

VarCom

Reference Manual

smartPX

ORIGINAL DOCUMENT

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Revision History

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1 Introduction

1.1 VarCom Overview

When the host and drive are communicating over a serial connection, a proprietary set of parameters (variables), called VarCom, are used to configure, control and monitor the drive.

Some parameters are read-only or write-only, while others have both read and write access. Parameters can be stored in the smartPX's non-volatile flash memory for use at each power-up.

1.2 Manual Format

This manual details the entire set of VarCom parameters.

Parameters and commands are presented as follows:

Parameter Name	The name of the parameter or the command, used in program code. For example: DIGITAL.IN.NUMOF
Definition	A short descriptive name of the parameter or command. For example: Number of digital inputs
Type	Parameter (R/W): A read/write parameter. Parameter (R): A read-only parameter. Parameter (W): A write-only parameter.
Description	A description of the parameter or command.
Syntax	? A question mark before a parameter name queries the drive. For example: ?BRAKE.EXIST[<i>axis</i>] [] Square brackets are part of the parameter name, and delineate an index (of an array parameter). For example: FLT.UNMUTE[<i>axis</i>] [0] Indicates a drive parameter (followed by [<i>index</i>])
Firmware	The earliest version, or specific versions, in which the described functionality is available.
Value Range	Specifies a range of values or discrete values for the parameter.
Index Range	Specifies the range of indices for array parameters.
Default Value	The parameter's default (factory-defined) value.
Units	When a parameter value represents a unit of measure, the type of unit is specified.
CAN Index	If relevant, the index of the corresponding CANopen object.

2 Parameters

2.1 Active Disable

Dis.Ad.Active

Parameter Name	DIS.AD.ACTIVE
Definition	Active Disable active
Type	Parameter (R)
Description	Reports the status of the Active Disable function. 1 = Active Disable is active 0 = Active Disable is not active
Syntax	Read: ?DIS.AD.ACTIVE[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Dis.Ad.Disspeed

Parameter Name	DIS.AD.DISSPEED
Definition	Active Disable speed
Type	Parameter (R/W)
Description	Sets/gets the velocity threshold below which the motor is considered stopped and the Active Disable timer starts the countdown to disable.
Syntax	Write: DIS.AD.DISSPEED[<i>axis</i>]= <value> Read: ?DIS.AD.DISSPEED[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0.1 to 2000
Default Value	0.167
Units	rps
CAN Index	NA

Dis.Ad.Distime

Parameter Name	DIS.AD.DISTIME
Definition	Active Disable time
Type	Parameter (R/W)
Description	Sets/gets the continuous time the motor must remain below Dis.Ad.Disspeed before the drive is disabled by the Active Disable function.
Syntax	Write: DIS.AD.DISTIME[axis]= <value> Read: ?DIS.AD.DISTIME[axis]
Firmware	3.0.1.12
Value Range	0 to 6500
Default Value	10
Units	ms
CAN Index	0x2048, sub-index 0

Dis.Ad.Timeout

Parameter Name	DIS.AD.TIMEOUT
Definition	Active Disable timeout
Type	Parameter (R)
Description	Reports the Active Disable timeout calculation.
Syntax	Read: ?DIS.AD.TIMEOUT[axis]
Firmware	3.0.1.12
Value Range	0 to <i>software defined</i>
Default Value	0
Units	ms
CAN Index	NA

P2p.Decstop

Parameter Name	P2P.DECSTOP
Definition	Active Disable deceleration
Type	Parameter (R/W)
Description	Sets/gets the deceleration value for an Active Disable or an emergency stop.
Syntax	Write: P2P.DECSTOP[<i>axis</i>]= <value> Read: ?P2P.DECSTOP[<i>axis</i>]
Firmware	3.0.1.12
Value Range	1 to 1e+07
Default Value	333.3333
Units	rps/s
CAN Index	0x22b8, sub-index 0

2.2 Anti-Gravity-Drop (Anti-Nodding)**Antinod.Iff**

Parameter Name	ANTINOD.IFF
Definition	Anti-nod feedforward current
Type	Parameter (R)
Description	Reports the anti-gravity-drop feedforward current.
Syntax	Read: ?ANTINOD.IFF[<i>axis</i>]
Firmware	3.0.1.12
Value Range	-100 to 100
Default Value	0
Units	A
CAN Index	0x2115, sub-index 0

Antinod.Istop

Parameter Name	ANTINOD.ISTOP
Definition	Anti-nod current stored at stop
Type	Parameter (R)
Description	Reports the anti-gravity-drop current stored at stop.
Syntax	Read: ?ANTINOD.ISTOP[<i>axis</i>]
Firmware	3.0.1.12
Value Range	-100 to 100
Default Value	0
Units	A
CAN Index	0x2117, sub-index 0

Antinod.Mode

Parameter Name	ANTINOD.MODE
Definition	Anti-nod mode
Type	Parameter (R/W)
Description	Sets/gets the anti-gravity-drop mode. Modes 0 = not in use 1 = variable gain type 2 = feedforward high gain method
Syntax	Write: ANTINOD.MODE[<i>axis</i>]= < <i>value</i> > Read: ?ANTINOD.MODE[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 2
Default Value	0
Units	NA
CAN Index	0x2106, sub-index 0

Antinod.Mode1.Coef

Parameter Name	ANTINOD.MODE1.COEF
Definition	Anti-nod mode 1 coefficient
Type	Parameter (R/W)
Description	Reports the gain coefficient for anti-gravity-drop mode 1.
Syntax	Write: ANTINOD.MODE1.COEF[axis]= <value> Read: ?ANTINOD.MODE1.COEF[axis]
Firmware	3.0.1.12
Value Range	1 to 20
Default Value	4
Units	A/rev
CAN Index	0x2108, sub-index 0

Antinod.Mode2.Coef

Parameter Name	ANTINOD.MODE2.COEF
Definition	Anti-gravity-drop mode 2 coefficient
Type	Parameter (R/W)
Description	Reports the gain coefficient for anti-gravity-drop mode 2.
Syntax	Write: ANTINOD.MODE2.COEF[axis]= <value> Read: ?ANTINOD.MODE2.COEF[axis]
Firmware	3.0.1.12
Value Range	10 to 2000
Default Value	100
Units	A/rev
CAN Index	0x2114, sub-index 0

2.3 Autotuning

Autotune.Acc.Max

Parameter Name	AUTOTUNE.ACC.MAX
Definition	Maximum trajectory acceleration/deceleration during autotuning
Type	Parameter (R/W)
Description	Sets/gets the maximum acceleration/deceleration of the point-to-point trajectory during autotuning.
Syntax	Write: AUTOTUNE.ACC.MAX[axis]= <value> Read: ?AUTOTUNE.ACC.MAX[axis]
Firmware	3.0.1.12
Value Range	83 to 2500
Default Value	2450
Units	rps/s
CAN Index	NA

Autotune.Dist

Parameter Name	AUTOTUNE.DIST
Definition	Trajectory point-to-point distance during autotuning
Type	Parameter (R/W)
Description	Sets/gets the distance of the point-to-point trajectory during autotuning.
Syntax	Write: AUTOTUNE.DIST[axis]= <value> Read: ?AUTOTUNE.DIST[axis]
Firmware	3.0.1.12
Value Range	1 to 250
Default Value	2.5
Units	rev
CAN Index	NA

Autotune.Enable

Parameter Name	AUTOTUNE.ENABLE
Definition	Enable autotuning
Type	Parameter (W)
Description	Activation of the autotuning process. 0 = stop autotuning 1 = start autotuning
Syntax	Write: AUTOTUNE.ENABLE[axis]= <value>
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Autotune.Info

Parameter Name	AUTOTUNE.INFO
Definition	Autotuning information
Type	Parameter (R/W)
Description	Reports information during the autotuning process.
Syntax	Write: AUTOTUNE.INFO[axis]= <value> Read: ?AUTOTUNE.INFO[axis]
Example	Iteration # 0 Trajectory acc/dec = 17 [rps/s] Max icmd = 0.000 [A] Max vbus = 0 [Volt] Settling time = 0 [usec] Overshoot = 0.000000 [rev]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	NA

Autotune.Gainset

Parameter Name	AUTOTUNE.GAINSET
Definition	Gain set index during autotuning
Type	Parameter (R/W)
Description	Sets/gets the gain set index during the autotuning process.
Syntax	Write: AUTOTUNE.GAINSET[axis]= <value> Read: ?AUTOTUNE.GAINSET[axis]
Firmware	3.0.1.12
Value Range	0 to 63
Default Value	10
Units	NA
CAN Index	NA

Autotune.Optimization.Goal

Parameter Name	AUTOTUNE.OPTIMIZATION.GOAL
Definition	Autotuning prioritization
Type	Parameter (R/W)
Description	Sets/gets autotuning prioritization. 0 = optimizes settling time 1 = heavily prioritizes settling over tracking error 2 = equal weight for settling and tracking error optimization 3 = heavily prioritizes tracking error over settling 4 = optimizes tracking error
Syntax	Write: AUTOTUNE.OPTIMIZATION.GOAL[axis]= <value> Read: ?AUTOTUNE.OPTIMIZATION.GOAL[axis]
Firmware	3.0.1.12
Value Range	0 to 4
Default Value	4
Units	NA
CAN Index	0x23f2, sub-index 0

Autotune.Reset

Parameter Name	AUTOTUNE.RESET
Definition	Resets autotuning
Type	Parameter (W)
Description	Aborts and restores the autotuning process. 0 = Idle (Autotune reset not active) 1 = Deactivates autotuning and restores gains to default autotuning values.
Syntax	Write: AUTOTUNE.RESET[<i>axis</i>]= <value>
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	0x2170, sub-index 0

Autotune.Save.Gainset

Parameter Name	AUTOTUNE.SAVE.GAINSET
Definition	Autotuning save gainset
Type	Parameter (W)
Description	If set to 1, autotuning results are saved to a specific gain set (index). If set to 0, autotuning results are not saved.
Syntax	Write: AUTOTUNE.SAVE.GAINSET[<i>axis</i>][<i>index</i>]= <value>
Firmware	3.0.1.12
Value Range	0 to 1
Index Range	0 to 10
Default Value	0
Units	NA
CAN Index	0x2172, sub-index 0

Autotune.Status

Parameter Name	AUTOTUNE.STATUS
Definition	Status of autotuning
Type	Parameter (R)
Description	Reports the status of autotuning. 0 = Not active 1 = Waiting for enable 3 = Performing 4 = Aborted 5 = Done
Syntax	Read: ?AUTOTUNE.STATUS[axis]
Firmware	3.0.1.12
Value Range	0 to 5
Default Value	NA
Units	NA
CAN Index	0x2402, sub-index 0

Autotune.Vcruise

Parameter Name	AUTOTUNE.VCRUISE
Definition	Point-to-point cruise velocity during autotuning
Type	Parameter (R/W)
Description	Sets/gets the point-to-point trajectory cruise velocity during autotuning.
Syntax	Write: AUTOTUNE.VCRUISE[axis]= <value> Read: ?AUTOTUNE.VCRUISE[axis]
Firmware	3.0.1.12
Value Range	5 to 200
Default Value	50
Units	rps
CAN Index	NA

2.1 Brakes

Brake.Engage.Time

Parameter Name	BRAKE.ENGAGE.TIME
Definition	Motor brake engage time
Type	Parameter (R/W)
Description	Sets/gets the time the brake must be engaged before disable occurs.
Syntax	Write: BRAKE.ENGAGE.TIME[axis]= <value> Read: ?BRAKE.ENGAGE.TIME[axis]
Firmware	3.0.1.12
Value Range	1 to 10000
Default Value	100
Units	ms
CAN Index	NA

Brake.Exist

Parameter Name	BRAKE.EXIST
Definition	Motor brake exist
Type	Parameter (R/W)
Description	Sets/gets whether motor has brake functionality. 0 = no motor brake 1 = motor brake
Syntax	Write: BRAKE.EXIST[axis]= <value> Read: ?BRAKE.EXIST[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	1
Units	NA
CAN Index	NA

Brake.Mode

Parameter Name	BRAKE.MODE
Definition	Brake mode
Type	Parameter (R/W)
Description	Defines the motor brake behavior mode. 0 = single axis mode 1 = multi-axis mode (single axis cannot be enabled) 2 = brake test mode (internal use)
Syntax	Write: BRAKE.MODE[axis]= <value> Read: ?BRAKE.MODE[axis]
Firmware	3.0.1.12
Value Range	0 to 2
Default Value	1
Units	NA
CAN Index	0x23b3, sub-index 0

Brake.Release.Time

Parameter Name	BRAKE.RELEASE.TIME
Definition	Brake release time
Type	Parameter (R/W)
Description	Sets/gets the time the brake must be released before enable occurs.
Syntax	Write: BRAKE.RELEASE.TIME[axis]= <value> Read: ?BRAKE.RELEASE.TIME[axis]
Firmware	3.0.1.12
Value Range	1 to 10000
Default Value	100
Units	ms
CAN Index	NA

Brake.Release.Timeout

Parameter Name	BRAKE.RELEASE.TIMEOUT
Definition	Brake release timeout
Type	Parameter (R/W)
Description	Sets/gets the release brake timeout. If the brake is not released during the defined time, a warning is issued: Brake release taking too long.
Syntax	Write: BRAKE.RELEASE.TIMEOUT[<i>axis</i>]= < <i>value</i> > Read: ?BRAKE.RELEASE.TIMEOUT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	1 to 10000
Default Value	1000
Units	ms
CAN Index	NA

Brake.Status

Parameter Name	BRAKE.STATUS
Definition	Brake status
Type	Parameter (R)
Description	Reports whether the brake is engaged or released. Status 0 = brake engaged 1 = brake released
Syntax	Read: ?BRAKE.STATUS[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

2.2 Burn-in

Burnin.Freq

Parameter Name	BURNIN.FREQ
Definition	Burn-in frequency
Type	Parameter (R/W)
Description	Sets/gets the the burn-in commutation frequency.
Syntax	Write: BURNIN.FREQ[<i>axis</i>]= <value> Read: ?BURNIN.FREQ[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 10000
Default Value	40
Units	Hz
CAN Index	0x2301, sub-index 0

Burnin.Mode

Parameter Name	BURNIN.MODE
Definition	Burn-in mode
Type	Parameter (R/W)
Description	Sets/gets the burn-in mode. 0 = Square burn-in mode 1 = Sine command mode
Syntax	Write: BURNIN.MODE[<i>axis</i>]= <value> Read: ?BURNIN.MODE[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Burnin.On

Parameter Name	BURNIN.ON
Definition	Burn-in activation
Type	Parameter (R/W)
Description	Sets/gets activation of the burn-in process. 0 = Stops burn-in 1 = Activates burn-in Note: After activating the burn-in process, the drive must be enabled.
Syntax	Write: BURNIN.ON[axis]= <value> Read: ?BURNIN.ON[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	0x2300, sub-index 0

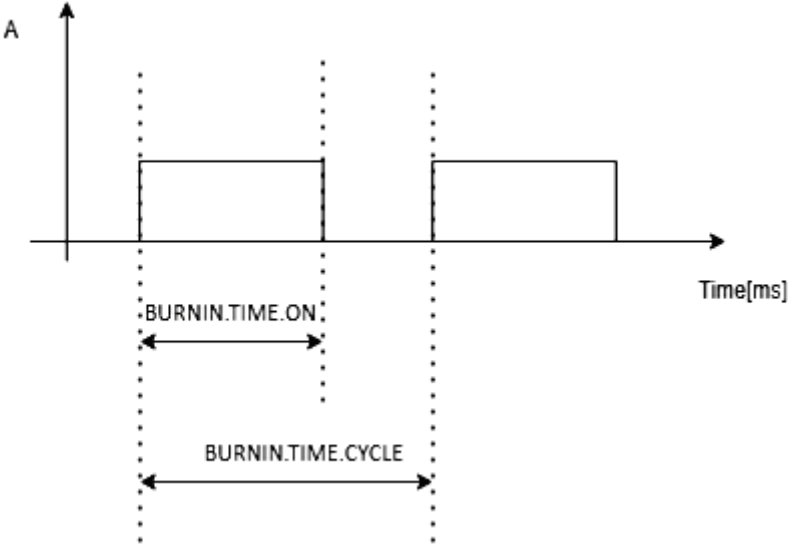
Burnin.Sine.Ampl

Parameter Name	BURNIN.SINE.AMPL
Definition	Burn-in sine command amplitude
Type	Parameter (R/W)
Description	Sets/gets the burn-in sine command amplitude.
Syntax	Write: BURNIN.SINE.AMPL[axis]= <value> Read: ?BURNIN.SINE.AMPL[axis]
Firmware	3.0.1.12
Value Range	0 to 100
Default Value	0
Units	A
CAN Index	NA

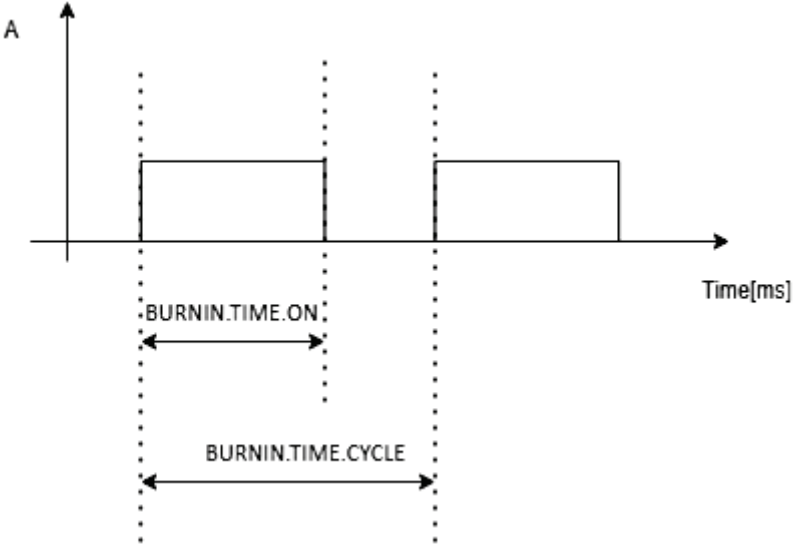
Burnin.Sine.Offset

Parameter Name	BURNIN.SINE.OFFSET
Definition	Burn-in sine command amplitude offset
Type	Parameter (R/W)
Description	Sets/gets burn-in sine command amplitude offset.
Syntax	Write: BURNIN.SINE.OFFSET[<i>axis</i>]= < <i>value</i> > Read: ?BURNIN.SINE.OFFSET[<i>axis</i>]
Firmware	3.0.1.12
Value Range	-100 to 100
Default Value	0
Units	A
CAN Index	NA

Burnin.Time.Cycle

Parameter Name	BURNIN.TIME.CYCLE
Definition	Burn-in cycle time
Type	Parameter (R/W)
Description	Sets/gets the burn-in process cycle time. Note: Stored in EEPROM. 
Syntax	Write: BURNIN.TIME.CYCLE[axis]= <value> Read: ?BURNIN.TIME.CYCLE[axis]
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	HW defined
Units	ms
CAN Index	0x2303, sub-index 0

Burnin.Time.On

Parameter Name	BURNIN.TIME.ON
Definition	Burn-in time on
Type	Parameter (R/W)
Description	Sets/gets the duration of the burn-in on signal. Note: Stored in EEPROM.  The diagram shows a square wave signal A on a vertical axis and Time[ms] on a horizontal axis. The signal is high for a duration labeled BURNIN.TIME.ON and low for a duration labeled BURNIN.TIME.CYCLE. The cycle repeats.
Syntax	Write: BURNIN.TIME.ON[axis]= <value> Read: ?BURNIN.TIME.ON[axis]
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	HW defined
Units	ms
CAN Index	0x2302, sub-index 0

