



CDHDE Servo Drive Variable and Command

Revision 1.0.2

Revision History

Doc.Rev.	Date	Remarks
1.0.0	Feb. 2021	Created
1.0.2	Aug. 2021	Increase the VarCom command

MCU version	FPGA version	ServoStudio2
2.1.25BD21.8.31	2.1.8	2.18.5.57

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Contact Information

Servotronix Motion Control Ltd.
21C Yagia Kapayim Street
Petach Tikva 49130
Israel

Tel: +972 (3) 927 3800
Fax: +972 (3) 922 8075
Website: www.servotronix.com

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Unpacking

The package contains a BDHDE drive together with either a PRHD2 motor with encoder attached.

Upon receipt, open the package and remove all packing materials.

Check to ensure there is no visible damage to the product. If damage is detected, notify the carrier immediately.

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1 Introduction

About This Manual

Drive functionality is configured using various commands and variables, which are communicated over the serial port or over USB bus and RS-485/232 bus.

This manual details **VarCom** instructions, which are used with serial communications.

Manual Format

The command and variable descriptions are presented here in alphabetical order. Command and variable descriptions use different formats, as described below.

All commands and variables are presented as follows:

Definition	Short name, used in the graphical user interface software.
Type	Variable (R/W) : A read/write variable. Variable (R) : A read-only variable. Command
Description	Description of the command or variable.
Syntax	The command format, including any optional or required parameters. Commands are described using the following conventions: [] Indicates an optional parameter. { } Indicates a required parameter. A vertical bar separates two or more choices, either required arguments enclosed in braces { } or optional arguments enclosed in brackets []. Variable parameters are italicized within < >.
Firmware	The earliest version, or specific versions, in which the described functionality is available.
Drive status	Enabled Disabled Indicates the required state of the drive when the command or variable is issued or invoked.
Range	Discrete values and ranges of values. Parameter values can be written with up to 9 digits following the decimal point. When read, values will show only 3 digits following the decimal point. For example: <pre>-->acc 0.123456789 -->acc 0.123 [mm/s^2] --></pre>
Default value	The parameter's default value.

Unit	When parameter values imply units of measure, these units are specified.
Non-volatile	Yes No Indicates whether the value of the variable is stored in the non-volatile memory, and thereby available when the drive is rebooted. Not applicable for Command.
Example	Examples of use.
See also	Links to related commands and variables.
EtherCAT	Where applicable, the equivalent EtherCAT COE and CANopen object code.

2 Variables and Commands

ACC

Definition	Acceleration
Type	Variable (R/W)
Description	Gets/sets the acceleration value for the commands J (jog) and STEP. In velocity mode, ACC serves as an acceleration limit on the velocity command (VCMD).
Syntax	Read: ACC Write: ACC <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 1000000
Default value	1000
Unit	mm/s ²
Non-volatile	Yes
See also	DEC DECSTOP J STEP
EtherCAT	6083h, sub-index 0

ACTIVATION

Definition	Activation Information
Type	Command
Description	Gets the activation information Sets the activation command
Syntax	ACTIVATION
Firmware	2.1.6
Drive status	Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	Not applicable

ACTIVE

Definition	Drive Active Status (Drive Enabled)
Type	Variable (R)
Description	Indicates whether the drive is enabled and power is being applied to the motor. This variable is the drive's general operation status indicator.
Syntax	ACTIVE
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = Drive is inactive 1 = Drive is enabled
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	EN FLT J READY REMOTE ST SWEN
EtherCAT	Not applicable

ADDR

Definition	Drive Communication Address
Type	Variable (R/W)
Description	Drive's communication address. For EB model, it's EtherCAT slave alias. For AP model, it used for ServoStudio connection.
Syntax	ADDR
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 65535
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	Not applicable

ANFEN

Definition	Adaptive Notch Filter Enable
Type	Variable (R/W)
Description	Enable/Disable the adaptive notch filter. When disabled, adaptive notch filter can be set manually.
Syntax	Read: ANFEN Write: ANFEN <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 1 0 = Disabled 1 = Enabled
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	ANFMAGTHRESH NOTCH2BW NOTCH2CENTER NOTCH2DEP NOTCH2MODE
EtherCAT	Not applicable

ANFMAGTHRESH

Definition	Adaptive Notch Filter Enable Magnitude Threshold
Type	Variable (R/W)
Description	Coefficient of adaptive notch filter enable magnitude threshold.
Syntax	Read: ANFMAGTHRESH Write: ANFMAGTHRESH < <i>value</i> >
Firmware	2.0.5
Drive status	Enabled Disabled
Range	0 to 1.0
Default value	0.12
Unit	Not applicable
Non-volatile	Yes
See also	ANFEN
EtherCAT	Not applicable

ANTIVIBTYPE

Definition	Anti-Vibration Mode
Type	Variable (R/W)
Description	Sets/Gets the anti-vibration mode.
Syntax	Read: ANTIVIBTYPE Write: ANTIVIBTYPE <value>
Firmware	2.0.5
Drive status	Enabled Disabled
Range	0 to 1
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	INSHAPEREN INSHAPERFREQ INSHAPERDAMP
EtherCAT	Not applicable

APCOUNTERCLR

Definition	Pulse counter clear(AP Model)
Type	Command
Description	Clear the pulse counter received from external device.
Syntax	APCOUNTERCLR
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	HWPEXT
EtherCAT	Not applicable

APINLOGIC

Definition	Pulse input logic(AP Model)
Type	Variable (R/W)
Description	Gets/Sets the logic of pulse signal from external device.
Syntax	Read: APINLOGIC Write: APINLOGIC <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 = no action. 1 = inverse the logic of signal.
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	Not applicable

APINMAXFREQ

Definition	Maximum frequency of differential pulse input(AP Model)
Type	Variable (R/W)
Description	Gets/Sets the logic of maximum frequency of differential pulse input. Drive will alarm and disabled if pulse input frequency over APINMAXFREQ.
Syntax	Read: APINMAXFREQ Write: APINMAXFREQ <value>
Firmware	2.0.0
Drive status	Disabled
Range	250 to 8000
Default value	0
Unit	kHz
Non-volatile	Yes
See also	
EtherCAT	Not applicable

APINSOURCE

Definition	Signal type of external pulse(AP Model)
Type	Variable (R/W)
Description	Gets/Sets the signal type of external pulse.
Syntax	Read: APINSOURCE Write: APINSOURCE<value>
Firmware	2.0.0
Drive status	Disabled
Range	0 = single input with fast DI. 1 = differential input with pulse and sign.
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	Not applicable

APPST

Definition	Current state of application state machine
Type	Variable (R)
Description	Indicate the current mode of application state machine
Syntax	APPST
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = Position limitation 1 = Normal operation 2 = Load inertia estimation 3 = Jog 4 = Homing 5 = Motor zero phase estimation 6 = EtherCAT halt 7 = Zero velocity clamp 8 = Motor setup
Default value	1
Unit	Not applicable
Non-volatile	No
See also	
EtherCAT	Not applicable

APVELSOURCE

Definition	Velocity command source(AP Model)
Type	Variable (R/W)
Description	Gets/Sets the velocity command source. Velocity command is generated internal if APVELSOURCE = -1. Velocity command can be set from 4 preset value if APVELSOURCE = 0 ~3.
Syntax	Read: APVELSOURCE Write: APVELSOURCE <value>
Firmware	2.0.0
Drive status	Disabled
Range	-1 = velocity command is internal generated. 0 = velocity command is generated by MULTISPD CMD1. 1 = velocity command is generated by MULTISPD CMD2. 2 = velocity command is generated by MULTISPD CMD3. 3 = velocity command is generated by MULTISPD CMD4.
Default value	-1
Unit	Not applicable
Non-volatile	No
See also	MULTISPD CMD1 MULTISPD CMD2 MULTISPD CMD3 MULTISPD CMD4
EtherCAT	Not applicable

BRAKEACTION

Definition	Brake Action
Type	Variable (R)
Description	Indicate the current brake command. Actual output based on the IO configuration.
Syntax	BRAKEACTION
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0: Release 1: Engage
Default value	1
Unit	Not applicable
Non-volatile	No
See also	BRAKESTATE
EtherCAT	Not applicable

BRAKESTATE

Definition	Brake State
Type	Variable (R)
Description	Indicate the current brake state. When brake command changed, brake state will update after a delay time.
Syntax	BRAKESTATE
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0: Release 1: Engage
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	BRAKEACTION OUTBRAKERELEASETIME OUTBRAKEENGAGETIME
EtherCAT	Not applicable

CHARGE CYCLE(厂家命令)

Definition	Charge Cycle
Type	Variable (R/W)
Description	Indicate the time of charging IPM when drive power up or enable.
Syntax	Read: CHARGE CYCLE Write: CHARGE CYCLE <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 to 65535
Default value	10000
Unit	10us
Non-volatile	Yes
See also	
EtherCAT	Not applicable

CLEARFAULTS

Definition	Clear Faults
Type	Command
Description	Clears latched faults. Once all faults are cleared, the drive becomes ready for activation (READY). If clearing the faults causes the drive to re-enable, then software enable (SWEN) is disabled to prevent spontaneous re-enable.
Syntax	CLEARFAULTS
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	Not applicable
See also	DISMODE FLT FLTHIST
EtherCAT	Not applicable

CLVD

Definition	Voltage Command D Component
Type	Variable (R/W)
Description	Set/Get the D axis voltage. Only available in voltage mode.
Syntax	Read: CLVD Write: CLVD < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-300 to 300
Default value	0.000
Unit	V
Non-volatile	No
See also	CLVQ
EtherCAT	2013h, sub-index 0

CLVQ

Definition	Voltage Command Q Component
Type	Variable (R/W)
Description	Set/Get the D axis voltage. Only available in voltage mode.
Syntax	Read: CLVD Write: CLVD < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-300 to 300
Default value	0.000
Unit	V
Non-volatile	No
See also	CLVD
EtherCAT	2014h, sub-index 0

COMMERRTTHRESH

Definition	Commutation Error Threshold
Type	Variable (R/W)
Description	Set/Get the motor run away time threshold.
Syntax	Read: COMMERRTTHRESH Write: COMMERRTTHRESH < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	1 to 3000
Default value	10
Unit	ms
Non-volatile	Yes
See also	COMMERRVTHRESH
EtherCAT	220Dh, sub-index 0

COMMERRVTHRESH

Definition	Commutation Error Velocity Deviation
Type	Variable (R/W)
Description	Set/Get the motor run away velocity threshold.
Syntax	Read: COMMERRVTHRESH Write: COMMERRVTHRESH< <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 6000
Default value	60
Unit	mm/s
Non-volatile	Yes
See also	COMMERRTTHRESH
EtherCAT	220Eh, sub-index 0

COMMODE

Definition	Communication Mode
Type	Variable (R/W)
Description	Gets/Sets the fieldbus communication mode. COMMODE 1 is applicable only for CAN and EtherCAT drives.
Syntax	Read: COMMODE Write: COMMODE <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 = Serial RS232/USB communication enabled. CANopen communication disabled. Drive can be software enabled at power-up (SWENMODE). 1 = For CAN/EtherCAT drive only. CANopen communication is enabled. Serial RS232/USB communication can be used as a utility for monitoring and changing parameters with limited functionality.
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	SWENMODE
EtherCAT	Not applicable

CONFIG

Definition	Configure Drive
Type	Command
Description	Configures the current control and other internal drive mechanisms based on the configuration set. Since this configuration procedure depends on several variables, it is not executed automatically following parameter changes. The configuration process may take more than a few seconds to complete. Be sure the configuration has completed before attempting to enable the drive.
Syntax	CONFIG
Firmware	2.0.0
Drive status	Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	Not applicable
See also	
EtherCAT	2002h,sub-index 0

COUNTSINREV

Definition	Encoder Counts Per Revolution
Type	Variable (R)
Description	Encoder counts per revolution or pitch, calculated from MENCRES
Syntax	COUNTSINREV
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 2147483647
Default value	40000
Unit	count
Non-volatile	No
See also	MENCRES
EtherCAT	Not applicable

DEADTIME(厂家命令)

Definition	PWM Dead Time
Type	Variable (R/W)
Description	Gets/Sets the deadtime of PWM.
Note	DEADTIME will be set according parameter of power EEPROM when drive power up.
Syntax	Read: DEADTIME Write: DEADTIME < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 1000
Default value	200
Unit	10ns
Non-volatile	Yes
See also	
EtherCAT	Not applicable

DEC

Definition	Motor Deceleration
Type	Variable (R/W)
Description	Gets/Sets the deceleration value of the drive.
Syntax	Read: DEC Write: DEC < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 1000000
Default value	1000
Unit	mm/s^2
Non-volatile	Yes
See also	ACC DECSTOP J STEP
EtherCAT	6084h, sub-index 0

DECSTOP

Definition	Active Disable Deceleration
Type	Variable (R/W)
Description	Gets/Sets the deceleration value for an Active Disable or emergency stop.
Syntax	Read: DECSTOP Write: DECSTOP <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 1000000
Default value	100000
Unit	mm/s ²
Non-volatile	Yes
See also	ACC DEC
EtherCAT	6085h, sub-index 0

DECSTOPTIME

Definition	Disable Deceleration Time
Type	Variable (R/W)
Description	Gets/Sets the time value for an Active Disable or emergency stop.
Syntax	Read: DECSTOPTIME Write: DECSTOPTIME < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 6500
Default value	200
Unit	ms
Non-volatile	Yes
See also	DECSTOP DECSTOPTOTALTIME DISSPEED DISMODE
EtherCAT	Not applicable

DICONT

Definition	Drive Continuous Current
Type	Variable (R)
Description	Indicates the continuous rated current for the drive (sinusoidal peak). This is a hardware-defined read-only variable that is detected automatically by the drive.
Syntax	DICONT
Firmware	2.0.0
Drive status	Disabled
Range	Not applicable
Default value	Hardware defined
Unit	A
Non-volatile	No
See also	DIPEAK FOLD IFOLD MICON
EtherCAT	207Ch, sub-index 0

DIPEAK

Definition	Drive Peak Current
Type	Variable (R)
Description	Indicates the peak rated current of the drive (sinusoidal peak). This is a hardware-defined read-only variable.
Syntax	DIPEAK
Firmware	2.0.0
Drive status	Disabled
Range	Not applicable
Default value	Hardware defined
Unit	A
Non-volatile	No
See also	DICONT IMAX MIPEAK
EtherCAT	207Bh, sub-index 0

DIR

Definition	Motor Direction
Type	Variable (R/W)
Description	DIR is used to invert the values of position feedback (PFB), velocity (V) and current (ICMD), thereby inverting the direction of motor movement. When DIR=3, the values of variables PFB, V and ICMD are inverted and the actual direction of motor movement is reversed. Other variables (MECHANGLE, ELECTANGLE, HWPOS) remain unchanged. When the value of DIR is changed, CONFIG is required..
Syntax	Read: DIR Write: DIR <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 and 3
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	MFBDIR
EtherCAT	607Eh, sub-index 0

DISMODE

Definition	Disable Mode
Type	Variable (R/W)
Description	The disabling of the drive may be the result of an explicit command from the motion controller or the drive's own response to a fault condition. When the drive becomes disabled, the Disable Mode function can be used in certain cases (see Note below) to bring the motor to a fast stop before power to the motor is shut off. This reduces the amount of motor coasting. ● Active Disabling brings the motor to a stop by means of a controlled deceleration to zero velocity, and then disables the drive. Active Disable cannot be applied when the drive is operating in a current control mode(OPMODE 2). ● Dynamic Braking holds the motor while the drive is disabled by applying only the motor's back-EMF to the stopping current; it can therefore be used even in the event of feedback loss.
Syntax	Read: DISMODE WRITE: DISMODE <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = No active disabling. 1 = No active disabling. 2 = No active disabling. 3 = Active disabling on fault*. 4 = Active disabling on fault*. 5 = Active disabling on fault*.
Note	When supported. Faults that require immediate disable (to prevent drive damage) and feedback faults that might cause a commutation error (runaway motor) cannot issue Active Disabling.
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	DECSTOP DISTIME DISSPEED
EtherCAT	2046h, sub-index 0

DISSPEED

Definition	Active Disabling Speed Threshold
Type	Variable (R/W)
Description	Gets/Sets the velocity threshold below which the motor is considered stopped and the Active Disabling timer starts the countdown to disable. The motor velocity must remain below this threshold for at least 50 ms for the motor to be considered stopped. The Active Disabling function ramps the motor to zero speed using DECSTOP. DISSPEED is compared to the actual motor speed; when the absolute speed drops below the threshold value for 50 ms, the active disabling timer (DISTIME) begins timing. Once the timer times out, the drive is disabled.
Syntax	Read: DISSPEED WRITE: DISSPEED <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 200
Default value	10
Unit	mm/s
Non-volatile	Yes
See also	DECSTOP DISTIME DISMODE
EtherCAT	204Ah , sub-index 0

DISTIME

Definition	Active Disabling Time
Type	Variable (R/W)
Description	Gets/Sets the continuous time the motor must remain below DISSPEED before the drive is disabled by the Active Disabling function. This delay is typically set to accommodate brake engage time. The DISTIME counter begins only after motor velocity has been below DISSPEED for at least 50 ms.
Syntax	Read: DISTIME WRITE: DISTIME < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 6500
Default value	10
Unit	ms
Non-volatile	Yes
See also	DECSTOP DISSPEED DISMODE
EtherCAT	204Bh, sub-index 0

DISTOTALTIME

Definition	Active Disabling Total Time
Type	Variable (R/W)
Description	Gets/Sets the total time from disable command to drive disabled. If drive cannot disable during DISTOTALTIME, drive will disabled directly, no matter if motor stopped.
Syntax	Read: DISTOTALTIME WRITE: DISTOTALTIME <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 6500
Default value	200
Unit	ms
Non-volatile	Yes
See also	DECSTOP DECSTOPTIME DISSPEED DISMODE
EtherCAT	Not applicable

DRIVENAME

Definition	Drive Name
Type	Command
Description	Gets/Sets the name assigned to the drive unit. The name may contain up to 20 alphanumeric characters. A quotation mark (") always precedes the name. Additional valid characters for use in the text string: () / - . :
Syntax	Read: DRIVENAME Write: DRIVENAME < <i>text</i>>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	INFO MOTORNAME
EtherCAT	Not applicable

DRIVEOTTHRESH

Definition	Drive Over Temperature Threshold
Type	Variable (R/W)
Description	Drive Over Temperature Threshold. DRIVEOTTHRESH will be set according parameter of power EEPROM when drive power up.
Syntax	Read: DRIVEOTTHRESH Write: DRIVEOTTHRESH < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 200
Default value	86
Unit	deg C(°C)
Non-volatile	Yes
See also	DRIVETEMP
EtherCAT	Not applicable

DRIVETEMP

Definition	Drive Temperature
Type	Variable (R)
Description	Indicates the temperature of the control and power boards in the drive, in Celsius degrees.
Syntax	DRIVETEMP
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-100 to 200
Default value	Not Applicable
Unit	deg C(°C)
Non-volatile	No
Example	-->drivetemp --> Control: 32[deg C] Power: 29[deg C] -->
See also	FOLD IFOLD
EtherCAT	2044h, sub-index 0

DRIVETEMPAVF

Definition	Driver Temp Average Filter Length
Type	Variable (R/W)
Description	Drive temperature move average filter length
Syntax	Read: DRIVETEMPAVF Write: DRIVETEMPAVF < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 64
Default value	16
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	Not applicable

DRIVETYPE

Definition	Drive Type
Type	Variable (R/W)
Description	Indicate the drive type
Syntax	Read: DRIVETYPE Write: DRIVETYPE <value>
Firmware	2.0.0
Drive status	Disabled
Range	4 = 4.0A
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	Not applicable

DUMP

Definition	Dump Drive Parameter Values
Type	Command
Description	Returns the set of configuration parameters that defines the complete functionality of the drive. The command can be used to backup the configuration.
Note	Some factory parameters, not intended for users, may appear in the list. Do not attempt to manipulate parameters that are not described in the product documentation or Help.
Syntax	DUMP
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	Not Applicable
See also	SAVE
EtherCAT	Not applicable

ECEEMODE

Definition	EtherCAT EEPROM Mode
Type	Variable (R/W).
Description	Change EtherCAT EEPROM access mode.
Syntax	Read: ECEEMODE Write: ECEEMODE { <i>data</i> }
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = Only Byte 8~9 and 14~15 can be saved. 1 = Byte 0~15 can be saved.
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	Not applicable

ECEERST

Definition	Restore EtherCAT EEPROM
Type	Command.
Description	Used for restore EtherCAT EEPROM to default value. Applicable only when COMMODE=0.
Syntax	ECEERST
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	
EtherCAT	Not applicable

ECPDOMAPPING

Definition	EtherCAT PDO Mapping
Type	Command.
Description	EtherCAT PDO Mapping.
Syntax	ECPDOMAPPING
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	
EtherCAT	Not applicable

ECREADCOMMSTATE

Definition	EtherCAT Read NMT State
Type	Command.
Description	Used for reading the NMT state through serial communication. Applicable only when COMMODE=1. If COMMODE=0, the command returns -1. Useful for diagnostics when using EtherCAT communication.
Syntax	ECREADCOMMSTATE
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Possible values returned by ECREADCOMMSTATE: 0 = UNKNOWN 1 = INIT 2 = PREOP 3 = BOOTSTRAP 4 = SAFEOP 8 = OP -1 = when COMMODE=0; non-EtherCAT drive
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	
EtherCAT	Not applicable

ECSENDSDO

Definition	EtherCAT Read SDO Value
Type	Variable (R).
Description	Used for reading and writing an SDO object, in hexadecimal format, through serial communication. Applicable only when COMMODE=1. Useful for diagnostics when using EtherCAT communication.
Syntax	Read: ECSENDSDO < <i>sdo</i> > < <i>sub-index</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	<i>sdo</i> : any object in drive; hnnnn format <i>sub-index</i> : according to object
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	
EtherCAT	Not applicable

EEPROM

Definition	I2C EEPROM Read Write
Type	Variable (R/W), Password protected command.
Description	The control board and power board have EEPROM devices that store relevant information during production. The firmware provides interface to these EEPROM devices. This command is used for reading or writing to the RAM image of the EEPROM. If data is not specified, it is a read operation that returns the content of the specified address of the RAM image of the EEPROM. If data is specified, it is a write operation that writes the value to the specified address of the RAM image of the EEPROM.
Syntax	Read: EEPROM {1 2} { <i>addr</i> } Write: EEPROM {1 2} { <i>addr</i> } { <i>data</i> }
Firmware	2.0.0
Drive status	Enabled Disabled
Range	device: 1 = control board 2 = power board addr = location (address) in the EEPROM
Default value	Not applicable
Unit	Not applicable
Non-volatile	Not applicable
See also	EEPROMDUMP EEPROMSAVE
EtherCAT	Not applicable

EEPROMDUMP

Definition	I2C EEPROM Dump
Type	Command, Password protected command.
Description	This command dumps the entire contents of the RAM image of the EEPROM.
Syntax	EEPROMDUMP {1 2}
Firmware	2.0.0
Drive status	Enabled Disabled
Range	device: 1 = control board 2 = power board
Default value	Not applicable
Unit	Not applicable
Non-volatile	Not applicable
See also	EEPROM EEPROMSAVE
EtherCAT	Not applicable

EEPROMSAVE

Definition	I2C EEPROM Save
Type	Command, Password protected command.
Description	This command copies the contents of the RAM image of the EEPROM to the EEPROM itself (SAVE operation).
Syntax	EEPROMSAVE {1 2}
Firmware	2.0.0
Drive status	Enabled Disabled
Range	device: 1 = control board 2 = power board
Default value	Not applicable
Unit	Not applicable
Non-volatile	Not applicable
See also	EEPROM EEPROMDUMP
EtherCAT	Not applicable

EEPROMVER

Definition	EEPROM Version
Type	Variable (R)
Description	Get EEPROM version
Syntax	EEPROMVER
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0x00000000 to 0xFFFFFFFF
Default value	Not applicable
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	

ELECTANGLE

Definition	Electrical Position
Type	Variable (R)
Description	Indicates the electrical angle position in 16-bit resolution.
Syntax	ELECTANGLE
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 65535
Default value	0
Unit	65536/electrical cycle
Non-volatile	No
See also	MECHANGLE MENCRES MPHASE
EtherCAT	2016h, sub-index 0

EN

Definition	Software Enable Command
Type	Command
Description	Initiates a software enable of the drive. This command first attempts to reset any existing fault conditions, then sets SWEN to 1. If both READY and REMOTE have values of 1, the drive is in Active state. The value of ACTIVE indicates whether the EN command successfully enabled the drive.
Syntax	EN
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	Not applicable
See also	ACTIVE FLT K READY REMOTE ST SWEN
Note	- EN is the Software Enable command. It first attempts to clear any latched faults; if successful, the drive becomes Ready for enabling. When the drive is Ready and the Remote Enable (hardware) signal is on, the drive is enabled. - READY (R) indicates whether a drive is ready to be enabled (waiting for Remote Enable ON signal). - ACTIVE (R) indicates whether a drive is enabled.
EtherCAT	Not applicable

ENCFLTINFO

Definition	Encoder Fault Information
Type	Command
Description	Get the encoder fault information.
Syntax	ENCFLTINFO
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	Not applicable
EtherCAT	Not applicable

ENCFREQ

Definition	Encoder Theta Frequency
Type	Variable (R)
Description	Get the encoder angle frequency
Syntax	ENCFREQ
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-50000 to 50000
Default value	0.000
Unit	Hz
Non-volatile	No
See also	ELECTANGLE
EtherCAT	Not applicable

ENCFREQMAN

Definition	Electrical Theta Frequency
Type	Variable (R/W)
Description	Generate internal electrical angle according to the settled frequency, when encoder mode is 2, it will be used in control loop.
Syntax	Read: ENCFREQMAN Write: ENCFREQMAN <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-1000 to 1000
Default value	0.000
Unit	Hz
Non-volatile	No
See also	ENCMODE
EtherCAT	Not applicable

ENCMODE

Definition	Theta Mode
Type	Variable (R/W)
Description	Gets/Sets a value that defines electrical angle source. When modified, CONFIG needed.
Syntax	Read: ENCMODE Write: ENCMODE < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 = generated by encoder 1 = generated by ENCTHETAMAN 2 = generated by ENCFREQMAN
Default value	0
Unit	Not applicable
Non-volatile	No
See also	ENCTHETAMAN ENCFREQMAN
EtherCAT	Not applicable

ENCMULTITURN

Definition	Encoder Multi Turn Value
Type	Variable (R)
Description	Get the multi turn information of absoults encoder.
Syntax	ENCMULTITURN
Firmware	2.0.0
Drive status	Disabled
Range	-2147483648 to 2147483647
Default value	0
Unit	rev
Non-volatile	No
See also	ENCTHETAMAN
EtherCAT	Not applicable

ENCMULTITURNOFFSET

Definition	Offset of Encoder Multi Turn Overflow Threshold
Type	Variable (R/W)
Description	Definite the range of multi turn over flow. Multi turn overflow in (-offset) and (65535 - offset) Only available in multi turn encoder.
Syntax	Read: ENCMULTITURNOFFSET Write: ENCMULTITURNOFFSET < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 65535
Default value	32768
Unit	rev
Non-volatile	No
See also	ENCMULTITURN
EtherCAT	Not applicable

