obj. F601h: 0Ah)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The output status of the functional safety sent by FSoE Slave is returned. SLS2S (SLS2 output) is returned.

[SLS3 Status (Obj. F601h: 0Bh)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The output status of the functional safety sent by FSoE Slave is returned. SLS3S (SLS3 output) is returned.

[SLS4 Status (Obj. F601h: 0Ch)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The output status of the functional safety sent by FSoE Slave is returned. SLS4S (SLS4 output) is returned.

[SBC Status (Obj. F601h: 0Dh)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The output status of the functional safety sent by FSoE Slave is returned. SBCS (SBC output) is returned.

[SLT1 Status (Obj. F601h: 0Fh)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The output status of the functional safety sent by FSoE Slave is returned. SLT1S (SLT1 output) is returned.

[SLT2 Status (Obj. F601h: 10h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The output status of the functional safety sent by FSoE Slave is returned. SLT2S (SLT2 output) is returned.

[SLT3 Status (Obj. F601h: 11h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The output status of the functional safety sent by FSoE Slave is returned. SLT3S (SLT3 output) is returned.

[SLT4 Status (Obj. F601h: 12h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The output status of the functional safety sent by FSoE Slave is returned. SLT4S (SLT4 output) is returned.

22.5 [SafeOutputs (Obj. F701h)]

[SafeOutputs (Obj. F701h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	0Fh	0Fh (fixed)	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The number of entries is returned.

[STO Command (Obj. F701h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFRxPDO	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The input status of the functional safety sent by FSoE Master is returned. STOC (STO command) is returned.

[SS1 Command (Obj. F701h: 02h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The input status of the functional safety sent by FSoE Master is returned. SS1C (SS1 command) is returned.

[SDIP Command (Obj. F701h: 04h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The input status of the functional safety sent by FSoE Master is returned. SDIPC (SDIP command) is returned.

[SDIN Command (Obj. F701h: 05h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The input status of the functional safety sent by FSoE Master is returned. SDINC (SDIN command) is returned.

[Error Ack (Obj. F701h: 06h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The input status of the error clear command sent by FSoE Master is returned.

[SLS1 Command (Obj. F701h: 07h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The input status of the functional safety sent by FSoE Master is returned. SLS1C (SLS1 command) is returned.

[SLS2 Command (Obj. F701h: 08h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The input status of the functional safety sent by FSoE Master is returned. SLS2C (SLS2 command) is returned.

[SLS3 Command (Obj. F701h: 09h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The input status of the functional safety sent by FSoE Master is returned. SLS3C (SLS3 command) is returned.

[SLS4 Command (Obj. F701h: 0Ah)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The input status of the functional safety sent by FSoE Master is returned. SLS4C (SLS4 command) is returned.

[SLT1 Command (Obj. F701h: 0Ch)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The input status of the functional safety sent by FSoE Master is returned. SLT1C (SLT1 command) is returned.

[SLT2 Command (Obj. F701h: 0Dh)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The input status of the functional safety sent by FSoE Master is returned. SLT2C (SLT2 command) is returned.

[SLT3 Command (Obj. F701h: 0Eh)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The input status of the functional safety sent by FSoE Master is returned. SLT3C (SLT3 command) is returned.

[SLT4 Command (Obj. F701h: 0Fh)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
BOOL	RO	SFTxPDO	—	—	—	Impossible	—
Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The input status of the functional safety sent by FSoE Master is returned. SLT4C (SLT4 command) is returned.

22.6 [Device FSoE Slave Address (Obj. F980h)]

[Device FSoE Slave Address (Obj. F980h: 00h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U8	RO	Impossible	01h	01h (fixed)	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

The number of entries is returned.

[FSoE Address (Obj. F980h: 01h)]

Data Type	Access	Mapping	Default	Range	Units	Save	Parameter
U16	RO	Impossible	0000h	—	—	Impossible	—

Supported firmware version							
ECT	—	—	—	—	—	—	—
E8	—	—	—	—	—	—	—

Description

"Safety Address" of FSoE Slave is returned.

The value set in [Pr. PSC07 FSoE Address setting] is returned.

REVISIONS

*The manual number is given on the bottom left of the back cover.

Revision date	*Manual number	Description
November 2019	IB(NA)-0300505ENG-A	First edition
July 2020	IB(NA)-0300505ENG-B	■Objects related to the following function are changed: Profile mode
November 2020	IB(NA)-0300505ENG-C	■Objects related to the following functions are changed: Degree unit, general-purpose output
January 2021	IB(NA)-0300505ENG-D	■Objects related to the following function are added: Positioning mode (point table method)
July 2021	IB(NA)-0300505ENG-E	■Objects related to the following function are changed: Homing
July 2022	IB(NA)-0300505ENG-F	■Object dictionary list is added. ■Objects related to the following functions are added: Fully closed loop system, touch probe ■The following objects are added and changed: Software reset, Max current, Motor rated torque, Max acceleration, Max deceleration, Quick stop option code
January 2023	IB(NA)-0300505ENG-G	■Objects related to the following standard are added: ETG.5003 ■Objects related to the following functions are added: Override function
July 2023	IB(NA)-0300505ENG-H	■Reading/Writing in MR Configurator2 is added:
January 2024	IB(NA)-0300505ENG-J	■"Objects Interlocked with Servo Parameters" is added.
October 2024	IB(NA)-0300505ENG-K	■Objects related to the following model are added/edited: MR-JET-_G_-HSN1
July 2025	IB(NA)-0300505ENG-L	■The following object is changed: Sync Error Counter Limit
February 2026	IB(NA)-0300505ENG-M	■The following objects are changed: Internal temperature of encoder, Position demand value