2.3 Collision Detection

Collision.Detect.Mode

Parameter Name	COLLISION.DETECT.MODE
Definition	Collision detection mode
Type	Parameter (R/W)
Description	Sets/gets the collision detection mode. Modes 0 = detection disabled 1 = actual velocity input with user parameters 2 = actual velocity input with estimated parameters 3 = velocity observer with user parameters 4 = velocity observer with estimated parameters
Syntax	Write: COLLISION.DETECT.MODE[axis]= <value> Read: ?COLLISION.DETECT.MODE[axis]
Firmware	3.0.1.12
Value Range	0 to 4
Default Value	0
Units	NA
CAN Index	0x2060, sub-index 0

Collision.Mve

Parameter Name	COLLISION.MVE
Definition	Collision model velocity error
Type	Parameter (R)
Description	Reports the error between the velocity feedback and the expected velocity at collision.
Syntax	Read: ?COLLISION.MVE[axis]
Firmware	3.0.1.12
Value Range	0 to 4000
Default Value	0
Units	rps
CAN Index	0x2062, sub-index 0

Collision.Mved

Parameter Name	COLLISION.MVED
Definition	Collision model velocity error derivative
Type	Parameter (R)
Description	Reports the collision model velocity error derivative.
Syntax	Read: ?COLLISION.MVED[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 100000
Default Value	0
Units	rps/s
CAN Index	0x2061, sub-index 0

Collision.Mved.Filter.Bw

Parameter Name	COLLISION.MVED.FILTER.BW
Definition	Collision model velocity error derivative LPF bandwidth
Type	Parameter (R/W)
Description	Sets/gets the collision bandwidth of the model velocity error derivative signal LPF. If set to 4000 Hz = filter not in use
Syntax	Write: COLLISION.MVED.FILTER.BW[<i>axis</i>] = < <i>value</i> > Read: ?COLLISION.MVED.FILTER.BW[<i>axis</i>]
Firmware	3.0.1.12
Value Range	20 to 4000
Default Value	200
Units	Hz
CAN Index	0x2063, sub-index 0

Collision.Mved.Thresh

Parameter Name	COLLISION.MVED.THRESH
Definition	Collision threshold model velocity error derivative
Type	Parameter (R/W)
Description	Sets/gets the collision threshold velocity. If the model velocity error derivative exceeds the threshold, a collision is signaled.
Syntax	Write: COLLISION.MVED.THRESH[axis]= <value> Read: ?COLLISION.MVED.THRESH[axis]
Firmware	3.0.1.12
Value Range	0 to 1000000
Default Value	0
Units	rps/s
CAN Index	0x2064, sub-index 0

Collision.Response

Parameter Name	COLLISION.RESPONSE
Definition	Collision response
Type	Parameter (R/W)
Description	Sets/gets the method of response to a detected collision. Methods 0 = No response 1 = Disable the drive
Syntax	Write: COLLISION.RESPONSE[axis]= <value> Read: ?COLLISION.RESPONSE[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	0x2065, sub-index 0

Collision.Status

Parameter Name	COLLISION.STATUS
Definition	Collision status
Type	Parameter (R)
Description	Reports the collision status. Status 0 = no collision 1 = collision occurred
Syntax	Read: ?COLLISION.STATUS[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	0x206e, sub-index 0

2.4 Current Control**Curr.Autotune**

Parameter Name	CURR.AUTOTUNE
Definition	Autotune-generated current command
Type	Parameter (R/W)
Description	Sets/gets autotune current command.
Syntax	Write: CURR.AUTOTUNE[axis]= <value> Read: ?CURR.AUTOTUNE[axis]
Firmware	3.0.1.12
Value Range	-1000 to 1000
Default Value	0
Units	A
CAN Index	NA

Curr.Cmd.User

Parameter Name	CURR.CMD.USER
Definition	User current command
Type	Parameter (R/W)
Description	Sets/gets the current command in Serial Current mode (-10).
Syntax	Write: CURR.CMD.USER[axis]= <value> Read: ?CURR.CMD.USER[axis]
Firmware	3.0.1.12
Value Range	-1000 to 1000
Default Value	0
Units	A
CAN Index	0x230e, sub-index 0

Curr.Db.Istop

Parameter Name	CURR.DB.ISTOP
Definition	Dynamic braking stop current
Type	Parameter (R/W)
Description	Sets/gets the maximum current allowed during dynamic braking.
Syntax	Write: CURR.DB.ISTOP[axis]= <value> Read: ?CURR.DB.ISTOP[axis]
Firmware	3.0.1.12
Value Range	0.1 to 1000
Default Value	1000
Units	NA
CAN Index	0x2309, sub-index 0

Curr.Db.Kpfac

Parameter Name	CURR.DB.KPFAC
Definition	Dynamic braking gain factor
Type	Parameter (R/W)
Description	Sets/gets the gain factor for dynamic braking.
Syntax	Write: CURR.DB.KPFAC[axis]= <value> Read: ?CURR.DB.KPFAC[axis]
Firmware	3.0.1.12
Value Range	0 to 1000
Default Value	1
Units	NA
CAN Index	0x230a, sub-index 0

Curr.Dqcomp

Parameter Name	CURR.DQCOMP
Definition	Current loop cross compensation gain
Type	Parameter (R/W)
Description	Sets/gets the current control loop cross compensation.
Syntax	Write: CURR.DQCOMP[axis]= <value> Read: ?CURR.DQCOMP[axis]
Firmware	3.0.1.12
Value Range	0 to 100
Default Value	1
Units	NA
CAN Index	0x2004, sub-index 0

Curr.Grav

Parameter Name	CURR.GRAV
Definition	Gravity compensation
Type	Parameter (R/W)
Description	Sets/gets the gravity compensation constant. Curr.Grav is added to the current control loop command to compensate for gravity or a similar constant interference.
Syntax	Write: CURR.GRAV[<i>axis</i>] = <value> Read: ?CURR.GRAV[<i>axis</i>]
Firmware	3.0.1.12
Value Range	-1000 to 1000
Default Value	0
Units	A
CAN Index	0x2313, sub-index 0

Curr.Iff

Parameter Name	CURR.IFF
Definition	Actual current feedforward
Type	Parameter (R)
Description	Reports the actual current feedforward.
Syntax	Read: ?CURR.IFF[<i>axis</i>]
Firmware	3.0.1.12
Value Range	software-defined
Default Value	0
Units	A
CAN Index	NA

Curr.Iffwoeso

Parameter Name	CURR.IFFWOESO
Definition	Actual current feedforward without ESO
Type	Parameter (R)
Description	Reports the actual current feedforward without extended state observer (ESO).
Syntax	Read: ?CURR.IFFWOESO[<i>axis</i>]
Firmware	3.0.1.12
Value Range	software-defined
Default Value	0
Units	A
CAN Index	NA

Curr.Kbemf

Parameter Name	CURR.KBEMF
Definition	Current loop back EMF compensation gain
Type	Parameter (R/W)
Description	Sets/gets the current control loop back EMF compensation ratio for the current control.
Syntax	Write: CURR.KBEMF[<i>axis</i>] = <value> Read: ?CURR.KBEMF[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 100
Default Value	1
Units	NA
CAN Index	0x2003, sub-index 0

Curr.Kd

Parameter Name	CURR.KD
Definition	Current loop dead time compensation gain
Type	Parameter (R/W)
Description	Sets/gets the minimum current level required to start compensation for the dead-time effect.
Syntax	Write: CURR.KD[axis]= <value> Read: ?CURR.KD[axis]
Firmware	3.0.1.12
Value Range	1 to 100
Default Value	2
Units	NA
CAN Index	0x20ef, sub-index 0

Curr.Kff

Parameter Name	CURR.KFF
Definition	Current loop feedforward gain
Type	Parameter (R/W)
Description	Sets/gets the current control loop feedforward gain.
Syntax	Write: CURR.KFF[axis]= <value> Read: ?CURR.KFF[axis]
Firmware	3.0.1.12
Value Range	0 to 100
Default Value	1
Units	NA
CAN Index	0x2082, sub-index 0

Curr.Ki

Parameter Name	CURR.KI
Definition	Current loop integral gain
Type	Parameter (R/W)
Description	Sets/gets the current control loop integral gain.
Syntax	Write: CURR.KI[axis]= <value> Read: ?CURR.KI[axis]
Firmware	3.0.1.12
Value Range	0 to 100
Default Value	1
Units	NA
CAN Index	0x2006, sub-index 0

Curr.Kiv

Parameter Name	CURR.KIV
Definition	Current loop derivative-integral gain
Type	Parameter (R/W)
Description	Sets/gets the current control loop derivative-integral gain.
Syntax	Write: CURR.KIV[axis]= <value> Read: ?CURR.KIV[axis]
Firmware	3.0.1.12
Value Range	0 to 100
Default Value	1
Units	NA
CAN Index	0x2306, sub-index 0

Curr.Kp

Parameter Name	CURR.KP
Definition	Current loop proportional gain
Type	Parameter (R/W)
Description	Sets/gets the current control loop proportional gain.
Syntax	Write: CURR.KP[<i>axis</i>]= <value> Read: ?CURR.KP[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 100
Default Value	1
Units	NA
CAN Index	0x2007, sub-index 0

Curr.Kvg

Parameter Name	CURR.KVG
Definition	Current loop variable gain
Type	Parameter (R/W)
Description	Sets/gets the current control loop variable gain.
Syntax	Write: CURR.KVG[<i>axis</i>]= <value> Read: ?CURR.KVG[<i>axis</i>]
Firmware	3.0.1.12
Value Range	1 to 2
Default Value	2
Units	NA
CAN Index	0x2307, sub-index 0

Curr.Lim.Act

Parameter Name	CURR.LIM.ACT
Definition	Drive actual current limit
Type	Parameter (R)
Description	Reports the actual current limit.
Syntax	Read: ?CURR.LIM.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1000
Default Value	0
Units	A
CAN Index	0x2314, sub-index 0

Curr.Lim.User

Parameter Name	CURR.LIM.USER
Definition	User current limit
Type	Parameter (R/W)
Description	Sets/gets the application current limit. This user-defined parameter value limits the current command that will be accepted from the user (Curr.Cmd.User).
Syntax	Write: CURR.LIM.USER[axis]=<value> Read: ?CURR.LIM.USER[axis]
Firmware	3.0.1.12
Value Range	0 to 1000
Default Value	25.455
Units	A
CAN Index	0x230f, sub-index 0

Curr.Lpf

Parameter Name	CURR.LPF
Definition	Current low pass filter
Type	Parameter (R/W)
Description	Sets/gets the current control loop low pass filter. 0 = LPF is off.
Syntax	Write: CURR.LPF[axis]=<value> Read: ?CURR.LPF[axis]
Firmware	3.0.1.12
Value Range	0 to 8000
Default Value	0
Units	Hz
CAN Index	0x221C, sub-index 0

Curr.Offset.Uint

Parameter Name	CURR.OFFSET.UINT
Definition	Interpolated torque offset
Type	Parameter (R)
Description	Reports the interpolated torque offset from the motion controller.
Syntax	Read: ?CURR.OFFSET.UINT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	A
CAN Index	NA

Curr.Sensor.Offset.Ia

Parameter Name	CURR.SENSOR.OFFSET.IA
Definition	Phase A current sensing offset
Type	Parameter (R)
Description	Reports the current sensing offset for phase A.
Syntax	Read: ?CURR.SENSOR.OFFSET.IA[<i>axis</i>]
Firmware	3.0.1.12
Value Range	software-defined
Default Value	0
Units	A
CAN Index	0x2073, sub-index 0

Curr.Sensor.Offset.Ic

Parameter Name	CURR.SENSOR.OFFSET.IC
Definition	Phase C current sensing offset
Type	Parameter (R)
Description	Reports the current sensing offset for phase C.
Syntax	Read: ?CURR.SENSOR.OFFSET.IC[<i>axis</i>]
Firmware	3.0.1.12
Value Range	software-defined
Default Value	0
Units	A
CAN Index	0x2075, sub-index 0

Curr.Sensor.Offset.Lpf

Parameter Name	CURR.SENSOR.OFFSET.LPF
Definition	Current sensor offset LPF
Type	Parameter (R/W)
Description	Sets/gets the low pass filter bandwidth for the current sensor offset calculation. 0 = LPF is off.
Syntax	Write: CURR.SENSOR.OFFSET.LPF[axis]= <value> Read: ?CURR.SENSOR.OFFSET.LPF[axis]
Firmware	3.0.1.12
Value Range	1 to 8000
Default Value	10
Units	Hz
CAN Index	0x20BF, sub-index 0

Curr.Sensor.Status.A

Parameter Name	CURR.SENSOR.STATUS.A
Definition	Phase A current sensor status
Type	Parameter (R)
Description	Reports the status of the phase A current sensor. 0 = no faults 1 = power fault 2 = out of range fault 3 = power and out of range fault
Syntax	Read: ?CURR.SENSOR.STATUS.A[axis]
Firmware	3.0.1.12
Value Range	0 to 3
Default Value	0
Units	NA
CAN Index	0x20C6, sub-index 0

Curr.Sensor.Status.C

Parameter Name	CURR.SENSOR.STATUS.C
Definition	Phase C current sensor status
Type	Parameter (R)
Description	Reports the status of the phase C current sensor. 0 = no faults 1 = power fault 2 = out of range fault 3 = power and out of range fault
Syntax	Read: ?CURR.SENSOR.STATUS.C[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 3
Default Value	0
Units	NA
CAN Index	0x23F0, sub-index 0

Curr.Target.Uint

Parameter Name	CURR.TARGET.UINT
Definition	Interpolated torque target
Type	Parameter (R)
Description	Reports the interpolated torque target from the motion controller.
Syntax	Read: ?CURR.TARGET.UINT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	A
CAN Index	NA

Curr.Vd

Parameter Name	CURR.VD
Definition	Current loop output for D direction
Type	Parameter (R)
Description	Reports the D output of the current control loop.
Syntax	Read: ?CURR.VD[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 0
Default Value	0
Units	V
CAN Index	0x2013, sub-index 0

Curr.Vq

Parameter Name	CURR.VQ
Definition	Current loop output for Q direction
Type	Parameter (R)
Description	Reports the Q output of the current control loop.
Syntax	Read: ?CURR.VQ[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 0
Default Value	0
Units	V
CAN Index	0x2014, sub-index 0

Com.Angle

Parameter Name	COM.ANGLE
Definition	Commutation angle
Type	Parameter (R)
Description	Reports the commutation angle with corrections (such as speed correction).
Syntax	Read: ?COM.ANGLE[<i>axis</i>]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	rad
CAN Index	NA

Com.Angle.Raw

Parameter Name	COM.ANGLE.RAW
Definition	Raw commutation angle
Type	Parameter (R)
Description	Reports the commutation angle from the position feedback.
Syntax	Read: ?COM.ANGLE.RAW[<i>axis</i>]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	rad
CAN Index	NA

Eso.Iff

Parameter Name	ESO.IFF
Definition	Current feedforward from ESO
Type	Parameter (R)
Description	Reports the current feedforward from the extended state observer (ESO).
Syntax	Read: ?ESO.IFF[<i>axis</i>]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	A
CAN Index	NA

Ia

Parameter Name	IA
Definition	Measured current on phase A
Type	Parameter (R)
Description	Reports the current measured on phase A.
Syntax	Read: ?IA[<i>axis</i>]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	A
CAN Index	NA

Iavg

Parameter Name	Iavg
Definition	Measured average current
Type	Parameter (R)
Description	Reports the average measured current.
Syntax	Read: ?Iavg[<i>axis</i>]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	A
CAN Index	NA

Ic

Parameter Name	Ic
Definition	Measured current on phase C
Type	Parameter (R)
Description	Reports the current measured on phase C.
Syntax	Read: ?Ic[<i>axis</i>]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	A
CAN Index	NA

Icmd

Parameter Name	ICMD
Definition	Current command
Type	Parameter (R)
Description	Reports the current command, which is generated either directly (EtherCAT/CANopen, serial or analog reference command), or as an output of the position or velocity controller.
Syntax	Read: ?ICMD[<i>axis</i>]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	A
CAN Index	NA

Icmd.Fweak.Base.Speed1

Parameter Name	ICMD.FWEAK.BASE.SPEED1
Definition	Field weakening base speed 1
Type	Parameter (R)
Description	Reports the calculated maximum speed for maximum torque.
Syntax	Read: ?ICMD.FWEAK.BASE.SPEED1[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1000000
Default Value	100
Units	rps
CAN Index	0x20A5, sub-index 0

Icmd.Fweak.Base.Speed2

Parameter Name	ICMD.FWEAK.BASE.SPEED2
Definition	Field weakening base speed 2
Type	Parameter (R)
Description	Reports the calculated maximum speed for zero torque.
Syntax	Read: ?ICMD.FWEAK.BASE.SPEED2[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1000000
Default Value	100
Units	rps
CAN Index	0x20C0, sub-index 0

Icmd.Fweak.Enable

Parameter Name	ICMD.FWEAK.ENABLE
Definition	Enable/disable field weakening
Type	Parameter (R/W)
Description	Sets/gets whether field weakening is enabled or disabled. 0 = disable field weakening 1 = enable field weakening
Syntax	Write: ICMD.FWEAK.ENABLE[axis]= <value> Read: ?ICMD.FWEAK.ENABLE[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	0x20C1, sub-index 0

Icmd.Fweak.Gain

Parameter Name	ICMD.FWEAK.GAIN
Definition	Field weakening gain
Type	Parameter (R/W)
Description	Sets/gets field weakening maximum voltage limiter.
Syntax	Write: ICMD.FWEAK.GAIN[axis]= <value> Read: ?ICMD.FWEAK.GAIN[axis]
Firmware	3.0.1.12
Value Range	0.75 to 1
Default Value	0.95
Units	%
CAN Index	0x20C2, sub-index 0

Icmd.Noise.Level

Parameter Name	ICMD.NOISE.LEVEL
Definition	ICMD noise level
Type	Parameter (R)
Description	Reports the ICMD noise level
Syntax	Read: ?ICMD.NOISE.LEVEL[<i>axis</i>]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	NA

Icmd.Raw

Parameter Name	ICMD.RAW
Definition	Raw current command
Type	Parameter (R)
Description	Reports the current command generated by the velocity loop.
Syntax	Read: ?ICMD.RAW[<i>axis</i>]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	A
CAN Index	NA

Id

Parameter Name	ID
Definition	Current D axis
Type	Parameter (R)
Description	In vector control, indicates the D current for the torque. This value is perpendicular to IQ.
Syntax	Read: ?ID[<i>axis</i>]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	A
CAN Index	NA

Iq

Parameter Name	IQ
Definition	Current Q axis
Type	Parameter (R)
Description	In vector control, indicates the Q current for the torque. This value is perpendicular to ID.
Syntax	Read: ?IQ[<i>axis</i>]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	A
CAN Index	NA

Vel.Curr

Parameter Name	VEL.CURR
Definition	Velocity for current loop
Type	Parameter (R)
Description	Reports the velocity derived from the raw position feedback.
Syntax	Read: ?VEL.CURR[<i>axis</i>]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	rps
CAN Index	NA

2.5 Digital Inputs/Outputs

Digital.In

Parameter Name	DIGITAL.IN
Definition	Digital inputs status
Type	Parameter (R)
Description	Reports the status of all digital inputs or a specific digital input. 0 – Input Off 1 – Input On
Syntax	Read: ?DIGITAL.IN (all inputs) ?DIGITAL.IN[0][<i>index</i>] (a specific input)
Example	<code>?digital.in</code> <code>?digital.in[0][1]</code>
Firmware	3.0.1.12
Value Range	0 to 1 for specific input 0 to 2 ⁸ -1 for all inputs
Index Range	0 to 8 (maximum number of inputs)
Default Value	0
Units	NA
CAN Index	60FD, sub-index 0