ENCOUTMODE

Definition	Encoder Simulation Mode
Type	Variable (R/W)
Description	Gets/Sets the encoder simulation mode.
Syntax	Read: ENCOUTMODE Write: ENCOUTMODE < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 = Encoder simulation not active. 1 = A/B encoder simulation of motor feedback. An index pulse is generated for each motor revolution (or pitch for linear motors). This mode is typically used with feedback devices that do not have a physical index. The drive outputs a simulated index. 2 = A/B encoder simulation of motor or load feedback. The index pulse is routed directly from the motor feedback device (by the FPGA) to the drive, regardless of the value of ENCOUTRES. This mode is typically used for linear motors that have incremental AB quadrature encoders, in which the index is used for homing and appear once per linear scale. 3 = output follow actual feedback(AP Model)
Default value	3
Unit	Not applicable
Non-volatile	Yes
See also	ENCOUTRES ENCOUTZPOS
EtherCAT	Not applicable

ENCOUTRES

Definition	Encoder Simulation Line Resolution
Type	Variable (R/W)
Description	Gets/Sets the encoder simulation line resolution.
Syntax	Read: ENCOUTRES Write: ENCOUTRES < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	-2147483648 to 2147483647
Default value	10000
Unit	count
Non-volatile	Yes
See also	ENCOUTMODE ENCOUTZPOS
EtherCAT	Not applicable

ENCOUTZPOS

Definition	Encoder Simulation Index Position
Type	Variable (R/W)
Description	Gets/Sets the encoder simulation index position.
Syntax	Read: ENCOUTZPOS Write: ENCOUTZPOS < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0
Default value	0
Unit	count
Non-volatile	Yes
See also	ENCOUTMODE ENCOUTRES
EtherCAT	Not applicable

ENC SINGLETURN

Definition	Encoder Single Turn Value
Type	Variable (R)
Description	Get the single turn information of absolute encoder.
Syntax	ENC SINGLETURN
Firmware	2.0.0
Drive status	Disabled
Range	-2147483648 to 2147483647
Default value	Not applicable
Unit	count
Non-volatile	No
See also	ENCMULTITURN ENCMULTITURNOFFSET
EtherCAT	Not applicable

ENCTHETAMAN

Definition	Manual Electric Angle
Type	Variable (R/W)
Description	Available when ENCMODE is 1. Gets/Sets Electric Angle manually rather than from encoder.
Syntax	Read: ENCTHETAMAN Write ENCTHETAMAN < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 65535
Default value	0
Unit	Not applicable
Non-volatile	No
See also	ENCMODE ENCTHETA
EtherCAT	Not applicable

ERRCORACTIVENUM

Definition	Error Correction Active Entries
Type	Variable (R/W)
Description	Gets/sets a value that defines the number of active entries in the error correction table. Up to 511 entries can be defined (and active) in the error correction table.
Syntax	Read: ERRCORACTIVENUM Write ERRCORACTIVENUM < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 511
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	ERRCOREN
EtherCAT	2219h, sub-index 0

ERRCOREN

Definition	Error Correction Request to Activate
Type	Variable (R/W)
Description	Gets/sets a value that indicates a user request to activate or deactivate the error correction function. The actual state of the error correction function is reported by ERRCORST.
Syntax	Read: ERRCOREN Write ERRCOREN< <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 = User request to activate the error correction function. 1 = User request to deactivate the error correction function.
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	ERRCORACTIVENUM ERRCORFAILINDEX ERRCORINDEX ERRCORINTERVAL ERRCORRESET ERRCORSETINDEX ERRCORST ERRCORSTARTOFF ERRCORSTARTPOS ERRCORUNITS
EtherCAT	221Fh, sub-index 0

ERRCORFAILINDEX

Definition	Error Correction Index Failed
Type	Variable (R)
Description	Indicates the index of the error correction table entry that failed due to an invalid error size. Error size must not exceed a maximum value of 1 (degree for rotary units/ millimeters for linear units).
Syntax	Read: ERRCORFAILINDEX Write ERRCORFAILINDEX< <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	1 to 1000
Default value	0
Unit	Not applicable
Non-volatile	No
See also	ERRCOREN
EtherCAT	2222h, sub-index 0

ERRCORINDEX

Definition	Error Correction Index
Type	Variable (R)
Description	Indicates the index of the error correction table entry whose value is currently added to PFB..
Syntax	Read: ERRCORINDEX Write ERRCORINDEX< <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 1000
Default value	0
Unit	Not applicable
Non-volatile	No
See also	ERRCOREN
EtherCAT	221Ch, sub-index 0

ERRCORINTERVAL

Definition	Error Correction Intervals
Type	Variable (R/W)
Description	Gets/sets the distance between the positions at which the errors are measured and added to the correction table.
Syntax	Read: ERRCORINTERVAL Write ERRCORINTERVAL < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	-100000 to 100000
Default value	10000
Unit	Not applicable
Non-volatile	Yes
See also	ERRCOREN
EtherCAT	221Bh, sub-index 0

ERRCORRESET

Definition	Error Correction Reset Parameters
Type	Command
Description	Used to reset all error correction parameters and table entries to their default values. Reset occurs when ERRCORRESET is set to 1.
Syntax	Read: ERRCORRESET Write ERRCORRESET < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 1
Default value	0
Unit	Not applicable
Non-volatile	No
See also	ERRCOREN
EtherCAT	221Eh, sub-index 0

ERRCORSETINDEX

Definition	Error Correction Set Index Value
Type	Variable (R/W)
Description	Gets/sets a correction value for a specific entry in the correction table
Syntax	Read: ERRCORSETINDEX <index> Write ERRCORSETINDEX <index> <value>
Firmware	2.0.0
Drive status	Disabled
Range	<index> = 0 to 999 <value> = $\pm(2^{31} - 1)$
Default value	0
Unit	Not applicable
Non-volatile	No
See also	ERRCOREN
EtherCAT	221Dh, sub-index 0

ERRCORST

Definition	Error Correction Status
Type	Variable (R)
Description	Indicates the state of the error correction function after a user request (ERRCOREN) has been issued.
Syntax	Read: ERRCORST Write ERRCORST< <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = Error correction inactive. 1 = Error correction configured. Ready for activation. 2 = Error correction active. 3 = Error correction configured. Homing required before activation. 4 = Calculation and verification of error correction values in progress. -3 = Error correction inactive. Conflicting MOTORTYPE and ERRCORUNITS (rotary units on linear motor). -2 = Error correction inactive. Start position offset out of range. -1 = Error correction inactive. Error correction value exceeds limit.
Default value	0
Unit	Not applicable
Non-volatile	No
See also	ENCMODE ENCTHETA
EtherCAT	2220h, sub-index 0

ERRCORSTARTOFF

Definition	Error Correction Start Index Offset
Type	Variable (R/W)
Description	Gets/sets a value that defines the offset to the first active entry at the error correction table. ERRCORSTARTOFF enables the use of two or more sets of error correction data within one error correction table. This is useful, for example, when error values may change due to environmental conditions, such as ambient temperature levels.
Syntax	Read: ERRCORSTARTOFF Write ERRCORSTARTOFF < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 511
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	ERRCOREN
EtherCAT	2218h, sub-index 0

ERRCORSTARTPOS

Definition	Error Correction Start Position
Type	Variable (R/W)
Description	Gets/sets a value that defines the position corresponding the first active entry of the error correction table.
Syntax	Read: ERRCORSTARTPOS Write ERRCORSTARTPOS< <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	-2000000 to 2000000
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	ERRCOREN
EtherCAT	221Ah, sub-index 0

ERRCORUNITS

Definition	Error Correction Units
Type	Variable (R/W)
Description	Gets/sets a value that defines the units of the error position data delivered by the error correction table. Also defines the units of ERRCORSTARTPOS.
Syntax	Read: ERRCORUNITS Write ERRCORUNITS< <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 = mm 1 = μm 2 = degrees 3 = $\mu\text{degrees}$ 4 = counts
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	ERRCOREN
EtherCAT	2223h, sub-index 0

FACTORYRESTORE

Definition	Restore Factory Settings
Type	Command
Description	Restores all configuration variables to their factory default settings. If the drive system includes an encoder with an electronic motor plate (MTP), the drive will restore all configuration variables from the MTP. FACTORYRESTORE does not clear the fault log.
Syntax	FACTORYRESTORE
Syntax - STX	FACTORYRESTORE 1234 Restore the entire parameters (User and Manufacturer parameters).
Firmware	2.0.0
Drive status	Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	Not applicable
See also	DUMP SAVE
EtherCAT	204Ch, sub-index 0

FBGDS

Definition	Fieldbus (EtherCAT/CANopen) Gear Driving Shaft Scaling
Type	Variable (R/W)
Description	The EtherCAT/CANopen gear ratio driving shaft revolution scaling factor (object 6091h sub-index 2). The transfer of position from user unit to encoder unit follows: $\frac{\text{PNUM FBGDS} \cdot \text{PDM FBGMS COUNTINREV}}{1}$
Syntax	Read: FBGDS Write: FBGDS <value>
Firmware	2.0.0
Drive status	Disabled
Range	1 to 4294967295
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	FBGMS PNUM PDM MENCRES
EtherCAT	6091h, sub-index 2

FBGMS

Definition	Fieldbus (EtherCAT/CANopen) Gear Motor Shaft Scaling
Type	Variable (R/W)
Description	The EtherCAT/CANopen gear ratio motor shaft revolution scaling factor (object 6091h sub-index 1). The transfer of position from user unit to encoder unit follows: $\frac{\text{PDEN FBGMS COUNTSINREV}}{\text{PNUM FBGDS} \quad 1}$
Syntax	Read: FBGMS Write: FBGMS <value>
Firmware	2.0.0
Drive status	Disabled
Range	1 to 4294967295
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	FBGDS PNUM PDEN MENCRES
EtherCAT	6091h, sub-index 1

FBITIDX

Definition	Fieldbus (EtherCAT/CANopen) Interpolation Time Index
Type	Variable (R/W)
Description	The interpolation time index for the EtherCAT/CANopen cycle time calculations.
Syntax	Read: FBITIDX Write: FBITIDX < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	-5 to -2
Default value	-3
Note	BDHDE support following cycle time: 250us, 500us, 1ms, 2ms, 3ms, 4ms, 5ms, 6ms, 7ms, 8ms, 9ms, 10ms, 11ms, 12ms, 13ms, 14ms, 15ms, 16ms, 17ms, 18ms, 19ms, 20ms, 21ms, 22ms, 23ms, 24ms, 25ms
Unit	Not applicable
Non-volatile	Yes
See also	FPITPRD
EtherCAT	60C2h, sub-index 2

FBITPRD

Definition	Fieldbus (EtherCAT/CANopen) Interpolation Time
Type	Variable (R/W)
Description	The interpolation time period for the EtherCAT/CANopen cycle time calculations.
Syntax	Read: FBITPRD Write: FBITPRD < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	1 to 250
Default value	1
Note	BDHDE support following cycle time: 250us, 500us, 1ms, 2ms, 3ms, 4ms, 5ms, 6ms, 7ms, 8ms, 9ms, 10ms, 11ms, 12ms, 13ms, 14ms, 15ms, 16ms, 17ms, 18ms, 19ms, 20ms, 21ms, 22ms, 23ms, 24ms, 25ms
Unit	Not applicable
Non-volatile	Yes
See also	FBITIDX
EtherCAT	60C2h, sub-index 1

FEEDBACKTYPE

Definition	Feedback Type		
Type	Variable (R/W)		
Description	Gets/Sets the motor feedback type. When the value of FEEDBACKTYPE is changed, CONFIG is required. The drive attempts to detect the feedback device that is connected the drive, in the following sequence: 1. The drive first attempts to communicate with a sensAR feedback. If successful, FEEDBACKTYPE will be set according to the device. 3. If communication with senseAR fails, the drive will then attempt to communicate with a Tamagawa single turn encoder (associated with Welling motors).		
Syntax	Read: FEEDBACKTYPE Write: FEEDBACKTYPE <value>		
Firmware	2.0.0		
Drive status	Disabled		
Range		FEEDBACKTYPE	MENCTYPE
	Incremental Encoder; A/B commutation initialization by PHASEFIND command	2	3
	Incremental Encoder; A/B commutation initialization by ENABLE or PHASEFIND command	2	4
Default value	7		
Unit	Not Applicable		
Non-volatile	Yes		
See also	MENCTYPE		
EtherCAT	204Dh, sub-index 0		

FEEDFORWARDTYPE

Definition	Feed-forward Source Type
Type	Variable (R/W)
Description	Gets/Sets the position and velocity feedforward source: bus or command.
Syntax	Read: FEEDFORWARDTYPE Write: FEEDFORWARDTYPE < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	1 = feedforward from bus 2 = feedforward from command
Default value	1
Unit	Not Applicable
Non-volatile	Yes
See also	
EtherCAT	Not applicable

FILTHZ1

Definition	Velocity Loop First Filter Parameter 1
Type	Variable (R/W)
Description	Velocity loop output filter first parameter. A multi-functional parameter for setting the output filter of the velocity controller. FILTMODE defines its functionality.
Note	This parameter is applicable only in linear control loop.
Syntax	Read: FILTHZ1 Write: FILTHZ1 <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 8000
Default value	440
Unit	Hz
Non-volatile	Yes
See also	FILTHZ2 FILTMODE
EtherCAT	204Eh,sub-index 0

FILTHZ2

Definition	Velocity Loop Output Filter Parameter 2
Type	Variable (R/W)
Description	Velocity loop output filter second parameter. A multi-function parameter for setting the output filter of the velocity controller. FILTMODE defines its functionality.
Note	This parameter is applicable only in linear control loop.
Syntax	Read: FILTHZ2 Write: FILTHZ2 <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 8000
Default value	2000
Unit	Hz
Non-volatile	Yes
See also	FILTHZ1 FILTMODE
EtherCAT	204Fh,sub-index 0

FILTIQFPGA

Definition	FPGA IQ Command Low Pass Filter
Type	Variable (R/W)
Description	Gets/Sets the frequency of Iq command in FPGA.
Syntax	Read: FILTIQFPGA Write: FILTIQFPGA < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 8000
Default value	0
Unit	Hz
Non-volatile	Yes
See also	FILTHZ1 FILTHZ2 FILTMODE
EtherCAT	Not applicable

FILTMODE

Definition	Velocity Loop Output Filter Mode
Type	Variable (R/W)
Description	Gets/Sets the value that defines the velocity loop output filter.
Note	It is recommended to begin tuning without any filter (FILTMODE=0), and add filters as necessary.
Syntax	Read: FILTMODE Write: FILTMODE < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = Transparent feed through; no filtering. 1 = First order low pass filter; sets FILTHZ1 as corner frequency.
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	FILTHZ1 FILTHZ2 VELCONTROLMODE
EtherCAT	2050h, sub-index 0

FLT

Definition	Print Faults
Type	Command
Description	Returns a list of faults latched by the drive. Faults remain latched until cleared by CLEARFAULTS, provided that the fault condition has been removed.
Syntax	FLT
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	DISMODE FLTHIST WRN
EtherCAT	603Fh, sub-index 0

FLTHIST

Definition	Fault History
Type	Command
Description	Returns the contents of the fault buffer. The drive transmits the fault history to the serial port. The most recent fault is sent first. A time stamp in the format of hours:minutes:seconds is displayed along with each fault, indicating the time at which the fault occurred. The fault buffer can contain up to 10 faults. Once the buffer is full, the oldest fault is automatically removed whenever a new fault is added.
Syntax	FLTHIST
Syntax - STX	FLTHIST 1234 Clears the entire fault history buffer.
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	FLT WRN
EtherCAT	Not applicable

FOLD

Definition	Drive Foldback Status
Type	Variable (R)
Description	Indicates whether the drive foldback limit (IFOLD) has dropped below the application's current limits (ILIM).
Syntax	FOLD
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = Foldback limit above ILIM 1 = Foldback limit below ILIM
Default value	0
Unit	Not applicable
Non-volatile	No
See also	DICONT IFOLD IFOLDFTHRESH ILIM
EtherCAT	2051h , sub-index 0

FOLDLPF

Definition	Foldback Current Sample Low Pass Filter Frequency
Type	Variable (R/W)
Description	Gets/Sets foldback current sample low pass filter frequency.
Syntax	Read: FOLDLPF Write: FOLDLPF < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 8000
Default value	50
Unit	Hz
Non-volatile	Yes
See also	
EtherCAT	Not applicable

FRICINEG

Definition	Friction Compensation Negative Current
Type	Variable (R/W)
Description	Gets/Sets the level of current to add to the current command when commanded velocity is negative. Subject to hysteresis of the friction compensation mechanism.
Syntax	Read: FRICINEG Write: FRICINEG <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-100 to 100
Default value	0
Unit	A
Non-volatile	Yes
See also	FRICIPOS FRICNVHYST FRICPVHYST
EtherCAT	Not applicable

FRICIPOS

Definition	Friction Compensation Positive Current
Type	Variable (R/W)
Description	Gets/Sets the level of current to add to the current command when commanded velocity is positive. Subject to hysteresis of the friction compensation mechanism.
Syntax	Read: FRICIPOS Write: FRICIPOS < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-100 to 100
Default value	0
Unit	A
Non-volatile	Yes
See also	FRICINEG FRICNVHYST FRICPVHYST
EtherCAT	Not applicable

FRICNVHYST

Definition	Friction Compensation Negative Velocity Hysteresis
Type	Variable (R/W)
Description	Gets/Sets the velocity hysteresis in the negative direction for the friction compensation mechanism.
Syntax	Read: FRICNVHYST Write: FRICNVHYST < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-1000 to 1000
Default value	0
Unit	mm/s
Non-volatile	Yes
See also	FRICINEG FRICIPOS FRICPVHYST
EtherCAT	Not applicable

FRICPVHYST

Definition	Friction Compensation Positive Velocity Hysteresis
Type	Variable (R/W)
Description	Gets/Sets the velocity hysteresis in the positive direction for the friction compensation mechanism.
Syntax	Read: FRICPVHYST Write: FRICPVHYST < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-1000 to 1000
Default value	0
Unit	mm/s
Non-volatile	Yes
See also	FRICINEG FRICIPOS FRICNVHYST
EtherCAT	Not applicable

GEAR

Definition	Enable pulse input(AP Model)
Type	Variable (R/W)
Description	Enable/Disable the pulse input.
Syntax	Read: GEAR Write: GEAR< <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = disable 1 = enable
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	Not applicable

GEARIN

Definition	Gearing ratio numerator (AP Model)
Type	Variable (R/W)
Description	Gets/sets the numerator of the gearing equation. The gearing relationship is as follows: $\frac{GEARIN}{GEAROUT} \times \frac{1}{XENCRES}$ Gearing sets up a relationship between the number of input pulses (HWPEXT counts) and the position increments of the motor shaft (or actual motor position, PFB). The rate at which position increments of the motor shaft (motor speed) occur is determined by the gearing relationship and the line frequency of the pulse train. The direction of rotation is determined by the sign of the variable GEARIN
Syntax	Read: GEARIN Write: GEARIN< <i>value</i>>
Firmware	2.0.0
Drive status	Disabled
Range	-2^{31} to $2^{31}-1$
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	GEAROUT GEARMODE XENCRES
EtherCAT	Not applicable

GEARMODE

Definition	Gearing/Pulse Train Operation Mode (AP Model)
Type	Variable (R/W)
Description	Gets/sets the gearing source and method.
Syntax	Read: GEARMODE Write: GEARMODE< <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 = A + B 1 = pulse + direction 2 = CW + CCW
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	GEARIN GEAROUT XENCRES
EtherCAT	Not applicable

GEAROUT

Definition	Gearing ratio denominator (AP Model)
Type	Variable (R/W)
Description	Gets/sets the denominator of the gearing equation. The gearing relationship is as follows: $\frac{GEARIN}{GEAROUT} \times \frac{1}{XENCRES}$ Gearing sets up a relationship between the number of input pulses (HWPEXT counts) and the position increments of the motor shaft (or actual motor position, PFB). The rate at which position increments of the motor shaft (motor speed) occur is determined by the gearing relationship and the line frequency of the pulse train.
Syntax	Read: GEAROUT Write: GEAROUT< <i>value</i>>
Firmware	2.0.0
Drive status	Disabled
Range	-2^{31} to $2^{31}-1$
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	GEARIN GEARMODE XENCRES
EtherCAT	Not applicable

GEARTOTALMAX

Definition	Electrical Gear Ratio Product Max
Type	Variable (R)
Description	Get the maximum value of electrical gear ratio.
Syntax	GEARTOTALMAX
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0.001 to 10000
Default value	8000.000
Unit	Not applicable
Non-volatile	Yes
See also	GEARTOTALMIN
EtherCAT	2303h, sub-index 0

GEARTOTALMIN

Definition	Electrical Gear Ratio Product Min
Type	Variable (R)
Description	Get the minimum value of electrical gear ratio.
Syntax	GEARTOTALMIN
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0.001 to 10000
Default value	0.001
Unit	Not applicable
Non-volatile	Yes
See also	GEARTOTALMAX
EtherCAT	2304h, sub-index 0

GET

Definition	Get Recorded Data
Type	Command
Description	Gets the recorded data that was captured using the recording mechanism. The data is retrieved in ASCII or binary format according to the value of GETMODE.
Syntax	GET
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	Not applicable
See also	GETMODE RECORD
EtherCAT	Not applicable
Definition	HDM Acceleration
Type	Variable (R/W)
Description	Acceleration of HDM algorithm
Syntax	Read: HDMACMD Write: HDMACMD < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-2000000.000 to 2000000.000
Default value	1000
Unit	rps/s
Non-volatile	No
See also	
EtherCAT	Not applicable

GSDELAY

Definition	Time delay time of gain switch.
Type	Variable (R/W)
Description	Sets/Gets the time delay of gain switch for position loop. GSDELAY affects the parameter switch from 2 nd gain to 1 st gain.
Syntax	Read: GSDELAY Write: GSDELAY< <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 10000
Default value	2
Unit	ms
Non-volatile	Yes
See also	GSDUMP GSEN GSMODE GSLPFEN GSTIME GSLEVEL GSHYST GSKPP GSKVP GSKVI GSICMDLPF GSVELFILTRQ
EtherCAT	Not applicable

GSDUMP

Definition	Dump the 1 st gain to 2 nd gain
Type	Command
Description	Dump the 1 st gain to 2 nd gain. Including KPP/KVP/KVI/ICMDLPF/VELFILTRQ. ICMDLPF and VELFILTRQ are optional, set by GSLPFEN.
Syntax	GSDUMP
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	GSDELAY GSEN GSMODE GSLPFEN GSTIME GSLEVEL GSHYST GSKPP GSKVP GSKVI GSICMDLPF GSVELFILTRQ
EtherCAT	Not applicable

GSEN

Definition	Enable the gain switch function
Type	Variable (R/W)
Description	Enable/Disable the gain switch function.
Syntax	Read: GSEN Write: GSEN <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 = disable 1 = Enable
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	GSDUMP GSDELAY GSMODE GSLPFEN GSTIME GSLEVEL GSHYST GSKPP GSKVP GSKVI GSICMDLPF GSVELFILTRQ
EtherCAT	Not applicable

GSMODE

Definition	Gain switch mode
Type	Variable (R/W)
Description	Sets/Gets the mode of gain switch.
Syntax	Read: GSMODE Write: GSMODE <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 = set to 1 st gain. 1 = set to 2 nd gain. 2 = set gain according to DI. 3 = set gain according to torque command. 4 = set gain according to the slop of velocity command. 5 = set gain according to velocity command. 6 = set gain according to position error. 7 = set gain according to position command. 8 = set gain according to in position state. 9 = set gain according to actual velocity. 10 = set gain according to position command and actual velocity.
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	GSDUMP GSEN GSDELAY GSLPFEN GSTIME GSLEVEL GSHYST GSKPP GSKVP GSKVI GSICMDLPF GSVELFILTRQ
EtherCAT	Not applicable

GSLPFEN

Definition	Low pass filter switch enable.
Type	Variable (R/W)
Description	Indicate if switch ICMDLPF and VELFILTRQ.
Syntax	Read: GSLPFEN Write: GSLPFEN <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = enable 1 = disable
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	GSDUMP GSEN GSMODE GSDELAY GSTIME GSLEVEL GSHYST GSKPP GSKVP GSKVI GSICMDLPF GSVELFILTRQ
EtherCAT	Not applicable

GSTIME

Definition	Time of position proportional gain switch
Type	Variable (R/W)
Description	Sets/Gets the time of position proportional gain. It only applicable when drive switch from low position proportional gain to high gain.
Syntax	Read: GSTIME Write: GSTIME < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 1000
Default value	100
Unit	ms
Non-volatile	Yes
See also	GSDUMP GSEN GSMODE GSLPFEN GSDELAY GSLEVEL GSHYST GSKPP GSKVP GSKVI GSICMDLPF GSVELFILTRQ
EtherCAT	Not applicable

GSLEVEL

Definition	Gain switch level
Type	Variable (R/W)
Description	Sets/Gets the gain switch level
Syntax	Read: GSLEVEL Write: GSLEVEL <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	GSDUMP GSEN GSMODE GSLPFEN GSTIME GSDELAY GSHYST GSKPP GSKVP GSKVI GSICMDLPF GSVELFILTRQ
EtherCAT	Not applicable

GSHYST

Definition	Gain switch hysteresis
Type	Variable (R/W)
Description	Sets/Gets the gain switch hysteresis.
Syntax	Read: GSHYST Write: GSHYST <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	GSDUMP GSEN GSMODE GSLPFEN GSTIME GSLEVEL GSDELAY GSKPP GSKVP GSKVI GSICMDLPF GSVELFILTRQ
EtherCAT	Not applicable

GSKPP

Definition	2 nd position proportional gain
Type	Variable (R/W)
Description	Sets/Gets the position proportional gain.
Syntax	Read: GSKPP Write: GSKPP < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 3000
Default value	48
Unit	Not applicable
Non-volatile	Yes
See also	GSDUMP GSEN GSMODE GSLPFEN GSTIME GSLEVEL GSHYST GSDELAY GSKVP GSKVI GSICMDLPF GSVELFILTRQ
EtherCAT	Not applicable

GSKVP

Definition	2 nd velocity proportional gain
Type	Variable (R/W)
Description	Sets/Gets the 2 nd velocity proportional gain.
Syntax	Read: GSKVP Write: GSKVP <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 1000000
Default value	0.008
Unit	Not applicable
Non-volatile	Yes
See also	GSDUMP GSEN GSMODE GSLPFEN GSTIME GSLEVEL GSHYST GSKPP GSDELAY GSKVI GSICMDLPF GSVELFILTRQ
EtherCAT	Not applicable

GSKVI

Definition	2 nd velocity integral gain
Type	Variable (R/W)
Description	Sets/Gets the 2 nd velocity integral gain
Syntax	Read: GSKVI Write: GSKVI <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 200000
Default value	0.005
Unit	Not applicable
Non-volatile	Yes
See also	GSDUMP GSEN GSMODE GSLPFEN GSTIME GSLEVEL GSHYST GSKPP GSKVP GSDELAY GSICMDLPF GSVELFILTRQ
EtherCAT	Not applicable

GSICMDLPF

Definition	2 nd torque command low pass filter
Type	Variable (R/W)
Description	Sets/Gets the 2 nd torque command low pass filter
Syntax	Read: GSICMDLPF Write: GSICMDLPF <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 4000
Default value	200
Unit	Hz
Non-volatile	Yes
See also	GSDUMP GSEN GSMODE GSLPFEN GSTIME GSLEVEL GSHYST GSKPP GSKVP GSKVI GSDELAY GSVELFILTRQ
EtherCAT	Not applicable

GSVELFILTRQ

Definition	2 nd velocity feedback low pass filter
Type	Variable (R/W)
Description	Sets/Gets the 2 nd velocity feedback low pass filter
Syntax	Read: GSVELFILTRQ Write: GSVELFILTRQ <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 3500
Default value	440
Unit	Hz
Non-volatile	Yes
See also	GSDUMP GSEN GSMODE GSLPFEN GSTIME GSLEVEL GSHYST GSKPP GSKVP GSKVI GSICMDLPF GSDELAY
EtherCAT	Not applicable