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WARRANTY

Warranty

1. Warranty period and coverage

We will repair any failure or defect hereinafter referred to as "failure" in our FA equipment hereinafter referred to as the "Product" arisen during warranty period at no charge due to causes for which we are responsible through the distributor from which you purchased the Product or our service provider. However, we will charge the actual cost of dispatching our engineer for an on-site repair work on request by customer in Japan or overseas countries. We are not responsible for any on-site readjustment and/or trial run that may be required after a defective unit are repaired or replaced.

[Term]

For terms of warranty, please contact your original place of purchase.

[Limitations]

(1) You are requested to conduct an initial failure diagnosis by yourself, as a general rule.
It can also be carried out by us or our service company upon your request and the actual cost will be charged. However, it will not be charged if we are responsible for the cause of the failure.

(2) This limited warranty applies only when the condition, method, environment, etc. of use are in compliance with the terms and conditions and instructions that are set forth in the instruction manual and user manual for the Product and the caution label affixed to the Product.

(3) Even during the term of warranty, the repair cost will be charged on you in the following cases;

1. a failure caused by your improper storing or handling, carelessness or negligence, etc., and a failure caused by your hardware or software problem
2. a failure caused by any alteration, etc. to the Product made on your side without our approval
3. a failure which may be regarded as avoidable, if your equipment in which the Product is incorporated is equipped with a safety device required by applicable laws and has any function or structure considered to be indispensable according to a common sense in the industry
4. a failure which may be regarded as avoidable if consumable parts designated in the instruction manual, etc. are duly maintained and replaced
5. any replacement of consumable parts (battery, fan, smoothing capacitor, etc.)
6. a failure caused by external factors such as inevitable accidents, including without limitation fire and abnormal fluctuation of voltage, and acts of God, including without limitation earthquake, lightning and natural disasters
7. a failure generated by an unforeseeable cause with a scientific technology that was not available at the time of the shipment of the Product from our company
8. any other failures which we are not responsible for or which you acknowledge we are not responsible for

2. Term of warranty after the stop of production

(1) We may accept the repair at charge for another seven (7) years after the production of the product is discontinued. The announcement of the stop of production for each model can be seen in our Sales and Service, etc.

(2) Please note that the Product (including its spare parts) cannot be ordered after its stop of production.

3. Service in overseas countries

Our regional FA Center in overseas countries will accept the repair work of the Product. However, the terms and conditions of the repair work may differ depending on each FA Center. Please ask your local FA center for details.

4. Exclusion of loss in opportunity and secondary loss from warranty liability

Regardless of the gratis warranty term, Mitsubishi shall not be liable for compensation to:

(1) Damages caused by any cause found not to be the responsibility of Mitsubishi.

(2) Loss in opportunity, lost profits incurred to the user by Failures of Mitsubishi products.

(3) Special damages and secondary damages whether foreseeable or not, compensation for accidents, and compensation for damages to products other than Mitsubishi products.

(4) Replacement by the user, maintenance of on-site equipment, start-up test run and other tasks.

5. Change of Product specifications

Specifications listed in our catalogs, manuals or technical documents may be changed without notice.

6. Application and use of the Product

(1) For the use of our AC Servo, its applications should be those that may not result in a serious damage even if any failure or malfunction occurs in AC Servo, and a backup or fail-safe function should operate on an external system to AC Servo when any failure or malfunction occurs.

(2) Our AC Servo is designed and manufactured as a general purpose product for use at general industries.
Therefore, applications substantially influential on the public interest for such as atomic power plants and other power plants of electric power companies, and also which require a special quality assurance system, including applications for railway companies and government or public offices are not recommended, and we assume no responsibility for any failure caused by these applications when used.
In addition, applications which may be substantially influential to human lives or properties for such as airlines, medical treatments, railway service, incineration and fuel systems, man-operated material handling equipment, entertainment machines, safety machines, etc. are not recommended, and we assume no responsibility for any failure caused by these applications when used.
We will review the acceptability of the abovementioned applications, if you agree not to require a specific quality for a specific application. Please contact us for consultation.

(3) Mitsubishi Electric shall have no responsibility or liability for any problems involving programmable controller trouble and system trouble caused by DoS attacks, unauthorized access, computer viruses, and other cyberattacks.

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IB(NA)-0300505ENG-M(2602)MEE
MODEL:
MODEL CODE:

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Compliance with the indicated global standards and regulations is current as of the release date of this manual.