Digital.In.Debounce

Parameter Name	DIGITAL.IN.DEBOUNCE
Definition	Digital inputs debounce
Type	Parameter (R/W)
Description	Sets/gets the debounce time for the digital inputs.
Syntax	Write: DIGITAL.IN.DEBOUNCE= <value> Read: ?DIGITAL.IN.DEBOUNCE
Firmware	3.0.1.12
Value Range	31 to 7936
Default Value	527
Units	µs
CAN Index	0x2702, sub-index 0

Digital.In.Map

Parameter Name	DIGITAL.IN.MAP
Definition	Digital inputs mapping
Type	Parameter (R)
Description	Reports the hardware location of the digital inputs.
Syntax	Read: ?DIGITAL.IN.MAP
Firmware	3.0.1.12
Value Range	0 to hardware-defined
Default Value	0
Units	NA
CAN Index	NA

Digital.In.Mode

Parameter Name	DIGITAL.IN.MODE
Definition	Digital input mode
Type	Parameter (R/W)
Description	Sets/gets a value that defines the functionality of the specified digital input. 0 = idle (Not functionality) Switches <num_axis>0 = Positive limit switch <num_axis>1 = Negative limit switch <num_axis>2 = Home switch Remote Program 63 = Bit0 of remote program index 64 = Bit0 of remote program index 65 = Bit0 of remote program index 67 = Start program selected by remote program index 68 = Stop all programs SFREE 69 = Sfree cluster 1 70 = Sfree cluster 1 71 = Sfree cluster 1 72 = Sfree cluster 1 73 = Sfree cluster 1 74 = Sfree cluster 1
Syntax	Write: DIGITAL.IN.MODE[0][index]=<value> Read: ?DIGITAL.IN.MODE[0][index]
Example	Digital.in.mode[0][1] = 1 (Set “Emergency Stop Mode” for input 1) Digital.in.mode[0][2] = 10 (Set “Positive Limit Switch Mode Axis 1” for input 2) Digital.in.mode[0][3] = 32 (Set “Home Switch Mode Axis 3” for input 3)
Firmware	3.0.1.12
Value Range	0 to 74
Index Range	0 to number of digital inputs
Default Value	0
Units	NA
CAN Index	0x20E0, sub-index 0

Digital.In.Estop

Parameter Name	DIGITAL.IN.ESTOP
Definition	Digital input emergency stop
Type	Parameter (R)
Description	Reports the status of the Emergency Stop for all axes. 0 = Emergency Stop mode is not active 1 = Emergency Stop mode is active
Syntax	Read: ?DIGITAL.IN.ESTOP
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	0x2703, sub-index 0

Digital.In.Numof

Parameter Name	DIGITAL.IN.NUMOF
Definition	Number of digital inputs
Type	Parameter (R)
Description	Reports the number of digital inputs.
Syntax	Read: ?DIGITAL.IN.NUMOF
Firmware	3.0.1.12
Value Range	0 to 255
Default Value	0
Units	NA
CAN Index	0x2700, sub-index 0

Digital.In.Polarity

Parameter Name	DIGITAL.IN.POLARITY
Definition	Digital inputs polarity
Type	Parameter (R/W)
Description	Sets/gets the polarity of all digital inputs or a specific digital input. 0 = not inverted 1 = inverted
Syntax	Write: DIGITAL.IN.POLARITY[0][<i>index</i>] = <value> (specific input) Read: ?DIGITAL.IN.POLARITY (all inputs) ?DIGITAL.IN.POLARITY[0][<i>index</i>] (specific input)
Firmware	3.0.1.12
Value Range	0 to 1
Index Range	0 to 8 (maximum number of inputs)
Default Value	0
Units	NA
CAN Index	0x2070, sub-index 0

Digital.Out

Parameter Name	DIGITAL.OUT
Definition	Digital outputs status
Type	Parameter (R/W)
Description	Sets/gets the state of all digital outputs or a specific digital output. 0 = output off 1 = output on
Syntax	Write: DIGITAL.OUT = <value> (all outputs) DIGITAL.OUT[0][<i>index</i>] = <value> (specific output) Read: ?DIGITAL.OUT (all outputs) ?DIGITAL.OUT[0][<i>index</i>] (specific output)
Firmware	3.0.1.12
Value Range	0 to 1 for specific out 0 to 2 ⁶ -1 for all outputs
Index Range	0 to 6 (maximum number of outputs)
Default Value	0
Units	NA
CAN Index	0x60FE, sub-index 1

Digital.Out.Map

Parameter Name	DIGITAL.OUT.MAP
Definition	Mapping of digital outputs
Type	Parameter (R)
Description	Reports the hardware location of the digital outputs.
Syntax	Read: ?DIGITAL.OUT.MAP
Firmware	3.0.1.12
Value Range	0 to 255
Default Value	0
Units	NA
CAN Index	NA

Digital.Out.Mask

Parameter Name	DIGITAL.OUT.MASK
Definition	Digital outputs mask
Type	Parameter (R/W)
Description	Sets/gets a mask value for all digital outputs.
Syntax	Write: DIGITAL.OUT.MASK= <value> Read: ?DIGITAL.OUT.MASK
Firmware	3.0.1.12
Value Range	0 to 4294967295
Default Value	4294967295
Units	NA
CAN Index	0x60FE, sub-index 2

Digital.Out.Mode

Parameter Name	DIGITAL.OUT.MODE
Definition	Digital output mode
Type	Parameter (R/W)
Description	Sets/gets a value that defines the condition that will activate the specified digital output. 0 = Idle 2 = ESTOP with Relay 10 = Alarm for any fault 26 = Remote lua program error
Syntax	Write: DIGITAL.OUT.MODE[0][<i>index</i>]= <value> Read: ?DIGITAL.OUT.MODE[0][<i>index</i>]
Firmware	3.0.1.12
Value Range	0 to 26
Index Range	0 to 6 (number of digital outputs)
Default Value	0
Units	NA
CAN Index	0x209C, sub-index 0

Digital.Out.Numof

Parameter Name	DIGITAL.OUT.NUMOF
Definition	Number of digital outputs
Type	Parameter (R)
Description	Reports the number of digital outputs.
Syntax	Read: ?DIGITAL.OUT.NUMOF
Firmware	3.0.1.12
Value Range	0 to 255
Default Value	0
Units	NA
CAN Index	0x2701, sub-index 0

Digital.Out.Polarity

Parameter Name	DIGITAL.OUT.POLARITY
Definition	Digital outputs polarity
Type	Parameter (R/W)
Description	Sets/gets the polarity of all digital outputs or a specific digital output. 0 = not inverted 1 = inverted
Syntax	Write: DIGITAL.OUT.POLARITY[0][<i>index</i>] = < <i>value</i> > (specific input) Read: ?DIGITAL.OUT.POLARITY (all inputs) ?DIGITAL.OUT.POLARITY[0][<i>index</i>] (specific input)
Firmware	3.0.1.12
Value Range	0 to 1
Index Range	0 to 6 (maximum number of outputs)
Default Value	0
Units	NA
CAN Index	0x209B, sub-index 0

2.6 Dynamic Braking**Curr.Db.Istop**

Parameter Name	CURR.DB.ISTOP
Definition	Dynamic braking current
Type	Parameter (R/W)
Description	Sets/gets the maximum current allowed during the dynamic braking process.
Syntax	Write: CURR.DB.ISTOP[<i>axis</i>] = < <i>value</i> > Read: ?CURR.DB.ISTOP[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0.1 to 1000
Default Value	1000
Units	A
CAN Index	0x2309, sub-index 0

Curr.Db.Kpfac

Parameter Name	CURR.DB.KPFAC
Definition	Dynamic braking gain factor
Type	Parameter (R/W)
Description	Sets/gets the dynamic braking gain factor.
Syntax	Write: CURR.DB.KPFAC[axis]= <value> Read: ?CURR.DB.KPFAC[axis]
Firmware	3.0.1.12
Value Range	0 to 1000
Default Value	1
Units	NA
CAN Index	0x230a, sub-index 0

Dbrk.Dismode

Parameter Name	DBRK.DISMODE
Definition	Dynamic braking mode
Type	Parameter (R/W)
Description	Sets/gets the dynamic braking mode. 0 = A fault response configured as Active Disable will generate active disabling. 1 = A fault response configured as Active Disable will generate dynamic braking.
Syntax	Write: DBRK.DISMODE[axis]= <value> Read: ?DBRK.DISMODE[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Dbrk.Disspeed

Parameter Name	DBRK.DISSPEED
Definition	Dynamic braking speed
Type	Parameter (R/W)
Description	The velocity threshold below which the motor is considered stopped (dynamic braking by time and speed mode).
Syntax	Write: DBRK.DISSPEED[axis]= <value> Read: ?DBRK.DISSPEED[axis]
Firmware	3.0.1.12
Value Range	0.1 to 2000
Default Value	0.167
Units	rps
CAN Index	NA

Dbrk.Time

Parameter Name	DBRK.TIME
Definition	Dynamic braking time
Type	Parameter (R/W)
Description	Sets/gets the duration of the dynamic braking process.
Syntax	Write: DBRK.TIMEOUT[axis]= <value> Read: ?DBRK.TIMEOUT[axis]
Firmware	3.0.1.12
Value Range	0 to 1000
Default Value	50
Units	msec
CAN Index	NA

Dbrk.Tm.Active

Parameter Name	DBRK.TM.ACTIVE
Definition	Dynamic braking by time
Type	Parameter (R)
Description	Indicates whether timed dynamic braking is active. 0 = not active 1 = active
Syntax	Read: ?DBRK.TM.ACTIVE[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Dbrk.Tmspd.Active

Parameter Name	DBRK.TMSPD.ACTIVE
Definition	Dynamic braking by time or speed
Type	Parameter (R)
Description	Reports whether dynamic braking by time and speed is active. 0 = not active 1 = active
Syntax	Read: ?DBRK.TMSPD.ACTIVE[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

2.7 EEPROM

Cb.Axes.Numof

Parameter Name	CB.AXES.NUMOF
Definition	Control board number of axes
Type	Parameter (R/W)
Description	Sets/gets the number of axes on the control board are in use. Note: Stored in EEPROM.
Syntax	Write: CB.AXES.NUMOF= <value> Read: ?CB.AXES.NUMOF
Firmware	3.0.1.12
Value Range	0 to 255
Default Value	6
Units	NA
CAN Index	NA

Cb.Eeprom.Ver

Parameter Name	CB.EEPROM.VER
Definition	Control board EEPROM content version
Type	Parameter (R/W)
Description	Sets/gets the content version ID of the EEPROM on the control board. Note: Stored in EEPROM.
Syntax	Write: CB.EEPROM.VER= <value> Read: ?CB.EEPROM.VER
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	NA

Cb.Key

Parameter Name	CB.KEY
Definition	Control board encryption key
Type	Parameter (R/W)
Description	Sets/gets the encryption key of the control board. Note: Stored in EEPROM.
Syntax	Write: CB.KEY= <value> Read: ?CB.KEY
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	NA

Cb.Pn

Parameter Name	CB.PN
Definition	Control board part number
Type	Parameter (R/W)
Description	Sets/gets the part number of the control board. Note: Stored in EEPROM.
Syntax	Write: CB.PN= <value> Read: ?CB.PN
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	0x23d1, sub-index 0

Cb.Product.Name

Parameter Name	CB.PRODUCT.NAME
Definition	Control board product name
Type	Parameter (R/W)
Description	Sets/gets the product name of the control board. Note: Stored in EEPROM.
Syntax	Write: CB.PRODUCT.NAME= <value> Read: ?CB.PRODUCT.NAME
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	NA

Cb.Revision

Parameter Name	CB.REVISION
Definition	Control board hardware revision
Type	Parameter (R/W)
Description	Sets/gets the hardware revision of the control board. Note: Stored in EEPROM.
Syntax	Write: CB.REVISION= <value> Read: ?CB.REVISION
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	0x23d2, sub-index 0

Cb.Sn

Parameter Name	CB.SN
Definition	Control board serial number
Type	Parameter (R/W)
Description	Sets/gets the serial number of the control board. Note: Stored in EEPROM.
Syntax	Write: CB.SN= <value> Read: ?CB.SN
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	0x23d0, sub-index 0

Cb.Write

Parameter Name	CB.WRITE
Definition	Write access to control board EEPROM
Type	Parameter (R/W)
Description	Sets/gets write access to the EEPROM on the control board. 0 = write access disabled 1 = write access enabled Note: Stored in EEPROM.
Syntax	Write: CB.WRITE= <value> Read: ?CB.WRITE
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Db.Relay.Delay

Parameter Name	DB.RELAY.DELAY
Definition	Dynamic braking relay delay
Type	Parameter (R/W)
Description	Sets/gets the time delay for opening the relay after the Enable command. Note: Stored in EEPROM.
Syntax	Write: DB.RELAY.DELAY= <value> Read: ?DB.RELAY.DELAY
Firmware	3.0.1.12
Value Range	hardware defined
Default Value	hardware defined
Units	ms
CAN Index	NA

Fpga.Type

Parameter Name	FPGA.TYPE
Definition	FPGA type
Type	Parameter (R/W)
Description	Sets/gets the FPGA identification. 0 = No FPGA (simulated) 1 = MAXX 7, LEM drive 2 = MAXX 7 TI 3 = AIO R3 Anlogic Note: Stored in EEPROM.
Syntax	Write: FPGA.TYPE= <value> Read: ?FPGA.TYPE
Firmware	3.0.1.12
Value Range	hardware defined
Default Value	hardware defined
Units	NA
CAN Index	NA

Curr.Sensor.Decratio

Parameter Name	CURR.SENSOR.DECRATIO
Definition	Sigma-delta current decimation ratio
Type	Parameter (R/W)
Description	Sets/gets the sigma-delta current decimation ratio. Ratio 0 = 32 1 = 64 2 = 128 3 = 256
Syntax	Write: CURR.SENSOR.DECRATIO[axis]= <value> Read: ?CURR.SENSOR.DECRATIO[axis]
Firmware	3.0.1.12
Value Range	hardware defined
Default Value	hardware defined
Units	NA
CAN Index	NA

Curr.Sensor.Delay

Parameter Name	CURR.SENSOR.DELAY
Definition	Current sensor delay
Type	Parameter (R/W)
Description	Sets/gets the time delay between the MTS and the start of the current sensor sampling. Note: Stored in EEPROM.
Syntax	Write: CURR.SENSOR.DELAY[axis]= <value> Read: ?CURR.SENSOR.DELAY[axis]
Firmware	3.0.1.12
Value Range	hardware defined
Default Value	hardware defined
Units	10ns
CAN Index	NA

Curr.Sensor.Scale

Parameter Name	CURR.SENSOR.SCALE
Definition	Current sensor scale
Type	Parameter (R/W)
Description	Sets/gets the scaling value of the current sensor. Note: Stored in EEPROM.
Syntax	Write: CURR.SENSOR.SCALE[axis]= <value> Read: ?CURR.SENSOR.SCALE[axis]
Firmware	3.0.1.12
Value Range	hardware defined
Default Value	hardware defined
Units	NA
CAN Index	NA

Curr.Sensor.Settings

Parameter Name	CURR.SENSOR.SETTINGS
Definition	Current sensor settings
Type	Parameter (R/W)
Description	Sets/gets the configuration of the current sensor. Note: Stored in EEPROM.
Syntax	Write: CURR.SENSOR.SETTINGS[axis]= <value> Read: ?CURR.SENSOR.SETTINGS[axis]
Firmware	3.0.1.12
Value Range	hardware defined
Default Value	hardware defined
Units	NA
CAN Index	NA

Curr.Sensor.Type

Parameter Name	CURR.SENSOR.TYPE
Definition	Current sensor type
Type	Parameter (R/W)
Description	Sets/gets the type of current sensor. Types 0 = simulated 1 = linear sigma delta Note: Stored in EEPROM.
Syntax	Write: CURR.SENSOR.TYPE[axis]= <value> Read: ?CURR.SENSOR.TYPE[axis]
Firmware	3.0.1.12
Value Range	hardware defined
Default Value	hardware defined
Units	NA
CAN Index	NA

Drive.Deadtime

Parameter Name	DRIVE.DEADTIME
Definition	Dead-time compensation minimal level
Type	Parameter (R/W)
Description	Sets/gets the minimum current level required to start compensation for the dead-time effect. Note: Stored in EEPROM.
Syntax	Write: DRIVE.DEADTIME[axis]= <value> Read: ?DRIVE.DEADTIME[axis]
Firmware	3.0.1.12
Value Range	hardware defined
Default Value	hardware defined
Units	ns
CAN Index	0x230d, sub-index 0

Drive.Icont

Parameter Name	DRIVE.ICONT
Definition	Drive continuous current
Type	Parameter (R/W)
Description	Sets/gets the rated continuous current of the drive. Note: Stored in EEPROM.
Syntax	Write: DRIVE.ICONT[<i>axis</i>]= < <i>value</i> > Read: ?DRIVE.ICONT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	hardware defined
Default Value	hardware defined
Units	A
CAN Index	NA

Drive.Ipeak

Parameter Name	DRIVE.IPEAK
Definition	Drive peak current
Type	Parameter (R/W)
Description	Sets/gets the rated peak current of the drive. Note: Stored in EEPROM.
Syntax	Write: DRIVE.IPEAK[<i>axis</i>]= < <i>value</i> > Read: ?DRIVE.IPEAK[<i>axis</i>]
Firmware	3.0.1.12
Value Range	hardware-defined
Default Value	hardware-defined
Units	A
CAN Index	NA

Drive.Pwm.Freq

Parameter Name	DRIVE.PWM.FREQ
Definition	Nominal PWM frequency
Type	Parameter (R/W)
Description	Sets/gets the nominal PWM frequency of the drive. Note: Stored in EEPROM.
Syntax	Write: DRIVE.PWM.FREQ[axis]= <value> Read: ?DRIVE.PWM.FREQ[axis]
Firmware	3.0.1.12
Value Range	hardware-defined
Default Value	hardware-defined
Units	Hz
CAN Index	0x20b2, sub-index 0

Drive.Vbus

Parameter Name	DRIVE.VBUS
Definition	Drive voltage bus
Type	Parameter (R/W)
Description	Sets/gets the drive bus voltage, used for the current controller design. Note: Stored in EEPROM.
Syntax	Write: DRIVE.VBUS[axis]= <value> Read: ?DRIVE.VBUS[axis]
Firmware	3.0.1.12
Value Range	hardware-defined
Default Value	hardware-defined
Units	V
CAN Index	NA

Pb.Axes.Numof

Parameter Name	PB.AXES.NUMOF
Definition	Power board number of axes
Type	Parameter (R/W)
Description	Sets/gets the number of axes on the power board that are in use. Note: Stored in EEPROM.
Syntax	Write: PB.AXES.NUMOF= <value> Read: ?PB.AXES.NUMOF
Firmware	3.0.1.12
Value Range	hardware-defined
Default Value	hardware-defined
Units	NA
CAN Index	NA

Pb.Cont.Power

Parameter Name	PB.CONT.POWER
Definition	Power board continuous power
Type	Parameter (R/W)
Description	Sets/gets the continuous power supply to the motor. Note: Stored in EEPROM.
Syntax	Write: PB.CONT.POWER[axis]= <value> Read: ?PB.CONT.POWER[axis]
Firmware	3.0.1.12
Value Range	hardware-defined
Default Value	hardware-defined
Units	W
CAN Index	NA