HOMEACC

Definition	Homing Acceleration
Type	Variable (R/W)
Description	Acceleration (and deceleration) for the homing process. HOMEACC is defined according to the units currently in effect. It is used in acceleration and deceleration of all trajectories (moves) during homing. If and when a limit switch is engaged, emergency stop goes into effect according to DECSTOP and/or DECSTOPTIME, and overrides HOMEACC.
Syntax	Read: HOMEACC Write: HOMEACC <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 to 1000000
Default value	4000
Unit	mm/s ²
Non-volatile	Yes
See also	HOMETYPE HOMECMD HOMESPEED1 HOMESPEED2
EtherCAT	609Ah, sub-index 0

HOMECMD

Definition	Homing Command
Type	Command
Description	HOMECMD starts the homing process. Before HOMECMD can be issued, the drive must be in Position Control or Position Gear operation mode (OPMODE 8 or OPMODE 4, respectively), and enabled; this means that no faults are in effect. If homing is in progress and needs to be aborted, use the command HOMECMD 0. This will stop all motion. It will also reset the homing state machine, resulting in HOMESTATE 0. Do not use the STOP command to terminate the homing procedure.
Syntax	HOMECMD Starts the homing process. HOMECMD 0 Aborts homing and stops all motion.
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not Applicable
Default value	Not Applicable
Unit	Not Applicable
Non-volatile	Not Applicable
See also	HOMETYPE
EtherCAT	2103h, sub-index 0

HOMECDST

Definition	Homing Process Status
Type	Variable (R)
Description	Gets and displays the status of the homing process. Possible responses: Homing Not Issued Homing has not been initiated since the last power cycle (corresponds to HOMESTATE 0). Homing Succeeded Homing completed successfully (corresponds to HOMESTATE 19). Homing Process Active Currently at State: nn, using State-Machine xx Homing is in progress; 'nn' is the state of the homing state-machine (corresponds to HOMESTATE response), 'xx' is the state-machine in use (for factory troubleshooting only). State-Machine used: 'xx' Failure at Homing State: 'nn' Failure Cause: [Neg. Limit-Switch Pos. Limit-Switch Home-Switch not Engaged Drive Disabled Incorrect Stopping Indication Home-Switch not Disengaged] Homing has failed (corresponds to HOMESTATE 20), with a list of possible causes for the failure.
Syntax	HOMECDST
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	HOMESTATE LIMSWITCHNEG LIMSWITCHPOS
EtherCAT	Not applicable

HOMEOFFSET

Definition	Home Offset
Type	Variable (R/W)
Description	Gets/Sets the value that defines an offset from the homing trigger position. The trigger may be an index mark, a transition of a limit switch or the home switch, or another source (as defined by HOMETYPE). HOMEOFFSET is used when the position at which the homing trigger is detected is not considered the home position (PFB 0). Once the trigger source is detected, the drive sets the feedback position (PFB) at the trigger detection location to the value of HOMEOFFSET.
Syntax	Read: HOMEOFFSET Write: HOMEOFFSET <value>
Firmware	2.0.0
Drive status	Disabled
Range	-2147483648 to 2147483648
Default value	0
Unit	count
Non-volatile	Yes
See also	HOMETYPE
EtherCAT	607Ch, sub-index 0

HOMEOFFSETMOVE

Definition	Home Offset Move
Type	Variable (R/W)
Description	Defines whether or not the axis is moved according to HOMEOFFSET during the homing process. The HOMEOFFSET movement is used to ensure that the value of PFB is 0 at the end of the homing process. HOMEOSTMOVE is ignored if HOMETYPE=35.
Syntax	Read: HOMEOFFSETMOVE Write: HOMEOFFSETMOVE <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 = Once the homing trigger is detected, the axis will move to the location of the trigger; at the end of the homing process the value of PFB will be HOMEOFFSET. 1 = Once the homing trigger is detected, the axis will move according to the value of HOMEOFFSET; at the end of the homing process the value of PFB will be 0.
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	HOMEOFFSET
EtherCAT	Not applicable

HOMESPEED1

Definition	Homing Speed 1 - Switch Search
Type	Variable (R/W)
Description	The initial velocity used in the homing process during the search for limit switches, home switches, and hard stops. HOMESPEED1 is defined according to the units currently in effect.
Syntax	Read: HOMESPEED1 Write: HOMESPEED1 <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 to 6000
Default value	100.000
Unit	mm/s
Non-volatile	Yes
See also	HOMETYPE
EtherCAT	6099h, sub-index 1

HOMESPEED2

Definition	Homing Speed 2 - Index Search
Type	Variable (R/W)
Description	The velocity used in the homing process during the search for the homing trigger, which may be an index mark, a limit switch transition, a home switch transition, or another source (as defined by HOMETYPE). HOMESPEED2 is defined according to the units currently in effect. The value of HOMESPEED2 should be set much lower than HOMESPEED1 to increase the accuracy of the trigger capture.
Syntax	Read: HOMESPEED2 Write: HOMESPEED2 <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 to 6000
Default value	20.000
Unit	mm/s
Non-volatile	Yes
See also	HOMETYPE
EtherCAT	6099h, sub-index 2

HOMESTATE

Definition	Homing Status
Type	Variable (R)
Description	Indicates the state of the homing process. HOMESTATE 0 indicates homing is idle. Use HOMECMD 0 (abort homing) to reset. Any HOMESTATE value other than 0, 19 or 20 indicates homing is in progress or stuck; reset if necessary.
Syntax	HOMESTATE
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = Homing idle 19 = Homing completed 20 = Homing failed any other value = Homing in progress, or stalled
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	HOMETYPE
EtherCAT	2090h, sub-index 0

HOMETYPE

Definition	Homing Type
Type	Variable (R/W)
Description	Gets/Sets a value that defines the type of homing process that will be performed. HOMETYPE defines when direction of motion is reversed during homing, the homing trigger (e.g., switch, index), and other conditions. Homing types 1 through 14, 17 through 30 and 33 through 35 are according to CiA 402. To achieve greater accuracy of the homing procedure (i.e., minimum PFB counts from MECHANGLE 0), reduce the value of HOMESPEED2.
Syntax	Read: HOMETYPE Write: HOMETYPE <value>
Firmware	2.0.0
Drive status	Disabled
Range	1 = Homing on first index mark after disengaging from negative limit. 2 = Homing on first index mark after disengaging from positive limit. 3 = Homing on first index mark after disengaging from home switch (home switch at positive travel). 4 = Homing on first index mark after engaging home switch (home switch at positive travel). 5 = Homing on first index mark after disengaging from home switch (home switch at negative travel). 6 = Homing on first index mark after engaging home switch (home switch at negative travel). 7 = Homing on first index mark after disengaging from negative side of home switch (home switch at middle of travel); initial move positive. 8 = Homing on first index mark after engaging negative side of home switch (home switch at middle of travel); initial move positive. 9 = Homing on first index mark after engaging positive side of home switch (home switch at middle of travel); initial move positive. 10 = Homing on first index mark after disengaging from positive side of home switch (home switch at middle of travel); initial move positive. 11 = Homing on first index mark after disengaging from

	positive side of home switch (home switch at middle of travel); initial move negative.
12 =	Homing on first index mark after engaging positive side of home switch (home switch at middle of travel); initial move negative.
13 =	Homing on first index mark after engaging negative side of home switch (home switch at middle of travel); initial move negative.
14 =	Homing on first index mark after disengaging from negative side of home switch (home switch at middle of travel); initial move negative.
15 =	Reserved
16 =	Reserved
17 =	Homing on falling edge of negative limit.
18 =	Homing on falling edge of positive limit.
19 =	Homing on falling edge of home switch (home switch at positive travel).
20 =	Homing on rising edge of home switch (home switch at positive travel).
21 =	Homing on falling edge of home switch (home switch at negative travel).
22 =	Homing on rising edge of home switch (home switch at negative travel).
23 =	Homing on negative side falling edge of home switch (home switch at middle of travel); initial move positive.
24 =	Homing on negative side rising edge of home switch (home switch at middle of travel); initial move positive.
25 =	Homing on positive side rising edge of home switch (home switch at middle of travel); initial move positive.
26 =	Homing on positive side falling edge of home switch (home switch at middle of travel); initial move positive.
27 =	Homing on positive side falling edge of home switch (home switch at middle of travel); initial move negative.
28 =	Homing on positive side rising edge of home switch (home switch at middle of travel); initial move negative.
29 =	Homing on negative side rising edge of home switch; initial move negative.
30 =	Homing on negative side falling edge of home switch (home switch at middle of travel); initial move negative.
31 =	Reserved
32 =	Reserved
33 =	Homing on index mark, moving negative.
34 =	Homing on index mark, moving positive.
35 =	Declare present position as home. (PFB reading after

	homing will always be HOMEOFFSET regardless of HOME OFSTMOVE setting).
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	HOMEACC HOME CMD HOME OFFSET HOME SPEED1 HOME SPEED2 HOME STATE
EtherCAT	6098h, sub-index 0

HOMINGERRCODE

Definition	Homing Error Code
Type	Variable (R)
Description	Get the error code of homing failure.
Syntax	HOMESTATE
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = No error. 1 = Homing is abort. 2 = Drive inactive. 3 = Homing timeout. 4 = Homing speed is set to 0. 5 = DI not config. 6 = Positive switch, negative switch and home switch triggered. 7 = Positive switch and negative switch triggered. 8 = Positive switch and home switch triggered. 9 = Negative switch and home switch triggered. 10 = Limit switch triggered. 11 = reserved. 12 = Positive switch penetration. 13 = Negative switch penetration. 14 = Home switch penetration.
Default value	0
Unit	Not applicable
Non-volatile	Not applicable
See also	HOMETYPE HOMESTATE
EtherCAT	Not applicable

HOMINGRUNTIMEMAX

Definition	Homing Process Max time
Type	Variable (R/W)
Description	Once Homing process start, the procedure should not over the Max time. Set HOMINGRUNTIMEMAX to 0 can ignore the homing timeout error.
Syntax	Read: HOMINGRUNTIMEMAX Write: HOMINGRUNTIMEMAX <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 3000000
Default value	0
Unit	ms
Non-volatile	No
See also	
EtherCAT	Not applicable

HWFEATURES

Definition	Drive Hardware Properties
Type	Variable (R)
Description	Used by the graphic user interface. Not intended for users.
Syntax	HWFEATURES
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	3,2 16(AP Model)
Unit	Not applicable
Non-volatile	No
See also	
EtherCAT	Not applicable

HWPEXT

Definition	Hardware Position External(AP Model)
Type	Variable (R)
Description	Indicates the position as measured by an external feedback device. HWPEXT displays a valid value only when the secondary encoder input is in use while Gearing operation mode (GEARMODE) is enabled.
Syntax	HWPEXT
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	0
Unit	count
Non-volatile	No
See also	
EtherCAT	Not applicable

I

Definition	Motor Current
Type	Variable (R)
Description	Indicates the motor current (sinusoidal peak).
Syntax	I
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-100 to 100
Default value	0.000
Unit	A
Non-volatile	No
See also	ICMD ID IFOLD ILIM IMAX IU
EtherCAT	6078h, sub-index 0

IABSAMPLEEN

Definition	Ialpha and Ibeta Feedback Sample Enable
Type	Variable (R/W)
Description	Indicate whether can record alfa and beta phase current
Syntax	Read: IABSAMPLEEN Write: IABSAMPLEEN <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = disable 1 = enable
Default value	0
Unit	Not applicable
Non-volatile	No
See also	
EtherCAT	Not applicable

IALPHA

Definition	Motor Current Ialpha
Type	Variable (R)
Description	Indicates the motor current Ialpha(alpha-beta axis).
Syntax	IALPHA
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-100 to 100
Default value	0.000
Unit	A
Non-volatile	No
See also	ICMD ID IFOLD ILIM IMAX IU
EtherCAT	Not applicable

IBETA

Definition	Motor Current Ibeta
Type	Variable (R)
Description	Indicates the motor current Ibeta(alpha-beta axis).
Syntax	IBETA
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-100 to 100
Default value	0.000
Unit	A
Non-volatile	No
See also	ICMD ID IFOLD ILIM IMAX IU
EtherCAT	Not applicable

ICMD

Definition	Current Command
Type	Variable (R)
Description	Indicates the current command, which is generated either directly (EtherCAT/CANopen, serial or analog reference command), or as output of the position or velocity controller.
Syntax	ICMD
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-100 to 100
Default value	0
Unit	A
Non-volatile	No
See also	I ID IFOLD ILIM IMAX IU
EtherCAT	6074h, sub-index 0

ICMDLPF

Definition	Iq Command Low Pass Filter Frequency
Type	Variable (R/W)
Description	Gets/Sets the Low pass Filter Frequency
Syntax	Read: ICMDLPF Write: ICMDLPF <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 8000
Default value	200
Unit	Hz
Non-volatile	Yes
See also	ICMD I FILTMODE
EtherCAT	2305h, sub-index 0

ICOEFF

Definition	Current Sample Calibration Coefficient
Type	Variable (R/W)
Description	Calibrate current sample accuracy. Set according power board EEPROM when drive power up.
Syntax	Read: ICOEFF Write: ICOEFF < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 2
Default value	1.000
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	Not applicable

ID

Definition	Current D Axis
Type	Variable (R)
Description	In vector control, indicates the actual value of D axis current.
Syntax	ID
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-100 to 100
Default value	0
Unit	A
Non-volatile	No
See also	I ILIM IMAX IQ IU
EtherCAT	2066h, sub-index 0

IDCMD

Definition	D Axis Current Command
Type	Variable (R)
Description	Indicates the Current Command of D axis.
Syntax	IDCMD
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-100 to 100
Default value	0.000
Unit	A
Non-volatile	No
See also	ICMD
EtherCAT	Not applicable

IFOLD

Definition	Drive Foldback Current Limit
Type	Variable (R)
Description	Indicates the current limit derived from the foldback mechanism. A foldback condition occurs when IFOLD drops below ILIM. This variable is useful for checking how close the current is to the foldback limit.
Syntax	IFOLD
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 300
Default value	0
Unit	A
Non-volatile	No
See also	DICONT FOLD IFOLDFTHRESH ILIM
EtherCAT	2069h, sub-index 0

IFOLDD(厂家命令)

Definition	Drive Foldback Delay Time
Type	Variable (R/W)
Description	Gets/Sets the delay time of drive Foldback. Set according to power board EEPROM when drive power up.
Syntax	Read: IFOLDD Write: IFOLDD < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 300
Default value	2.000
Unit	s
Non-volatile	Yes
See also	IFOLDT
EtherCAT	Not applicable

IFOLDDSTALLSLOP(厂家命令)

Definition	Drive FOLDD Slope at Stall Condition
Type	Variable (R/W)
Description	Gets/Sets the drive FOLDD slope at stall condition. Calculated according to IFOLDDSTALLTEMPFAULT, IFOLDSTALLTEMP, IFOLDSTALLTEMPFAULT and IFOLDDSTALLTEMP which set according to power board EEPROM when drive power up.
Syntax	Read: IFODDSTALLSLOP Write: IFODDSTALLSLOP <value>
Firmware	2.0.0
Drive status	Disabled
Range	-1 to -0.001
Default value	-0.050
Unit	s/degree
Non-volatile	Yes
See also	
EtherCAT	Not applicable

IFOLDDSTALLTEMP(厂家命令)

Definition	Drive FOLDD Stall Temperature Threshold
Type	Variable (R/W)
Description	Gets/Sets the drive FOLDD stall temperature threshold. Set according to power board EEPROM when drive power up.
Syntax	Read: IFOLDDSTALLTEMP Write: IFOLDDSTALLTEMP < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 120
Default value	0.600
Unit	s
Non-volatile	Yes
See also	IFOLDDSTALLTEMPFAULT
EtherCAT	Not applicable

IFOLDDSTALLTEMPFAULT(厂家命令)

Definition	Drive FOLDD Stall Fault Temperature Threshold
Type	Variable (R/W)
Description	Gets/Sets the drive FOLDD stall fault temperature threshold. Set according to power board EEPROM when drive power up.
Syntax	Read: IFOLDDSTALLTEMPFAULT Write: IFOLDDSTALLTEMPFAULT < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 120
Default value	0.100
Unit	s
Non-volatile	Yes
See also	IFOLDDSTALLTEMP
EtherCAT	Not applicable

IFOLDFTHRESH

Definition	Drive Foldback Fault Threshold
Type	Variable (R/W)
Description	Gets/Sets the current threshold level for declaring a fault due to foldback. The drive foldback threshold fault is declared when IFOLD drops below IFOLDFTHRESH.
Syntax	Read: IFOLDFTHRESH Write: IFOLDFTHRESH < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 300
Default value	Hardware defined
Unit	A
Non-volatile	Yes
See also	DICONT FOLD IFOLD ILIM
EtherCAT	206Ah, sub-index 0

IFOLDSTALLITHRESH(厂家命令)

Definition	Drive Stall Current Threshold
Type	Variable (R/W)
Description	Gets/Sets the drive stall current threshold. Indicates drive if is in stall condition, set according to power board EEPROM when drive power up.
Syntax	Read: IFOLDSTALLITHRESH Write: IFOLDSTALLITHRESH < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 30
Default value	4.454
Unit	A
Non-volatile	Yes
See also	
EtherCAT	Not applicable

IFOLDSTALLTEMP(厂家命令)

Definition	Drive Stall Temperature Threshold
Type	Variable (R/W)
Description	Gets/Sets the drive stall temperature threshold. Indicates the Temperature Threshold that drive in stall condition. Set according to power board EEPROM when drive power up.
Syntax	Read: IFOLDSTALLTEMP Write: IFOLDSTALLTEMP <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 to 200
Default value	63.000
Unit	degree(°C)
Non-volatile	Yes
See also	
EtherCAT	Not applicable

IFOLDSTALLTEMPFAULT(厂家命令)

Definition	Drive Stall Fault Temperature Threshold
Type	Variable (R/W)
Description	Gets/Sets the drive stall fault temperature threshold. Indicates the max temperature that drive in stall condition. Set according to power board EEPROM when drive power up.
Syntax	Read: IFOLDSTALLTEMPFAULT Write: IFOLDSTALLTEMPFAULT < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 200
Default value	73.000
Unit	Degree(°C)
Non-volatile	Yes
See also	
EtherCAT	Not applicable

IFOLDT(厂家命令)

Definition	Drive Foldback Time Constant
Type	Variable (R/W)
Description	Gets/Sets the drive foldback time constant. Set according to power board EEPROM when drive power up.
Syntax	Read: IFOLDSTALLTEMPFAULT Write: IFOLDSTALLTEMPFAULT < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 300
Default value	2.500
Unit	s
Non-volatile	Yes
See also	
EtherCAT	Not applicable

IGNOREBATTFLT

Definition	Ignore Absolute Encoder Battery Fault
Type	Variable (R/W)
Description	Defines whether the drive will respond to an encoder battery voltage warning or fault. Allows a multi-turn absolute encoder to be used without a backup battery, as a single-turn absolute encoder.
Syntax	Read: IGNOREBATTFLT Write: IGNOREBATTFLT <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 = Drive detects and responds to encoder battery fault. 1 = Drive ignores encoder battery fault (absolute multi-turn position will not be retained after a power cycle).
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	MTTURNRESET
EtherCAT	Not applicable

IGRAV

Definition	Gravity Compensation Constant
Type	Variable (R/W)
Description	Gets/Sets the value of the gravity compensation constant. IGRAV is added to the current loop command to compensate for gravity or similar constant interference.
Syntax	Read: IGRAV Write: IGRAV < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-100 to 100
Default value	0
Unit	A
Non-volatile	Yes
See also	I FRICINEG FRICIPOS ILIM DIPEAK
EtherCAT	Not applicable

IGRAVAUTO

Definition	Automatic gravity compensation command
Type	Variable (R/W)
Description	Indicates drive if compensate gravity automatically.
Syntax	Read: IGRAVAUTO Write: IGRAVAUTO < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 = disable 1 = enable
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	IGRAV IGRAVCOEF
EtherCAT	Not applicable

IGRAVCOEF

Definition	Gravity compensation coefficient
Type	Variable (R/W)
Description	Gets/Sets the gravity compensation coefficient.
Syntax	Read: IGRAVCOEF Write: IGRAVCOEF< <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 10
Default value	1
Unit	A/Rad
Non-volatile	Yes
See also	IGRAV IGRAVAUTO
EtherCAT	Not applicable

ILIM

Definition	User Current Limit
Type	Variable (R/W)
Description	Gets/sets the application current limit, allowing the user to limit the drive's peak current. This variable limits the current command that will be accepted from the user (using the T command in OPMODE 2) or issued by the control loops (in OPMODE 0, 1, 3, and 4). ILIM is an independent variable that is not calculated from hardware parameters and is not dependent on any other variables. ILIM is similar to VLIM (which is used in OPMODE 0 and 1) and can be used to protect delicate load equipment.
Syntax	Read: ILIM Write: ILIM <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 to 100
Default value	Hardware defined
Unit	A
Non-volatile	Yes
See also	I IMAX
EtherCAT	6073h, sub-index 0

IMAX

Definition	Maximum Current for Drive and Motor
Type	Variable (R)
Description	Displays the maximum current limit for a drive and motor combination.
Syntax	IMAX
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 100
Default value	Hardware defined
Unit	A
Non-volatile	No
See also	DIPEAK I ILIM MIPEAK
EtherCAT	20F0h, sub-index 0

IN

Definition	Input Status
Type	Command
Description	Gets the state of a digital input.
Syntax	IN <input#>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	EB Model : <i>input#</i> = 1 to 5 AP Model : <i>input#</i> = 1 to 8 0 = Input off 1 = Input on
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	INPUTS ININV INMODE
EtherCAT	60FDh, sub-index 0

INDEXDURATE

Definition	Index Pulse Duration
Type	Variable (R/W)
Description	Gets/Sets the duration of the emulated index pulse in the encoder emulation feature. This function allows users to observe index pulses of very short durations. To be used effectively, the duration of the emulated index pulse must be shorter than the time length of one revolution; otherwise a constant signal will be generated.
Syntax	Read: INDEXDURATE Write: INDEXDURATE <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 100
Default value	0
Unit	ms
Non-volatile	Yes
See also	ENCOUTMODE ENCOUTRES ENCOUTZPOS INDEXST
EtherCAT	Not applicable

INDEXLINECHK

Definition	Index Line Break Check
Type	Variable (R/W)
Description	Indicate whether check the index line break.
Syntax	Read: INDEXLINECHK Write: INDEXLINECHK< <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = Disable 1 = Enable
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	Not applicable

INDEXST

Definition	Encoder Index Signal Status
Type	Variable (R)
Description	Indicates the state of the encoder index signal..
Syntax	Read: INDEXST
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = Encoder index signal inactive; position not within index. 1 = Encoder index signal active; position within index
Default value	0
Unit	Not applicable
Non-volatile	No
See also	ENCOUTMODE ENCOUTRES ENCOUTZPOS INDEXDURATE
EtherCAT	Not applicable

INFLTTIME

Definition	Digital input filter time
Type	Command
Description	Set the filter time of a digital input signal .
Syntax	Read: INFLTTIME< <i>input#</i> > Write: INFLTTIME < <i>input#</i> > < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	<i>input#</i> = 1 to 5 <i>value</i> = 0 to 3
Default value	0
Unit	ms
Non-volatile	Yes
See also	IN ININV INPUTS
EtherCAT	2306h, sub-index 0

INFLTTIME2

Definition	Digital Input Filter Time (for FPGA)
Type	Variable (R/W)
Description	Gets/Sets the digital input filter time (for FPGA)
Syntax	Read: INFLTTIME2 Write: INFLTTIME2 < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	40 ~ 200
Default value	80
Unit	10ns
Non-volatile	Yes
See also	
EtherCAT	Not applicable

INFO

Definition	Drive Info
Type	Command
Description	Returns information about the drive.
Syntax	INFO
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	Not applicable
See also	DRIVENAME VER
EtherCAT	Not applicable

ININV

Definition	Input Polarity Inversion
Type	Command
Description	Gets/Sets the input polarity of the digital inputs. ININV i# 0: no inversion is in effect, and the input is considered inactive when it is pulled low through a connection to digital ground. ININV i# 1: inversion is in effect, and the switch is considered inactive when it is open-circuit or pulled high. Warning: Make sure ININV=0 for the input that triggers Hold and Resume Motion (INMODE i# 30). Thus, if the input value is 0 and a wire break occurs, no unintentional movement will result. Reversing the input logic on this input is not recommended, and is fully the responsibility of the user.
Syntax	Read: ININV <input#> Write: ININV <input#> <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	EB Model : <i>input#</i> = 1 to 5 AP Model : <i>input#</i> = 1 to 8 <i>value:</i> 0 = Input not inverted 1 = Input inverted
Default value	Not applicable
Unit	Not applicable
Non-volatile	Yes
See also	IN INMODE INPUTS
EtherCAT	2070h, sub-index 1

INMODE

Definition	Input Mode
Type	Command
Description	Gets/Sets a value that defines a functionality for each of the available digital inputs.
Syntax	Read: INMODE < <i>input#</i> > Write: INMODE < <i>input#</i> > < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range(EB Model)	EB Model : <i>input#</i> = 1 to 5 <i>value</i> : 0 = Idle 1 = Remote Enable 2 = Clear faults 4 = Emergency Stop 5 = Positive Limit Switch 6 = Negative Limit Switch 8 = Home Switch 19 = Zero Clamp 20 = Positive Torque Limit Switch(reserved) 21 = Negative Torque Limit Switch(reserved) 24 = Gain Switch(reserved) 26 = Homing Command 27= Touch probe 1 28 = Touch probe 2 32 = Operation mode change while drive enabled(reserved) 38 = Jog motor to positive direction at speed JOGSPD1 39 = Jog motor to negative direction at speed -JOGSPD1 46 = Torque Limit Enable Signal
Range(AP Model)	AP Model : <i>input#</i> = 1 to 8 <i>value</i> : 0 = Idle 1 = Remote Enable 2 = Clear faults 4 = Emergency Stop 5 = Positive Limit Switch 6 = Negative Limit Switch 8 = Home Switch 15 = Int Spd 1(AP Only) 16 = Int Spd 2(AP Only) 17 = Pulse Signal

	18 = Direction Signal 19 = Zero Clamp 20 = Positive Torque Limit Switch(reserved) 21 = Negative Torque Limit Switch(reserved) 22 = Velocity Direction(AP Only) 23 = Position Direction(AP Only) 24 = Gain Switch(reserved) 25 = Pulse Input Disable(AP Only) 26 = Homing Command 27= Touch probe 1 28 = Touch probe 2 32 = Operation mode change while drive enabled(reserved) 38 = Jog motor to positive direction at speed JOGSPD1 39 = Jog motor to negative direction at speed -JOGSPD1 42 = Storage position command selection 1 43 = Storage position command selection 2 44 = Storage position command selection enable 45 = Pulse Input Counter Clear(AP only) 46 = Torque Limit Enable Signal
Default value (EB Model)	EB Model: input 1 = Touch probe 1 input 2 = Touch probe 2 input 3 = Positive Limit Switch input 4 = Negative Limit Switch input 5 = Home Switch
Default value (AP Model)	EB Model: input 1 = Pulse Signal input 2 = Direction Signal input 3 = Remote Enable input 4 = Clear faults input 5 = Pulse Input Disable(AP Only) input 6 = Home Switch input 7 = Positive Limit Switch input 8 = Negative Limit Switch
Unit	Not applicable
Non-volatile	Yes
See also	IN ININV INPUTS
EtherCAT	20E0h, sub-index 1

INPOS

Definition	In Position Indication
Type	Variable (R)
Description	Indicates whether the position error PE is within the allowed tolerance PEMAX. INPOS can be used when the drive is in a position operation mode. The motion command may be generated internally or by external controller.
Syntax	INPOS
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = Not in position 1 = In position
Default value	Not applicable
Unit	Not applicable
Non-volatile	Yes
See also	PEINPOS PEINPOSTIME PEMAX STOPPED
EtherCAT	20B5h,sub-index 0

INPUTS

Definition	Inputs Status
Type	Command
Description	Gets the state of all digital inputs. A header lines identifies each of the inputs.
Syntax	INPUTS
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	IN ININV INMODE
EtherCAT	Not applicable

INSHAPEREN

Definition	Input Shaper Enable
Type	Variable (R/W)
Description	Enable/Disable input shaper.
Syntax	Read: INSHAPEREN Write: INSHAPEREN < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 = Disable. 1 = Enable.
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	236Ah, sub-index 0

INSHAPERFREQ

Definition	Input Shaper Frequency
Type	Variable (R/W)
Description	Gets/Sets the frequency of input shaper.
Syntax	Read: INSHAPERFREQ Write: INSHAPERFREQ <value>
Firmware	2.0.0
Drive status	Disabled
Range	2 to 300
Default value	300
Unit	Hz
Non-volatile	Yes
See also	
EtherCAT	Not applicable

INSHAPERDAMP

Definition	Input Shaper Damping Ratio
Type	Variable (R/W)
Description	Gets/Sets the damping ratio of input shaper.
Syntax	Read: INSHAPERDAMP Write: INSHAPERDAMP <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 to 1
Default value	0.05
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	Not applicable

IOFFSETTHRESH(厂家命令)

Definition	Current Adc Calibration Offset
Type	Variable (R/W)
Description	ADC zero current window
Syntax	Read: IOFFSETTHRESH Write: IOFFSETTHRESH < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	1 to 1000
Default value	80.000
Unit	mA
Non-volatile	Yes
See also	
EtherCAT	Not applicable

IQ

Definition	Current Q Axis
Type	Variable (R)
Description	In vector control, indicates the current for the torque. This value is perpendicular to ID.
Syntax	IQ
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-100 to 100
Default value	0.000
Unit	A
Non-volatile	No
See also	I ID ILIM IMAX IU
EtherCAT	2067h, sub-index 0

ISTOP

Definition	Dynamic Braking Current
Type	Variable (R/W)
Description	Gets/sets the maximum current allowed during the dynamic braking process. Dynamic braking is a mechanism by which the drive holds the motor during Disabling mode, with only the motor's back EMF used to apply the stopping current.
Syntax	Read: ISTOP Write: ISTOP <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	min{MICON, DICON}*10% to DICON
Default value	Rated Current of Drive, RMS
Unit	A
Non-volatile	Yes
See also	DISMODE FLT
EtherCAT	2071h, sub-index 0

IU

Definition	Phase U Actual Current
Type	Variable (R)
Description	Indicates the actual current in Phase U (of UVW).
Syntax	IU
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-100 to 100
Default value	0.000
Unit	A
Non-volatile	No
See also	I ID ICMD ILIM IUOFFSET IV
EtherCAT	2072h, sub-index 0

IUOFFSET

Definition	Phase U Current Offset
Type	Variable (R)
Description	Indicates the current offset of phase U (of UVW)
Syntax	IUOFFSET
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-1000 to 1000
Default value	0.000
Unit	mA
Non-volatile	No
See also	IU
EtherCAT	2073h, sub-index 0

IUVWSAMPLEEN

Definition	Iu Iv and Iw Feedback Sample Enable
Type	Variable (R/W)
Description	Indicate whether can record UVW phase current
Syntax	Read: IUVWSAMPLEEN Write: IUVWSAMPLEEN < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = disable 1 = enable
Default value	1
Unit	Not applicable
Non-volatile	No
See also	
EtherCAT	Not applicable

IV

Definition	Phase V Actual Current
Type	Variable (R)
Description	Indicates the actual current in phase V (of UVW).
Syntax	IV
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-100 to 100
Default value	0.000
Unit	A
Non-volatile	No
See also	I ID ICMD ILIM IU IUOFFSET
EtherCAT	2074h, sub-index 0

IVADC

Definition	Phase V Current from ADC
Type	Variable (R)
Description	Indicates the current from ADC model of phase V (of UVW).
Syntax	Read:IVADC
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 65535
Default value	0
Unit	Not applicable
Non-volatile	No
See also	
EtherCAT	Not applicable

IVOFFSET

Definition	Phase V Current Offset
Type	Variable (R)
Description	Indicates the current offset of phase V (of UVW).
Syntax	IVOFSET
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-1000 to 1000
Default value	0.000
Unit	mA
Non-volatile	No
See also	IV
EtherCAT	2075h, sub-index 0

IW

Definition	Phase W Actual Current
Type	Variable (R)
Description	Indicates the actual current in phase W (of UVW).
Syntax	IW
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-100 to 100
Default value	0.000
Unit	A
Non-volatile	No
See also	I ID ICMD ILIM IU IUOFFSET
EtherCAT	Not applicable

IWADC

Definition	Phase W Current from ADC
Type	Variable (R)
Description	Indicates the current from ADC model of phase W (of UVW).
Syntax	Read:IWADC
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 65535
Default value	0
Unit	Not Applicable
Non-volatile	No
See also	
EtherCAT	Not Applicable

IWOFFSET

Definition	A Phase W Current Offset
Type	Variable (R)
Description	Indicates the current offset of phase W (of UVW).
Syntax	IWOFFSET
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-1000 to 1000
Default value	0.000
Unit	mA
Non-volatile	No
See also	IW
EtherCAT	Not applicable

IZERO

Definition	Zero Procedure Current
Type	Variable (R/W)
Description	Gets/Sets the current for the ZERO procedure.
Syntax	Read: IZERO Write: IZERO <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to ILIM
Default value	0.000
Unit	A
Non-volatile	No
See also	ILIM MIPEAK ZERO
EtherCAT	2076h, sub-index 0

J

Definition	Jog Command
Type	Command
Description	Issues a velocity jog. If the drive has been disabled, the jog command is reset to zero. When issuing jog command from Terminal, OPMODE 0 is required. When issuing jog command from operator panel, either OPMODE 0 or OPMODE 8 can be in effect.
Syntax	J Queries the command J <i>speed</i> Starts jog at a constant speed. J <i>speed duration</i> Starts jog at a constant speed for specified duration, after which a zero velocity command is issued.
Firmware	2.0.0
Drive status	Enabled Disabled
Range	<i>speed</i> : $\pm$ VLIM <i>duration</i> : +[unlimited]
Default value	Not applicable
Unit	mm/s
Non-volatile	Not applicable
Example	<pre>-->k -->opmode 0 -->en -->j 200 1000 --></pre>
See also	ACC OPMODE STEP STOP
EtherCAT	Not applicable

K

Definition	Disable Command
Type	Command
Description	Disables the drive. The behavior of the drive upon disable command is defined by DISMODE. K removes the software enable condition (SWEN) from the activation chain.
Note	Applicable in COMMODE 0 only. When the drive is operating in COMMODE 1, it must be disabled through the EtherCAT/CANopen interface.
Syntax	K
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	Not applicable
See also	ACTIVE EN FLT READY REMOTE ST SWEN
EtherCAT	Not applicable

KCA(厂家命令)

Definition	Current Ka Gain
Type	Variable (R/W)
Description	Used in Current loop for anti-saturation
Syntax	Read: KCA Write: KCA < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 100
Default value	Hardware defined
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	2310h, sub-index 0

KCBEMF

Definition	Current BEMF Compensation Gain
Type	Variable (R/W)
Description	Gets/Sets the feedforward BEMF compensation ratio for the current control. When the value of KCBEMF is changed, CONFIG is required.
Syntax	Read: KCBEMF Write: KCBEMF < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 1
Default value	0.700
Unit	Not Applicable
Non-volatile	Yes
See also	IFFLPHZ MKT
EtherCAT	2311h, sub-index 0

KCBW(厂家命令)

Definition	CurrentLoop Bandwidth
Type	Variable (R/W)
Description	Gets/Sets current loop bandwidth
Syntax	Read: KCBW Write: KCBW <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 5000
Default value	2000.000
Unit	Hz
Non-volatile	Yes
See also	KCBEMF
EtherCAT	2312h, sub-index 0

KCFF

Definition	Current KFF Gain
Type	Variable (R/W)
Description	Gets/Sets the current controller feedforward (KFF) gain. When the value of KCFF is changed, CONFIG is required.
Syntax	Read: KCFF Write: KCFF < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 100
Default value	0.000
Unit	Not applicable
Non-volatile	Yes
See also	KCBEMF KCI KCP
EtherCAT	2082h, sub-index 0

KCGLOBALGAIN

Definition	Current loop coefficient for user
Type	Variable (R/W)
Description	Gets/Sets the global gain for current loop parameters
Syntax	Read: KCGLOBALGAIN Write: KCGLOBALGAIN < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0.3 to 2
Default value	1.000
Unit	Not applicable
Non-volatile	Yes
See also	KCBEMF KCI KCP
EtherCAT	2313h, sub-index 0

KCI

Definition	Current KI Gain
Type	Variable (R/W)
Description	Gets/Sets the current controller integrator (KI) gain. When the value of KCI is changed, CONFIG is required.
Syntax	Read: KCI Write: KCI < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 100
Default value	Hardware defined
Unit	Not applicable
Non-volatile	Yes
See also	KCBEMF KCFF KCP
EtherCAT	2006h, sub-index 0

KCP

Definition	Current KP Gain
Type	Variable (R/W)
Description	Gets/Sets the current controller proportional (KP) gain. When the value of KCP is changed, CONFIG is required.
Syntax	Read: KCP Write: KCP < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 1000
Default value	Hardware defined
Unit	Not applicable
Non-volatile	Yes
See also	KCBEMF KCFF KCI
EtherCAT	2007h, sub-index 0

KPAFRC

Definition	Position Acceleration Feedforward to Current
Type	Variable (R/W)
Description	Gets/Sets the position acceleration feedforward to current loop.
Syntax	Read: KPAFRC Write: KPAFRC < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 2
Default value	0.000
Unit	Not applicable
Non-volatile	Yes
See also	KPP KPVFR KPAFRCLPF
EtherCAT	201Ch, sub-index 0

KPAFRCLPF

Definition	Position Acceleration Feedforward to Current Low Pass Filter
Type	Variable (R/W)
Description	Gets/Sets the position acceleration feedforward to current loop first order low pass filter frequency.
Syntax	Read: KPAFRCLPF Write: KPAFRCLPF < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	100 to 8000
Default value	1000
Unit	Hz
Non-volatile	Yes
See also	KPAFRC
EtherCAT	Not applicable

KPAFRV

Definition	Position Acceleration Feedforward
Type	Variable (R/W)
Description	Gets/Sets the acceleration feedforward for the linear position controller.
Syntax	Read: KPAFR Write: KPAFR < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-1000 to 1000
Default value	0.000
Unit	Not applicable
Non-volatile	Yes
See also	KPP KPAFRC
EtherCAT	201Dh, sub-index 0

KPBW

Definition	Position Loop Bandwidth
Type	Variable (R/W)
Description	Gets/Sets position loop bandwidth
Syntax	Read: KPBW Write: KPBW < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 3000
Default value	48.000 (rigid 13)
Unit	Hz
Non-volatile	Yes
See also	KPP
EtherCAT	2314h, sub-index 0

KPP

Definition	Position Proportional Gain
Type	Variable (R/W)
Description	Gets/Sets the proportional gain for the linear position controller (POSCONTROLMODE 0). The proportional gain for the linear position controller is doubled during motion when KPPCHANGEMODE is 1.
Syntax	Read: KPP Write: KPP <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 3000
Default value	48.000 (rigid 13)
Unit	Not applicable
Non-volatile	Yes
See also	KPD KPE KPI KPVFR
EtherCAT	2022h, sub-index 0

KPVFR

Definition	Position Velocity Feedforward
Type	Variable (R/W)
Description	The position control velocity feedforward.
Syntax	Read: KPVFR Write: KPVFR < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 1
Default value	1.000
Unit	Not applicable
Non-volatile	Yes
See also	KPD KPE KPI KPP
EtherCAT	2023h, sub-index 0

KPVFRLPF

Definition	Position Velocity Feedforward Low Pass Filter Frequency
Type	Variable (R/W)
Description	Gets/Sets Position Velocity Feedforward Low Pass Filter Frequency value
Syntax	Read: KPVFRLPF Write: KPVFRLPF < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	100 to 8000
Default value	1000.000
Unit	Hz
Non-volatile	Yes
See also	KPVFRR
EtherCAT	2315h, sub-index 0

KVBW

Definition	Velocity Loop Bandwidth
Type	Variable (R/W)
Description	Gets/Sets velocity loop bandwidth
Syntax	Read: KVBW Write: KVBW <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 3000
Default value	27.000 (rigid 13)
Unit	Hz
Non-volatile	Yes
See also	
EtherCAT	2010h, sub-index 0

KVFR

Definition	Velocity Feedforward Ratio
Type	Variable (R/W)
Description	Gets/Sets the velocity feedforward ratio. By manipulating the proportional controller with a smaller error, KVFR determines how responsive the system will be. The higher the value of KVFR, the more responsive the system. For example, in a mechanical system with high friction, KVFR less than 1 will provide better tracking at steady state, and allow much higher integral gain without inducing overshoot.
Syntax	Read: KVFR Write: KVFR < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 1.2
Default value	1.000
Unit	Not applicable
Non-volatile	Yes
See also	FILTMODE KVP KVI
EtherCAT	2025h, sub-index 0

KVFRC

Definition	Velocity Feedforward to Current
Type	Variable (R/W)
Description	Gets/Sets the velocity feedforward to Current.
Syntax	Read: KVFRC Write: KVFRC < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 2
Default value	0.000
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	Not applicable

KVFRCLPF

Definition	Velocity Feedforward to Current Low Pass Filter Frequency
Type	Variable (R/W)
Description	Gets/Sets the velocity feedforward to Current Low Pass Filter Frequency.
Syntax	Read: KVFRCLPF Write: KVFRCLPF < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	100 to 8000
Default value	1000
Unit	Hz
Non-volatile	Yes
See also	
EtherCAT	Not applicable

KVI

Definition	Velocity Integral Gain
Type	Variable (R/W)
Description	Gets/Sets the velocity integral gain. KVI compensates for the steady state error. A higher value will cause overshoot and oscillations.
Syntax	Read: KVI Write: KVI <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 200000
Default value	0.002 (rigid 18)
Unit	Not applicable
Non-volatile	Yes
See also	FILTMODE KVFR KVP
EtherCAT	2026h, sub-index 0

KVP

Definition	Velocity Proportional Gain
Type	Variable (R/W)
Description	Gets/Sets the velocity proportional gain. For best tuning, set to a low value, such as 0.1. Increase the value until acoustical noise occurs; then decrease by 10%.
Syntax	Read: KVP Write: KVP <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 1000000
Default value	150.000 (rigid 18)
Unit	Not applicable
Non-volatile	Yes
See also	FILTMODE KVFR KVI
EtherCAT	2027h, sub-index 0

KVTI

Definition	Velocity Loop Integral Time
Type	Variable (R/W)
Description	Gets/Sets Velocity Loop Integral Time
Syntax	Read: KVTI Write: KVTI <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 2000
Default value	9.000 (rigid 18)
Unit	ms
Non-volatile	Yes
See also	
EtherCAT	2317h, sub-index 0

LIMSWITCHNEG

Definition	Limit Switch Negative Status
Type	Variable (R)
Description	LIMSWITCHNEG indicates the status of all negative limit events. Its individual bits are set or cleared independently of each other, in response to the events described below. Possible values are combinations of bit 0, bit 1, and bits 2 and 3. It is sufficient, however, to monitor bit 2 only, or bit 3 only to obtain the limit switch status. The bits have the following meanings. Bit 0: 0 = 1 = The actual position (PFB) is less than the minimum position for the software limit POSLIMNEG. Bit 1: 0 = 1 = (xx1x) The input assigned negative limit switch functionality by INMODE n 6 is activated. Bit 2 and Bit 3 are always set or cleared together. These two bits will not be set if bits 2 and 3 of LIMSWITCHPOS are already set. 0 = Bit 1 is cleared AND the actual position is greater than the captured position. 1 = Bit 1 is set (negative limit switch is activated) AND the actual position (PFB) is captured internally.
Syntax	LIMSWITCHNEG
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	HOMETYPE INMODE LIMSWITCHPOS POSLIMMODE
EtherCAT	2078h, sub-index 0

LIMSWITCHPOS

Definition	Limit Switch Positive Status
Type	Variable (R)
Description	LIMSWITCHPOS indicates the status of all positive limit events. Its individual bits are set or cleared independently of each other, in response to the events described below. Possible values are combinations of bit 0, bit 1, and bits 2 and 3. It is sufficient, however, to monitor bit 2 only, or bit 3 only to obtain the limit switch status. The bits have the following meanings. Bit 0: 0 = 1 = The actual position (PFB) is greater than the maximum position for software limit POSLIMPOS. Bit 1: 0 = 1 = The input assigned negative limit switch functionality by INMODE n 6 is activated. Bit 2 and Bit 3 are always set or cleared together. These two bits will not be set if bits 2 and 3 of LIMSWITCHNEG are already set. 0 = Bit 1 is cleared AND the actual position is less than the captured position. 1 = Bit 1 is set (negative limit switch is activated) AND the actual position (PFB) is captured internally.
Syntax	LIMSWITCHPOS
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	HOMETYPE INMODE LIMSWITCHNEG POSLIMMODE
EtherCAT	2079h, sub-index 0

LINELOSSMODE

Definition	Bus AC Supply Line Disconnect Mode
Type	Variable (R/W)
Description	A feature that monitors the bus supply, and defines how the drive will respond if phase loss is detected. Warning display: o Warning message: Bus AC supply line disconnect Fault display: o7 Fault message: Bus AC supply line disconnect
Syntax	Read: LINELOSSMODE Write: LINELOSSMODE<value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = Fault when drive enabled or disabled 1 = Fault when drive enabled, warning when disabled 2 = Warning when drive enabled or disabled
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	LINELOSSRECOVER LINELOSSTYPE
EtherCAT	Not applicable

LINELOSSRECOVER

Definition	Bus AC Supply Line Disconnect Recovery Mode
Type	Variable (R/W)
Description	Defines how the drive will recover from a bus AC supply line disconnect fault.
Syntax	Read: LINELOSSRECOVER Write: LINELOSSRECOVER<value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = No auto recovery 1 = Auto recovery (CLEARFAULTS is not needed)
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	LINELOSSMODE LINELOSSTYPE
EtherCAT	Not applicable

LINELOSSTYPE

Definition	Bus AC Supply Line Disconnect Type
Type	Variable (R/W)
Description	Defines the types of bus AC supply line disconnect fault. Programmable only if supported by hardware.
Syntax	Read: LINELOSSTYPE Write: LINELOSSTYPE <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 – No detection 1 – Detection for one phase connection
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	LINELOSSMODE LINELOSSRECOVER
EtherCAT	Not applicable

LMJR

Definition	Load to Motor Inertia Ratio
Type	Variable (R/W)
Description	Gets/Sets the ratio of the load mass to the motor mass. If LMJR=2, for example, the total mass is 3 times the mass of the motor: $Masstotal = Mmass \times (1 + LMJR)$ The motor rotor mass (MMASS) and the load moment of mass ratio (LMJR) define the total system moment of mass. LMJR can be set by the user or determined by an autotuning procedure.
Syntax	Read: LMJR Write: LMJR <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 2000
Default value	1.000
Unit	Not applicable
Non-volatile	Yes
See also	MJ
EtherCAT	207Ah, sub-index 0

LOADESTACC

Definition	Load estimate motion acceleration
Type	Variable (R/W)
Description	Sets/Gets the load estimate motion acceleration.
Syntax	Read: LOADESTACC Write: LOADESTACC< <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	5000 to 60000
Default value	10000
Unit	mm/s ²
Non-volatile	No
See also	
EtherCAT	Not applicable

LOAESTDIST

Definition	Load estimate motion distance
Type	Variable (R/W)
Description	Indicate the motor run distance in load estimation process
Syntax	Read: LOAESTDIST Write: LOAESTDIST <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	10 to 200
Default value	60.000
Unit	mm
Non-volatile	No
See also	LOAESTMAXVEL LOAESTSTATUS LOAESTEN LOAESTMOTION LOAESTRATIO LOAESTVAL
EtherCAT	2320h , sub-index 0

LOADESTEN

Definition	Load Estimation Enable command
Type	Variable (R/W)
Description	Enable/disable load estimate process
Syntax	Read: LOADESTEN Write: LOADESTEN < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = disable 1 = enable
Default value	0
Unit	Not applicable
Non-volatile	No
See also	LOADESTMAXVEL LOADESTSTATUS LOADESTDIST LOADESTMOTION LOADESTRATIO LOADESTVAL
EtherCAT	2323h, sub-index 0

LOADESTMAXVEL

Definition	the max velocity in load estimation process
Type	Variable (R/W)
Description	Gets/Sets the max velocity in load estimation process
Syntax	Read: LOADESTMAXVEL Write: LOADESTMAXVEL <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	300 to 1000
Default value	800.000
Unit	mm/s
Non-volatile	No
See also	LOADESTEN LOADESTSTATUS LOADESTDIST LOADESTMOTION LOADESTRATIO LOADESTVAL
EtherCAT	2321h , sub-index 0

LOADESTMOTION

Definition	Load Estimation Motion Method
Type	Variable (R/W)
Description	Gets/Sets the motion direction in load estimation process
Syntax	Read: LOADESTMOTION Write: LOADESTMOTION < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = First Positive and then Negative motion 1 = First Negative and then Positive motion 2 = Positive motion 3 = Negative motion
Default value	0
Unit	Not applicable
Non-volatile	No
See also	LOADESTEN LOADESTSTATUS LOADESTDIST LOADESTMAXVEL LOADESTRATIO LOADESTVAL
EtherCAT	2324h , sub-index 0

LOADESTRATIO

Definition	Load Estimation Ratio
Type	Variable (R)
Description	Indicate the estimate ratio of the load mass to the motor mass
Syntax	LOADESTRATIO
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 100.000
Default value	0.000
Unit	Not applicable
Non-volatile	No
See also	LOADESTEN LOADESTSTATUS LOADESTDIST LOADESTMAXVEL LOADESTMOTION LOADESTVAL
EtherCAT	2325h , sub-index 0

LOADESTSTATUS

Definition	Load Estimation Status
Type	Variable (R)
Description	Indicate the load estimation status
Syntax	LOADESTSTATUS
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 6
Default value	0
Unit	Not applicable
Non-volatile	No
See also	LOADESTEN LOADESTRATIO LOADESTDIST LOADESTMAXVEL LOADESTMOTION LOADESTVAL
EtherCAT	2322h, sub-index 0

LOADESTVAL

Definition	Load Estimation Value
Type	Variable (R)
Description	Get the estimation result of load inertia
Syntax	LOADESTVAL
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 60
Default value	0.172
Unit	Kg
Non-volatile	No
See also	LOADESTEN LOADESTRATIO LOADESTDIST LOADESTMAXVEL LOADESTMOTION LOADESTSTATUS
EtherCAT	2326h, sub-index 0

LOADMASS

Definition	Mass of Load
Type	Variable (R/W)
Description	Gets/sets the mass of load. LOADMASS is relative LMJR. If you change LMJR, LOADMASS will change also. $\text{LOADMASS} = \text{MMASS} \times \text{LMJR}$
Syntax	Read: LOADMASS Write: LOADMASS <value>
Firmware	2.1.6
Drive status	Enabled Disabled
Range	0 to 100
Default value	0.000
Unit	Kg
Non-volatile	Yes
See also	MJ MKF MOTORTYPE MPITCH
EtherCAT	

MACC

Definition	Motor Acceleration
Type	Variable (R/W)
Description	Gets/Sets the acceleration value according to the feedback device on the motor. MACC mirrors the value of ACC in order to maintain the correct value of motor feedback or load feedback.
Syntax	Read: MACC Write: MACC <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 1000000
Default value	1000
Unit	mm/s ²
Non-volatile	Yes
See also	ACC
EtherCAT	Not applicable

MAXACC

Definition	Max Acceleration
Type	Variable (R/W)
Description	Gets/Sets the max acceleration. MAXACC limits the max acceleration from EtherCAT. Effect when COMMODE = 1.
Syntax	Read: MAXACC Write: MAXACC <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 1000000
Default value	1000000
Unit	mm/s ²
Non-volatile	Yes
See also	ACC MAXDEC
EtherCAT	60C5h, sub-index 0

MAXDEC

Definition	Max Deceleration
Type	Variable (R/W)
Description	Gets/Sets the max deceleration. MAXDEC limits the max deceleration from EtherCAT.
Syntax	Read: MAXDEC Write: MAXDEC <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 1000000
Default value	1000000
Unit	mm/s ²
Non-volatile	Yes
See also	DEC MAXACC
EtherCAT	60C6h, sub-index 0

MB

Definition	Motion Buffer Command
Type	Command
Description	Activates the motion buffer sequence, as defined by: MOVEINCCOUNTER, MOVEINCDIST1, MOVEINCDIST2, MOVEINCSPEED1 and MOVEINCSPEED2. PEINPOS and PEINPOSTIME must also be defined. A set of two incremental position moves are repeated a number of times, as defined by the counter. The next move is performed when the PEINPOS condition is met.
Syntax	MB
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	Not applicable
See also	MBST MOVEINCCOUNTER MOVEINCDELAY MOVEINCDIST1 MOVEINCDIST2 MOVEINCSPEED1 MOVEINCSPEED2
EtherCAT	Not applicable

MBST

Definition	Motion Buffer Execution Status
Type	Variable (R)
Description	Returns the motion buffer repetition count during operation, and returns the total duration as soon as the motion sequence is completed.
Syntax	MBST
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	Not applicable
See also	MB MOVEINCCOUNTER MOVEINCDIST1 MOVEINCDIST2 MOVEINCSPEED1 MOVEINCSPEED2
EtherCAT	Not applicable

MDEC

Definition	Motor Deceleration
Type	Variable (R/W)
Description	Gets/Sets the deceleration value according to the feedback device on the motor. MDEC mirrors the value of DEC in order to maintain the correct value of motor feedback or load feedback.
Syntax	Read: MDEC Write: MDEC <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 1000000
Default value	1000
Unit	mm/s ²
Non-volatile	Yes
See also	DEC
EtherCAT	Not applicable

MECHANGLE

Definition	Motor Mechanical Angle
Type	Variable (R)
Description	The actual position of the motor within one revolution.
Syntax	MECHANGLE
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 65535
Default value	Not applicable
Unit	65536/rev
Non-volatile	No
See also	ELECTANGLE FEEDBACKTYPE MENCRES MPHASE
EtherCAT	2028h , sub-index 0

MENCCRCVALUE

Definition	Motor encoder CRC error counter
Type	Variable (R)
Description	Get motor encoder CRC error times
Syntax	MENCCRCVALUE
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 65535
Default value	0
Unit	Not applicable
Non-volatile	No
See also	
EtherCAT	Not applicable

MENCERRTHRESH

Definition	Motor Encoder CRC and Time Out Error Threshold
Type	Variable (R/W)
Description	Gets/Sets the error threshold, the high 8 bits indicate the encoder CRC error threshold, and the low 8 bits indicate the encoder time out threshold.
Syntax	Read: MENCERRTHRESH Write: MENCERRTHRESH <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0x0101 to 0xFFFF
Default value	0x0505
Unit	Not applicable
Non-volatile	Yes
See also	MENCTIMEOUTVALUE MENCRCVALUE
EtherCAT	Not applicable