Pb.Eeprom.Ver

Parameter Name	PB.EEPROM.VER
Definition	Power board EEPROM content version
Type	Parameter (R/W)
Description	Sets/gets the power board EEPROM content version. Note: Stored in EEPROM.
Syntax	Write: PB.EEPROM.VER= <value> Read: ?PB.EEPROM.VER
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	NA

Pb.Pn

Parameter Name	PB.PN
Definition	Power board part number
Type	Parameter (R/W)
Description	Sets/gets the part number of the power board. Note: Stored in EEPROM.
Syntax	Write: PB.PN= <value> Read: ?PB.PN
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	0x23d4, sub-index 0

Pb.Power.Max

Parameter Name	PB.POWER.MAX
Definition	Total maximum power
Type	Parameter (R/W)
Description	Sets/gets the power board total maximum power. Note: Stored in EEPROM. Not in use.
Syntax	Write: PB.POWER.MAX= <value> Read: ?PB.POWER.MAX
Firmware	3.0.1.12
Value Range	hardware-defined
Default Value	hardware-defined
Units	W
CAN Index	NA

Pb.Product

Parameter Name	PB.PRODUCT
Definition	Product identification
Type	Parameter (R/W)
Description	Sets/gets the product identification of the power board. Types 0 - General purpose 1 – SCARA 2 – PUMA 3 – MAXX 4 - Single Drive. Note: Stored in EEPROM.
Syntax	Write: PB.PRODUCT= <value> Read: ?PB.PRODUCT
Firmware	3.0.1.12
Value Range	software-defined
Default Value	software-defined
Units	NA
CAN Index	NA

Pb.Revision

Parameter Name	PB.REVISION
Definition	Power board hardware revision
Type	Parameter (R/W)
Description	Sets/gets the hardware revision of the power board. Note: Stored in EEPROM.
Syntax	Write: PB.REVISION= <value> Read: ?PB.REVISION
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	0x23d5, sub-index 0

Pb.Sn

Parameter Name	PB.SN
Definition	Power board serial number
Type	Parameter (R/W)
Description	Sets/gets the serial number of the power board. Note: Stored in EEPROM.
Syntax	Write: PB.SN= <value> Read: ?PB.SN
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	0x23d3, sub-index 0

Pb.Write

Parameter Name	PB.WRITE
Definition	Write access to power board EEPROM
Type	Parameter (R/W)
Description	Sets/gets write access to the power board EEPROM. 0 = write access disabled 1 = write access enabled Note: Stored in EEPROM.
Syntax	Write: PB.WRITE= <value> Read: ?PB.WRITE
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Product.Pn

Parameter Name	PRODUCT.PN
Definition	Product part number
Type	Parameter (R/W)
Description	Sets/gets product part number. Note: Stored in EEPROM.
Syntax	Write: PRODUCT.PN= <value> Read: ?PRODUCT.PN
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	0x23d9, sub-index 0

Product.Sn

Parameter Name	PRODUCT.SN
Definition	Product serial number
Type	Parameter (R/W)
Description	Sets/gets the product serial number. Note: Stored in EEPROM.
Syntax	Write: PRODUCT.SN= <value> Read: ?PRODUCT.SN
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	0x23a6, sub-index 0

Pwm.Duty.Cyclce.Max

Parameter Name	PWM.DUTY.CYCLCE.MAX
Definition	Maximum PWM duty cycle. (Note: parameter name spelling error in firmware.)
Type	Parameter (R/W)
Description	Sets/gets the maximum PWM duty cycle. Note: Stored in EEPROM.
Syntax	Write: PWM.DUTY.CYCLE.MAX[axis]= <value> Read: ?PWM.DUTY.CYCLE.MAX[axis]
Firmware	3.0.1.12
Value Range	software-defined
Default Value	software-defined
Units	%
CAN Index	NA

Pwm.Freq.Min

Parameter Name	PWM.FREQ.MIN
Definition	Minimum PWM frequency
Type	Parameter (R/W)
Description	Sets/gets the minimum PWM frequency. Note: Stored in EEPROM.
Syntax	Write: PWM.FREQ.MIN[<i>axis</i>] = <value> Read: ?PWM.FREQ.MIN[<i>axis</i>]
Firmware	3.0.1.12
Value Range	software-defined
Default Value	software-defined
Units	Hz
CAN Index	NA

Pwm.Freq.Max

Parameter Name	PWM.FREQ.MAX
Definition	Maximum PWM frequency
Type	Parameter (R/W)
Description	Sets/gets the maximum PWM frequency. Note: Stored in EEPROM.
Syntax	Write: PWM.FREQ.MAX[<i>axis</i>] = <value> Read: ?PWM.FREQ.MAX[<i>axis</i>]
Firmware	3.0.1.12
Value Range	software-defined
Default Value	software-defined
Units	Hz
CAN Index	NA

Pwm.Generation

Parameter Name	PWM.GENERATION
Definition	PWM setting
Type	Parameter (R/W)
Description	Sets/gets the PWM configuration. Note: Stored in EEPROM.
Syntax	Write: PWM.GENERATION[axis]= <value> Read: ?PWM.GENERATION[axis]
Firmware	3.0.1.12
Value Range	software-defined
Default Value	software-defined
Units	NA
CAN Index	NA

Sb.Pn

Parameter Name	SB.PN
Definition	Safety board product number
Type	Parameter (R/W)
Description	Sets/gets the product number of the safety board. Note: Stored in EEPROM.
Syntax	Write: SB.PN= <value> Read: ?SB.PN
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	0x23d7, sub-index 0

Sb.Revision

Parameter Name	SB.REVISION
Definition	Safety board product revision
Type	Parameter (R/W)
Description	Sets/gets the product revision of the safety board. Note: Stored in EEPROM.
Syntax	Write: SB.REVISION= <value> Read: ?SB.REVISION
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	0x23d8, sub-index 0

Sb.Sn

Parameter Name	SB.SN
Definition	Safety board serial number
Type	Parameter (R/W)
Description	Sets/gets the serial number of the safety board. Note: Stored in EEPROM.
Syntax	Write: SB.SN= <value> Read: ?SB.SN
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	0x23d6, sub-index 0

2.8 Enable

Active

Parameter Name	ACTIVE
Definition	Active axis status
Type	Parameter (R)
Description	Indicates whether the axis (drive) is enabled and power is being applied to the motor. 0 = axis/drive is inactive 1 = axis/drive is enabled
Syntax	Read: ?ACTIVE[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

En

Parameter Name	EN
Definition	Enable/disable command
Type	Parameter (R/W)
Description	Enable/disable command to the axis. 0 = Disable command 1 = Enable command The value of parameter Active indicates whether the En command successfully enabled the axis.
Syntax	Write: EN[axis]= <value> Read: ?EN[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

2.9 Extended State Observer (ESO)

Vact.Eso.Design

Parameter Name	VACT.ESO.DESIGN
Definition	ESO design mode
Type	Parameter (R/W)
Description	Sets/gets the extended state observer design mode. Modes 0 = Idle 1 = user matrices and design new L 2 = estimated LMJR matrices and design new L
Syntax	Write: VACT.ESO.DESIGN[<i>axis</i>]=< <i>value</i> > Read: ?VACT.ESO.DESIGN[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 2
Default Value	0
Units	NA
CAN Index	0x2125, sub-index 0

Vact.Eso.Bw1

Parameter Name	VACT.ESO.BW1
Definition	ESO bandwidth low velocity
Type	Parameter (R/W)
Description	Sets/gets the extended state observer bandwidth at low velocity.
Syntax	Write: VACT.ESO.BW1[<i>axis</i>]=< <i>value</i> > Read: ?VACT.ESO.BW1[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1000
Default Value	180
Units	Hz
CAN Index	0x2126, sub-index 0

Vact.Eso.Bw2

Parameter Name	VACT.ESO.BW2
Definition	ESO bandwidth high velocity
Type	Parameter (R/W)
Description	Sets/gets the extended state observer bandwidth at a high velocity.
Syntax	Write: VACT.ESO.BW2[axis]= <value> Read: ?VACT.ESO.BW2[axis]
Firmware	3.0.1.12
Value Range	0 to 1000
Default Value	90
Units	Hz
CAN Index	0x2128, sub-index 0

Vact.Eso.Sw.Vth

Parameter Name	VACT.ESO.SW.VTH
Definition	ESO bandwidth switching velocity
Type	Parameter (R/W)
Description	Sets/gets the extended state observer bandwidth switching velocity.
Syntax	Write: VACT.ESO.SW.VTH[axis]= <value> Read: ?VACT.ESO.SW.VTH[axis]
Firmware	3.0.1.12
Value Range	0 to 10
Default Value	1
Units	rps
CAN Index	0x2129, sub-index 0

Vact.Eso.Bwflag

Parameter Name	VACT.ESO.BWFLAG
Definition	ESO bandwidth state
Type	Parameter (R/W)
Description	Sets/gets the extended state observer bandwidth state. State 0 = low 1 = high
Syntax	Write: VACT.ESO.BWFLAG[axis]= <value> Read: ?VACT.ESO.BWFLAG[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	0x2130, sub-index 0

Vact.Eso.Filter.Out

Parameter Name	VACT.ESO.FILTER.OUT
Definition	ESO output LPF bandwidth
Type	Parameter (R/W)
Description	Sets/gets the extended state observer output LPF bandwidth.
Syntax	Write: VACT.ESO.FILTER.OUT[axis]= <value> Read: ?VACT.ESO.FILTER.OUT[axis]
Firmware	3.0.1.12
Value Range	100 to 1000
Default Value	1000
Units	Hz
CAN Index	0x232e, sub-index 0

2.10 Estimations

Est.Always.On

Parameter Name	EST.ALWAYS.ON
Definition	Enable continuous LMJR estimation
Type	Parameter (W)
Description	Enables continuous LMJR estimation. 0 = Continuous LMJR estimation disabled 1 = Continuous LMJR estimation enabled
Syntax	Write: EST.ALWAYS.ON[axis]= <value>
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Est.Enable

Parameter Name	EST.ENABLE
Definition	Enable LMJR estimation
Type	Parameter (W)
Description	Enables LMJR estimation. 0 = LMJR estimation disabled 1 = LMJR estimation enabled
Syntax	Write: EST.ENABLE[axis]= <value>
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Est.Fric.Dynamic

Parameter Name	EST.FRIC.DYNAMIC
Definition	Estimated dynamic friction
Type	Parameter (R)
Description	Reports the estimated dynamic friction.
Syntax	Read: ?EST.FRIC.DYNAMIC[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1000
Default Value	0
Units	Nm*s/rad
CAN Index	0x206f, sub-index 0

Est.Fric.Static

Parameter Name	EST.FRIC.STATIC
Definition	Estimated static friction
Type	Parameter (R)
Description	Reports the estimated static (Coulomb) friction.
Syntax	Read: ?EST.FRIC.STATIC[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1000
Default Value	0
Units	Nm
CAN Index	0x2071, sub-index 0

Est.Lmjr

Parameter Name	EST.LMJR
Definition	Estimated LMJR
Type	Parameter (R)
Description	Reports the estimated LMJR.
Syntax	Read: ?EST.LMJR[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 100
Default Value	0
Units	NA
CAN Index	0x2074, sub-index 0

Est.Status

Parameter Name	EST.STATUS
Definition	Estimation status
Type	Parameter (R)
Description	Reports the status of the LMJR estimation process. 0 = Not active 1 = Waiting for motion 2 = Gathering data 3 = Analyzing 4 = Array out of bound 5 = Division by zero 6 = Not enough data 7 = Insufficient speed change 8 = Estimated LMJR too high 9 = Estimated LMJR too low 10 = Done 11 = Continuous estimation always on
Syntax	Read: ?EST.STATUS[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 11
Default Value	NA
Units	NA
CAN Index	0x2079, sub-index 0

2.11 Emergency Stop (ESTOP)

Estop.Mode

Parameter Name	ESTOP.MODE
Definition	Digital ESTOP mode
Type	Parameter (R/W)
Description	Sets/gets the Emergency Stop activation mode. Modes 0 = fault response 1 = hardware input only
Syntax	Write: ESTOP.MODE= <value> Read: ?ESTOP.MODE
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	1
Units	NA
CAN Index	0x23de, sub-index 0

2.12 Feedback

Index.Find

Parameter Name	INDEX.FIND
Definition	Motor feedback index find
Type	Parameter (R/W)
Description	Sets/gets process to detect the index signal of the motor feedback device. 1 = start 0 = stop
Syntax	Write: INDEX.FIND[axis]= <value> Read: ?INDEX.FIND[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Index.Last.Pos

Parameter Name	INDEX.LAST.POS
Definition	Motor feedback index position
Type	Parameter (R)
Description	Indicates whether the feedback device index position was found, and the index position.
Syntax	Read: ?INDEX.LAST.POS[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	-4611686018427387904 to 4611686018427387903
Index Range	0 = search status: index found/not found 1 = index found at last position
Default Value	0
Units	NA
CAN Index	NA

Mfb.Abs

Parameter Name	MFB.ABS
Definition	Motor feedback absolute
Type	Parameter (R)
Description	Indicates whether the motor feedback device is an absolute encoder. 0 = incremental encoder 1 = absolute encoder
Syntax	Read: ?MFB.ABS[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	Boolean
CAN Index	0x2020, sub-index 0

Mfb.Btry.Ignr

Parameter Name	MFB.BTRY.IGNR
Definition	Motor feedback battery ignore
Type	Parameter (R/W)
Description	Sets/gets whether to ignore battery warnings and faults from the motor feedback device (if supported). 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).
Syntax	Write: MFB.BTRY.IGNR[axis]= <value> Read: ?MFB.BTRY.IGNR[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	Boolean
CAN Index	0x2131, sub-index 0

Mfb.Dir

Parameter Name	MFB.DIR
Definition	Motor feedback direction
Type	Parameter (R/W)
Description	Sets/gets the direction of the motor feedback device. 0 = factory-defined direction 1 = inverted direction
Syntax	Write: MFB.DIR[axis]= <value> Read: ?MFB.DIR[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	0x2135, sub-index 0

Mfb.Failures

Parameter Name	MFB.FAILURES
Definition	Motor feedback active faults and warnings
Type	Parameter (R)
Description	Reports active faults and warnings from the motor feedback device.
Syntax	Read: ?MFB.FAILURES[<i>axis</i>]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	0x2017, sub-index 0

Mfb.Flt

Parameter Name	MFB.FLT
Definition	Motor feedback active fault indication
Type	Parameter (R)
Description	Indicates whether the motor feedback device has an active fault. 0 = no fault 1 = fault
Syntax	Read: ?MFB.FLT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	Boolean
CAN Index	0x213e, sub-index 0

Mfb.Flt.Clear

Parameter Name	MFB.FLT.CLEAR
Definition	Motor feedback clear faults
Type	Parameter (R/W)
Description	Sets/gets clear faults on the motor feedback device. 0 = idle 1 = clear faults
Syntax	Write: MFB.FLT.CLEAR[<i>axis</i>] = <value> Read: ?MFB.FLT.CLEAR[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Mfb.Mt

Parameter Name	MFB.MT
Definition	Motor feedback multiturn device
Type	Parameter (R)
Description	Indicates whether the motor feedback device is a multiturn encoder. 0 = single turn encoder 1 = multiturn encoder
Syntax	Read: ?MFB.MT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	Boolean
CAN Index	0x214c, sub-index 0

Mfb.Mt.Reset

Parameter Name	MFB.MT.RESET
Definition	Motor feedback multiturn reset
Type	Parameter (W)
Description	Resets the multiturn counter of the motor feedback device, if supported.
Syntax	Write: MFB.MT.RESET[axis]= <value>
Firmware	3.0.1.12
Value Range	1
Default Value	1
Units	NA
CAN Index	0x2186, sub-index 0

Mfb.Name

Parameter Name	MFB.NAME
Definition	Motor feedback name
Type	Parameter (R)
Description	Reports the name of the motor feedback device.
Syntax	Read: ?MFB.NAME[axis]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	0x214e, sub-index 0

Mfb.Offset

Parameter Name	MFB.OFFSET
Definition	Feedback offset
Type	Parameter (R/W)
Description	Sets/gets a 64-bit offset to the motor feedback value.
Syntax	Write: MFB.OFFSET[axis]= <value> Read: ?MFB.OFFSET[axis]
Firmware	3.0.1.12
Value Range	-9223372036854775808 to 9223372036854775807
Default Value	0
Units	NA
CAN Index	NA

Mfb.Power

Parameter Name	MFB.POWER
Definition	Motor feedback voltage output mode
Type	Parameter (R/W)
Description	Sets/gets voltage to the motor feedback device. 0 = switches voltage off 1 = switches voltage on 2 = switches voltage off and then on (reset)
Syntax	Write: MFB.POWER[axis]= <value> Read: ?MFB.POWER[axis]
Firmware	3.0.1.12
Value Range	0 to 2
Default Value	2
Units	NA
CAN Index	NA

Mfb.Properties

Parameter Name	MFB.PROPERTIES
Definition	Motor feedback sensAR info.
Type	Parameter (R)
Description	Reports information about the sensAR encoder.
Syntax	Read: ?MFB.PROPERTIES[axis]
Firmware	3.0.1.12
Example	<pre>?mfb.properties[2] { "POSITION_OFFSET" : -1336731383, "FILTER_DEPTH" : 0, "FEEDBACK_TEMPERATURE" : 37, "TEMPERATURE_HIGH_THESHOLD" : 137, "TEMPERATURE_LOW_THESHOLD" : -45, "TEMPERATURE_HIGH_MARGIN" : 10, "TEMPERATURE_LOW_MARGIN" : 10, "VELOCITY_ABSOLUTE_LIMIT" : 10000, "ACCELERATION_ABSOLUTE_LIMIT" : 999999, "AVAILABLE_FAULTS_MASK" : 33489407, "AVAILABLE_WARNING_MASK" : 6111, "RUN_TIME" : 23617747 } { "ECCENTRICITY" : -1, "MT_CALIBRATION_OFFSET" : 1846333849, "MT_ROLLOVER_RANGE" : 32768, "ENCODER_PIN" : "PRDr0099M00z-05", "ENCODER_REV" : "A", "ENCODER_SN" : "C0717_0303", "STATOR_ASSEMBLY_PN" : "PRDr0099STAT-02", "STATOR_ASSEMBLY_REV" : "02", "STATOR_ASSEMBLY_SN" : "J0717_00000303", "HW_REVISION" : 786432, "FW_VERSION" : "2.0.52", "FW_VERSION_DATE" : "20240506", "PROTOCOL_VERSION" : "002.009.007", "CPU_REVISION" : 13, "PRODUCT_TYPE" : 1 }</pre>
Value Range	NA
Default Value	NA
Units	NA
CAN Index	NA

Mfb.Raw

Parameter Name	MFB.RAW
Definition	Position from position feedback
Type	Parameter (R)
Description	Reports the position from the motor feedback device, without any offset or scaling values added.
Syntax	Read: ?MFB.RAW[<i>axis</i>]
Firmware	3.0.1.12
Value Range	-263 to (2 ⁶³)-1
Default Value	NA
Units	2 ^x /rev
CAN Index	2416h, sub-index 0

Mfb.Temp

Parameter Name	MFB.TEMP
Definition	Motor feedback temperature
Type	Parameter (R)
Description	Reports the temperature from the motor feedback device.
Syntax	Read: ?MFB.TEMP[<i>axis</i>]
Firmware	3.0.1.12
Value Range	-40 to 125
Default Value	0
Units	deg C
CAN Index	0x2153, sub-index 0