MENCRES

Definition	Motor Encoder Resolution
Type	Variable (R/W)
Description	For encoder feedback systems, gets the resolution of the motor encoder, in number of counts per revolution of the motor.
Syntax	Read: MENCRES Write: MENCRES <value>
Firmware	2.0.0
Drive status	Disabled
Range	1 to 2000000000
Default value	10000
Unit	Lines per pitch(LPP)
Non-volatile	Yes
See also	ELECTANGLE FEEDBACKTYPE MENCRESINV MPHASE
EtherCAT	Not applicable

MENCRESINV

Definition	Motor Encoder Resolution for one count
Type	Variable (R/W)
Description	For encoder feedback systems, gets the resolution of the motor encoder, in um per count.
Syntax	Read: MENCRESINV Write: MENCRESINV <value>
Firmware	2.1.6
Drive status	Disabled
Range	0.1 to 5.000
Default value	1.000
Unit	um
Non-volatile	No
See also	ELECTANGLE FEEDBACKTYPE MENCRES MPHASE
EtherCAT	Not applicable

MENCTYPE

Definition	Motor Encoder Type
Type	Variable (R/W)
Description	Gets/Sets the motor encoder type. When the value of MENCTYPE is changed, CONFIG is required.
Syntax	Read: MENCTYPE Write: MENCTYPE <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 to 6
Default value	0
Unit	Not Applicable
Non-volatile	Yes
See also	FEEDBACKTYPE
EtherCAT	2029h, sub-index 0

MENCTYPEUSER

Definition	Motor Encoder Type
Type	Variable (R/W)
Description	When MTPMODE is 0, use this command to set motor encoder type
Syntax	Read: MENCTYPEUSER Write: MENCTYPEUSER <value>
Firmware	2.0.0
Drive status	Disabled
Range	0: no encoder 7:Incremental encoder
Default value	7
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	Not applicable

MFB

Definition	Motor Position Feedback
Type	Variable (R)
Description	Gets the position value of the feedback device on the motor, including any offsets that have been added.
Syntax	MFB
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-2^{63} to $2^{63}-1$
Default value	Not applicable
Unit	count
Non-volatile	No
See also	PFB
EtherCAT	Not applicable

MFBDIR

Definition	Motor and Feedback Direction
Type	Variable (R/W)
Description	Gets/sets several direction and polarity options. MFBDIR is set by the MOTORSETUP procedure. When the value of MFBDIR is changed, CONFIG is required.
Syntax	Read: MFBDIR Write: MFBDIR< <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 1
Default value	0
Unit	0
Non-volatile	Yes
See also	
EtherCAT	Not applicable

MFOLD

Definition	Motor Foldback Status
Type	Variable (R)
Description	Indicates whether the motor foldback limit (MIFOLD) has dropped below the application current limits (ILIM).
Syntax	MFOLD
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = Foldback limit above ILIM 1 = Foldback limit below ILIM
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	ILIM MIFOLD MIFOLDFTHRESH
EtherCAT	202Eh, sub-index 0

MFOLDD

Definition	Motor Foldback Delay Time
Type	Variable (R/W)
Description	Gets/Sets the time delay for motor foldback. This is the amount of time that the system current can exceed MICON T before the drive enters the motor foldback state (MFOLD 1). The timing units assume a worst-case scenario, in which the drive is applying MIPEAK current. A current level that is less than MIPEAK can be allowed for longer time. If MTP is used, MFOLDD will read from encoder.
Syntax	Read: MFOLDD Write: MFOLDD <value>
Firmware	2.0.0
Drive status	Disabled
Range	1 to 2400
Default value	3.000
Unit	s
Non-volatile	Yes
See also	MFOLDDIS MFOLDR MFOLDT MICON T MIPEAK
EtherCAT	202Fh, sub-index 0

MFOLDDIS

Definition	Motor Foldback Disable
Type	Variable (R/W)
Description	Gets/Sets a value that defines whether motor foldback protection is activated.
Syntax	Read: MFOLDDIS Write: MFOLDDIS <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 = Motor foldback protection activated. 1 = Motor foldback protection not activated.
Default value	0
Unit	Not Applicable
Non-volatile	Yes
See also	MFOLD MFOLDD MFOLDR MFOLDT MICON MIFOLD MIPeak
EtherCAT	2030h, sub-index 0

MFOLDF

Definition	Motor Foldback Factor
Type	Variable (R)
Description	MFOLDF is used to increase the effective continuous current setting of the motor (MICON _T) for the motor foldback protection mechanism. When MFOLDF>1, the effective MICON _T =MFOLDF × MICON _T
Syntax	Read: MFOLDF Write: MFOLDF< <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	1.000 to 1.500
Default value	1.0
Unit	Not applicable
Non-volatile	Yes
See also	MFOLDD MFOLDDIS MFOLDT MICON_T MIPEAK
EtherCAT	Not applicable

MFOLDR

Definition	Motor Foldback Recovery Time
Type	Variable (R)
Description	Gets/Sets the recovery time for motor foldback. After the drive enters the motor foldback state (MFOLD=1), and the current folds back to MICON, this is the minimum amount of time that the current must be held at 0 before it can be MIPEAK for the full MFOLDD time.
Note	MFOLDR is a read only parameter, calculated from MIPEAK, MICON, MFOLDD, and MFOLDT. Since MIPEAK and MICON have a default value of 0, the initial value of MFOLDR is 0.001. Once proper values are set for MIPEAK and MICON, MFOLDR gets a valid value.
Syntax	MFOLDR
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 1000
Default value	Not applicable
Unit	s
Non-volatile	No
See also	MFOLDD MFOLDDIS MFOLDT MICON MIPEAK
EtherCAT	2031h, sub-index 0

MFOLDT

Definition	Motor Foldback Time Constant
Type	Variable (R/W)
Description	Gets/Sets the time constant for motor foldback. After the drive enters the motor foldback state (MFOLD 1), this variable defines how long it will take the drive to reduce the system current level to MICONT. If MTP is used, MFOLDD will read from encoder.
Syntax	Read: MFOLDT Write: MFOLDT < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 1200
Default value	3.000
Unit	s
Non-volatile	Yes
See also	MFOLDD MFOLDDIS MFOLDR MICONT MIPEAK
EtherCAT	2032h, sub-index 0

MICONT

Definition	Motor Continuous Current
Type	Variable (R/W)
Description	Gets/Sets the motor's continuous rated current. When the value of MICONT is changed, CONFIG is required. If MTP is used, MFOLDD will read from encoder.
Syntax	Read: MICONT Write: MICONT <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 to 150
Default value	Hardware defined
Unit	A
Non-volatile	Yes
See also	DICONT ILIM MFOLD MIFOLD MIPEAK
EtherCAT	6075h, sub-index 0

MIFOLD

Definition	Motor Foldback Current
Type	Variable (R)
Description	Indicates the current limit derived from the motor foldback mechanism. A foldback condition occurs when MIFOLD goes below ILIM. This variable is useful for checking how close the current is to the foldback limit.
Syntax	MIFOLD
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 300
Default value	Not applicable
Unit	A
Non-volatile	No
See also	ILIM MFOLD MIFOLDFTHRESH
EtherCAT	2033h , sub-index 0

MIFOLDFTHRESH

Definition	Motor Foldback Fault Threshold
Type	Variable (R/W)
Description	Gets/Sets the motor foldback fault threshold.
Syntax	Read: MIFOLDFTHRESH Write: MIFOLDFTHRESH < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 300
Default value	Hardware defined
Unit	A
Non-volatile	Yes
See also	ILIM MFOLD MIFOLD
EtherCAT	2034h , sub-index 0

MIFOLDWTHRESH

Definition	Motor Foldback Warn Threshold
Type	Variable (R/W)
Description	Gets/Sets the motor foldback Warn threshold.
Syntax	Read: MIFOLDWTHRESH Write: MIFOLDWTHRESH < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 300
Default value	Hardware defined
Unit	A
Non-volatile	Yes
See also	ILIM MFOLD MIFOLD
EtherCAT	Not applicable

MIPEAK

Definition	Motor Peak Current
Type	Variable (R/W)
Description	Gets/Sets the motor's peak rated current. When the value of MIPEAK is changed, CONFIG is required. If MTP is used, MFOLDD will read from encoder.
Syntax	Read: MIPEAK Write: MIPEAK <value>
Firmware	2.0.0
Drive status	Disabled
Range	0.1 to 300
Default value	Hardware defined
Unit	A
Non-volatile	Yes
See also	DIPEAK ILIM IMAX MICON MIFOLD
EtherCAT	2036h, sub-index 0

MJ

Definition	Rotor Inertia
Type	Variable (R/W)
Description	Gets/Sets the motor's peak rated current. When the value of MIPEAK is changed, CONFIG is required. If MTP is used, MFOLDD will read from encoder.
Syntax	Read: MJ Write: MJ <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 to 2000000
Default value	0.2
Unit	kg
Non-volatile	Yes
See also	DIPEAK ILIM IMAX MICON MIFOLD
EtherCAT	Not applicable

MKE

Definition	Motor BMEF constant
Type	Variable (R/W)
Description	Gets/Sets the motor BEMF constant. If MTP is used, MFOLDD will read from encoder.
Syntax	Read: MKE Write: MKE < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 500
Default value	Hardware defined
Unit	V/(m/s)
Non-volatile	Yes
See also	
EtherCAT	2038h, sub-index 0

MKF

Definition	Force Constant for Linear Motor
Type	Variable (R/W)
Description	Gets/sets the linear motor force constant (Kf), in metric units, for linear motors. This parameter is the equivalent of Torque Constant (MKT) for rotary motors.
Syntax	MKE
Firmware	2.1.6
Drive status	Disabled
Range	0.001 to 1000
Default value	Hardware defined
Unit	N/A
Non-volatile	Yes
See also	MKT MMASS MOTORTYPE MPITCH
EtherCAT	

MKT

Definition	Torque Constant
Type	Variable (R/W)
Description	Gets/sets the motor's torque constant (Kt) in metric units. This value is used for current loop controller design, KCBEMF, compensation algorithm, and standard pole-placement velocity controller design (VELCONTROLMODE 2 or 4). When the value of MKT is changed, CONFIG is required.
Syntax	Read: MKT Write: MKT <value>
Firmware	2.1.6
Drive status	Disabled
Range	0.001 to 800
Default value	0.016
Unit	Nm/Apeak
Non-volatile	Yes
See also	MKT MMASS MOTORTYPE MPITCH
EtherCAT	Not applicable

ML

Definition	Motor Inductance
Type	Variable (R/W)
Description	Gets/Sets the motor's minimum line-to-line inductance. This variable is used for current loop controller design and as an input to the vector control algorithms. When the value of ML is changed, CONFIG is required. If MTP is used, MFOLDD will read from encoder.
Syntax	Read: ML Write: ML < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 1000
Default value	Hardware defined
Unit	mh
Non-volatile	Yes
See also	MJ MKT MKE
EtherCAT	203Ah, sub-index 0

MMASS

Definition	Mass of Linear Motor Without Load
Type	Variable (R/W)
Description	Gets/sets the mass of the linear motor carriage without any additional payload. It is used as the base for estimating the total moving mass
Syntax	MMASS
Firmware	2.1.6
Drive status	Enabled Disabled
Range	0 to 100
Default value	0.000
Unit	Kg
Non-volatile	Yes
See also	MJ MKF MOTORTYPE MPITCH
EtherCAT	

MMAXT

Definition	Motor Maximum Torque
Type	Variable (R/W)
Description	Gets/Sets the motor's Maximum Torque. If MTP is used, MFOLDD will read from encoder.
Syntax	Read: MMAXT Write: MMAXT < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 100
Default value	Hardware defined
Unit	Nm
Non-volatile	Yes
See also	MKT MICON
EtherCAT	Not applicable

MOTORNAME

Definition	Motor Name
Type	Command
Description	Gets/Sets the name assigned to the motor. The name may contain up to 20 alphanumeric characters. A quotation mark (") always precedes the name..
Syntax	Read: MOTORNAME Write: MOTORNAME <text>
Firmware	2.0.0
Drive status	Disabled
Range	Not applicable
Default value	Not Applicable
Note	If the drive system detects an electronic motor nameplate (such as used in the sensAR magnetic encoder), the value of parameter MOTORNAME is loaded directly from the encoder memory to the drive RAM at power-up.
Unit	Not Applicable
Non-volatile	No
See also	
EtherCAT	Not applicable

MOTORPHASESCAN

Definition	Motor Phase Disconnect Scan
Type	Variable (R/W)
Description	Enables/disables detection of wire breaks in motor phases. When enabled, if a wire break is detected in one or more of the motor phases, this mechanism issues a fault: "phase – disconnected" and the digital display shows r27. Detection can occur only when drive is enabled and a current command is issued by the user, or by velocity or position controllers.
Syntax	Read: MOTORPHASESCAN Write: MOTORPHASESCAN <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = Motor phases wire break detection disabled 1 = Motor phases wire break detection enabled 2 = Reserved
Default value	0
Unit	Not Applicable
Non-volatile	Yes
See also	
EtherCAT	Not applicable

MOTORSETUP

Definition	Motor Setup Command
Type	Command
Description	Run an automatic procedure for identification of MFBDIR .
Syntax	Read: MOTORSETUP Wrire: MOTORSETUP < <i>value</i> >
Firmware	2.1.6
Drive status	Disabled
Range	0 = interrupt the identification 1 = start the identification
Default value	0
Unit	Not Applicable
Non-volatile	No
See also	MFBDIR
EtherCAT	Not applicable

MOTORSETUPST

Definition	Motor Setup Status
Type	Command
Description	Reports the internal stages of the MOTSETUP procedure together with the message that includes the running state, actions taken or failure cause.
Syntax	MOTORSETUPST
Firmware	2.1.6
Drive status	Enabled Disabled
Range	Not applicable, see Example below
Default value	Not applicable, see Example below
Unit	Not applicable, see Example below
Non-volatile	Yes
See also	MOTORSETUP
Example	<pre>-->motorsetupst Motor Setup Active -->motorsetupst Motor Setup Succeeded -->motorsetupst Motor Setup is aborted -->motorsetupst Motor Setup Failed for small moving or big MENCRES -->motorsetupst Motor Setup Failed for System errors</pre>
EtherCAT	Not applicable

MOVEABS

Definition	Move Absolute Command
Type	Command
Description	Executes an absolute position movement according to the acceleration settings that are in effect. STOPPED and PEINPOS indicate completion of motion.
Syntax	MOVEABS { <i>distance</i> } { <i>velocity</i> }
Firmware	2.0.0
Drive status	Enabled
Range	<i>distance</i> : -2147483648 to 2147483648 <i>velocity</i> : 0 to VLIM
Default value	Not Applicable
Unit	Not Applicable
Non-volatile	Not Applicable
See also	MOVEINC OPMODE PFB
EtherCAT	Not applicable

MOVEINC

Definition	Move Incremental Command
Type	Command
Description	Executes an incremental position movement according to the acceleration settings that are in effect. If the command is issued while a movement is in progress, the incremental move will be added to the position target of the current move. STOPPED and PEINPOS indicate completion of motion.
Syntax	MOVEINC {distance} {velocity} { blending mode}
Firmware	2.0.0
Drive status	Enabled Disabled
Range	<i>distance = Not applicable</i> <i>velocity = Not applicable</i> <i>blending mode:</i> <i>1 = MOVEINC is executed immediately.</i> <i>2 = MOVEINC is executed at the end of the currently executed movement (default value).</i>
Default value	Not Applicable
Unit	Not Applicable
Non-volatile	No
See also	MOVEABS OPMODE PFB
EtherCAT	Not applicable

MOVEINCCOUNTER

Definition	Move Incremental Iterations
Type	Variable (R/W)
Description	Gets/Sets the number of repetitions of an incremental movement to be executed.
Syntax	Read: MOVEINCCOUNTER Write: MOVEINCCOUNTER <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 65535
Default value	1
Unit	Not Applicable
Non-volatile	Yes
See also	MB MBST MOVEINCDIST1 MOVEINCSPEED1
EtherCAT	Not Applicable

MOVEINCDELAY

Definition	Move Incremental Delay
Type	Variable (R/W)
Description	The delay between the preset incremental moves.
Syntax	Read: MOVEINCDELAY Write: MOVEINCDELAY <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 100000
Default value	0
Unit	ms
Non-volatile	Yes
See also	MB MBST MOVEINCCOUNTER
EtherCAT	Not Applicable

MOVEINCDIST1

Definition	Move Incremental Distance 1
Type	Variable (R/W)
Description	Gets/Sets the first incremental move distance for the motion buffer cycle.
Syntax	Read: MOVEINCDIST1 Write: MOVEINCDIST1 <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-2^{31} to $2^{31}-1$
Default value	0
Unit	count
Non-volatile	Yes
See also	MB MBST MOVEINCCOUNTER MOVEINCSPEED1
EtherCAT	Not applicable

MOVEINCDIST2

Definition	Move Incremental Distance 2
Type	Variable (R/W)
Description	Gets/Sets the second incremental move distance for the motion buffer cycle.
Syntax	Read: MOVEINCDIST2 Write: MOVEINCDIST2 <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-2^{31} to $2^{31}-1$
Default value	0
Unit	count
Non-volatile	Yes
See also	MB MBST MOVEINCCOUNTER MOVEINCSPEED2
EtherCAT	Not applicable

MOVEINCSPEED1

Definition	Move Incremental Speed 1
Type	Variable (R/W)
Description	Gets/Sets the first incremental move velocity for the motion buffer cycle. The actual move speed value will not exceed VLIM.
Syntax	Read: MOVEINCDIST2 Write: MOVEINCDIST2 <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to VLIM
Default value	10
Unit	mm/s
Non-volatile	Yes
See also	MB MBST MOVEINCCOUNTER MOVEINCDIST1
EtherCAT	Not applicable

MOVEINCSPEED2

Definition	Move Incremental Speed 2
Type	Variable (R/W)
Description	Gets/Sets the second incremental move velocity for the motion buffer cycle. The actual move speed value will not exceed VLIM.
Syntax	Read: MOVEINCSPEED2 Write: MOVEINCSPEED2 < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 ~ VLIM
Default value	10
Unit	mm/s
Non-volatile	Yes
See also	MB MBST MOVEINCCOUNTER MOVEINCDIST2
EtherCAT	Not applicable

MOVESMOOTHAVG

Definition	Position Command Moving Average Filter
Type	Variable (R/W)
Description	Gets/Sets the moving average filter. The moving average filter can be applied to a position or velocity reference command in order to smooth the command and shape it into an S-curve profile.
Syntax	Read: MOVESMOOTHAVG Write: MOVESMOOTHAVG < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 64
Default value	4
Unit	ms
Non-volatile	Yes
See also	MOVESMOOTHMODE
EtherCAT	Not applicable

MOVESMOOTHMODE

Definition	Position Command Smoothing Mode
Type	Variable (R/W)
Description	Gets/Sets position command smoothing mode.
Syntax	Read: MOVESMOOTHMODE Write: MOVESMOOTHMODE <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = No smoothing of profile 1 = Resevred 2 = S-curve by averaging based on MOVESMOOTHAVG
Default value	2
Unit	Not applicable
Non-volatile	Yes
See also	MOVESMOOTHAVG
EtherCAT	Not applicable

MPHASE

Definition	Commutation Offset
Type	Variable (R/W)
Description	Gets/Sets the resolver/encoder phase relative to the standard commutation table. This variable can be used to compensate for resolver offset and should be set to 0 if there is no resolver offset. Changing MPHASE shifts the internal commutation table without affecting the feedback reading. If MTP is used, MFOLDD will read from encoder.
Syntax	Read: MPHASE Write: MPHASE <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 to 359
Default value	0
Unit	Electrical degree
Non-volatile	Yes
See also	MPHASE ZERO
EtherCAT	2043h, sub-index 0

MPITCH

Definition	Motor Pitch
Type	Variable (R/W)
Description	Gets/sets linear motor's pitch.
Syntax	MPITCH
Firmware	2.1.6
Drive status	Disabled
Range	0.000 to 100.000
Default value	20.000
Unit	Kg
Non-volatile	Yes
See also	MENCRES MMASS MOTORTYPE PFB UNITSLINPOS
EtherCAT	

MPOLES

Definition	Motor Poles
Type	Variable (R/W)
Description	Gets/Sets the number of motor poles. This variable is used for commutation control and represents the number of individual magnetic poles of the motor (not pole pairs). When MOTORTYPE =2 (linear motor), this variable will be forced to a value of 2. When the value of MPOLES is changed, CONFIG is required. If MTP is used, MFOLDD will read from encoder.
Syntax	Read: MPOLES Write: MPOLES <value>
Firmware	2.0.0
Drive status	Disabled
Range	2 to 20
Default value	2
Unit	pole pairs
Non-volatile	Yes
See also	ELECTANGLE MECHANGLE ZERO
EtherCAT	207Eh, sub-index 0

MPOWER

Definition	Motor Rated Power
Type	Variable (R/W)
Description	Gets/Sets the number of motor rated power. If MTP is used, MFOLDD will read from encoder.
Syntax	Read: MPOWER Write: MPOWER <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 to 2000
Default value	400.000
Unit	W
Non-volatile	Yes
See also	MPOLES
EtherCAT	2327h, sub-index 0

MR

Definition	Motor Resistance
Type	Variable (R/W)
Description	The motor resistance. When the value of MR is changed, CONFIG is required. If MTP is used, MFOLDD will read from encoder.
Syntax	Read: MR Write: MR <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 to 75
Default value	2.620
Unit	Ohm
Non-volatile	Yes
See also	ML
EtherCAT	207Fh, sub-index 0

MRATEDSPEED

Definition	Motor Rated Speed
Type	Variable (R/W)
Description	Gets/Sets the motor's rated speed. If MTP is used, MFOLDD will read from encoder.
Syntax	Read: MRATEDSPEED Write: MRATEDSPEED < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 6000
Default value	3000.000
Unit	mm/s
Non-volatile	Yes
See also	
EtherCAT	2328h, sub-index 0

MRATEDT

Definition	Motor Rated Torque
Type	Variable (R/W)
Description	Gets/Sets the motor's rated torque. If MTP is used, MFOLDD will read from encoder.
Syntax	Read: MRATEDT Write: MRATEDT < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 100
Default value	1.273
Unit	Nm
Non-volatile	Yes
See also	
EtherCAT	6076h , sub-index 0

MRUNLOOPMODE

Definition	Motor Runloop Mode
Type	Variable (R)
Description	Get the current motor runloop.
Syntax	MRUNLOOPMODE
Firmware	2.0.0
Drive status	Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	Not applicable

MSPEED

Definition	Motor Maximum Speed
Type	Variable (R/W)
Description	Gets/Sets the maximum velocity of the motor. When the value of MSPEED is changed, CONFIG is required.
Syntax	Read: MSPEED Write: MSPEED < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 9000
Default value	6000.000
Unit	mm/s
Non-volatile	Yes
See also	VLIM VMAX
EtherCAT	2080h, sub-index 0

MTPMODE

Definition	Electronic Motor Nameplate Mode
Type	Variable (R/W)
Description	MTPMODE defines whether motor and feedback data is obtained from the feedback device's non-volatile memory, referred to as an electronic motor type plate (MTP). The electronic motor nameplate enables automatic setup of motor and current loop parameters. The drive is factory-configured without motor parameters. If the drive system detects an electronic motor nameplate (such as used in the sensAR magnetic encoder), certain motor and feedback parameters are loaded directly from the encoder memory to the drive RAM after power-up. If MTPMODE $\neq$ 0, motor and current loop parameters cannot be manipulated by user.
Syntax	MTPMODE
Firmware	2.0.0
Drive status	Disabled
Range	0 = Electronic motor nameplate not in use
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	FEEDBACKTYPE
EtherCAT	Not applicable

MTYPE

Definition	Motor Type
Type	Command
Description	Gets/Sets the motor's type. When the MTPMODE is 0, user can set motor type by manual
Syntax	Read: MTYPE Write: MTYPE <value>
Firmware	2.0.0
Drive status	Disabled
Range	Not applicable
Default value	"TM750
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	Not applicable

MTYPELIST

Definition	Supported Motor Type List
Type	Command
Description	Gets the current FW supported motor type list.
Syntax	MTYPELIST
Firmware	2.1.6
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	ACTIVATION
EtherCAT	Not applicable

MULTPOSCMD1

Definition	Multiple position command 1 for position control(AP Model)
Type	Variable (R/W)
Description	Gets/Sets the position command 1 for position control.
Syntax	Read: MULTPOSCMD1 Write: MULTPOSCMD1 < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-2^{63} to $2^{63}-1$
Default value	0
Unit	count
Non-volatile	Yes
See also	MULTPOSCMD2 MULTPOSCMD3 MULTPOSCMD4 MULTPOSTYPE
EtherCAT	Not applicable

MULTPOSCMD2

Definition	Multiple position command 2 for position control(AP Model)
Type	Variable (R/W)
Description	Gets/Sets the position command 2 for position control.
Syntax	Read: MULTPOSCMD2 Write: MULTPOSCMD2< <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-2^{63} to $2^{63}-1$
Default value	0
Unit	count
Non-volatile	Yes
See also	MULTPOSCMD1 MULTPOSCMD3 MULTPOSCMD4 MULTPOSTYPE
EtherCAT	Not applicable

MULTPOSCMD3

Definition	Multiple position command 3 for position control(AP Model)
Type	Variable (R/W)
Description	Gets/Sets the position command 3 for position control.
Syntax	Read: MULTPOSCMD3 Write: MULTPOSCMD3 < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-2 ⁶³ to 2 ⁶³ -1
Default value	0
Unit	count
Non-volatile	Yes
See also	MULTPOSCMD1 MULTPOSCMD2 MULTPOSCMD4 MULTPOSTYPE
EtherCAT	Not applicable

MULTPOSCMD4

Definition	Multiple position command 4 for position control(AP Model)
Type	Variable (R/W)
Description	Gets/Sets the position command 4 for position control..
Syntax	Read: MULTPOSCMD4 Write: MULTPOSCMD4< <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-2^{63} to $2^{63}-1$
Default value	0
Unit	count
Non-volatile	Yes
See also	MULTPOSCMD1 MULTPOSCMD2 MULTPOSCMD3 MULTPOSTYPE
EtherCAT	Not applicable

MULTIPOSTYPE

Definition	Multiple position type for position control(AP Model)
Type	Variable (R/W)
Description	Gets/Sets the multiple position type for position control.
Syntax	Read: MULTIPOSTYPE Write: MULTIPOSTYPE< <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = incremental 1 = absolute
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	MULTPOSCMD1 MULTPOSCMD2 MULTPOSCMD3 MULTPOSCMD4
EtherCAT	Not applicable

MULTIPOSVEL1

Definition	Multiple cruise velocity 1 for position control(AP Model)
Type	Variable (R/W)
Description	Gets/Sets the multiple cruise velocity 1 for position control.
Syntax	Read: MULTIPOSVEL1 Write: MULTIPOSVEL1 < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 6000
Default value	0
Unit	mm/s
Non-volatile	Yes
See also	MULTIPOSVEL1 MULTIPOSVEL1 MULTIPOSVEL1
EtherCAT	Not applicable

MULTIPOSVEL2

Definition	Multiple cruise velocity 2 for position control(AP Model)
Type	Variable (R/W)
Description	Gets/Sets the multiple cruise velocity 2 for position control.
Syntax	Read: MULTIPOSVEL2 Write: MULTIPOSVEL2< <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 6000
Default value	0
Unit	mm/s
Non-volatile	Yes
See also	MULTIPOSVEL1 MULTIPOSVEL1 MULTIPOSVEL1
EtherCAT	Not applicable

MULTIPOSVEL3

Definition	Multiple cruise velocity 3 for position control(AP Model)
Type	Variable (R/W)
Description	Gets/Sets the multiple cruise velocity 3 for position control.
Syntax	Read: MULTIPOSVEL3 Write: MULTIPOSVEL3< <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 6000
Default value	0
Unit	mm/s
Non-volatile	Yes
See also	MULTIPOSVEL1 MULTIPOSVEL1 MULTIPOSVEL1
EtherCAT	Not applicable

MULTIPOSVEL4

Definition	Multiple cruise velocity 4 for position control(AP Model)
Type	Variable (R/W)
Description	Gets/Sets the multiple cruise velocity 4 for position control.
Syntax	Read: MULTIPOSVEL4 Write: MULTIPOSVEL4< <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 6000
Default value	0
Unit	mm/s
Non-volatile	Yes
See also	MULTIPOSVEL1 MULTIPOSVEL1 MULTIPOSVEL1
EtherCAT	Not applicable

MULTSPDCMD1

Definition	IO choice velocity 1(AP Model)
Type	Variable (R/W)
Description	Gets/Sets the IO choice velocity 1.
Syntax	Read: MULTSPDCMD1 Write: MULTSPDCMD1< <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-6000 to 6000
Default value	0
Unit	mm/s
Non-volatile	Yes
See also	MULTSPDCMD2 MULTSPDCMD3 MULTSPDCMD4 APVELSOURCE
EtherCAT	Not applicable

MULTSPDCMD2

Definition	IO choice velocity 2(AP Model)
Type	Variable (R/W)
Description	Gets/Sets the IO choice velocity 2.
Syntax	Read: MULTSPDCMD2 Write: MULTSPDCMD2< <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-6000 to 6000
Default value	0
Unit	mm/s
Non-volatile	Yes
See also	MULTSPDCMD2 MULTSPDCMD3 MULTSPDCMD4 APVELSOURCE
EtherCAT	Not applicable

MULTSPDCMD3

Definition	IO choice velocity 3(AP Model)
Type	Variable (R/W)
Description	Gets/Sets the IO choice velocity 3.
Syntax	Read: MULTSPDCMD3 Write: MULTSPDCMD3< <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-6000 to 6000
Default value	0
Unit	mm/s
Non-volatile	Yes
See also	MULTSPDCMD1 MULTSPDCMD2 MULTSPDCMD4 APVELSOURCE
EtherCAT	Not applicable

MULTSPDCMD4

Definition	IO choice velocity 4(AP Model)
Type	Variable (R/W)
Description	Gets/Sets the IO choice velocity 4.
Syntax	Read: MULTSPDCMD4 Write: MULTSPDCMD4< <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-6000 to 6000
Default value	0
Unit	mm/s
Non-volatile	Yes
See also	MULTSPDCMD1 MULTSPDCMD2 MULTSPDCMD3 APVELSOURCE
EtherCAT	Not applicable

MVOLT

Definition	Motor Rated Voltage
Type	Variable (R/W)
Description	Gets/Sets the rated Voltage of motor. If MTP is used, MFOLDD will read from encoder.
Syntax	Read: MVOLT Write: MVOLT < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 400
Default value	220
Unit	V
Non-volatile	Yes
See also	
EtherCAT	Not applicable

NOTCH2BW

Definition	Bandwidth of Notch Filter 2
Type	Variable (R/W)
Description	Sets/Gets the bandwidth of notch filter 2.
Syntax	Read: NOTCH2BW Write: NOTCH2BW < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0.001 to 500
Default value	300
Unit	Hz
Non-volatile	Yes
See also	NOTCH2CENTER NOTCH2DEP NOTCH2MODE
EtherCAT	Not applicable

NOTCH2CENTER

Definition	Center Frequency of Notch Filter 2
Type	Variable (R/W)
Description	Sets/Gets the center frequency of notch filter 2. Notch filter 2 is an adaptive notch filter. If ANFEN = 1, NOTCH2CENTER will be set automatically.
Syntax	Read: NOTCH2CENTER Write: NOTCH2CENTER <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	50 to 4000
Default value	4000
Unit	Hz
Non-volatile	Yes
See also	NOTCH2BW NOTCH2DEP NOTCH2MODE
EtherCAT	Not applicable

NOTCH2DEP

Definition	Depth of Notch Filter 2
Type	Variable (R/W)
Description	Sets/Gets the depth of notch filter 2.
Syntax	Read: NOTCH2DEP Write: NOTCH2DEP < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 100
Default value	40
Unit	%
Non-volatile	Yes
See also	NOTCH2BW NOTCH2CENTER NOTCH2MODE
EtherCAT	Not applicable

NOTCH2MODE

Definition	Enable/Disable Notch Filter 2
Type	Variable (R/W)
Description	Enable/Disable notch filter 2. If ANFEN = 1, notch filter 2 is enabled automatically.
Syntax	Read: NOTCH2MODE Write: NOTCH2MODE < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = disable notch filter 1 = enable notch filter
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	NOTCH2BW NOTCH2CENTER NOTCH2DEP
EtherCAT	Not applicable

NOTCH3BW

Definition	Bandwidth of Notch Filter 3
Type	Variable (R/W)
Description	Sets/Gets the bandwidth of notch filter 3.
Syntax	Read: NOTCH3BW Write: NOTCH3BW <value>
Firmware	2.1.6
Drive status	Enabled Disabled
Range	0.001 to 500
Default value	300
Unit	Hz
Non-volatile	Yes
See also	NOTCH3CENTER NOTCH3DEP NOTCH3MODE
EtherCAT	

NOTCH3CENTER

Definition	Center Frequency of Notch Filter 3
Type	Variable (R/W)
Description	Sets/Gets the center frequency of notch filter 3.
Syntax	Read: NOTCH3CENTER Write: NOTCH3CENTER < <i>value</i> >
Firmware	2.1.6
Drive status	Enabled Disabled
Range	50 to 4000
Default value	4000
Unit	Hz
Non-volatile	Yes
See also	NOTCH3BW NOTCH3DEP NOTCH3MODE
EtherCAT	

NOTCH3DEP

Definition	Depth of Notch Filter 3
Type	Variable (R/W)
Description	Sets/Gets the depth of notch filter 3.
Syntax	Read: NOTCH3DEP Write: NOTCH3DEP < <i>value</i> >
Firmware	2.1.6
Drive status	Enabled Disabled
Range	0 to 100
Default value	40
Unit	%
Non-volatile	Yes
See also	NOTCH3BW NOTCH3CENTER NOTCH3MODE
EtherCAT	

NOTCH3MODE

Definition	Enable/Disable Notch Filter 3
Type	Variable (R/W)
Description	Enable/Disable notch filter 3.
Syntax	Read: NOTCH3MODE Write: NOTCH3MODE < <i>value</i> >
Firmware	2.1.6
Drive status	Enabled Disabled
Range	0 = disable notch filter 1 = enable notch filter
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	NOTCH3BW NOTCH3CENTER NOTCH3DEP
EtherCAT	

NOTCH4BW

Definition	Bandwidth of Notch Filter 4
Type	Variable (R/W)
Description	Sets/Gets the bandwidth of notch filter 4.
Syntax	Read: NOTCH4BW Write: NOTCH4BW <value>
Firmware	2.1.6
Drive status	Enabled Disabled
Range	0.001 to 500
Default value	300
Unit	Hz
Non-volatile	Yes
See also	NOTCH4CENTER NOTCH4DEP NOTCH4MODE
EtherCAT	

NOTCH4CENTER

Definition	Center Frequency of Notch Filter 4
Type	Variable (R/W)
Description	Sets/Gets the center frequency of notch filter 4.
Syntax	Read: NOTCH4CENTER Write: NOTCH4CENTER < <i>value</i> >
Firmware	2.1.6
Drive status	Enabled Disabled
Range	50 to 4000
Default value	4000
Unit	Hz
Non-volatile	Yes
See also	NOTCH4BW NOTCH4DEP NOTCH4MODE
EtherCAT	

NOTCH4DEP

Definition	Depth of Notch Filter 4
Type	Variable (R/W)
Description	Sets/Gets the depth of notch filter 4.
Syntax	Read: NOTCH4DEP Write: NOTCH4DEP < <i>value</i> >
Firmware	2.1.6
Drive status	Enabled Disabled
Range	0 to 100
Default value	40
Unit	%
Non-volatile	Yes
See also	NOTCH4BW NOTCH4CENTER NOTCH4MODE
EtherCAT	

NOTCH4MODE

Definition	Enable/Disable Notch Filter 4
Type	Variable (R/W)
Description	Enable/Disable notch filter 4.
Syntax	Read: NOTCH4MODE Write: NOTCH4MODE < <i>value</i> >
Firmware	2.1.6
Drive status	Enabled Disabled
Range	0 = disable notch filter 1 = enable notch filter
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	NOTCH4BW NOTCH4CENTER NOTCH4DEP
EtherCAT	

NOTCHBW

Definition	Bandwidth of Notch Filter
Type	Variable (R/W)
Description	Gets/Sets the bandwidth of notch filter.
Syntax	Read: NOTCHBW Write: NOTCHBW < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0.001 to 500
Default value	300
Unit	Hz
Non-volatile	Yes
See also	NOTCH2CENTER NOTCH2DEP NOTCH2MODE
EtherCAT	Not applicable

NOTCHCENTER

Definition	Center Frequency of Notch Filter
Type	Variable (R/W)
Description	Gets/Sets the center frequency of notch filter.
Syntax	Read: NOTCHCENTER Write: NOTCHCENTER < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	50 to 4000
Default value	4000
Unit	Hz
Non-volatile	Yes
See also	NOTCH2BW NOTCH2DEP NOTCH2MODE
EtherCAT	Not applicable

NOTCHDEP

Definition	Depth of Notch Filter
Type	Variable (R/W)
Description	Gets/Sets the depth of notch filter.
Syntax	Read: NOTCHDEP Write: NOTCHDEP < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 100
Default value	40
Unit	%
Non-volatile	Yes
See also	NOTCH2BW NOTCH2CENTER NOTCH2MODE
EtherCAT	Not applicable

NOTCHDUMP

Definition	Notch Filter Dump
Type	Command
Description	Dump notch filter 2 parameter to notch filter 1.
Syntax	NOTCHDUMP
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	NOTCH2BW NOTCH2CENTER NOTCH2DEP NOTCHBW NOTCHCENTER NOTCHDEP
EtherCAT	Not applicable

NOTCHMODE

Definition	Enable/Disable Notch Filter
Type	Variable (R/W)
Description	Enable/Disable notch filter.
Syntax	Read: NOTCH2MODE Write: NOTCH2MODE < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = disable notch filter 1 = enable notch filter
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	NOTCH2BW NOTCH2CENTER NOTCH2DEP
EtherCAT	Not applicable

OCTHRESH

Definition	Over Current Threshold
Type	Variable (R/W)
Description	Gets/Sets over current threshold
Syntax	Read: OCTHRESH Write: OCTHRESH < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0.1 to 100
Default value	Hardware defined
Unit	A
Non-volatile	Yes
See also	OCTIME
EtherCAT	Not applicable

OCTIME

Definition	Over Current Time
Type	Variable (R/W)
Description	Gets/Sets over current time window
Syntax	Read: OCTIME Write: OCTIME < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	1 to 100
Default value	16
Unit	400ns
Non-volatile	Yes
See also	OCTHRESH
EtherCAT	Not applicable

OPMODE

Definition	Drive Operation Mode
Type	Variable (R/W)
Description	Gets/Sets a value that defines the drive operation mode.
Syntax	Read: OPMODE Write: OPMODE < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 = Velocity mode, using serial commands 2 = Current mode, using serial commands 7 = Voltage mode, using serial commands 8 = Position mode, using serial commands
Default value	8
Unit	Not Applicable
Non-volatile	Yes
See also	COMMODE
EtherCAT	Not applicable

OPMODEST

Definition	Drive Operation Mode State
Type	Variable (R)
Description	Gets a value that defines the drive operation mode state.
Syntax	OPMODEST
Firmware	2.0.0
Drive status	Disabled
Range	0 = Velocity mode, using serial commands 2 = Current mode, using serial commands 7 = Voltage mode, using serial commands 8 = Position mode, using serial commands
Default value	0
Unit	Not Applicable
Non-volatile	Yes
See also	COMMODE OPMODE
EtherCAT	Not applicable

OUT

Definition	Output Status
Type	Command
Description	Gets/Sets the state of a digital output.
Syntax	Read: OUT <output#> Write: OUT <output#> <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	EB Model : <i>output #</i> = 1 to 3 AP Model : <i>output #</i> = 1 to 5 <i>value</i> : 0 = Output off 1 = Output on
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	OUTINV OUTMODE OUTPUTS
EtherCAT	60FEh , sub-index 1

OUTBRAKE

Definition	Manual Brake by Output
Type	Variable (R/W)
Description	Gets/Sets the state of the dedicated output that causes the motor brake to engage.
Syntax	Read: OUTBRAKE Write: OUTBRAKE <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = Output off disengages the brake (normal polarity) 1 = Output on engages the brake (normal polarity)
Default value	0
Unit	Not applicable
Non-volatile	No
See also	OUTBRAKEMODE OUTMODE OUTBRAKEENGAGETIME OUTBRAKERELEASETIME OUTBRAKESAFESPD
EtherCAT	Not applicable

OUTBRAKEENGAGETIME

Definition	Brake Engage Time
Type	Variable (R/W)
Description	Gets/Sets the brake engage time
Syntax	Read: OUTBRAKEENGAGETIME Write: OUTBRAKEENGAGETIME < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	10 to 6500
Default value	10
Unit	ms
Non-volatile	Yes
See also	OUTBRAKE OUTBRAKEMODE OUTMODE OUTBRAKERELEASETIME OUTBRAKESAFESPD
EtherCAT	2329h, sub-index 0

OUTBRAKEMODE

Definition	Manual Brake by Output Mode
Type	Variable (R/W)
Description	Defines whether the motor brake is operated automatically by the drive or manually by the user. It may be necessary to control the motor brake manually in certain instances, such as during replacement of a motor.
Syntax	Read: OUTBRAKEMODE Write: OUTBRAKEMODE <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = Manual control of motor brake 1 = Normal brake operation; motor brake disengaged when drive enabled; motor brake engaged when drive disabled.
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	OUTBRAKE OUTMODE OUTBRAKEENGAGETIME OUTBRAKERELEASETIME OUTBRAKESAFESPD
EtherCAT	Not applicable

OUTBRAKERELEASETIME

Definition	Manual Brake Release Time
Type	Variable (R/W)
Description	Gets/Sets the brake release time
Syntax	Read: OUTBRAKERELEASETIME Write: OUTBRAKERELEASETIME < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 10000
Default value	500
Unit	ms
Non-volatile	Yes
See also	OUTBRAKE OUTBRAKEMODE OUTBRAKEENGAGETIME OUTBRAKESAFESPD
EtherCAT	232Ah, sub-index 0

OUTBRAKESAFESPD

Definition	Brake Release Velocity
Type	Variable (R/W)
Description	Gets/Sets the brake release speed
Syntax	Read: OUTBRAKESAFESPD Write: OUTBRAKESAFESPD < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 200
Default value	10
Unit	mm/s
Non-volatile	Yes
See also	OUTBRAKE OUTMODE OUTBRAKEENGAGETIME OUTBRAKERELEASETIME
EtherCAT	232Bh, sub-index 0

OUTINV

Definition	Output Polarity Inversion
Type	Command
Description	Gets/Sets the output polarity of each of the digital outputs.
Syntax	Read: OUTINV <output#> Write: OUTINV <output#> <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	EB Model : <i>output #</i> = 1 to 3 AP Model : <i>output #</i> = 1 to 5 <i>value</i> : 0 = Output not inverted 1 = Output inverted
Default value	Not applicable
Unit	Not applicable
Non-volatile	Yes
See also	OUT OUTMODE OUTPUTS
EtherCAT	209Bh , sub-index 0

OUTMODE

Definition	Output Mode
Type	Command
Description	Gets/Sets a value that defines the condition that will activate the specified digital output.
Syntax	Read: OUTMODE <output#> Write: OUTMODE <output#> <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range(EB Model)	EB Model : <i>output #</i> = 1 to 3 <i>value:</i> 0 = Idle 1 = Active 2 = Brake Release Signal 3 = Alarm Any Fault 4 = In Position 5 = Stopped 6 = Foldback 14 = Warning On 15 = Faults or Disabled 18 = Over-Current Fault 19 = 1Over-Voltage Fault 20 = Under-Voltage Fault 23 = Homing Complete 26 = In Velocity 29 = Servo Ready 30 = Collision Detected 31 = At Torque Limit
Range(AP Model)	AP Model : <i>output #</i> = 1 to 5 <i>value:</i> 0 = Idle 1 = Active 2 = Brake Release Signal 3 = Alarm Any Fault 4 = In Position 5 = Stopped 6 = Foldback 14 = Warning On

	15 = Faults or Disabled 18 = Over-Current Fault 19 = 1Over-Voltage Fault 20 = Under-Voltage Fault 23 = Homing Complete 26 = In Velocity 29 = Servo Ready 30 = Collision Detected 31 = At Torque Limit
Default value (EB Model)	output 1 = Servo Ready output 2 = Alarm Any Fault output 3 = Brake Release Signal
Default value (EB Model)	output 1 = Servo Ready output 2 = In Position output 3 = Brake Release Signal output 4 = Alarm Any Fault output 5 = Stopped
Unit	Not applicable
Non-volatile	Yes
See also	OUT OUTINV OUTPUTS
EtherCAT	209Ch, sub-index 0

OUTPUTS

Definition	Outputs Status
Type	Command
Description	Indicates the state of all digital outputs. A header lines identifies each of the outputs.
Syntax	OUTPUTS
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = Output off 1 = Output on
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
Example	-->OUTPUTS 1 2 3 0 0 0
See also	OUT OUTINV OUTMODE
EtherCAT	Not applicable

OVERLTHRESH

Definition	Over-Velocity Threshold
Type	Variable (R/W)
Description	Gets/Sets the over velocity threshold
Syntax	Read: OVERLTHRESH Write: OVERLTHRESH < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	1 to 11000
Default value	7500
Unit	mm/s
Non-volatile	Yes
See also	OVELTIME
EtherCAT	232Ch, sub-index 0

OVELTIME

Definition	Over-Velocity Time Threshold
Type	Variable (R/W)
Description	Gets/Sets the over velocity time window
Syntax	Read: OVELTIME Write: OVELTIME <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	1 to 1000
Default value	1
Unit	ms
Non-volatile	Yes
See also	OVELTHRESH
EtherCAT	Not applicable

OVTHRESH

Definition	Over-Voltage Threshold
Type	Variable (R)
Description	Indicates the threshold level for bus over-voltage detection. OVTHRESH will be set according to power board EEPROM when drive power up.
Syntax	OVTHRESH
Firmware	2.0.0
Drive status	Enabled Disabled
Range	90 to 500
Default value	400.000
Unit	V
Non-volatile	Yes
See also	UVTHRESH VBUS VBUSREADOUT
EtherCAT	20A1h, sub-index 0

PAEN

Definition	Phase Advance Enable command
Type	Variable (R/W)
Description	Enable/Disable the field weakening control function.
Syntax	Read: PAEN Write: PAEN < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 1
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	PAF PAL
EtherCAT	Not applicable

PAF

Definition	Phase advance factor for Udc reference ratio
Type	Variable (R/W)
Description	Gets/Sets the value of phase advance factor.
Syntax	Read: PAF Write: PAF < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0.6 to 1
Default value	0.9
Unit	Not applicable
Non-volatile	Yes
See also	PAEN PAL
EtherCAT	Not applicable

PAL

Definition	Phase advance limit
Type	Variable (R/W)
Description	Gets/Sets the value of phase advance limit.
Syntax	Read: PAL Write: PAL< <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 70
Default value	30
Unit	degree
Non-volatile	Yes
See also	PAEN PAF
EtherCAT	Not applicable

PASSWORD

Definition	Password
Type	Variable (R/W)
Description	Gets/Sets the privilege level of the allowable commands. There are two levels of protection. "factory" – allows all drive commands to be used. "master" – allows certain additional commands to be used. Issue of incorrect password resumes password protection.
Syntax	Read: PASSWORD Write: PASSWORD {<i>password</i>}
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0x0000 to 0xFFFF
Default value	0x1234
Unit	Not Applicable
Non-volatile	No
See also	VER
EtherCAT	Not applicable

PCMD

Definition	Position Command
Type	Variable (R)
Description	Gets the value of the position command.
Syntax	PCMD
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-2^{63} to $2^{63} - 1$
Default value	0
Unit	count
Non-volatile	No
See also	MOVEINC PE PFB
EtherCAT	60FCh , sub-index 0

PCMDREACH

Definition	Position Target Reach
Type	Variable (R)
Description	Gets the value of the position command reach.
Syntax	PCMDREACH
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 1
Default value	0
Unit	count
Non-volatile	No
See also	PCMD MOVEINC PE PFB
EtherCAT	Not applicable

PDEN

Definition	Feed Constant (Unit Conversion) Denominator
Type	Variable (R/W)
Description	The feed constant is the positional movement for any motor movement and is calculated as the following: $\text{Feed constant} = \text{Feed} \div \text{Driving shaft revolutions}$ PDEN defines the denominator (revolutions) of the ratio. Used for scaling the motor revolution (rotary motors) or the motor pitch (linear motors), according to the type of motor (MOTORTYPE). The transfer of position from user unit to encoder unit follows: $\frac{\text{PDEN FBGMS COUNTSINREV}}{\text{PNUM FBGDS} \quad 1}$
Syntax	Read: PDEN Write: PDEN <value>
Firmware	2.0.0
Drive status	Disabled
Range	1 to 4294967295
Default value	1
Unit	Not Applicable
Non-volatile	Yes
See also	PCMD PNUM FBGMS FBGDS MENCRES
EtherCAT	6092h, sub-index 2

PE

Definition	Position Error
Type	Variable (R)
Description	Gets the value of the position error. The position error is calculated as the difference between PCMD and PFB.
Syntax	PE
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-2^{63} to $2^{63} - 1$
Default value	0
Unit	count
Non-volatile	No
See also	PCMD PFB
EtherCAT	60F4h, sub-index 0

PEINPOS

Definition	In Position Error Tolerance
Type	Variable (R/W)
Description	Gets/Sets the error tolerance for declaring an "in position" state. The motor is considered settled when PE has remained below PEINPOS for a time defined by PEINPOSTIME.
Syntax	Read: PEINPOS Write: PEINPOS <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 4294967295
Default value	100
Unit	count
Non-volatile	Yes
See also	PEINPOSTIME INPOS MOVEINC PEMAX STOPPED
EtherCAT	6067h , sub-index 0

PEINPOSTIME

Definition	In Position Time
Type	Variable (R/W)
Description	PEINPOSTIME specifies the duration of INPOS=1 at the end of a commanded movement ("Profile completed and drive is in position").
Syntax	Read: PEINPOSTIME Write: PEINPOSTIME < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 1000
Default value	1
Unit	ms
Non-volatile	Yes
See also	PEINPOS INPOS MOVEINC PEMAX STOPPED
EtherCAT	6068h, sub-index 0

PEMAX

Definition	Maximum Position Error
Type	Variable (R/W)
Description	Maximum position error value that does not produce a fault.
Syntax	Read: PEMAX Write: PEMAX <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 to $2^{63} - 1$
Default value	4194304
Unit	count
Non-volatile	Yes
See also	INPOS MOVEINC PEINPOS STOPPED
EtherCAT	6065h, sub-index 0

PEMAXTIME

Definition	Following Error Time Out
Type	Variable (R/W)
Description	Maximum time out of position following err.
Syntax	Read: PEMAXTIME Write: PEMAXTIME < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	1 to 1000
Default value	1
Unit	ms
Non-volatile	Yes
See also	INPOS MOVEINC PEINPOS STOPPED PEMAX
EtherCAT	6066h, sub-index 0

PFB

Definition	Position Feedback
Type	Variable (R)
Description	Gets the value of the primary (motor) feedback, in user-defined units, including any offsets that have been added. PFB is the actual position, according to the motor feedback.
Syntax	PFB
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-2^{63} to $2^{63} - 1$
Default value	0
Unit	count
Non-volatile	No
See also	PCMD PE PFBOffset
EtherCAT	6064h, sub-index 0

PFBOFFSET

Definition	Position Offset
Type	Variable (R/W)
Description	Gets/Sets a feedback offset that is added to the internal cumulative position counter, to give the value of PFB. When using count units, only integer values can be entered.
Syntax	Read: PFBOFFSET Write: PFBOFFSET <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-2^{63} to $2^{63} - 1$
Default value	0
Unit	count
Non-volatile	Yes
See also	PCMD PE PFB
EtherCAT	

PFBSOURCE

Definition	The Source of Position Feedback in Position Loop
Type	Variable (R/W)
Description	Gets/Sets the source of position feedback in position loop.
Syntax	Read: PFBSOURCE Write: PFBSOURCE < <i>value</i> >
Firmware	2.1.6
Drive status	Disabled
Range	0 = Position feedback is from observer in position loop 1 = Position feedback is from encoder in position loop
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	PFB SOBPFBK SOBPFBKRES
EtherCAT	

PHASEFIND

Definition	Phase Find Command
Type	Command
Description	Initiates a procedure that initializes commutation for incremental encoder systems. The PHASEFIND procedure can be used only on a balanced axis; it cannot be used for unbalanced mechanics, such as a vertical Z-axis.
Syntax	PHASEFIND
Firmware	2.1.6
Drive status	Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	Not applicable
See also	PHASEFINDI PHASEFINDCURSTEP
EtherCAT	

PHASEFIND1DUTY

Definition	Phase Find Command
Type	Command
Description	Initiates a procedure that initializes commutation for incremental encoder systems. The PHASEFIND procedure can be used only on a balanced axis; it cannot be used for unbalanced mechanics, such as a vertical Z-axis.
Syntax	PHASEFIND
Firmware	2.1.6
Drive status	Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	Not applicable
See also	PHASEFINDI PHASEFINDCURSTEP
EtherCAT	

PHASEFINDCURSTEP

Definition	The proportion of current rise in phase finding mechanism
Type	Variable (R/W)
Description	Adjust the speed of the phase finding process
Syntax	Read: PHASEFINDCURSTEP Write: PHASEFINDCURSTEP < <i>value</i> >
Firmware	2.1.6
Drive status	Disabled
Range	10 to 100
Default value	50
Unit	%
Non-volatile	Yes
See also	PHASEFIND PHASEFINDI
EtherCAT	

PHASEFINDI

Definition	Phase find current
Type	Variable (R/W)
Description	Adjusts the current of the phase finding mechanism
Syntax	Read: PHASEFINDI Write: PHASEFINDI < <i>value</i> >
Firmware	2.1.6
Drive status	Disabled
Range	MICONT*40% to DICONT
Default value	1
Unit	Not Applicable
Non-volatile	Yes
See also	PHASEFIND PHASEFINDCURSTEP
EtherCAT	

PHASEFINDST

Definition	Phase Find Status
Type	Variable (R)
Description	Indicates the state of the commutation Phase Find procedure for incremental encoders.
Syntax	PHASEFINDST
Firmware	2.1.6
Drive status	Disabled
Range	0 = Not started 1 = Running 2 = Succeeded 3 = Failed
Default value	0
Unit	Not Applicable
Non-volatile	No
See also	PHASEFIND PHASEFINDCURSTEP
EtherCAT	