Mfb.Temp.Thresh

Parameter Name	MFB.TEMP.THRESH
Definition	Motor feedback temperature threshold
Type	Parameter (R/W)
Description	Sets/gets the temperature threshold for the motor feedback device.
Syntax	Write: MFB.TEMP.THRESH[axis]= <value> Read: ?MFB.TEMP.THRESH[axis]
Firmware	3.0.1.12
Value Range	0 to 125
Default Value	90
Units	deg C
CAN Index	0x2018, sub-index 0

Mfb.Type

Parameter Name	MFB.TYPE
Definition	Motor feedback device type
Type	Parameter (R/W)
Description	Sets/gets the type of motor feedback device. Type 0 = Simulated 1 = SensAR single turn encoder 2 = SensAR multiturn encoder 3 = Tamagawa 17 single turn encoder 4 = Tamagawa 17 multiturn encoder 5 = Tamagawa 23 single turn encoder 6 = Tamagawa 23 multiturn encoder
Syntax	Write: MFB.TYPE[axis]= <value> Read: ?MFB.TYPE[axis]
Firmware	3.0.1.12
Value Range	0 to 6
Default Value	0
Units	NA
CAN Index	0x2156, sub-index 0

Mfb.Warnings

Parameter Name	MFB.WARNINGS
Definition	Motor feedback active warnings
Type	Parameter (R)
Description	Reports the active warnings from the motor feedback device.
Syntax	Read: ?MFB.WARNINGS[<i>axis</i>]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	0x2019, sub-index 0

Mfb.Wrn

Parameter Name	MFB.WRN
Definition	Motor feedback active warning indication
Type	Parameter (R)
Description	Indicates whether the motor feedback device has an active warning. 0 = no warning 1 = warning
Syntax	Read: ?MFB.WRN[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	Boolean
CAN Index	0x215c, sub-index 0

Pfb

Parameter Name	PFB
Definition	Position actual value
Type	Parameter (R)
Description	Reports the value of the motor feedback device including any offsets that have been added. PFB is the actual motor position.
Syntax	Read: ?PFB[<i>axis</i>]
Firmware	3.0.1.12
Value Range	-2^{63} to $(2^{63})-1$
Default Value	NA
Units	$2^x/\text{rev}$
CAN Index	6064h, sub-index 0

2.13 Foldback

Drive.Foldback.Current

Parameter Name	DRIVE.FOLDBACK.CURRENT
Definition	Drive foldback current
Type	Parameter (R)
Description	Reports the drive foldback current.
Syntax	Read: ?DRIVE.FOLDBACK.CURRENT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1000
Default Value	6
Units	A
CAN Index	0x2069, sub-index 0

Drive.Foldback.Time.Atpeak

Parameter Name	DRIVE.FOLDBACK.TIME.ATPEAK
Definition	Drive foldback time peak current
Type	Parameter (R/W)
Description	Sets/gets maximum duration at drive peak current. Note: Stored in EEPROM.
Syntax	Write: DRIVE.FOLDBACK.TIME.ATPEAK[<i>axis</i>]=<value> Read: ?DRIVE.FOLDBACK.TIME.ATPEAK[<i>axis</i>]
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	2000
Units	ms
CAN Index	0x238D, sub-index 0

Drive.Foldback.Time.Const

Parameter Name	DRIVE.FOLDBACK.TIME.CONST
Definition	Drive foldback overload time constant
Type	Parameter (R/W)
Description	Sets/gets drive overload protection time constant. Note: Stored in EEPROM.
Syntax	Write: DRIVE.FOLDBACK.TIME.CONST [<i>axis</i>] = < <i>value</i> > Read: ?DRIVE.FOLDBACK.TIME.CONST [<i>axis</i>]
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	2500
Units	ms
CAN Index	0x238E, sub-index 0

Drive.Foldback.Flt.Thresh

Parameter Name	DRIVE.FOLDBACK.FLT.THRESH
Definition	Drive foldback fault threshold
Type	Parameter (R/W)
Description	Sets/gets the drive overload protection fault threshold. If the foldback current drops below this threshold, a fault will occur. Note: Stored in EEPROM.
Syntax	Write: DRIVE.FOLDBACK.FLT.THRESH[<i>axis</i>] = < <i>value</i> > Read: ?DRIVE.FOLDBACK.FLT.THRESH[<i>axis</i>]
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	4.5
Units	A
CAN Index	0x2034, sub-index 0

Drive.Stall.Curr.Thresh

Parameter Name	DRIVE.STALL.CURR.THRESH
Definition	Drive stall current threshold
Type	Parameter (R/W)
Description	Sets/gets the current threshold for foldback in stall. Note: Stored in EEPROM.
Syntax	Write: DRIVE.STALL.CURR.THRESH[<i>axis</i>]= <value> Read: ?DRIVE.STALL.CURR.THRESH[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 300
Default Value	15
Units	A
CAN Index	0x238F, sub-index 0

Drive.Stall.Temp.Thresh

Parameter Name	DRIVE.STALL.TEMP.THRESH
Definition	Drive stall temperature threshold
Type	Parameter (R/W)
Description	Sets/gets the drive IPM high temperature threshold for foldback in stall. Note: Stored in EEPROM.
Syntax	Write: DRIVE.STALL.TEMP.THRESH[<i>axis</i>]= <value> Read: ?DRIVE.STALL.TEMP.THRESH[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 200
Default Value	80
Units	deg C
CAN Index	0x2390, sub-index 0

Drive.Stall.Time.Atpeak

Parameter Name	DRIVE.STALL.TIME.ATPEAK
Definition	Drive foldback time at peak in stall
Type	Parameter (R/W)
Description	Sets/gets the drive foldback time at peak in stall. Note: Stored in EEPROM.
Syntax	Write: DRIVE.STALL.TIME.ATPEAK[axis]= <value> Read: ?DRIVE.STALL.TIME.ATPEAK[axis]
Firmware	3.0.1.12
Value Range	0 to 200
Default Value	80
Units	ms
CAN Index	0x2391, sub-index 0

Drive.Stall.Time.Atpeak.Slope

Parameter Name	DRIVE.STALL.TIME.ATPEAK.SLOPE
Definition	Foldback slope in stall
Type	Parameter (R/W)
Description	Sets/gets the drive foldback time at peak slope via temperature in stall. Note: Stored in EEPROM.
Syntax	Write: DRIVE.STALL.TIME.ATPEAK.SLOPE[axis]= <value> Read: ?DRIVE.STALL.TIME.ATPEAK.SLOPE[axis]
Firmware	3.0.1.12
Value Range	0 to 100
Default Value	1
Units	ms/C
CAN Index	0x2392, sub-index 0

Motor.Foldback.Current

Parameter Name	MOTOR.FOLDBACK.CURRENT
Definition	Motor foldback current
Type	Parameter (R)
Description	Reports the motor current foldback.
Syntax	Read: ?MOTOR.FOLDBACK.CURRENT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1000
Default Value	6
Units	A
CAN Index	0x2706, sub-index 0

Motor.Foldback.Time.Atpeak

Parameter Name	MOTOR.FOLDBACK.TIME.ATPEAK
Definition	Motor foldback time constant
Type	Parameter (R/W)
Description	Sets/gets the time constant for motor foldback. After the drive enters the motor foldback state, this parameter defines how long it will take the drive to reduce the system current level to Motor.Icont.
Syntax	Write: MOTOR.FOLDBACK.TIME.ATPEAK[<i>axis</i>] = <value> Read: ?MOTOR.FOLDBACK.TIME.ATPEAK[<i>axis</i>]
Firmware	3.0.1.12
Value Range	1 to 100000
Default Value	200
Units	ms
CAN Index	0x202f, sub-index 0

Motor.Foldback.Flt.Thresh

Parameter Name	MOTOR.FOLDBACK.FLT.THRESH
Definition	Motor foldback fault threshold
Type	Parameter (R/W)
Description	Sets/gets motor overload protection fault threshold. A fault is generated if the foldback value goes below this threshold. Note: Stored in EEPROM.
Syntax	Write: MOTOR.FOLDBACK.FLT.THRESH[axis]= <value> Read: ?MOTOR.FOLDBACK.FLT.THRESH[axis]
Firmware	3.0.1.12
Value Range	1 to 1000
Default Value	1
Units	A
CAN Index	NA

Motor.Foldback.Time.Delay

Parameter Name	MOTOR.FOLDBACK.TIME.DELAY
Definition	Motor foldback time delay
Type	Parameter (R/W)
Description	Sets/gets the motor foldback delay time. This is the length of time that the system current can exceed the motor continuous current before the drive enters the motor foldback state.
Syntax	Write: MOTOR.FOLDBACK.TIME.DELAY[axis]= <value> Read: ?MOTOR.FOLDBACK.TIME.DELAY[axis]
Firmware	3.0.1.12
Value Range	1 to 100000
Default Value	200
Units	ms
CAN Index	0x202f, sub-index 0

2.14 FPGA

Fpga.Ver.Support

Parameter Name	FPGA.VER.SUPPORT
Definition	Supported FPGA version
Type	Parameter (R)
Description	Reports the expected FPGA version.
Syntax	Read: ?FPGA.VER.SUPPORT
Firmware	3.0.1.12
Value Range	0
Default Value	0
Units	NA
CAN Index	NA

Fpga.Name

Parameter Name	FPGA.NAME
Definition	FPGA file name
Type	Parameter (R)
Description	Reports the FPGA file name.
Syntax	Read: ?FPGA.NAME
Firmware	3.0.1.12
Value Range	NA
Default Value	Software-dependent
Units	NA
CAN Index	NA

2.15 Friction

Fric.Iff

Parameter Name	FRIC.IFF
Definition	Friction feedforward current
Type	Parameter (R)
Description	Reports the friction feedforward current (IFRIC).
Syntax	Read: ?FRIC.IFF[<i>axis</i>]
Firmware	3.0.1.12
Value Range	-10 to 10
Default Value	0
Units	A
CAN Index	0x204e, sub-index 0

Fric.Ineg

Parameter Name	FRIC.INEG
Definition	Friction Coulomb negative feedforward current
Type	Parameter (R/W)
Description	Sets/gets the negative feedforward current for Coulomb friction at a negative velocity.
Syntax	Write: FRIC.INEG[<i>axis</i>]= <value> Read: ?FRIC.INEG[<i>axis</i>]
Firmware	3.0.1.12
Value Range	-10 to 0
Default Value	0
Units	A
CAN Index	0x2051, sub-index 0

Fric.Ipos

Parameter Name	FRIC.IPOS
Definition	Friction Coulomb positive feedforward current
Type	Parameter (R/W)
Description	Sets/gets the positive feedforward current for Coulomb friction at a positive velocity.
Syntax	Write: FRIC.IPOS[<i>axis</i>] = <value> Read: ?FRIC.IPOS[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 10
Default Value	0
Units	A
CAN Index	0x204f, sub-index 0

Fric.IO

Parameter Name	FRIC.IO
Definition	Friction feedforward offset current
Type	Parameter (R)
Description	Reports the friction feedforward offset current at stop.
Syntax	Read: ?FRIC.IO[<i>axis</i>]
Firmware	3.0.1.12
Value Range	-10 to 10
Default Value	0
Units	A
CAN Index	0x204d, sub-index 0

Fric.Istart

Parameter Name	FRIC.ISTART
Definition	Friction magnification factor of Coulomb feedforward current at start
Type	Parameter (R/W)
Description	Sets/gets the magnification factor of the Coulomb feedforward current at start
Syntax	Write: FRIC.ISTART[axis]= <value> Read: ?FRIC.ISTART[axis]
Firmware	3.0.1.12
Value Range	0 to 500
Default Value	100
Units	%
CAN Index	0x2052, sub-index 0

Fric.Rslope

Parameter Name	FRIC.RSLOPE
Definition	Friction feedforward current recover slope
Type	Parameter (R/W)
Description	Sets/gets the recover slope of the IFRIC offset current at stop.
Syntax	Write: FRIC.RSLOPE[axis]= <value> Read: ?FRIC.RSLOPE[axis]
Firmware	3.0.1.12
Value Range	0 to 0.001
Default Value	4e-07
Units	A
CAN Index	0x2054, sub-index 0

Fric.Type

Parameter Name	FRIC.TYPE
Definition	Friction feedforward current method
Type	Parameter (R/W)
Description	Sets/gets the type of friction compensation by current feedforward. 1 = normal IFRIC, will affect stop 2 = no action at stop
Syntax	Write: FRIC.TYPE[axis]= <value> Read: ?FRIC.TYPE[axis]
Firmware	3.0.1.12
Value Range	1 to 2
Default Value	1
Units	NA
CAN Index	0x2056, sub-index 0

Fric.Vth

Parameter Name	FRIC.VTH
Definition	Friction feedforward current velocity threshold
Type	Parameter (R/W)
Description	Sets/gets the velocity threshold for feedforward current. The current feedforward (IFRIC) changes linearly from ipos to ineg within 2vth.
Syntax	Write: FRIC.VTH[axis]= <value> Read: ?FRIC.VTH[axis]
Firmware	3.0.1.12
Value Range	0.001 to 100
Default Value	0.2
Units	rps
CAN Index	0x2057, sub-index 0

Fric.Visc.Neg

Parameter Name	FRIC.VISC.NEG
Definition	Viscous friction coefficient negative velocity
Type	Parameter (R/W)
Description	Sets/gets the viscous friction coefficient for negative velocity.
Syntax	Write: FRIC.VISC.NEG[axis]= <value> Read: ?FRIC.VISC.NEG[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	N.m/rps
CAN Index	0x205a, sub-index 0

Fric.Visc.Pos

Parameter Name	FRIC.VISC.POS
Definition	Viscous friction coefficient positive velocity
Type	Parameter (R/W)
Description	Sets/gets the viscous friction coefficient for positive velocity.
Syntax	Write: FRIC.VISC.POS[axis]= <value> Read: ?FRIC.VISC.POS[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	N.m/rps
CAN Index	0x2059, sub-index 0

Fric.Vtype

Parameter Name	FRIC.VTYPE
Definition	Velocity signal Coulomb friction
Type	Parameter (R/W)
Description	Sets/gets the type of velocity signal for Coulomb friction. 0 = point-to-point velocity command (Ptpvcmd) 1 = actual velocity (Vact)
Syntax	Write: FRIC.VTYPE[<i>axis</i>] = <value> Read: ?FRIC.VTYPE[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	0x2058, sub-index 0

2.16 Hardware

Cb.Hw.Ver

Parameter Name	CB.HW.VER
Definition	Control board hardware version
Type	Parameter (R/W)
Description	Sets/gets the control board hardware version. Versions Simulation Scara v0 Scara v1 Scara v2 Scara v3 Scara v4 AIO v0 AIO v1 AIO Simulator SmartPx v0 SmartPx v1 SmartPx v2 SmartMx v0 Note: Stored in EEPROM.
Syntax	Write: CB.HW.VER= <value> Read: ?CB.HW.VER
Firmware	3.0.1.12
Value Range	0 to 255
Default Value	11
Units	NA
CAN Index	NA

Hw.Axis.Map

Parameter Name	HW.AXIS.MAP
Definition	Hardware axes mapping
Type	Parameter (R/W)
Description	Sets/gets the mapping of the logical axis to the physical axis. Note: Stored in EEPROM.
Syntax	Write: HW.AXIS.MAP[axis]= <value> Read: ?HW.AXIS.MAP[axis]
Firmware	3.0.1.12
Value Range	0 to 255
Default Value	hardware-defined
Units	NA
CAN Index	NA

Hw.Fdbk.Map

Parameter Name	HW.FDBK.MAP
Definition	Hardware feedback mapping
Type	Parameter (R/W)
Description	Sets/gets the mapping of the logical feedback device to the physical feedback device. Note: Stored in EEPROM.
Syntax	Write: HW.FDBK.MAP[axis]= <value> Read: ?HW.FDBK.MAP[axis]
Firmware	3.0.1.12
Value Range	0 to 255
Default Value	hardware-defined
Units	NA
CAN Index	NA

Hw.Phase.Type

Parameter Name	HW.PHASE.TYPE
Definition	Phase power drive type
Type	Parameter (R/W)
Description	Sets/gets the power type of the drive. Types 0 = one phase 1 = three phases
Syntax	Write: HW.PHASE.TYPE= <value> Read: ?HW.PHASE.TYPE
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

2.17 Hold

Hold

Parameter Name	HOLD
Definition	Hold position command
Type	Parameter (R/W)
Description	Instructs the motor whether to maintain its position. 0 = do not hold position 1 = hold position
Syntax	Write: HOLD[axis]= <value> Read: ?HOLD[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Index Range	0
Units	NA
CAN Index	NA

Hold.Option

Parameter Name	HOLD.OPTION
Definition	Hold option
Type	Parameter (R/W)
Description	Sets/gets the action to be performed when the hold function is executed. Ramp down is the deceleration value of the operation mode in use. 1 = Slow down on ramp down and remain in Operation Enabled state 2 = Slow down on quick stop ramp and remain in Operation Enabled state
Syntax	Write: HOLD.OPTION[axis]= <value> Read: ?HOLD.OPTION[axis]
Firmware	3.0.1.12
Value Range	1 to 2
Default Value	1
Units	NA
CAN Index	0x605d, sub-index 0

Hold.Active

Parameter Name	HOLD.ACTIVE
Definition	Hold active
Type	Parameter (R)
Description	Reports the signal hold active event. 0 = hold not triggered 1 = hold was triggered
Syntax	Read: ?HOLD.ACTIVE[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

2.18 Homing

Homing.Acc

Parameter Name	HOMING.ACC
Definition	Homing acceleration
Type	Parameter (R/W)
Description	Sets/gets acceleration (and deceleration) for the homing process. This parameter must be set before starting the homing process.
Syntax	Write: HOMING.ACC[axis]= <value> Read: ?HOMING.ACC[axis]
Firmware	3.0.1.12
Value Range	1 to 1000000
Default Value	20
Units	rps/s
CAN Index	0x609A, sub-index 0

Homing.Method

Parameter Name	HOMING.METHOD
Definition	Homing method
Type	Parameter (R/W)
Description	Sets/gets a value that defines the type of homing process that will be performed. Homing types are according to CiA 402. Types 10 = homing on first index mark after disengaging from positive side of home switch (home switch at middle of travel); initial move positive. 13 = homing on first index mark after engaging negative side of home switch (home switch at middle of travel); initial move negative. 35 = declare present position as home
Syntax	Write: HOMING.METHOD[axis]= <value> Read: ?HOMING.METHOD[axis]
Firmware	3.0.1.12
Value Range	-128 to 38
Default Value	0
Units	NA
CAN Index	0x6098, sub-index 0

Homing.Offset

Parameter Name	HOMING.OFFSET
Definition	Homing offset
Type	Parameter (R/W)
Description	Sets/gets 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 homing.method).
Syntax	Write: HOMING.OFFSET[axis]= <value> Read: ?HOMING.OFFSET[axis]
Firmware	3.0.1.12
Value Range	-2 ⁶³ to 2 ⁶³ -1
Default Value	0
Units	2 ^x /rev
CAN Index	0x607C, sub-index 0

Homing.Run

Parameter Name	HOMING.RUN
Definition	Homing execution
Type	Parameter (W)
Description	Starts and stops the homing process. The drive must be in Home operational mode (OPMODE[axis]=6) 1 = start homing 0 = stop homing
Syntax	Write: HOMING.RUN[axis]= <value>
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Homing.Speed

Parameter Name	HOMING.SPEED
Definition	Homing speeds
Type	Parameter (R/W)
Description	Sets/gets the velocity used in the homing process during the search for triggers (limit switches, home switches) and the index pulse. This parameter must be set before starting the homing process. Index 0 = speed for triggers 1 = speed for index pulse
Syntax	Write: HOMING.SPEED[axis][index]= <value> Read: ?HOMING.SPEED[axis][index]
Firmware	3.0.1.12
Value Range	-0.0166 to min(vlim, motor.speed)
Index Range	0 to 1
Default Value	1.166
Units	rps
CAN Index	0x6099, sub-index 0