PNUM

Definition	Feed Constant (Unit Conversion) Numerator
Type	Variable (R/W)
Description	The feed constant is the positional movement for any motor movement and is calculated as the following: $\text{Feed constant} = \text{Feed} \div \text{Driving shaft revolutions}$ PNUM defines the numerator (feed) of the ratio. Used for scaling the motor revolution (rotary motors) or the motor pitch (linear motors), according to the type of motor (MOTORTYPE). The transfer of position from user unit to encoder unit follows: $\frac{\text{PDEN FBGMS COUNTSINREV}}{\text{PNUM FBGDS} \quad 1}$
Syntax	Read: PNUM Write: PNUM <value>
Firmware	2.0.0
Drive status	Disabled
Range	1 to 4294967295
Default value	131072
Unit	Not Applicable
Non-volatile	Yes
See also	PCMD PDEN FBGMS FBGDS MENCRES
EtherCAT	6092h, sub-index 1

POSLIMMODE

Definition	Software Position Limit Mode
Type	Variable (R/W)
Description	Gets/Sets a variable that defines whether the software position limits function is enabled. This function can be enabled only after a successful homing has been performed. When POSLIMMODE is set to 1, POSLIMNEG and POSLIMPOS serve as motion limits. When either limit is crossed, a deceleration occurs according to the value of DECSTOPTIME, unless it exceeds the value of DECSTOP. Once a limit is crossed, only motion commands in the return direction can be executed. When a software limit switch is engaged, the 7-segment LED display shows either "L4" or "L5". If both switches are engaged, the display shows "L6". Software position limits and the Disable mode use the same deceleration settings.
Syntax	Read: POSLIMMODE Write: POSLIMMODE <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 = Software position limits disabled 1 = Software position limits enabled
Default value	1
Unit	Not Applicable
Non-volatile	Yes
See also	DECSTOP DECSTOPTIME POSLIMNEG POSLIMPOS
EtherCAT	20ACh, sub-index 0

POSLIMNEG

Definition	Software Position Limit Minimum
Type	Variable (R/W)
Description	The minimum position for software limit.
Syntax	Read: POSLIMNEG Write: POSLIMNEG < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	-2 ⁶³ to 2 ⁶³ - 1
Default value	-274877906944
Unit	count
Non-volatile	Yes
See also	POSLIMMODE POSLIMPOS
EtherCAT	607Dh, sub-index 1 2331h, sub-index 0 2332h, sub-index 0

POSLIMPOS

Definition	Software Position Limit Maximum
Type	Variable (R/W)
Description	The maximum position for software limit
Syntax	Read: POSLIMPOS Write: POSLIMPOS < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	-2^{63} to $2^{63} - 1$
Default value	274877906943
Unit	count
Non-volatile	Yes
See also	POSLIMMODE POSLIMNEG
EtherCAT	607Dh, sub-index 2 2333h, sub-index 0 2334h, sub-index 0

PROBECONFIG

Definition	Touch Probe Configuration
Type	Variable (R)
Description	Get the probe functionality
Syntax	PROBECONFIG
Firmware	2.0.0
Drive status	Enabled Disabled
Range	bit 0: probe 1 enable trigger, 0: Disable; 1: Enable bit 1: probe 1 capture method, 0: single; 1: Continuous bit 2-3: probe 1 source bit bit4: probe 1 capture rising edge bit5: probe 1 capture falling edge bit6-7: reserved bit 8: probe 2 enable trigger, 0: Disable; 1: Enable bit 9: probe 2 capture method, 0: single; 1: Continuous bit 10-11: probe 2 source bit bit12: probe 2 capture rising edge bit13: probe 2 capture falling edge bit14-15: reserved
Default value	0
Unit	Not applicable
Non-volatile	No
See also	PROBECOUNTER PROBEDATAFALL PROBEDATARISE PROBESTATUS
EtherCAT	60B8h, sub-index 0

PROBECOUNTER

Definition	Touch Probe Event Counter
Type	Command
Description	Returns the number of captured events. PROBECOUNTER variable is incremented each time a configured event occurs.
Syntax	PROBECOUNTER {1 2}
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 65535
Default value	0
Unit	Not applicable
Non-volatile	No
See also	PROBECONFIG PROBEDATAFALL PROBEDATARISE PROBESTATUS
EtherCAT	60D5h, sub-index 0 60D6h, sub-index 0 60D7h, sub-index 0 60D8h, sub-index 0

PROBEDATAFALL

Definition	Touch Probe Sampled Data Falling
Type	Command
Description	Reads and stores the captured data from the last event on the falling edge.
Syntax	PROBEDATAFALL {1 2}
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 214483647
Default value	0
Unit	Not applicable
Non-volatile	No
See also	PROBECOUNTER PROBECONFIG PROBEDATARISE PROBESTATUS
EtherCAT	60BAh, sub-index 0 60BBh, sub-index 0

PROBEDATARISE

Definition	Touch Probe Sampled Data Rising
Type	Command
Description	Reads and stores the captured data from the last event on the rising edge.
Syntax	PROBEDATARISE {1 2}
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 214483647
Default value	0
Unit	Not applicable
Non-volatile	No
See also	PROBECOUNTER PROBEDATAFALL PROBECONFIG PROBESTATUS
EtherCAT	60BCh, sub-index 0 60BDh, sub-index 0

PROBESTATUS

Definition	Touch Probe Status
Type	Variable (R)
Description	Indicates whether the probe is enabled and which type of edge event has occurred.
Syntax	PROBESTATUS
Firmware	2.0.0
Drive status	Enabled Disabled
Range	bit 0: probe 1 status, 0: disable; 1: enable bit 1: probe 1 positive edge stored bit 2: probe 1 negative edge stored bit3-5: reserved bit6: when TP1 positive edge stored toggle bit alternated bit7: when TP1 negative edge stored toggle bit alternated bit 8: probe 1 status, 0: disable; 1: enable bit 9: probe 1 positive edge stored bit 10: probe 1 negative edge stored bit11-13: reserved bit14: when TP1 positive edge stored toggle bit alternated bit15: when TP1 negative edge stored toggle bit alternated
Default value	0
Unit	Not applicable
Non-volatile	No
See also	PROBECOUNTER PROBEDATAFALL PROBEDATARISE PROBECONFIG
EtherCAT	60B9h, sub-index 0

PTPVCMD

Definition	Position Command Generator Velocity
Type	Variable (R)
Description	Velocity generated by position command
Syntax	PTPVCMD
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-12000 to 12000
Default value	0
Unit	mm/s
Non-volatile	No
See also	
EtherCAT	Not applicable

PVCRUISE

Definition	Position loop velocity cruise
Type	Variable (R/W)
Description	Gets/Sets position loop cruising speed.
Syntax	Read: PVCRUISE Write: PVCRUISE < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 9000
Default value	1500
Unit	mm/s
Non-volatile	No
See also	
EtherCAT	Not applicable

PWMCMPRSAMPLEEN

Definition	PWM Compare Value Sample Enable
Type	Variable (R/W)
Description	Indicate whether can record PWM compare counter
Syntax	Read: PWMCMPRSAMPLEEN Write: PWMCMPRSAMPLEEN < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = disable 1 = enable
Default value	0
Unit	Not applicable
Non-volatile	No
See also	
EtherCAT	Not applicable

PWMFRQ(厂家命令)

Definition	PWM Frequency
Type	Variable (R/W)
Description	Gets the frequency of the PWM signals.
Note	Power EEPROM
Syntax	PWMFRQ
Firmware	2.0.0
Drive status	Enabled Disabled
Range	8 and 16
Default value	8
Unit	kHz
Non-volatile	No
See also	DIPEAK VBUS
EtherCAT	Not applicable

PWMSWITCHEN(厂家命令)

Definition	PWM Frequency Switch Enable
Type	Variable (R/W)
Description	Indicates the PWM frequency if switches according to 8/16kHz. When PWMSWITCHEN = 1, PWM frequency will switch to 16kHz if rated current of motor is lower than 75% drive rated current. When PWMSWITCHEN = 2, PWM frequency will switch to 16kHz.
Syntax	Read: PWMSWITCHEN Write: PWMSWITCHEN <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = use default value from power board EEPROM 1 = PWM frequency is 8kHz or 16kHz, according to motor. 2 = PWM frequency is forced to 16kHz
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	Not applicable

PWMU

Definition	PWM Phase U (STX)
Type	Password protected variable (R), for Servotronix use only.
Description	Indicates the actual PWM at Phase U (of UVW).
Syntax	PWMU
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 65535
Default value	3125
Unit	Not applicable
Non-volatile	No
See also	CLVD CLVQ ICMD PWMFRQ PWMV PWMW VBUS
EtherCAT	Not applicable

PWMV

Definition	PWM Phase V (STX)
Type	Password protected variable (R), for Servotronix use only.
Description	Indicates the actual PWM at Phase V (of UVW).
Syntax	PWMV
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 65535
Default value	3125
Unit	Not applicable
Non-volatile	No
See also	CLVD CLVQ ICMD PWMFRQ PWMU PWMW VBUS
EtherCAT	Not applicable

PWMW

Definition	PWM Phase W (STX)
Type	Password protected variable (R), for Servotronix use only.
Description	Indicates the actual PWM at Phase W (of UVW).
Syntax	PWMW
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 65535
Default value	3125
Unit	Not applicable
Non-volatile	No
See also	CLVD CLVQ ICMD PWMFRQ PWMU PWMV VBUS
EtherCAT	Not applicable

READY

Definition	Drive Ready
Type	Variable (R)
Description	Indicates whether the drive is ready for activation with only external remote enable switch still required (ACTIVE)
Syntax	READY
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = Faults exist or SWEN 0 1 = No faults exist and SWEN 1
Default value	0
Unit	Not applicable
Non-volatile	No
See also	ACTIVE EN FLT K REMOTE ST SWEN
EtherCAT	2113h, sub-index 0

RECDONE

Definition	Recording Done
Type	Variable (R)
Description	Indicates whether the RECORD command is done and data is available.
Syntax	RECDONE
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = Recording not finished 1 = Recording done; data available
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	GET RECOFF RECORD RECTRIG
EtherCAT	Not applicable

RECOFF

Definition	Stop Recording
Type	Command
Description	Stops an active recording.
Syntax	RECOFF
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	GET RECOFF RECORD RECTRIG
EtherCAT	Not applicable

RECORD

Definition	Record
Type	Command
Description	Captures real-time variables to memory for retrieval/ display by the GET command. RECORD must be set up before the RECTRIG command is used.
Syntax	RECORD <i>sample_time num_points var1</i> [<i>var2 ... var6</i>] <i>sample_time</i> = 0 to 1000000 (multiples of 31.25 μs) <i>num_points</i> = 1 to 2000 <i>var</i> = Name of a recordable system variable. System variables must be preceded by a quotation mark (").
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	GET RECOFF RECORD RECTRIG
EtherCAT	Not applicable

RECTRIG

Definition	Trigger Recording
Type	Command
Description	Triggers the recorder. RECORD must be set up before a RECTRIG command is issued. The recording mechanism tracks the value of a system variable and starts the recording as soon as the value goes above or below the specified value. The recorder can also record a specified number of points before the trigger condition occurs. Known Limitation: If a trigger occurs before the pre-trigger buffer has been filled, the beginning of the recording will have garbage data.
Syntax	RECTRIG <i>var level pre-trig</i> {2 3} <i>var</i> = Name of a recordable system variable that appears in RECTRIGLIST. System variables must be preceded by a quotation mark ("). <i>level</i> = Threshold value for the trigger <i>pre-trig</i> = number of points to be recorded prior to trigger 2 3 = defines whether trigger occurs when absolute value of a recorded is below (2) or above (3) the threshold. If an absolute value is used, the threshold level cannot be negative. RECTRIG "IMM = starts the recording immediately. RECTRIG "CMD = starts the recording as soon as the next command is sent to the drive.
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	GET RECOFF RECORD RECTRIG
EtherCAT	Not applicable

REGENCHECKENABLE

Definition	Regeneration fault check enable
Type	Variable (R/W)
Description	Indicate whether check regeneration fault status
Syntax	Read: REGENCKECKENABLE Write: REGENCKECKENABLE < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 = disable 1 = enable
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	REGENMAXONTIME REGENPOW REGENRES
EtherCAT	2335h, sub-index 0

REGENFEEDBACK

Definition	Regeneration Open Status
Type	Variable (R)
Description	Get the regeneration status of drive.
Syntax	REGENFEEDBACK
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-1 = Close 0 = idle 1 = open
Default value	0
Unit	Not applicable
Non-volatile	No
See also	
EtherCAT	Not applicable

REGENMAXONTIME

Definition	Regeneration Resistor Maximum On Time
Type	Variable (R/W)
Description	The maximum time for which the regeneration resistor may be continually activated (on), in milliseconds.
Syntax	Read: REGENMAXONTIME Write: REGENMAXONTIME < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	10 to 3000
Default value	40
Unit	ms
Non-volatile	Yes
See also	REGENFLTMODE REGENMAXPOW REGENPOW REGENRES
EtherCAT	2336h, sub-index 0

REGENMAXPOW

Definition	Regeneration Resistor Maximum Power
Type	Variable (R/W)
Description	Maximum calculated power of the regeneration resistor, in watts.
Syntax	REGENMAXPOW
Firmware	2.0.0
Drive status	Disabled
Range	0 to 2000
Default value	100.000
Unit	W
Non-volatile	No
See also	REGENFLTMODE REGENMAXONTIME REGENPOW REGENRES
EtherCAT	2337h, sub-index 0

REGENPOW

Definition	Regeneration Resistor Power
Type	Variable (R/W)
Description	Power of the regeneration resistor, in watts. Use REGENPOW -1 if the system does not have a regeneration resistor.
Syntax	Read: REGENPOW Write: REGENPOW <value>
Firmware	2.0.0
Drive status	Disabled
Range	-1 to 32767
Default value	35.000
Unit	W
Non-volatile	Yes
See also	REGENFLTMODE REGENMAXONTIME REGENMAXPOW REGENRES
EtherCAT	2338h , sub-index 0

REGENRES

Definition	Regeneration Resistor Resistance
Type	Variable (R/W)
Description	Resistance of the regeneration resistor, in ohms. Use REGENRES -1 if the system does not have a regeneration resistor.
Syntax	Read: REGENRES Write: REGENRES < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	-1 to 32767
Default value	50.000
Unit	Ohm
Non-volatile	Yes
See also	REGENFLTMODE REGENMAXONTIME REGENMAXPOW REGENPOW
EtherCAT	2339h , sub-index 0

RELAYOFFVOLT(厂家命令)

Definition	Relay release voltage
Type	Variable (R/W)
Description	Gets/Sets the main relay release voltage threshold
Syntax	Read: RELAYOFFVOLT Write: RELAYOFFVOLT < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 400
Default value	170.000
Unit	V
Non-volatile	Yes
See also	
EtherCAT	Not applicable

RELAYONVOLT(厂家命令)

Definition	Relay engage voltage
Type	Variable (R/W)
Description	Gets/Sets the main relay engage voltage threshold
Syntax	Read: RELAYONVOLT Write: RELAYONVOLT < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 400
Default value	235.000
Unit	V
Non-volatile	Yes
See also	
EtherCAT	Not applicable

RELAYSTABLEVOLT(厂家命令)

Definition	Relay stable voltage
Type	Variable (R/W)
Description	Gets/Sets the main relay engage voltage window
Syntax	Read: RELAYSTABLEVOLT Write: RELAYSTABLEVOLT <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 to 100
Default value	20.000
Unit	V
Non-volatile	Yes
See also	
EtherCAT	Not applicable

REMOTE

Definition	Remote Hardware Enable Status
Type	Variable (R)
Description	Indicates the state of the external hardware enable input line.
Syntax	REMOTE
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = Remote enable input off. 1 = Remote enable input on.
Default value	1
Unit	Not applicable
Non-volatile	No
See also	ACTIVE READY RELAY RELAYMODE
EtherCAT	20BAh, sub-index 0

RESTART

Definition	Restart the MCU
Type	Command
Description	Soft restart MCU
Syntax	RESTART
Firmware	2.0.0
Drive status	Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	Not applicable
See also	
EtherCAT	Not applicable

RIGID

Definition	Rigid Table
Type	Variable (R/W)
Description	Gets/Sets drive system rigidity
Syntax	Read: RIGID Write: RIGID < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 31
Default value	18
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	233Ah, sub-index 0

RUNGAIN

Definition	The Coefficient of Gain while STOPPED is 0
Type	Variable (R/W)
Description	Adjust the coefficient of gain while STOPPED is 0
Syntax	Read: RUNGAIN Write: RUNGAIN <value>
Firmware	2.1.6
Drive status	Enabled Disabled
Range	0.500 to 3.000
Default value	1.000
Unit	Not applicable
Non-volatile	Yes
See also	RUNGAINTYPE
EtherCAT	

RUNGAINTYPE

Definition	The Effective Type of Run Gain
Type	Variable (R/W)
Description	Change the effective type of run gain function
Syntax	Read: RUNGAINTYPE Write: RUNGAINTYPE < <i>value</i> >
Firmware	2.1.6
Drive status	Disabled
Range	0: run gain will be not effective 1: run gain will be effective in position loop control 2: run gain will be effective in position loop control and velocity loop control
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	RUNGAINTYPE
EtherCAT	

SAVE

Definition	Save Parameters
Type	Command
Description	Copies all system configuration variables from working RAM to non-volatile memory. This command must be executed in order to retain setting changes during power cycling.
Syntax	SAVE
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not Applicable
Default value	Not Applicable
Unit	Not Applicable
Non-volatile	Not Applicable
See also	DUMP FACTORYRESTORE
EtherCAT	2340h, sub-index 1

SOBBW

Definition	SOB Band Width
Type	Variable (R/W)
Description	Gets/Sets speed observer bandwidth
Syntax	Read: SOBBW Write: SOBBW < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	2 to 600
Default value	100.000
Unit	Hz
Non-volatile	Yes
See also	
EtherCAT	2341h, sub-index 0

SOBI

Definition	Torque Estimation Output of Speed Observer with Apeak unit
Type	Variable (R)
Description	Indicate the torque estimation output of speed observer with Apeak unit
Syntax	Read: SOBI
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-100 to 100
Default value	0.000
Unit	A
Non-volatile	No
See also	
EtherCAT	Not applicable

SOBPFBK

Definition	Position Feedback of Speed Observer with count unit
Type	Variable (R)
Description	Indicate the position feedback of speed observer with count unit
Syntax	Read: SOBPFBK
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-2^{63} to $2^{63} - 1$
Default value	0
Unit	count
Non-volatile	No
See also	
EtherCAT	Not applicable

SOBPFBKRES

Definition	Position Feedback Residue of Speed Observer with count unit
Type	Variable (R)
Description	Indicate the position feedback residue of speed observer with count unit
Syntax	Read: SOBPFBKRES
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-2^{63} to $2^{63} - 1$
Default value	0
Unit	count
Non-volatile	No
See also	
EtherCAT	Not applicable

SOBT

Definition	Torque/Force Estimation Output of Speed Observer with Apeak unit
Type	Variable (R)
Description	Get the torque/force estimation of speed observer with apeak unit.
Syntax	SOBT
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-100 to 100
Default value	0
Unit	A
Non-volatile	Yes
See also	SOBTGAIN SOBTINTC SOBTOUTTC
EtherCAT	Not applicable

SOBTGAIN

Definition	SOB Torque/Force Output Gain
Type	Variable (R/W)
Description	Gets/Sets the gain of SOB torque/force estimation out.
Syntax	Read: SOBTGAIN Write: SOBTGAIN < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-2 to 2
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	SOBT SOBTINTC SOBTOUTTC
EtherCAT	Not applicable

SOBTINTC

Definition	SOB Torque/Force Input LPF Time Constant
Type	Variable (R/W)
Description	Gets/Sets the SOB torque/force input lpf time constant.
Syntax	Read: SOBTINTC Write: SOBTINTC < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 1000
Default value	0
Unit	ms
Non-volatile	Yes
See also	SOBT SOBTGAIN SOBTOUTTC
EtherCAT	2343h, sub-index 0

SOBTOUTTC

Definition	SOB Torque/Force Output LPF Time Constant
Type	Variable (R/W)
Description	Gets/Sets the SOB torque/force output lpf time constant.
Syntax	Read: SOBTOUTTC Write: SOBTOUTTC <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 1000
Default value	0.5
Unit	ms
Non-volatile	Yes
See also	SOBT SOBTGAIN SOBTINTC
EtherCAT	2344h, sub-index 0

SOBVFBK

Definition	Velocity Feedback 1 of Speed Observer with mm/s unit
Type	Variable (R)
Description	Get the observed speed 1.
Syntax	Read: SOBVFBK
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-10000 to 10000
Default value	0.000
Unit	mm/s
Non-volatile	No
See also	
EtherCAT	Not applicable

SOBVFBK2

Definition	Velocity Feedback 2 of Speed Observer with mm/sunit
Type	Variable (R)
Description	Get the observed speed 2.
Syntax	Read: SOBVFBK2
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-10000 to 10000
Default value	0
Unit	mm/s
Non-volatile	No
See also	
EtherCAT	2345h, sub-index 0

SOBVFBKTYPE

Definition	SOB Velocity Output Type
Type	Variable (R/W)
Description	Gets/Sets the speed observer's output source
Syntax	Read: SOBBW Write: SOBBW <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = SOBVFBK 1 = SOBVFBK2
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	2346h, sub-index 0

ST

Definition	Drive Status Messages
Type	Command
Description	Returns detailed drive status messages.
Syntax	ST
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	Not applicable
See also	ACTIVE FLT FLTHIST READY REMOTE SWEN
EtherCAT	2114h, sub-index 1

STALLTIME

Definition	Stall Time
Type	Variable (R/W)
Description	The minimum length of time at which a stall condition generates a stall fault. A stall condition occurs when $[I > \text{MICON}T]$ and $[I > 0.9 \times \text{ILIM}]$ and $[V < \text{STALLVEL}]$. A stall fault occurs whenever the duration of a stall condition exceeds STALLTIME. The drive's digital display shows F3 when a stall fault occurs.
Syntax	Read: STALLTIME Write: STALLTIME < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 10000
Default value	350
Unit	ms
Non-volatile	Yes
See also	STALLVEL
EtherCAT	2347h, sub-index 0

STALLVEL

Definition	Stall Velocity
Type	Variable (R/W)
Description	The velocity threshold for entering a stall condition. A stall condition occurs when $[I > \text{MICONT}]$ and $[I > I_{\text{stall}}]$ and $[V < \text{STALLVEL}]$. I_{stall} is maximum value of $0.9 \cdot \text{ILIM}$ and DICONT. A stall fault occurs whenever a stall condition exceeds STALLTIME.
Syntax	Read: <code>STALLVEL</code> Write: <code>STALLVEL <value></code>
Firmware	2.0.0
Drive status	Disabled
Range	0 to 500
Default value	60.000
Unit	mm/s
Non-volatile	Yes
See also	STALLTIME
EtherCAT	2348h, sub-index 0

STEP

Definition	Step Command
Type	Command
Description	Generates a step or square wave velocity command. This command is similar to the J command, but allows repetition of STEP to create a square wave velocity command.
Syntax	STEP { <i>duration1</i> } { <i>velocity1</i> } [<i>duration2</i> <i>velocity2</i>]
Firmware	2.0.0
Drive status	Enabled Disabled
Range	<i>duration1</i> / <i>duration2</i> : +[unlimited] <i>velocity1</i> / <i>velocity2</i> : ±VLIM
Default value	Not Applicable
Unit	<i>duration</i> = ms <i>velocity</i> = mm/s
Non-volatile	Not Applicable
See also	ACC J OPMODE RECORD STOP VLIM
EtherCAT	Not applicable

STOP

Definition	Stop Motion Command
Type	Command
Description	Stops motion in OPMODE 0 (J and STEP commands) and OPMODE 2 (T command). Unlike the K command, the drive is not disabled using the STOP command. In OPMODE 1 or 3, STOP is ignored.
Note	Do not use STOP to stop motion generated by HOMECMD. To stop a homing procedure, use the command HOMECMD 0.
Syntax	STOP
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	Not applicable
See also	DEC DECSTOP J STEP
EtherCAT	Not applicable

STOPPED

Definition	Position Motion Ended
Type	Variable (R)
Description	Reports whether the position profile generated by MOVEINC and MOVEABS has been completed, therefore allowing the next command to be issued. STOPPED is updated while drive is operating in OPMODE 8. It is also updated in OPMODE 0 provided the HD velocity controller is active (VELCONTROLMODE=7).
Syntax	Read: STOPPED Write: STOPPED <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-1 = Movement was interrupted (e.g., due to Disable or Hold) 0 = Not completed 1 = Profile completed 2 = Profile completed and drive is in position (INPOS=1)
Default value	0
Unit	Not applicable
Non-volatile	Not applicable
See also	DEC DECSTOP J STEP STOP
EtherCAT	Not applicable

SWEN

Definition	Software Enable Status
Type	Variable (R)
Description	Indicates the state of software enable. This condition can be toggled using the EN and K commands.
Syntax	SWEN
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 =Software enable switch off (K command has been issued) 1 =Software enable switch on (EN command has been issued)
Default value	0
Unit	Not applicable
Non-volatile	No
See also	ACTIVE EN FLT K READY REMOTE ST SWENMODE
EtherCAT	20A2h, sub-index 0

SWENMODE

Definition	Software Enable on Power-Up
Type	Variable (R/W)
Description	Gets/Sets the state of the Software Enable switch when the drive is powered up. Requires COMMODE=0. SWENMODE is applicable only to drives using serial communication (COMMODE=0). SWENMODE is not applicable to drives using CANopen and EtherCAT communication (COMMODE=1).
Syntax	Read: SWENMODE Write: SWENMODE <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = Software Enable is off at power-up 1 = Software Enable is on at power-up
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	ACTIVE COMMODEEN READY SWEN
EtherCAT	2349h, sub-index 0

SYSERR

Definition	System Error
Type	Variable (R)
Description	Get the drive system error bit.
Syntax	SYSERR
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0x80000000 to 0x7FFFFFFF
Default value	0
Unit	Not applicable
Non-volatile	No
See also	
EtherCAT	Not applicable

SYSLOAD

Definition	System Resource Use Situation
Type	Variable (R)
Description	Get the load of MCU compute ability.
Syntax	SYSLOAD
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 10000
Default value	0
Unit	0.01us
Non-volatile	No
See also	
EtherCAT	Not applicable

SYSLOADNUM

Definition	System Resource Over Load Number
Type	Command
Description	Indicates the source of Realtime Overload Fault(FLT 89).
Syntax	SYSLOADNUM
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	
EtherCAT	Not applicable

SYSST

Definition	System Mode State
Type	Variable (R)
Description	Get the state of system state machine
Syntax	SYSST
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = not ready switch on 1 = switch on disabled 2 = ready switch 3 = switch on 4 = operation 5 = fault reaction 6 = fault 7 = quick stop
Default value	0
Unit	Not applicable
Non-volatile	No
See also	
EtherCAT	Not applicable

T

Definition	Current Command
Type	Command
Description	Sets the current in OPMODE 2 (serial current mode). This command is subject to current limits, clamps, and digital filtering, and it is set to zero whenever the drive is enabled or disabled. The commands STOP and K , and changing the operating mode, also zero the value of T.
Syntax	T Queries T { <i>current</i> [<i>duration</i>] } Writes
Firmware	2.0.0
Drive status	Enabled Disabled
Range	<i>current</i> : ±ILIM <i>duration</i> : +[unlimited]
Default value	Not applicable
Unit	current = A duration = ms
Non-volatile	Not applicable
See also	I ICMD ILIM OPMODE
EtherCAT	6071h, sub-index 0

TD

Definition	D Axis Current Command
Type	Variable (R/W)
Description	Gets/Sets the D axis current command.
Syntax	Read: TD Write: TD <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-100 to 100
Default value	0
Unit	A
Non-volatile	No
See also	I ICMD ILIM OPMODE T
EtherCAT	Not applicable

TEMPCOEFF(厂家命令)

Definition	Temperature Sample Calibration Coefficient
Type	Variable (R/W)
Description	Gets/Sets the temperature Sample Calibration Coefficient. TEMPCOEFF will be set according to power board EEPROM when drive power up.
Syntax	Read: TEMPCOEFF Write: TEMPCOEFF <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 to 2
Default value	1.020
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	Not applicable

TESTSIGNALAMP(厂家命令)

Definition	Test Signal Amplitude
Type	Variable (R/W)
Description	Gets/Sets the amplitude of test signal. Effective in TESTSIGNALTYPE 1, 2 and 3.
Syntax	Read: TESTSIGNALAMP Write: TESTSIGNALAMP < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 10000
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	TESTSIGNALDIR TESTSIGNALDUTY TESTSIGNALENABLE TESTSIGNALFREQ TESTSIGNALNUM TESTSIGNALOFFSET TESTSIGNALOUT TESTSIGNALTOCMD TESTSIGNALTYPE
EtherCAT	Not applicable

TESTSIGNALDIR(厂家命令)

Definition	Test Signal Direction
Type	Variable (R/W)
Description	Gets/Sets the direction of test signal. Effective in TESTSIGNALTYPE 3.
Syntax	Read: TESTSIGNALDIR Write: TESTSIGNALDIR < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 = down 1 = up
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	TESTSIGNALAMP TESTSIGNALDUTY TESTSIGNALENABLE TESTSIGNALFREQ TESTSIGNALNUM TESTSIGNALOFFSET TESTSIGNALOUT TESTSIGNALTOCMD TESTSIGNALTYPE
EtherCAT	Not applicable

TESTSIGNALDUTY(厂家命令)

Definition	Test Signal Duty
Type	Variable (R/W)
Description	Gets/Sets the duty of test signal. Effective in TESTSIGNALTYPE 2.
Syntax	Read: TESTSIGNALDUTY Write: TESTSIGNALDUTY < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 1
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	TESTSIGNALDIR TESTSIGNALAMP TESTSIGNALENABLE TESTSIGNALFREQ TESTSIGNALNUM TESTSIGNALOFFSET TESTSIGNALOUT TESTSIGNALTOCMD TESTSIGNALTYPE
EtherCAT	Not applicable

TESTSIGNALENABLE(厂家命令)

Definition	Test Signal Enable
Type	Variable (R/W)
Description	Enable the test signal.
Syntax	Read: TESTSIGNALENABLE Write: TESTSIGNALENABLE < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 = disable 1 = enable
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	TESTSIGNALDIR TESTSIGNALDUTY TESTSIGNALAMP TESTSIGNALFREQ TESTSIGNALNUM TESTSIGNALOFFSET TESTSIGNALOUT TESTSIGNALTOCMD TESTSIGNALTYPE
EtherCAT	Not applicable

TESTSIGNALFREQ(厂家命令)

Definition	Test Signal Frequency
Type	Variable (R/W)
Description	Gets/Sets the frequency of test signal. Effective in TESTSIGNALTYPE 1, 2 and 3.
Syntax	Read: TESTSIGNALFREQ Write: TESTSIGNALFREQ < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0.001 to 10000
Default value	1
Unit	Hz
Non-volatile	Yes
See also	TESTSIGNALDIR TESTSIGNALDUTY TESTSIGNALENABLE TESTSIGNALAMP TESTSIGNALNUM TESTSIGNALOFFSET TESTSIGNALOUT TESTSIGNALTOCMD TESTSIGNALTYPE
EtherCAT	Not applicable

TESTSIGNALNUM(厂家命令)

Definition	Test Signal Number
Type	Variable (R/W)
Description	Gets/Sets the period of test signal, set 0 to run continuous. Effective in TESTSIGNALTYPE 1, 2 and 3.
Syntax	Read: TESTSIGNALNUM Write: TESTSIGNALNUM <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 to 4294967295
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	TESTSIGNALDIR TESTSIGNALDUTY TESTSIGNALENABLE TESTSIGNALFREQ TESTSIGNALAMP TESTSIGNALOFFSET TESTSIGNALOUT TESTSIGNALTOCMD TESTSIGNALTYPE
EtherCAT	Not applicable

TESTSIGNALOFFSET(厂家命令)

Definition	Test Signal Offset
Type	Variable (R/W)
Description	Gets/Sets the offset of test signal. Effective in TESTSIGNALTYPE 1, 2 and 3.
Syntax	Read: TESTSIGNALOFFSET Write: TESTSIGNALOFFSET <value>
Firmware	2.0.0
Drive status	Disabled
Range	-10000 to 10000
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	TESTSIGNALDIR TESTSIGNALDUTY TESTSIGNALENABLE TESTSIGNALFREQ TESTSIGNALNUM TESTSIGNALAMP TESTSIGNALOUT TESTSIGNALTOCMD TESTSIGNALTYPE
EtherCAT	Not applicable

TESTSIGNALOUT(厂家命令)

Definition	Test Signal Out
Type	Variable (R)
Description	Indicates the current value of test signal.
Syntax	TESTSIGNALAMP
Firmware	2.0.0
Drive status	Disabled
Range	-10000 to 10000
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	TESTSIGNALDIR TESTSIGNALDUTY TESTSIGNALENABLE TESTSIGNALFREQ TESTSIGNALNUM TESTSIGNALOFFSET TESTSIGNALAMP TESTSIGNALTOCMD TESTSIGNALTYPE
EtherCAT	Not applicable

TESTSIGNALTOCMD(厂家命令)

Definition	Test Signal To Command Type
Type	Variable (R/W)
Description	Gets/Sets the destination of test signal.
Syntax	Read: TESTSIGNALTOCMD Write: TESTSIGNALTOCMD < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 = idle 1 = D axis voltage command 2 = Q axis Voltage command 3= D axis current command 4 = Q axis current command 5 = velocity command 6 = position command
Default value	5
Unit	Not applicable
Non-volatile	Yes
See also	TESTSIGNALDIR TESTSIGNALDUTY TESTSIGNALENABLE TESTSIGNALFREQ TESTSIGNALNUM TESTSIGNALOFFSET TESTSIGNALAMP TESTSIGNALOUT TESTSIGNALTYPE
EtherCAT	Not applicable

TESTSIGNALTYPE(厂家命令)

Definition	Test Signal Type
Type	Variable (R/W)
Description	Gets/Sets the type of test signal.
Syntax	Read: TESTSIGNALTYPE Write: TESTSIGNALTYPE <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 = idle 1 = sine wave 2 = square wave 3 = slope wave
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	TESTSIGNALDIR TESTSIGNALDUTY TESTSIGNALENABLE TESTSIGNALFREQ TESTSIGNALNUM TESTSIGNALOFFSET TESTSIGNALAMP TESTSIGNALOUT TESTSIGNALTOCMD
EtherCAT	Not applicable

TORFF

Definition	Torque/Force Feed-Forward
Type	Variable (R)
Description	Torque/Force feed-forward from velocity command
Syntax	TORFF
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-500.000 to 500.000
Default value	Not applicable
Unit	Nm/N
Non-volatile	No
See also	
EtherCAT	Not applicable

TORQUESLOP

Definition	Torque/Force slope
Type	Variable (R/W)
Description	Indicate the configured rate of change of torque/force
Syntax	Read: TORQUESLOP Write: TORQUESLOP < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 3000000
Default value	0
Unit	mNm/s or mN/s
Non-volatile	No
See also	
EtherCAT	6087h, sub-index 0

TRUN

Definition	Run Time
Type	Variable (R)
Description	A counter that reports the total elapsed runtime of the drive (in both enabled and disabled state) since production. Cannot be reset
Syntax	TRUN
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	hours:minutes:seconds
Non-volatile	No
See also	DRIVENAME
EtherCAT	Not applicable

UABSAMPLEEN

Definition	Alfa and beta phase voltage record enable
Type	Variable (R/W)
Description	Indicate whether can record Alfa and beta phase voltage feedback
Syntax	Read: UABSAMPLEEN Write: UABSAMPLEEN < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0: disable 1: enable
Default value	0
Unit	V
Non-volatile	No
See also	UBETA UALPHA
EtherCAT	Not applicable

UALPHA

Definition	Ualpha Feedback
Type	Variable (R)
Description	Get Ualpha Feedback.
Syntax	UALPHA
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-800 to 800
Default value	0.000
Unit	V
Non-volatile	No
See also	UBETA UABSAMPLEEN
EtherCAT	Not applicable

UBETA

Definition	Ubeta Feedback
Type	Variable (R)
Description	Get Ubeta Feedback.
Syntax	UBETA
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-800 to 800
Default value	0.000
Unit	V
Non-volatile	No
See also	UALPHA UABSAMPLEEN
EtherCAT	Not applicable

UD

Definition	Axis D voltage Feedback
Type	Variable (R)
Description	Get Axis D voltage Feedback
Syntax	UD
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-800 to 800
Default value	0.000
Unit	V
Non-volatile	No
See also	UQ
EtherCAT	Not applicable

UDCLIMRATIO

Definition	VBUS usage ratio
Type	Variable (R/W)
Description	Gets/Sets VBUS usage ratio
Syntax	Read: UDCLIMRATIO Write: UDCLIMRATIO <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 to 1
Default value	0.935
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	Not applicable

UDCMD

Definition	Axis D Voltage Command Display
Type	Variable (R)
Description	Get Axis D Voltage Command
Syntax	UDCMD
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-800 to 800
Default value	0.000
Unit	V
Non-volatile	No
See also	UQCMD
EtherCAT	Not applicable

UDQSAMPLEEN

Definition	Axis D and Q voltage feedback record Enable
Type	Variable (R/W)
Description	Indicate whether Axis D and Axis Q voltage is recordable
Syntax	Read: UDQSAMPLEEN Write: UDQSAMPLEEN <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = disable 1 = enable
Default value	0
Unit	Not applicable
Non-volatile	No
See also	
EtherCAT	Not applicable

UNITSLINACC

Definition	Units Linear Acc/Dec
Type	Variable (R/W)
Description	Gets/sets a value that defines the units of acceleration variables in a linear system.
Syntax	Read: UNITSLINACC Write: UNITSLINACC < <i>value</i> >
Firmware	2.1.6
Drive status	Disabled
Range	1 = mm/s ²
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	UNITSLINPOS UNITSLINVEL
EtherCAT	Not applicable

UNITSLINPOS

Definition	Units Linear Position
Type	Variable (R/W)
Description	Gets/sets a value that defines the units of position variables in a linear system.
Syntax	Read: UNITSLINPOS Write: UNITSLINPOS < <i>value</i> >
Firmware	2.1.6
Drive status	Disabled
Range	1 = count(pulse per revolution – PPR lines)
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	UNITSLINACC UNITSLINVEL
EtherCAT	Not applicable

UNITSLINVEL

Definition	Units Linear Velocity
Type	Variable (R/W)
Description	Gets/sets a value that defines the units of velocity variables in a linear system.
Syntax	Read: UNITSLINVEL Write: UNITSLINVEL < <i>value</i> >
Firmware	2.1.6
Drive status	Disabled
Range	1 = mm/s
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	UNITSLINACC UNITSLINPOS
EtherCAT	Not applicable

UQ

Definition	Axis Q voltage Feedback
Type	Variable (R)
Description	Get Axis Q voltage Feedback.
Syntax	UQ
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-800 to 800
Default value	0.000
Unit	V
Non-volatile	No
See also	UD
EtherCAT	Not applicable

UQCMD

Definition	Axis Q Voltage Command Display
Type	Variable (R)
Description	Get Axis Q Voltage Command.
Syntax	UQCMD
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-800 to 800
Default value	0.000
Unit	V
Non-volatile	No
See also	UDCMD
EtherCAT	Not applicable

UVCHECKEN

Definition	Under-Voltage check enable
Type	Variable (R/W)
Description	
Syntax	
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 = 1 =
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	

US

Definition	Us Feedback
Type	Variable (R)
Description	Get Us Feedback.
Syntax	US
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-800 to 800
Default value	0.000
Unit	V
Non-volatile	No
See also	UQ UD
EtherCAT	Not applicable

UVMODE

Definition	Under-Voltage Mode
Type	Variable (R/W)
Description	Gets/Sets a value that defines how the drive will respond to an under-voltage condition.
Syntax	Read: UVMODE Write: UVMODE < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 = Latches fault immediately if drive disabled or enabled. 1 = Issues warning if drive enabled. Ignores if drive disabled. 2 = Issues warning if drive enabled, then waits UVTIME before latching the fault. Ignores if drive disabled. 3 = Issues warning if drive disabled. Latches fault immediately if drive enabled.
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	UVRECOVER UVTHRESH UVTIME VBUS VBUSREADOUT
EtherCAT	20CDh, sub-index 0

UVRECOVER

Definition	Under-Voltage Recovery Mode
Type	Variable (R/W)
Description	Gets/Sets a value that defines how the drive will recover from an under-voltage fault.
Syntax	Read: UVRECOVER Write: UVRECOVER < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 = Recovers by toggling drive from disable to enable condition after the under-voltage condition clears. 1 = Automatically recovers when the under-voltage condition clears.
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	UVMODE UVTHRESH UVTIME VBUS VBUSREADOUT
EtherCAT	20CEh, sub-index 0

UVTHRESH

Definition	Under-Voltage Threshold
Type	Variable (R/W)
Description	Gets/Sets the level for detection of an under-voltage condition.
Note	Power EEPROM
Syntax	Read: UVTHRESH Write: UVTHRESH <value>
Firmware	2.0.0
Drive status	Disabled
Range	90 to 400
Default value	180.000
Unit	V
Non-volatile	Yes
See also	UVMODE UVRECOVER UVTIME VBUS VBUSREADOUT
EtherCAT	20CFh, sub-index 0

UVTIME

Definition	Under-Voltage Time
Type	Variable (R/W)
Description	Gets/Sets the amount of time that an under-voltage warning will be displayed ("u") before it is latched in UVMODE 2. In UVMODE 3, the time begins when the drive is enabled.
Syntax	Read: UVTIME Write: UVTIME < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 10000
Default value	40
Unit	ms
Non-volatile	Yes
See also	UVMODE UVRECOVER UVTHRESH VBUS VBUSREADOUT
EtherCAT	20D0h, sub-index 0

V

Definition	Velocity
Type	Variable (R)
Description	The velocity value measured by the feedback device.
Syntax	V
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-10000 to 10000
Default value	0.000
Unit	mm/s
Non-volatile	No
See also	VCMD
EtherCAT	606Ch, sub-index 0

VBUS

Definition	Bus Voltage (DC)
Type	Variable (R/W)
Description	Gets/Sets the drive bus voltage, used for current controller design. VBUS also affects the value of VMAX.
Syntax	Read: VBUS Write: VBUS < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 850
Default value	320.000
Unit	V
Non-volatile	Yes
See also	OVTHRESH UVMODE UVTHRESH VBUSREADOUT
EtherCAT	20D1h , sub-index 0

VBUSCOEFF(厂家命令)

Definition	Bus Voltage Sample Calibration Coefficient
Type	Variable (R/W)
Description	Gets/Sets the calibration Coefficient of bus Voltage feedback. VBUSCOEFF will be set according to power board EEPROM when drive power up.
Syntax	Read: VBUSCOEFF Write: VBUSCOEFF < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 2
Default value	1.020
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	Not applicable

VBUSCTRLLPF

Definition	Bus Voltage Low Pass Filter Frequency
Type	Variable (R/W)
Description	Gets/Sets the Low Pass Filter Frequency for bus voltage feedback which used in control loop
Syntax	Read: VBUSCTRLLPF Write: VBUSCTRLLPF <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 10000
Default value	2000.000
Unit	Hz
Non-volatile	Yes
See also	
EtherCAT	Not applicable

VBUSFBLPF

Definition	Bus Voltage Low Pass Filter Frequency
Type	Variable (R/W)
Description	Gets/Sets the Low Pass Filter Frequency for bus voltage feedback which used for display
Syntax	Read: VBUSFBLPF Write: VBUSFBLPF < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 10000
Default value	500.000
Unit	Hz
Non-volatile	Yes
See also	
EtherCAT	Not applicable

VBUSREADOUT

Definition	Bus Voltage Measured
Type	Variable (R)
Description	Indicates the bus voltage measured by sensors on the power module.
Syntax	VBUSREADOUT
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 500
Default value	0.000
Unit	V
Non-volatile	No
See also	OVTHRESH UVMODE UVTHRESH VBUS
EtherCAT	6079h, sub-index 0

VCMD

Definition	Velocity Command
Type	Variable (R)
Description	Indicates the velocity command generated either directly (serial or analog), or as the output of the position controller.
Syntax	VCMD
Firmware	2.0.0
Drive status	Enabled Disabled
Range	-10000 to 10000
Default value	0.000
Unit	mm/s
Non-volatile	No
See also	OPMODE V
EtherCAT	606Bh, sub-index 0

VCMDREACH

Definition	Velocity Target Reach
Type	Variable (R)
Description	Indicates if reach the velocity command.
Syntax	VCMDREACH
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 1
Default value	0
Unit	Not applicable
Non-volatile	No
See also	VCMD
EtherCAT	Not applicable

VE

Definition	Velocity Error
Type	Variable (R)
Description	The velocity error of the velocity loop.
Syntax	VE
Firmware	2.0.0
Drive status	Enabled Disabled
Range	± 10000.000
Default value	Not applicable
Unit	mm/s
Non-volatile	No
See also	VEMAX VETIME
EtherCAT	Not applicable

VELCONTROLMODE

Definition	Velocity Loop Controller
Type	Variable (R/W)
Description	Gets/Sets a value that defines the type of velocity loop controller.
Syntax	Read: VELCONTROLMODE Write: VELCONTROLMODE < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 = PI controller (uses KVP , KVI) 1 = PDFF controller (uses KVP , KVI , KVFR)
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	
EtherCAT	Not applicable

VELFF

Definition	Velocity Feed-Forward
Type	Variable(R)
Description	Velocity feed-forward from position command.
Syntax	VELFF
Firmware	2.0.0
Drive status	Enable Disabled
Range	-6500 to +6500
Default value	Not applicable
Unit	mm/s
Non-volatile	No
See also	INFO
EtherCAT	Not applicable

VELFILTRQ

Definition	Velocity Filter Pole Frequency
Type	Variable (R/W)
Description	When VELFILTMODE=1, sets the first order filter, which is applied to the velocity feedback signal before applying the velocity controller.
Syntax	VELFILTRQ <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	1 to 3500
Default value	440.000
Unit	Hz
Non-volatile	Yes
See also	
EtherCAT	211Dh, sub-index 0

VELFILTMODE

Definition	Velocity Filter Mode
Type	Variable (R/W)
Description	Gets/Sets the type of filter that is used for extraction of a velocity signal from the position feedback.
Syntax	Read: VELFILTMODE Write: VELFILTMODE < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 = No filter 1 = First order filter 2 = Observer Type I 3 = Observer Type II
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	FILTMODE V
EtherCAT	20D6h, sub-index 0

VELTHRESH

Definition	Velocity Threshold
Type	Variable (R/W)
Description	The velocity threshold which Indicates velocity reaches command.
Syntax	Read: VELTHRESH Write: VELTHRESH < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 3000
Default value	10
Unit	mm/s
Non-volatile	Yes
See also	
EtherCAT	606Fh, sub-index 0

VELTHRESHTIME

Definition	Velocity Threshold Time
Type	Variable (R/W)
Description	The velocity threshold time which Indicates velocity reaches command.
Syntax	Read: VELTHRESHTIME Write: VELTHRESHTIME < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 1000
Default value	5
Unit	ms
Non-volatile	Yes
See also	
EtherCAT	6070h, sub-index 0

VELWINDOW

Definition	Velocity Window
Type	Variable (R/W)
Description	The Velocity Window
Syntax	Read: VELWINDOW Write: VELWINDOW < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 3000
Default value	50
Unit	mm/s
Non-volatile	Yes
See also	
EtherCAT	606Dh, sub-index 0

VELWINDOWTIME

Definition	Velocity Window Time
Type	Variable (R/W)
Description	The Velocity Window Time
Syntax	Read: VELWINDOWTIME Write: VELWINDOWTIME < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 1000
Default value	5
Unit	ms
Non-volatile	Yes
See also	VELWINDOW
EtherCAT	606Eh, sub-index 0

VEMAX

Definition	Maximum Velocity Error
Type	Variable (R/W)
Description	Maximum velocity error value that does not produce a fault.
Syntax	Read: VEMAX Write: VEMAX < <i>value</i> >
Firmware	2.0.0
Drive status	Disabled
Range	0 to 6000
Default value	0
Unit	mm/s
Non-volatile	Yes
See also	PEMAX VLIM
EtherCAT	2353h, sub-index 0

VER

Definition	Drive Version
Type	Command
Description	Displays the firmware version.
Syntax	VER
Firmware	2.0.0
Drive status	Enable Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	Not applicable
See also	INFO
EtherCAT	Not applicable

VETIME

Definition	Velocity Error Time
Type	Variable (R/W)
Description	Gets/Sets velocity error time window.
Syntax	Read: VETIME Write: VETIME < <i>value</i> >
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 3000
Default value	100
Unit	ms
Non-volatile	Yes
See also	
EtherCAT	2354h, sub-index 0

VLIM

Definition	User Velocity Limit
Type	Variable (R/W)
Description	Gets/Sets the application velocity limit, allowing the user to limit the motor's maximum velocity. VLIM limits the velocity command that will be accepted from the user (using the J command in OPMODE 0) or issued by the control loops (in OPMODE 1). VLIM is an independent variable that is not calculated from hardware parameters. However, VLIM cannot exceed the maximum speed of the motor, as defined by MSPEED. VLIM is similar to ILIM (used in OPMODE 2 and OPMODE 3). VLIM serves the following purposes: - Protects delicate loads (equipment). If the actual motor speed exceeds the value of VLIM, the drive will issue an over-speed fault. - Limits the EtherCAT/CANopen reference command. If the reference command exceeds the value of VLIM, the drive will issue a fault. - Limits the speed of internal profile position (MOVEINC, MOVEABS) and profile velocity commands (J, STEP). When the value of VLIM is changed, CONFIG is required. When using EtherCAT/CANopen communication, changing the value of object 607h does not require configuration.
Syntax	Read: VLIM Write: VLIM <value>
Firmware	2.0.0
Drive status	Disabled
Range	10 to 9000
Default value	6000.000
Unit	mm/s
Non-volatile	Yes
See also	MSPEED VMAX
EtherCAT	607Fh, sub-index 0

VLIMIT

Definition	Velocity Limit under Torque/Force Mode
Type	Variable (R/W)
Description	Gets/Sets the velocity limit when use current loop (OPMODE = 2). The unit of VLIMIT is according to VLIMITUNIT
Syntax	Read: VLIMIT Write: VLIMIT <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 6000
Default value	3000.000
Unit	Not applicable
Non-volatile	Yes
See also	VLIMITUNIT
EtherCAT	3001h, sub-index 0

VLIMUNIT

Definition	Unit of VLIMIT
Type	Variable (R/W)
Description	Gets/Sets the unit of VLIMIT.
Syntax	Read: VLIMITUNIT Write: VLIMUNIT <value>
Firmware	2.0.0
Drive status	Disabled
Range	0 = user unit /s, based on EtherCAT Setting. 1 = mm/s.
Default value	1
Unit	Not applicable
Non-volatile	Yes
See also	VLIMIT
EtherCAT	Not applicable

VMAX

Definition	Maximum Velocity for Motor and Drive
Type	Variable (R)
Description	Displays the maximum velocity for a drive and motor combination. VMAX is based on maximum motor speed.
Syntax	VMAX
Firmware	2.0.0
Drive status	Enabled Disabled
Range	10 to 9000
Default value	Hardware defined
Unit	mm/s
Non-volatile	No
See also	MKT MSPEED VBUSVLIM
EtherCAT	20EEh, sub-index 0

WRN

Definition	Display Warnings
Type	Command
Description	Lists the warnings that have occurred since the buffer was last cleared.
Syntax	WRN
Firmware	2.0.0
Drive status	Enabled Disabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	Not applicable
See also	FLT FLTHIST
EtherCAT	2011h, sub-index 0

XENCRES

Definition	External encoder resolution(AP Model)
Type	Variable (R/W)
Description	Gets/sets the resolution of the external encoder, in number of pulses per motor revolution. For sine encoder, gets/sets the number of sine cycles per motor revolution
Syntax	Read: XENCRES Write: XENCRES<value>
Firmware	2.0.0
Drive status	Disabled
Range	100 to 10000000
Default value	10000
Unit	count
Non-volatile	Yes
See also	GEARIN GEAROUT GEARMODE
EtherCAT	Not applicable

ZCLAMPMODE

Definition	Zero Clamp Mode
Type	Variable (R/W)
Description	Set zero clamp velocity threshold
Syntax	Read: ZCLAMPVEL Write: ZCLAMPVEL <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	0 to 2
Default value	0
Unit	Not applicable
Non-volatile	Yes
See also	ZCLAMPVEL
EtherCAT	Not applicable

ZCLAMPVEL

Definition	Zero Clamp velocity threshold
Type	Variable (R/W)
Description	Set zero clamp velocity threshold
Syntax	Read: ZCLAMPVEL Write: ZCLAMPVEL <value>
Firmware	2.0.0
Drive status	Enabled Disabled
Range	1 to 3000
Default value	50
Unit	mm/s
Non-volatile	Not applicable
See also	ZCLAMPMODE
EtherCAT	2355h, sub-index 0

ZERO

Definition	Zeroing Command
Type	Variable (R/W)
Description	Activates Zeroing mode, which locks the rotor in place by passing a fixed current through two phases. This is useful for determining the commutation offset (MPHASE) on motors that have a resolver or absolute encoder. When Zeroing is activated, the drive rotates and locks the motor at the fixed electrical angle with a fixed current (IZERO). Locking occurs after stopping briefly at a temporary location to overcome static friction or after starting at an electrical angle 180° away from the final locked position. The number of motor electrical cycles per one mechanical revolution is equal to the number of pairs of magnets. Each pair of magnets in the motor creates a 0—360 degree electrical cycle. Therefore, if the motor has 8 individual magnetic poles (MPOLES), the motor can be locked at four different places in one mechanical revolution. After the motor has locked (meaning it is in a position at which PE is less than PEINPOS), ZEROST returns a suggested MPHASE value according to the procedure, but does not automatically set it.
Syntax	ZERO {0 1}
Firmware	2.0.0
Drive status	Disabled
Range	0 = Zeroing not activated 1 = Zeroing activated
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
Example	<pre>-->k -->zero 1 -->en -->zerost Zero Ended, MPHASE = 28 -->k -->mphase 28 -->en</pre>
See also	FEEDBACKTYPE IZERO MPHASE

	MPOLES ZEROST
EtherCAT	20DF, sub-index 0

ZEROST

Definition	Zeroing MPHASE Value
Type	Variable (R)
Description	After running ZERO command, querying ZEROST returns the value of MPHASE that should be set for proper commutation. This may be useful when MOTORSETUP is unsuccessful. The accuracy of the commutation which is initialized this way depends on the load and friction of the system.
Syntax	ZEROST
Firmware	2.0.0
Drive status	Enabled
Range	Not applicable
Default value	Not applicable
Unit	Not applicable
Non-volatile	No
See also	MPHASE ZERO
EtherCAT	217Bh, sub-index 0