Homing.Supported

Parameter Name	HOMING.SUPPORTED
Definition	Homing profiles
Type	Parameter (R)
Description	Reports the types of homing supported by the drive. Homing types are according to CiA 402. Supported types: 10, 13, 35 Supported indexes: 0, 1, 2
Syntax	Read: ?HOMING.SUPPORTED[axis][index]
Firmware	3.0.1.12
Value Range	1 to 40
Index Range	0 to 40
Default Value	1
Units	NA
CAN Index	0x60e3, sub-index 0

2.19 Info

Fb.Ecat.Status

Parameter Name	FB.ECAT.STATUS
Definition	EtherCAT statusword
Type	Variable (R)
Description	Reports the current state of the FSA (finite state machine), the operation mode and manufacturer specific entities. This parameter is organized bit-wise. The bits have the following meaning: - bit 0: Ready to switch on - bit 1: Switched on - bit 2: Operation enabled - bit 3: Fault - bit 4: Voltage enabled - bit 5: Quick stop - bit 6: Switch on disabled - bit 7: Warning - bit 8: Manufacturer specific - bit 9: Remote - bit 10: Target reached - bit 11: Internal limit active - bits 12-13: Mode specific - bits 14-15: Manufacturer specific
Syntax	Read: ?FB.ECAT.STATUS[axis]
Firmware	3.0.1.12
Value Range	0 to 65535
Default Value	NA
Units	NA
CAN Index	6041h, sub-index 0

Fpga.Ver

Parameter Name	FPGA.VER
Definition	FPGA version
Type	Parameter (R)
Description	Reports the FPGA version.
Syntax	Read: ?FPGA.VER
Firmware	3.0.1.12
Value Range	0 to 0
Default Value	0
Units	NA
CAN Index	0x23a7, sub-index 0

Info

Parameter Name	INFO
Definition	Drive info
Type	Command
Description	Reports information about the drive.
Syntax	Read: INFO
Example	<pre> info "Drive_info": "Product_number": <info> "Serial_number": <info> "Number_of_axes": <info> "SBL_Revision": <info> "FW_version": <info> "FPGA_version": <info> "Fieldbus_type": <info> "Runtime": <info> "Control_Board": <info> "Power_Board": <info> "Axis_info": <info> "Safety_Board": <info> "Motors": "Motor_info": "Axis": <num of axis> "Peak_current": <info> "Continuous_current":<info> "Feedback_type": <info> "Feedback_ID": "<info> "Network": "MAC_Address": <info> "IP_Address": <info> "IP Mask": <info> </pre>
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	NA

Robot.Id

Parameter Name	ROBOT.ID
Definition	Robot ID
Type	Parameter (R/W)
Description	Sets/gets robot the robot's ID.
Syntax	Write: ROBOT.ID= <value> Read: ?ROBOT.ID
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	0x23bc, sub-index 0

Status

Parameter Name	STATUS
Definition	Drive status
Type	Command (R)
Description	Reports detailed axis status: • Axis number • Status Enabled/disabled • Faults/warnings status • Operation mode • PFB value • Actual velocity value • Total faults/warnings
Syntax	Read: STATUS for all axes STATUS <axis> for specific axis
Example	<pre>-1>status 1 -1>Axis 1: Status: Disabled Opmode: -8 PFB: 0.486267 [rev] V: 1.4013e-45 [rps] Total faults: [0], Total Warnings: [0]</pre>
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	NA

Stat.Time.En

Parameter Name	STAT.TIME.EN
Definition	Enabled time since last power up
Type	Parameter (R)
Description	Reports the drive enabled time since the last power up drive (axis).
Syntax	Read: ?STAT.TIME.EN[axis]
Firmware	3.0.1.12
Value Range	0 to 0
Default Value	0
Units	s
CAN Index	0x23b0, sub-index 0

Stat.Time.En.Total

Parameter Name	STAT.TIME.EN.TOTAL
Definition	Total enabled time since last power up
Type	Parameter (R)
Description	Reports the total enabled time drive (axis).
Syntax	Read: ?STAT.TIME.EN.TOTAL[axis]
Firmware	3.0.1.12
Value Range	0 to 0
Default Value	0
Units	s
CAN Index	0x23af, sub-index 0

Stat.Time.On

Parameter Name	STAT.TIME.ON
Definition	Power on time since last power up
Type	Parameter (R)
Description	Reports the power on time since the last power up drive (axis).
Syntax	Read: ?STAT.TIME.ON[axis]
Firmware	3.0.1.12
Value Range	0 to 0
Default Value	0
Units	s
CAN Index	0x23ae, sub-index 0

Stat.Time.On.Total

Parameter Name	STAT.TIME.ON.TOTAL
Definition	Power on total time from last power up
Type	Parameter (R)
Description	Reports the total power on time drive (axis).
Syntax	Read: ?STAT.TIME.ON.TOTAL[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 0
Default Value	0
Units	s
CAN Index	0x23ad, sub-index 0

Sys.Time.Date

Parameter Name	SYS.TIME.DATE
Definition	System date information
Type	Parameter (R)
Description	Reports the system's date, in the following format: Day-Month-Year Hours-Minutes-Seconds
Syntax	Read: ?SYS.TIME.DATE
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	NA

Sys.Time.Day

Parameter Name	SYS.TIME.DAY
Definition	System day of month
Type	Parameter (R/W)
Description	Sets/gets the system's day of month.
Syntax	Write: SYS.TIME.DAY= <value> Read: ?SYS.TIME.DAY
Firmware	3.0.1.12
Value Range	1 to 31
Default Value	15
Units	day
CAN Index	NA

Sys.Time.Format

Parameter Name	SYS.TIME.FORMAT
Definition	System time format
Type	Parameter (R/W)
Description	Sets/gets the display format of the system's time and date.
Syntax	Write: SYS.TIME.FORMAT= <value> Read: ?SYS.TIME.FORMAT
Example	<code>SYS.TIME.FORMAT = %d-%b-%Y %H:%M:%S</code>
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	NA

Sys.Time.Hour

Parameter Name	SYS.TIME.HOUR
Definition	System time hour
Type	Parameter (R/W)
Description	Sets/gets the system's hour.
Syntax	Write: SYS.TIME.HOUR= <value> Read: ?SYS.TIME.HOUR
Firmware	3.0.1.12
Value Range	0 to 23
Default Value	0
Units	hour
CAN Index	NA

Sys.Time.Min

Parameter Name	SYS.TIME.MIN
Definition	System time minute
Type	Parameter (R/W)
Description	Sets/gets the system's minute.
Syntax	Write: SYS.TIME.MIN= <value> Read: ?SYS.TIME.MIN
Firmware	3.0.1.12
Value Range	0 to 59
Default Value	0
Units	min
CAN Index	NA

Sys.Time.Month

Parameter Name	SYS.TIME.MONTH
Definition	System time month
Type	Parameter (R/W)
Description	Sets/gets the system's month.
Syntax	Write: SYS.TIME.MONTH= <value> Read: ?SYS.TIME.MONTH
Firmware	3.0.1.12
Value Range	1 to 12
Default Value	1
Units	month
CAN Index	NA

Sys.Time.Sec

Parameter Name	SYS.TIME.SEC
Definition	System time seconds
Type	Parameter (R/W)
Description	Sets/gets the system's second.
Syntax	Write: SYS.TIME.SEC= <value> Read: ?SYS.TIME.SEC
Firmware	3.0.1.12
Value Range	0 to 59
Default Value	0
Units	sec
CAN Index	NA

Sys.Time.Timedate

Parameter Name	SYS.TIME.TIMEDATE
Definition	System time and date
Type	Parameter (R/W)
Description	Sets/gets the system's date and time. Indexes 0 = year 1 = month 2 = day of month 3 = hour 4 = minute 5 = second
Syntax	Write: SYS.TIME.TIMEDATE[<i>index</i>]= <value> Read: ?SYS.TIME.TIMEDATE[<i>index</i>]
Firmware	3.0.1.12
Value Range	Depends on the index
Index Range	0 to 5
Default Value	NA
Units	NA
CAN Index	0x23a3, sub-index 0

Sys.Time.Year

Parameter Name	SYS.TIME.YEAR
Definition	System time year
Type	Parameter (R/W)
Description	Sets/gets the system's year.
Syntax	Write: SYS.TIME.YEAR= <value> Read: ?SYS.TIME.YEAR
Firmware	3.0.1.12
Value Range	2020 to 2029
Default Value	2020
Units	year
CAN Index	NA

Ver

Parameter Name	VER
Definition	Drive version
Type	Parameter (R)
Description	Reports the drive version.
Syntax	Read: ?VER
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	0x100a, sub-index 0

2.20 Input Shaper

Is.Active

Parameter Name	IS.ACTIVE
Definition	Input shaper active
Type	Parameter (R/W)
Description	Sets/gets the status of the input shaper. 0 = input shaper is not active 1 = input shaper is active
Syntax	Write: IS.ACTIVE[axis]= <value> Read: ?IS.ACTIVE[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	0x2136, sub-index 0

Is.F

Parameter Name	IS.F
Definition	Input shaper frequency
Type	Parameter (R/W)
Description	Sets/gets the input shaper frequency.
Syntax	Write: IS.F[axis]= <value> Read: ?IS.F[axis]
Firmware	3.0.1.12
Value Range	4 to 4000
Default Value	20
Units	Hz
CAN Index	0x2133, sub-index 0

Is.Mode

Parameter Name	IS.MODE
Definition	Input shaper mode
Type	Parameter (R/W)
Description	Sets/gets the input shaper mode. Modes 0 = ZV input shaping in Zero Vibration MODE (two impulses) 1 = ZVD input shaping in Zero Vibration and Derivative MODE (three impulses) 2 = ZVDD input shaping in Zero Vibration and Double Derivative mode (four impulses)
Syntax	Write: IS.MODE[axis]= <value> Read: ?IS.MODE[axis]
Firmware	3.0.1.12
Value Range	0 to 2
Default Value	0
Units	NA
CAN Index	0x2137, sub-index 0

Is.Zt

Parameter Name	IS.ZT
Definition	Input shaper damping ratio
Type	Parameter (R/W)
Description	Sets/gets the input shaper damping ratio.
Syntax	Write: IS.ZT[axis]= <value> Read: ?IS.ZT[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	0x2134, sub-index 0

2.21 Inrush

Inrush.Close.Thresh

Parameter Name	INRUSH.CLOSE.THRESH
Definition	Inrush close threshold
Type	Parameter (R/W)
Description	Sets/gets the level for detection of closed inrush condition. Note: Stored in EEPROM.
Syntax	Write: INRUSH.CLOSE.THRESH= <value> Read: ?INRUSH.CLOSE.THRESH
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	110
Units	V
CAN Index	0x2343, sub-index 0

Inrush.Open.Thresh

Parameter Name	INRUSH.OPEN.THRESH
Definition	Inrush open threshold
Type	Parameter (R/W)
Description	Sets/gets the level for detection of open inrush condition. Note: Stored in EEPROM.
Syntax	Write: INRUSH.OPEN.THRESH= <value> Read: ?INRUSH.OPEN.THRESH
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	85
Units	V
CAN Index	0x2342, sub-index 0

2.22 Interpolation

Uint.Acc.Max

Parameter Name	UINT.ACC.MAX
Definition	Interpolation maximum acceleration by fieldbus command
Type	Parameter (R/W)
Description	Sets/gets the maximum acceleration by a fieldbus command.
Syntax	Write: UINT.ACC.MAX[axis] = <value> Read: ?UINT.ACC.MAX[axis]
Firmware	3.0.1.12
Value Range	1 to 1e+07
Default Value	1e+07
Units	rps/s
CAN Index	0x23db, sub-index 0

Uint.Mode

Parameter Name	UINT.MODE
Definition	Interpolation mode
Type	Parameter (R/W)
Description	Sets/gets the interpolation mode. Modes -4 = Manufacturer-specific: Four-point interpolation. In this mode, the drive receives the position command and (possibly) additive torque from the controller. -3 = Manufacturer-specific: Following mode. -2 = Manufacturer-specific: Cubic interpolation with position and velocity. In this mode the controller sends pairs of position and velocity commands. -1 = No interpolation 0 = Linear interpolation
Syntax	Write: UINT.MODE[axis] = <value> Read: ?UINT.MODE[axis]
Firmware	3.0.1.12
Value Range	-4 to 0
Default Value	-2
Units	NA
CAN Index	0x60c0, sub-index 0

Uint.Time.Init

Parameter Name	UINT.TIME.INIT
Definition	Initial time for interpolation
Type	Parameter (R/W)
Description	Sets/gets the time of the initial interval during which interpolation is performed.
Syntax	Write: UINT.TIME.INIT[axis] = <value> Read: ?UINT.TIME.INIT[axis]
Firmware	3.0.1.12
Value Range	1 to 2
Default Value	1
Units	NA
CAN Index	0x2183, sub-index 0

Uint.Traj.Delay

Parameter Name	UINT.TRAJ.DELAY
Definition	Interpolation trajectory delay for multi-axis synchronization
Type	Parameter (R/W)
Description	Sets/gets the trajectory delay for multi-axis synchronization.
Syntax	Write: UINT.TRAJ.DELAY[axis][index] = <value> Read: ?UINT.TRAJ.DELAY[axis][index]
Firmware	3.0.1.12
Value Range	0 to 24875
Index Range	0 to 10
Default Value	0
Units	μs
CAN Index	0x23e3, sub-index 0

Uint.Traj.Delay.Act

Parameter Name	UINT.TRAJ.DELAY.ACT
Definition	Interpolation actual trajectory delay for multi-axis synchronization
Type	Parameter (R)
Description	Reports the actual trajectory for multi-axis synchronization.
Syntax	Read: ?UINT.TRAJ.DELAY.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 24875
Default Value	0
Units	μs
CAN Index	0x23e4, sub-index 0

Uint.Trq.Delay

Parameter Name	UINT.TRQ.DELAY
Definition	Interpolation additive torque delay for master-drive synchronization
Type	Parameter (R/W)
Description	Sets/gets the additive torque delay for master-drive synchronization.
Syntax	Write: UINT.TRQ.DELAY[<i>axis</i>][<i>index</i>]=<value> Read: ?UINT.TRQ.DELAY[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	0 to 24875
Index Range	0 to 10
Default Value	0
Units	μs
CAN Index	0x23e5, sub-index 0

Uint.Trq.Delay.Act

Parameter Name	UINT.TRQ.DELAY.ACT
Definition	Interpolation actual additive torque delay for master-drive synchronization
Type	Parameter (R)
Description	Reports the actual additive torque delay for master-drive synchronization.
Syntax	Read: ?UINT.TRQ.DELAY.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 24875
Default Value	0
Units	μs
CAN Index	0x23e6, sub-index 0

Uint.Wrn.Clr

Parameter Name	UINT.WRN.CLR
Definition	Interpolation warning clear
Type	Parameter (R/W)
Description	Sets/gets the interpolation fieldbus position resolution warning clear. 1 = Clear warning
Syntax	Write: UINT.WRN.CLR[<i>axis</i>] = <value> Read: ?UINT.WRN.CLR[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

2.23 LEDs

Digital.Led.Color

Parameter Name	DIGITAL.LED.COLOR
Definition	LED color
Type	Parameter (R)
Description	Reports the color of the STATE and AXIS LEDs on the drive. 0 = off 1 = red on 2 = green on 3 = blue on
Syntax	Read: ?DIGITAL.LED.COLOR drive STATE LED ?DIGITAL.LED.COLOR[0][<i>axis</i>] specific AXIS LED
Firmware	3.0.1.12
Value Range	0 to 3
Index Range	0 to 6
Default Value	0
Units	NA
CAN Index	NA

Led.Blink.Period

Parameter Name	LED.BLINK.PERIOD
Definition	LED blink duration
Type	Parameter (R/W)
Description	Sets/gets the duration for on and off LED blinking.
Syntax	Write: LED.BLINK.PERIOD= <value> Read: ?LED.BLINK.PERIOD
Firmware	3.0.1.12
Value Range	100 to 10000
Default Value	1000
Units	ms
CAN Index	NA

2.24 Limit Switches

Limitswitch.N

Parameter Name	LIMITSWITCH.N
Definition	Negative limit switch
Type	Parameter (R/W)
Description	Sets/gets the activation of the negative limit switch. 0 = deactivates the negative limit switch 1 = activates the negative limit switch Note: Requires configuration by DI mode
Syntax	Write: LIMITSWITCH.N[axis]= <value> Read: ?LIMITSWITCH.N[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Limitswitch.P

Parameter Name	LIMITSWITCH.P
Definition	Positive limit switch
Type	Parameter (R/W)
Description	Sets/gets the activation of the positive limit switch. 0 = deactivates the positive limit switch 1 = activates the positive limit switch Note: Requires configuration by DI mode
Syntax	Write: LIMITSWITCH.P[axis]= <value> Read: ?LIMITSWITCH.P[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Homeswitch

Parameter Name	HOMESWITCH
Definition	Home switch
Type	Parameter (R/W)
Description	Sets/gets the activation of home limit switch. 0 = deactivates the home limit switch 1 = activates the home limit switch Note: Requires configuration by DI mode
Syntax	Write: HOMESWITCH[axis]= <value> Read: ?HOMESWITCH[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

2.25 Motion

Jog

Parameter Name	JOG
Definition	Jog command
Type	Parameter (R/W)
Description	Executes a Jog movement. Reports Jog status. Applicable in serial position and serial velocity modes. Note: Enable the axis before issuing a Jog command.
Syntax	Write: JOG[axis]= <value> Read: ?JOG[axis]
Firmware	3.0.1.12
Value Range	-10000 to 10000
Default Value	16.666
Units	rps
CAN Index	NA

Move

Parameter Name	MOVE
Definition	Motion command
Type	Parameter (R/W)
Description	Executes a position movement according to the acceleration, deceleration and velocity settings that are in effect. Applicable in serial position and serial velocity operation modes. Note: Enable the axis before issuing a MOVE command.
Syntax	Write: MOVE[axis]= <value> Read: ?MOVE[axis]
Firmware	3.0.1.12
Value Range	-2 ⁶³ to 2 ⁶³ -1
Default Value	0
Units	2 ^x /rev
CAN Index	NA

P2P.Abs

Parameter Name	P2P.ABS
Definition	Absolute/relative point-to-point
Type	Parameter (R/W)
Description	Sets/gets whether a point-to-point motion command is absolute or relative. 1 = absolute 0 = relative
Syntax	Write: P2P.ABS[axis]= <value> Read: ?P2P.ABS[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

P2P.Acc

Parameter Name	P2P.ACC
Definition	Acceleration of point-to-point motion profile
Type	Parameter (R/W)
Description	Sets/gets the acceleration value to be used in JOG and (point-to-point) Move commands.
Syntax	Write: P2P.ACC[axis]= <value> Read: ?P2P.ACC[axis]
Firmware	3.0.1.12
Value Range	1 to 1e+07
Default Value	166.666
Units	rps/s
CAN Index	NA

P2P.Acmd.Raw

Parameter Name	P2P.ACMD.RAW
Definition	Raw acceleration of point-to-point motion profile
Type	Parameter (R)
Description	Reports the PTP acceleration command value before the low pass filter is applied.
Syntax	Read: ?P2P.ACMD.RAW[axis]
Firmware	3.0.1.12
Value Range	0 to software-defined
Default Value	0
Units	rps/s
CAN Index	NA

P2P.Cyclic

Parameter Name	P2P.CYCLIC
Definition	Cyclic motion
Type	Parameter (R/W)
Description	Sets/gets cyclic motion in serial position and serial velocity modes. 0 = no cyclic motion 1 = cyclic motion
Syntax	Write: P2P.CYCLIC[<i>axis</i>] = < <i>value</i> > Read: ?P2P.CYCLIC[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

P2P.Dec

Parameter Name	P2P.DEC
Definition	Deceleration of point-to-point motion profile
Type	Parameter (R/W)
Description	Sets/gets the deceleration value to be used in Jog and (point-to-point) Move commands.
Syntax	Write: P2P.DEC[<i>axis</i>] = < <i>value</i> > Read: ?P2P.DEC[<i>axis</i>]
Firmware	3.0.1.12
Value Range	1 to 1e+07
Default Value	166.666
Units	rps/s
CAN Index	NA

P2P.Decstop

Parameter Name	P2P.DECSTOP
Definition	Active Disable deceleration
Type	Parameter (R/W)
Description	Sets/gets the deceleration value for an active disable or emergency stop.
Syntax	Write: P2P.DECSTOP[axis]= <value> Read: ?P2P.DECSTOP[axis]
Firmware	3.0.1.12
Value Range	1 to 1e+07
Default Value	333.3333
Units	rps/s
CAN Index	NA

P2P.Move.Filter

Parameter Name	P2P.MOVE.FILTER
Definition	Low pass filter for point-to-point motion profile
Type	Parameter (R/W)
Description	Sets/gets the low pass filter frequency cut-off value for the point-to-point motion profile. This filter is applied to position, velocity and acceleration commands.
Syntax	Write: P2P.MOVE.FILTER[axis]= <value> Read: ?P2P.MOVE.FILTER[axis]
Firmware	3.0.1.12
Value Range	1 to 4000
Default Value	4000
Units	Hz
CAN Index	NA

P2P.Pcmd.Raw

Parameter Name	P2P.PCMD.RAW
Definition	Raw position for point-to-point motion profile
Type	Parameter (R)
Description	Reports the PTP position command value before the low pass filter is applied.
Syntax	Read: ?P2P.PCMD.RAW[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to software-defined
Default Value	0
Units	2 ^x /rev
CAN Index	NA

P2P.Profile.Complete

Parameter Name	P2P.PROFILE.COMPLETE
Definition	Point-to-point movement completion
Type	Parameter (R)
Description	Indicates whether a point-to-point movement has been completed. 0 = PTP movement not completed 1 = PTP movement completed
Syntax	Read: ?P2P.PROFILE.COMPLETE[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	1
Units	NA
CAN Index	NA

P2P.Ptpvcmd.Raw

Parameter Name	P2P.PTPVCMD.RAW
Definition	Point-to-point motion profile raw velocity
Type	Parameter (R)
Description	Reports the PTP velocity command value before the low pass filter is applied.
Syntax	Read: ?P2P.PTPVCMD.RAW[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	rps
CAN Index	NA

P2P.Vcruise

Parameter Name	P2P.VCRUISE
Definition	Velocity of the (point-to-point) motion profile.
Type	Parameter (R/W)
Description	Sets/gets the velocity value to be used in serial position and serial velocity modes.
Syntax	Write: P2P.VCRUISE[<i>axis</i>] = <value> Read: ?P2P.VCRUISE[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 10000
Default Value	16.666
Units	rps
CAN Index	NA

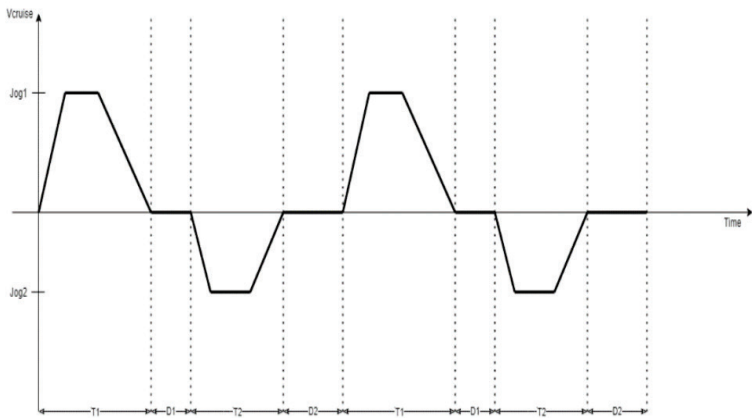
Step.Acc

Parameter Name	STEP.ACC
Definition	Acceleration of step motion profile
Type	Parameter (R/W)
Description	Sets/gets the acceleration of a step motion profile.
Syntax	Write: STEP.ACC[axis]= <value> Read: ?STEP.ACC[axis]
Firmware	3.0.1.12
	1 to 1e+07
Default Value	166.666
Units	rps/s
CAN Index	NA

Step.Dec

Parameter Name	STEP.DEC
Definition	Deceleration of step motion profile
Type	Parameter (R/W)
Description	Sets/gets the deceleration of a step motion profile.
Syntax	Write: STEP.DEC[axis]= <value> Read: ?STEP.DEC[axis]
Firmware	3.0.1.12
Value Range	1 to 1e+07
Default Value	166.666
Units	rps/s
CAN Index	NA

Step.Delay1

Parameter Name	STEP.DELAY1
Definition	Delay time after first step
Type	Parameter (R/W)
Description	Sets/gets the duration of the delay at the end of the first step motion.
Syntax	Write: STEP.DELAY1[axis]= <value> Read: ?STEP.DELAY1[axis]
Example	 The graph illustrates the velocity profile over time for a step motion. The vertical axis represents Velocity, with positive values labeled Jog1 and negative values labeled Jog2. The horizontal axis represents Time. The profile shows three steps: a positive step (Jog1), a negative step (Jog2), and a return to zero. Each step is followed by a delay period (D1) and a dwell period (T1). The graph shows the velocity profile and the timing of the steps and delays.
Firmware	3.0.1.12
Value Range	0 to 2147483647
Default Value	0
Units	ms
CAN Index	NA

Step.Delay2

Parameter Name	STEP.DELAY2
Definition	Delay time after second step
Type	Parameter (R/W)
Description	Sets/gets the duration of the delay at the end of the second step motion.
Syntax	Write: STEP.DELAY2[axis]= <value> Read: ?STEP.DELAY2[axis]
Example	
Firmware	3.0.1.12
Value Range	0 to 2147483647
Default Value	0
Units	ms
CAN Index	NA

Step.Jog1

Parameter Name	STEP.JOG1
Definition	Target velocity of first step
Type	Parameter (R/W)
Description	Sets/gets the cruise speed for first sub-profile of the step.
Syntax	Write: STEP.JOG1[axis]= <value> Read: ?STEP.JOG1[axis]
Firmware	3.0.1.12
Value Range	-10000 to 10000
Default Value	16.666
Units	rps
CAN Index	NA

Step.Jog2

Parameter Name	STEP.JOG2
Definition	Target velocity of second step
Type	Parameter (R/W)
Description	Sets/gets the cruise speed for second sub-profile of the step.
Syntax	Write: STEP.JOG2[axis]= <value> Read: ?STEP.JOG2[axis]
Firmware	3.0.1.12
Value Range	-10000 to 10000
Default Value	-16.666
Units	rps
CAN Index	NA

Step.On

Parameter Name	STEP.ON
Definition	Step motion profile on/off
Type	Parameter (R/W)
Description	Sets/gets activation of the step motion profile. 0 = Step motion profile is not active 1 = Step motion profile is active
Syntax	Write: STEP.ON[axis]= <value> Read: ?STEP.ON[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Step.Time1

Parameter Name	STEP.TIME1
Definition	Duration of the first step motion
Type	Parameter (R/W)
Description	Sets/gets the duration of the first step motion.
Syntax	Write: STEP.TIME1[<i>axis</i>]= < <i>value</i> > Read: ?STEP.TIME1[<i>axis</i>]
Firmware	3.0.1.12
Value Range	1 to 100000
Default Value	1000
Units	ms
CAN Index	NA

Step.Time2

Parameter Name	STEP.TIME2
Definition	Duration of the second step motion
Type	Parameter (R/W)
Description	Sets/gets the duration of the second step motion.
Syntax	Write: STEP.TIME2[<i>axis</i>]= < <i>value</i> > Read: ?STEP.TIME2[<i>axis</i>]
Firmware	3.0.1.12
Value Range	1 to 100000
Default Value	1000
Units	ms
CAN Index	NA

2.26 Motor

Motor.Dir

Parameter Name	MOTOR.DIR
Definition	Motor direction
Type	Parameter (R/W)
Description	Sets/gets whether position feedback counts are inverted. 0 = Feedback counts are not inverted 1 = Feedback counts are inverted
Syntax	Write: MOTOR.DIR[<i>axis</i>]= <value> Read: ?MOTOR.DIR[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Motor.Fric.Dynamic

Parameter Name	MOTOR.FRIC.DYNAMIC
Definition	Motor dynamic friction
Type	Parameter (R/W)
Description	Sets/gets the user-defined motor dynamic friction. Used by the Kalman Filter model.
Syntax	Write: MOTOR.FRIC.DYNAMIC[<i>axis</i>]= <value> Read: ?MOTOR.FRIC.DYNAMIC[<i>axis</i>]
Firmware	3.0.1.12
Value Range	1e-06 to 50
Default Value	1e-06
Units	Nm*s/rad
CAN Index	NA

Motor.Ipeak

Parameter Name	MOTOR.IPEAK
Definition	Motor peak current
Type	Parameter (R/W)
Description	Sets/gets the motor peak rated current. It is taken from the motor nameplate.
Syntax	Write: MOTOR.IPEAK[<i>axis</i>]= <value> Read: ?MOTOR.IPEAK[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1000
Default Value	0
Units	A
CAN Index	NA

Motor.Icont

Parameter Name	MOTOR.ICONT
Definition	Motor continuous current
Type	Parameter (R/W)
Description	Sets/gets the motor continuous rated current. It is taken from the motor nameplate.
Syntax	Write: MOTOR.ICONT[<i>axis</i>]= <value> Read: ?MOTOR.ICONT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1000
Default Value	8.485
Units	A
CAN Index	NA

Motor.Ibrake

Parameter Name	MOTOR.IBRAKE
Definition	Current for brake test
Type	Parameter (R/W)
Description	Sets/gets the current that is applied during the motor brake test mode, when the brake is engaged.
Syntax	Write: MOTOR.IBRAKE[axis]= <value> Read: ?MOTOR.IBRAKE[axis]
Firmware	3.0.1.12
Value Range	0 to 1000
Default Value	0
Units	A
CAN Index	NA

Motor.J

Parameter Name	MOTOR.J
Definition	Motor inertia
Type	Parameter (R/W)
Description	Sets/gets the motor rotor inertia for rotary motors. The motor rotor inertia and the load moment of inertia ratio (Motor.Lmjr) define the total system moment of inertia.
Syntax	Write: MOTOR.J[axis]= <value> Read: ?MOTOR.J[axis]
Firmware	3.0.1.12
Range	1e-06 to 1
Default Value	1e-05
Units	kg*m ²
CAN Index	0x2037, sub-index 0

Motor.Kt

Parameter Name	MOTOR.KT
Definition	Motor torque constant
Type	Parameter (R/W)
Description	Sets/gets the motor torque constant. This value is used for current loop controller design.
Syntax	Write: MOTOR.KT[axis]= <value> Read: ?MOTOR.KT[axis]
Firmware	3.0.1.12
Value Range	0.01 to 10
Default Value	0.2
Units	Nm/A
CAN Index	0x2039, sub-index 0

Motor.Kf

Parameter Name	MOTOR.KF
Definition	Torque constant for linear motor
Type	Parameter (R/W)
Description	Sets/gets the linear motor torque constant.
Syntax	Write: MOTOR.KF[axis]= <value> Read: ?MOTOR.KF[axis]
Firmware	3.0.1.12
Value Range	0.01 to 10
Default Value	0.2
Units	N/A (Newton per ampere)
CAN Index	0x2038, sub-index 0

Motor.Lmjr

Parameter Name	MOTOR.LMJR
Definition	Load to motor inertia ratio
Type	Parameter (R/W)
Description	Sets/gets the ratio of the load inertia to the motor inertia. Inertia of the motor: $J_{total} = \text{Motor.J} * (1 + \text{Motor.Lmjr})$ The motor rotor inertia and the load moment of inertia ratio define the total system moment of inertia.
Syntax	Write: MOTOR.LMJR[axis]= <value> Read: ?MOTOR.LMJR[axis]
Firmware	3.0.1.12
Value Range	0 to 100
Default Value	1
Units	NA
CAN Index	0x207a, sub-index 0

Motor.L

Parameter Name	MOTOR.L
Definition	Motor inductance
Type	Parameter (R/W)
Description	Sets/gets the motor minimum line-to-line inductance. This parameter is used for current loop controller design and as an input to the vector control algorithms.
Syntax	Write: MOTOR.L[axis]= <value> Read: ?MOTOR.L[axis]
Firmware	3.0.1.12
Value Range	0 to 1000
Default Value	0
Units	mH
CAN Index	0x203a, sub-index 0

Motor.Mass

Parameter Name	MOTOR.MASS
Definition	Mass of linear motor without load
Type	Parameter (R/W)
Description	Sets/gets the mass of the linear motor carriage without any additional payload. This parameter is used as the basis for estimating the total moving mass.
Syntax	Write: MOTOR.MASS[axis]= <value> Read: ?MOTOR.MASS[axis]
Firmware	3.0.1.12
Value Range	0 to 100
Default Value	0
Units	kg
CAN Index	0x203d, sub-index 0

Motor.Name

Parameter Name	MOTOR.NAME
Definition	Motor name
Type	Parameter (R/W)
Description	Sets/gets the motor name.
Syntax	Write: MOTOR.NAME[axis]= <value> Read: ?MOTOR.NAME[axis]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	NA

Motor.Phase.Mphase

Parameter Name	MOTOR.PHASE.MPHASE
Definition	Commutation phase offset
Type	Parameter (R/W)
Description	Sets/gets the communication phase offset.
Syntax	Write: MOTOR.PHASE.MPHASE[axis]= <value> Read: ?MOTOR.PHASE.MPHASE[axis]
Firmware	3.0.1.12
Value Range	0 to 359
Default Value	0
Units	deg phase
CAN Index	NA

Motor.Phase.Mvangle.Phase

Parameter Name	MOTOR.PHASE.MVANGLE.PHASE
Definition	Phase advance increment
Type	Parameter (R/W)
Description	Sets/gets the phase advance increment.
Syntax	Write: MOTOR.PHASE.MVANGLE.PHASE[axis][index]= <value> Read: ?MOTOR.PHASE.MVANGLE.PHASE[axis][index]
Firmware	3.0.1.12
Value Range	0 to 90
Index Range	0 to 2
Default Value	0
Units	deg phase
CAN Index	0x2085, sub-index 0

Motor.Phase.Mvangle.Speed

Parameter Name	MOTOR.PHASE.MVANGLE.SPEED
Definition	Phase advance speed
Type	Parameter (R/W)
Description	Sets/gets the phase advance speed.
Syntax	Write: MOTOR.PHASE.MVANGLE.SPEED[axis][index] = <value> Read: ?MOTOR.PHASE.MVANGLE.SPEED[axis][index]
Firmware	3.0.1.12
Value Range	0 to 10000
Index Range	0 to 2
Default Value	0
Units	rps
CAN Index	NA

Motor.Phase.Phasefind.Icmdint

Parameter Name	MOTOR.PHASE.PHASEFIND.ICMDINT
Definition	Phase find process current command
Type	Parameter (R)
Description	Reports the phase find process current command.
Syntax	Read: ?MOTOR.PHASE.PHASEFIND.ICMDINT[axis]
Firmware	3.0.1.12
Value Range	-1000 to 1000
Default Value	0
Units	A
CAN Index	NA

Motor.Phase.Phasefind.Mode

Parameter Name	MOTOR.PHASE.PHASEFIND.MODE
Definition	Phase find method
Type	Parameter (R/W)
Description	Sets/gets the phase find mode. Phase Find Mode 0 = Disabled 1 = Manual 2 = Wake-and-shake 3 = Zeroing 4 = Wake-no shake 5 = Hybrid
Syntax	Write: MOTOR.PHASE.PHASEFIND.MODE[axis]= <value> Read: ?MOTOR.PHASE.PHASEFIND.MODE[axis]
Firmware	3.0.1.12
Value Range	1 to 5
Default Value	1
Units	NA
CAN Index	NA

Motor.Phase.Phasefind.On

Parameter Name	MOTOR.PHASE.PHASEFIND.ON
Definition	Enable phase find
Type	Parameter (R/W)
Description	Sets/gets activation of the phase find feature. 0 = Phase find is not active 1 = Phase find is active
Syntax	Write: MOTOR.PHASE.PHASEFIND.ON[axis]= <value> Read: ?MOTOR.PHASE.PHASEFIND.ON[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Motor.Phase.Ver

Parameter Name	MOTOR.PHASE.VER
Definition	Phase advance version
Type	Parameter (R)
Description	Reports the phase advance version.
Syntax	Read: ?MOTOR.PHASE.VER[<i>axis</i>]
Firmware	3.0.1.12
Value Range	NA
Default Value	1
Units	NA
CAN Index	NA

Motor.Phase.Zeroing.On

Parameter Name	MOTOR.PHASE.ZEROING.ON
Definition	Zeroing process activation
Type	Parameter (R/W)
Description	Sets/gets activation of the zero process. 0 = Zeroing process disabled 1 = Zeroing process active
Syntax	Write: MOTOR.PHASE.ZEROING.ON[<i>axis</i>] = <value> Read: ?MOTOR.PHASE.ZEROING.ON[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Motor.Phase.Zeroing.State

Parameter Name	MOTOR.PHASE.ZEROING.STATE
Definition	Zeroing process state
Type	Parameter (R)
Description	Reports the status of the zeroing process. 0 = Idle -1 to -4 = Zeroing process failed 1 to 8 = Internal process 9 = Zeroing process completed
Syntax	Read: ?MOTOR.PHASE.ZEROING.STATE[<i>axis</i>]
Firmware	3.0.1.12
Value Range	-4 to 9
Default Value	0
Units	NA
CAN Index	NA

Motor.Pitch

Parameter Name	MOTOR.PITCH
Definition	Motor pitch
Type	Parameter (R/W)
Description	Sets/gets the linear motor pitch
Syntax	Write: MOTOR.PITCH[<i>axis</i>] = <value> Read: ?MOTOR.PITCH[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 10000
Default Value	60
Units	mm
CAN Index	0x207d, sub-index 0

Motor.Poles

Parameter Name	MOTOR.POLES
Definition	Motor Poles
Type	Parameter (R/W)
Description	Sets/gets 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).
Syntax	Write: MOTOR.POLES[axis]= <value> Read: ?MOTOR.POLES[axis]
Firmware	3.0.1.12
Value Range	2 to 200
Default Value	2
Units	NA
CAN Index	0x207e, sub-index 0

Motor.R

Parameter Name	MOTOR.R
Definition	Motor resistance
Type	Parameter (R/W)
Description	Sets/gets the motor resistance.
Syntax	Write: MOTOR.R[axis]= <value> Read: ?MOTOR.R[axis]
Firmware	3.0.1.12
Value Range	0 to 75
Default Value	0
Units	Ohm
CAN Index	0x207f, sub-index 0

Motor.Saliency

Parameter Name	MOTOR.SALIENCY
Definition	Motor saliency
Type	Parameter (R/W)
Description	Sets/gets motor saliency. The ratio L_d/L_q (d-axis inductance and q-axis inductance) $0 = L_d/L_q = 0$ $1 = L_d/L_q = 1$
Syntax	Write: MOTOR.SALIENCY[axis]=<value> Read: ?MOTOR.SALIENCY[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	0x2386, sub-index 0

Motor.Speed

Parameter Name	MOTOR.SPEED
Definition	Motor max speed
Type	Parameter (R/W)
Description	Sets/gets the maximum velocity limit of the motor.
Syntax	Write: MOTOR.SPEED[axis]=<value> Read: ?MOTOR.SPEED[axis]
Firmware	3.0.1.12
Value Range	0 to 200
Default Value	0
Units	rps
CAN Index	0x238b, sub-index 0

Motor.Type

Parameter Name	MOTOR.TYPE
Definition	Motor type
Type	Parameter (R/W)
Description	Sets/gets a value that defines the motor type. Motor type 0 = Rotary 2 = Linear
Syntax	Write: MOTOR.TYPE[axis]= <value> Read: ?MOTOR.TYPE[axis]
Firmware	3.0.1.12
Value Range	0 to 2
Default Value	0
Units	NA
CAN Index	0x2024, sub-index 0

Motor.uwSwap

Parameter Name	MOTOR.UWSWAP
Definition	Phase swap between U and W phases
Type	Parameter (R/W)
Description	Sets/gets whether the current feedback and the voltage command output between the U and W phases are swapped. 0 = U and W phases are not swapped 1 = U and W phases are swapped UWswap can be executed only when the drive is disabled. After UWswap is executed, it is necessary to use zeroing to find the new Mphase.
Syntax	Write: MOTOR.UWSWAP[axis]= <value> Read: ?MOTOR.UWSWAP[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

2.27 Notch

Notch.Find.Center

Parameter Name	NOTCH.FIND.CENTER
Definition	Estimated resonance frequency in notch-find process
Type	Parameter (R)
Description	Reports the estimated resonance frequency in notch-find process.
Syntax	Read: ?NOTCH.FIND.CENTER[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 4000
Default Value	0
Units	Hz
CAN Index	0x20f5, sub-index 0

Notch.Find.Enable

Parameter Name	NOTCH.FIND.ENABLE
Definition	Enable/disable notch-find process
Type	Parameter (W)
Description	Sets the enable/disable notch-find process.
Syntax	Write: NOTCH.FIND.ENABLE[<i>axis</i>]= < <i>value</i> >
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Notch.Find.Max.Fft

Parameter Name	NOTCH.FIND.MAX.FFT
Definition	Max value of FFT in notch-find process
Type	Parameter (R)
Description	Reports the maximum value of FFT in the notch-find process.
Syntax	Read: ?NOTCH.FIND.MAX.FFT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1e+07
Default Value	0
Units	2 ^x /rev
CAN Index	0x20f8, sub-index 0

Notch.Find.Status

Parameter Name	NOTCH.FIND.STATUS
Definition	Status of notch-find process
Type	Parameter (R)
Description	Reports the status of notch-find process. 0 = not active 1 = in progress 2 = analyzing 3 = done
Syntax	Read: ?NOTCH.FIND.STATUS[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 3
Default Value	0
Units	NA
CAN Index	0x20f9, sub-index 0

2.28 Opmode

Opmode

Parameter Name	OPMODE
Definition	Drive operation mode
Type	Parameter (R/W)
Description	Sets/gets a value that defines the drive operation mode. -10 = Serial Current Control, using serial commands -9 = Serial Velocity Control, using serial commands -8 = Serial Position Control, using serial commands 8 = Cyclic Synchronous Position Control, using fieldbus commands 10 = Cyclic Synchronous Torque Control, using fieldbus commands
Syntax	Write: OPMODE[axis]=<value> Read: ?OPMODE[axis]
Firmware	3.0.1.12
Value Range	-32768 to 32767
Default Value	0
Units	NA
CAN Index	6060h, sub-index 0

Opmode.Display

Parameter Name	OPMODE.DISPLAY
Definition	Drive operation mode display
Type	Parameter (R)
Description	Indicates the drive operation mode. -10 = Serial Current Control, using serial commands -9 = Serial Velocity Control, using serial commands -8 = Serial Position Control, using serial commands 8 = Cyclic Synchronous Position Control, using fieldbus commands 10 = Cyclic Synchronous Torque Control, using fieldbus commands
Syntax	Read: ?OPMODE.DISPLAY[axis]
Firmware	3.0.1.12
Value Range	0 to 0
Default Value	0
Units	NA
CAN Index	6061h, sub-index 0

2.29 Phase Find

Phasefind.Auto

Parameter Name	PHASEFIND.AUTO
Definition	Phase find toggle auto
Type	Parameter (R/W)
Description	Sets/gets automatic phase find at power up. 0 = do nothing 1 = automatic phase find at power up
Syntax	Write: PHASEFIND.AUTO[<i>axis</i>] = <value> Read: ?PHASEFIND.AUTO[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	0x2163, sub-index 0

Phasefind.Complete

Parameter Name	PHASEFIND.COMPLETE
Definition	Phase find complete status
Type	Parameter (R)
Description	Reports the phase find status. 0 = not completed 1 = completed
Syntax	Read: ?PHASEFIND.COMPLETE[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Phasefind.Direction

Parameter Name	PHASEFIND.DIRECTION
Definition	Phase find unidirectional
Type	Parameter (R/W)
Description	Sets/gets unidirectional phase find. 0 = no limit 1 = only positive 2 = only negative
Syntax	Write: PHASEFIND.DIRECTION[axis]= <value> Read: ?PHASEFIND.DIRECTION[axis]
Firmware	3.0.1.12
Value Range	0 to 2
Default Value	0
Units	NA
CAN Index	0x2166, sub-index 0

Phasefind.Gains.AutoSet

Parameter Name	PHASEFIND.GAINS.AUTOSET
Definition	Phase find autoSet design
Type	Parameter (W)
Description	Sets the phase find auto design wake-and-shake PI gains.
Syntax	Write: PHASEFIND.GAINS.AUTOSET[axis]= <value>
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	0x2165, sub-index 0

Phasefind.Icmd

Parameter Name	PHASEFIND.ICMD
Definition	Phase find max current amplitude
Type	Parameter (R/W)
Description	Sets/gets the phase find maximum current amplitude.
Syntax	Write: PHASEFIND.ICMD[axis]= <value> Read: ?PHASEFIND.ICMD[axis]
Firmware	3.0.1.12
Value Range	0 to 1000
Default Value	0.1
Units	A
CAN Index	0x2151, sub-index 0

Phasefind.Icmd.Increment

Parameter Name	PHASEFIND.ICMD.INCREMENT
Definition	Phase find current increase amplitude
Type	Parameter (R/W)
Description	Sets/gets the wake-no shake phase find current increment per step.
Syntax	Write: PHASEFIND.ICMD.INCREMENT[axis]= <value> Read: ?PHASEFIND.ICMD.INCREMENT[axis]
Firmware	3.0.1.12
Value Range	0.001 to 1
Default Value	0.001
Units	A
CAN Index	0x2152, sub-index 0

Phasefind.Ki

Parameter Name	PHASEFIND.KI
Definition	Phase find integral gain
Type	Parameter (R/W)
Description	Sets/gets the wake-and-shake phase find integral gain.
Syntax	Write: PHASEFIND.KI[<i>axis</i>] = <value> Read: ?PHASEFIND.KI[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1000
Default Value	0
Units	NA
CAN Index	0x2159, sub-index 0

Phasefind.Kp

Parameter Name	PHASEFIND.KP
Definition	Phase find proportional gain
Type	Parameter (R/W)
Description	Sets/gets phase find wake-and-shake proportional gain.
Syntax	Write: PHASEFIND.KP[<i>axis</i>] = <value> Read: ?PHASEFIND.KP[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1000
Default Value	0
Units	NA
CAN Index	0x2158, sub-index 0

Phasefind.Min.Region

Parameter Name	PHASEFIND.MIN.REGION
Definition	Phase find minimum search region
Type	Parameter (R/W)
Description	Sets/gets the phase find wake-no shake minimum search region.
Syntax	Write: PHASEFIND.MIN.REGION[axis]= <value> Read: ?PHASEFIND.MIN.REGION[axis]
Firmware	3.0.1.12
Value Range	1 to 180
Default Value	1
Units	electrical deg
CAN Index	0x2154, sub-index 0

Phasefind.Movement.Threshold

Parameter Name	PHASEFIND.MOVEMENT.THRESHOLD
Definition	Phase find movement threshold
Type	Parameter (R/W)
Description	Sets/gets the threshold for movement detection in wake-and-shake. Each time the threshold is passed, the algorithm resets the current and adjusts Mphase.
Syntax	Write: PHASEFIND.MOVEMENT.THRESHOLD[axis]= <value> Read: ?PHASEFIND.MOVEMENT.THRESHOLD[axis]
Firmware	3.0.1.12
Value Range	0 to 180
Default Value	1
Units	electrical deg
CAN Index	0x2164, sub-index 0

Phasefind.Mphase

Parameter Name	PHASEFIND.MPHASE
Definition	Phase find motor phase
Type	Parameter (R)
Description	Reports the phase find calculated motor phase.
Syntax	Read: ?PHASEFIND.MPHASE[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 359.9
Default Value	0
Units	NA
CAN Index	0x2157, sub-index 0

Phasefind.Standstill.Time

Parameter Name	PHASEFIND.STANDSTILL.TIME
Definition	Phase find standstill time
Type	Parameter (R/W)
Description	Sets/gets the phase find standstill time. If velocity remains within the margin for this duration, it is assumed the motor is stopped.
Syntax	Write: PHASEFIND.STANDSTILL.TIME[<i>axis</i>] = <value> Read: ?PHASEFIND.STANDSTILL.TIME[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 10000
Default Value	100
Units	ms
CAN Index	0x2161, sub-index 0

Phasefind.Standstill.Velocity.Threshold

Parameter Name	PHASEFIND.STANDSTILL.VELOCITY.THRESHOLD
Definition	Phase find standstill velocity threshold
Type	Parameter (R/W)
Description	Sets/gets the phase find velocity threshold for determining whether motor is stopped.
Syntax	Write: PHASEFIND.STANDSTILL.VELOCITY.THRESHOLD[axis]= <value> Read: ?PHASEFIND.STANDSTILL.VELOCITY.THRESHOLD[axis]
Firmware	3.0.1.12
Value Range	0 to 4000
Default Value	0.02
Units	rps
CAN Index	0x2160, sub-index 0

Phasefind.Settling.Overtime

Parameter Name	PHASEFIND.SETTLING.OVERTIME
Definition	Phase find maximum allowed settling time
Type	Parameter (R/W)
Description	Sets/gets the phase find maximum settling time. The drive returns a fault if the time is exceeded.
Syntax	Write: PHASEFIND.SETTLING.OVERTIME[axis]= <value> Read: ?PHASEFIND.SETTLING.OVERTIME[axis]
Firmware	3.0.1.12
Value Range	0 to 10000
Default Value	10000
Units	ms
CAN Index	0x2162, sub-index 0

2.30 Position Control

Acmd

Name Parameter	ACMD
Definition	Acceleration command to position loop
Type	Parameter (R)
Description	Reports the acceleration command to the position loop.
Syntax	Read: ?ACMD[<i>axis</i>]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	rpm/s
CAN Index	NA

Control.Execute

Name Parameter	CONTROL.EXECUTE
Definition	Global control execute
Type	Parameter (R/W)
Description	Sets/gets execution of configuration for all controllers. Execution of configuration is required after modifying control parameters. 1 = perform execution
Syntax	Write: CONTROL.EXECUTE[<i>axis</i>] = <value> Read: ?CONTROL.EXECUTE[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Pcmd

Name Parameter	PCMD
Definition	Position command to position loop
Type	Parameter (R)
Description	Reports the position command.
Syntax	Read: ?PCMD[<i>axis</i>]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	2 ^x /rev
CAN Index	NA

Pos.Err

Name Parameter	POS.ERR
Definition	Position controller error
Type	Parameter (R)
Description	Reports the position error. The position error is calculated as the difference between the position command (Pcmd) and the position feedback (Pfb).
Syntax	Read: ?POS.ERR[<i>axis</i>]
Firmware	3.0.1.12
Value Range	-2 ⁶³ -1 to 2 ⁶³ -1
Default Value	0
Units	2 ^x /rev
CAN Index	NA

Pos.Err.Delayed

Name Parameter	POS.ERR.DELAYED
Definition	Position controller delayed error
Type	Parameter (R)
Description	Reports the position controller delayed error.
Syntax	Read: ?POS.ERR.DELAYED[<i>axis</i>]
Firmware	3.0.1.12
Value Range	-2 ⁶³ -1 to 2 ⁶³ -1
Default Value	0
Units	2 ^x /rev
CAN Index	NA

Pos.Err.Max

Name Parameter	POS.ERR.MAX
Definition	Position controller maximum error
Type	Parameter (R/W)
Description	Sets/gets the maximum position error value that does not produce a fault.
Syntax	Write: POS.ERR.MAX[axis]= <value> Read: ?POS.ERR.MAX[axis]
Firmware	3.0.1.12
Value Range	0 to 9223372036854775807
Default Value	2147483648
Units	2 ^x /rev
CAN Index	NA

Pos.Err.Td

Name Parameter	POS.ERR.TD
Definition	Position error delay
Type	Parameter (R)
Description	Reports the position error delay. Must be set when axis has delay due to control gains.
Syntax	Read: ?POS.ERR.TD[axis]
Firmware	3.0.1.12
Value Range	-2147483640 to 2147483640
Default Value	0
Units	μs
CAN Index	0x218e, sub-index 0

Pos.Execute

Name Parameter	POS.EXECUTE
Definition	Position controller execute configuration set
Type	Parameter (R/W)
Description	Sets/gets the execution of configuration for the position controller 1 = Perform execute
Syntax	Write: POS.EXECUTE[axis]= <value> Read: ?POS.EXECUTE[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	1
Units	NA
CAN Index	0x2316, sub-index 0

Pos.Fracbits

Name Parameter	POS.FRACBITS
Definition	Fraction bits
Type	Parameter (R/W)
Description	Sets/gets the fraction bits; that is, the number of bits that represent the encoder resolution.
Syntax	Write: POS.FRACBITS[axis]= <value> Read: ?POS.FRACBITS[axis]
Firmware	3.0.1.12
Value Range	30 to 40
Default Value	32
Units	NA
CAN Index	0x27b5, sub-index 0

Pos.Iff.Out

Name Parameter	POS.IFF.OUT
Definition	Current feedforward from the position loop
Type	Parameter (R)
Description	Current feedforward from the position loop
Syntax	Read: ?POS.IFF.OUT[axis]
Firmware	3.0.1.12
Value Range	software-defined
Default Value	NA
Units	A
CAN Index	NA

Pos.Inpos

Name Parameter	POS.INPOS
Definition	In position indication
Type	Parameter (R)
Description	Indicates whether the value of the position error (Pos.Err) is within the limits of position error tolerance (Pos.Pe.Inpos). 0 = not in position 1 = in position
Syntax	Read: ?POS.INPOS[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	0x20b5, sub-index 0

Pos.K

Name Parameter	POS.KP
Definition	Position controller proportional gain
Type	Parameter (R/W)
Description	Sets/gets the position controller proportional gain. Note: When the value is changed, Pos.Execute is required.
Syntax	Write: POS.KP[axis][index]= <value> Read: ?POS.KP[axis][index]
Firmware	3.0.1.12
Value Range	1 to 1000
Index Range	0 to 10
Default Value	10
Units	Hz
CAN Index	0x2022, sub-index 0

Pos.Kafrc

Name Parameter	POS.KAFRC
Definition	Position acceleration feedforward to current loop
Type	Parameter (R/W)
Description	Sets/gets the position acceleration feedforward to the current loop. Note: When the value is changed, Pos.Execute is required.
Syntax	Write: POS.KAFRC[axis][index]= <value> Read: ?POS.KAFRC[axis][index]
Firmware	3.0.1.12
Value Range	-1000 to 1000
Index Range	0 to 10
Default Value	0
Units	NA
CAN Index	0x201c, sub-index 0

Pos.Kafrc.Act

Name Parameter	POS.KAFRC.ACT
Definition	Position controller actual acceleration to the ICMD feedforward filter gain
Type	Parameter (R)
Description	Reports the actual position acceleration feedforward to the current loop.
Syntax	Read: ?POS.KAFRC.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	-1000 to 1000
Default Value	0
Units	NA
CAN Index	0x27b7, sub-index 0

Pos.Kafrc.Pole.F

Name Parameter	POS.KAFRC.POLE.F
Definition	Position controller acceleration to the ICMD feedforward filter pole frequency
Type	Parameter (R/W)
Description	Sets/gets the position controller acceleration to the ICMD feedforward filter pole frequency. Note: When the value is changed, Pos.Execute is required.
Syntax	Write: POS.KAFRC.POLE.F[<i>axis</i>][<i>index</i>]= <value> Read: ?POS.KAFRC.POLE.F[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	20 to 4000
Index Range	0 to 10
Default Value	4000
Units	Hz
CAN Index	0x231b, sub-index 0

Pos.Kafrc.Pole.F.Act

Name Parameter	POS.KAFRC.POLE.F.ACT
Definition	Position controller actual acceleration to the ICMD feedforward filter pole frequency
Type	Parameter (R)
Description	Reports the actual position controller acceleration to the ICMD feedforward filter pole frequency.
Syntax	Read: ?POS.KAFRC.POLE.F.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	20 to 4000
Default Value	4000
Units	Hz
CAN Index	0x27b9, sub-index 0

Pos.Kafrv

Name Parameter	POS.KAFRV
Definition	Position controller acceleration feedforward gain
Type	Parameter (R/W)
Description	Sets/gets the position controller acceleration feedforward. Note: When the value is changed, Pos.Execute is required.
Syntax	Write: POS.KAFRV[<i>axis</i>][<i>index</i>]= <value> Read: ?POS.KAFRV[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	-2 to 2
Index Range	0 to 10
Default Value	0
Units	NA
CAN Index	0x201d, sub-index 0

Pos.Kafrv.Act

Name Parameter	POS.KAFRV.ACT
Definition	Position controller actual acceleration feedforward gain
Type	Parameter (R)
Description	Reports the actual position controller acceleration feedforward.
Syntax	Read: ?POS.KAFRV.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	-2 to 2
Default Value	0
Units	NA
CAN Index	0x27bb, sub-index 0

Pos.Kafrv.Pole.F

Name Parameter	POS.KAFRV.POLE.F
Definition	Position controller acceleration feedforward filter pole frequency
Type	Parameter (R/W)
Description	Sets/gets the position controller acceleration feedforward filter pole frequency. Note: When the value is changed, Pos.Execute is required.
Syntax	Write: POS.KAFRV.POLE.F[<i>axis</i>][<i>index</i>]= <value> Read: ?POS.KAFRV.POLE.F[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	20 to 4000
Index Range	0 to 10
Default Value	4000
Units	Hz
CAN Index	0x231a, sub-index 0

Pos.Kafrv.Pole.F.Act

Name Parameter	POS.KAFRV.POLE.F.ACT
Definition	Position controller actual acceleration feedforward filter pole frequency
Type	Parameter (R)
Description	Reports the actual position controller acceleration feedforward filter pole frequency.
Syntax	Read: ?POS.KAFRV.POLE.F.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	20 to 4000
Default Value	4000
Units	Hz
CAN Index	0x27bd, sub-index 0

Pos.Kp.Act

Name Parameter	POS.KP.ACT
Definition	Position controller actual proportional gain
Type	Parameter (R)
Description	Reports the actual position controller proportional gain.
Syntax	Read: ?POS.KP.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	1 to 1000
Default Value	10
Units	Hz
CAN Index	0x27c9, sub-index 0

Pos.Kp.Vg

Name Parameter	POS.KP.VG
Definition	Position controller variable gain
Type	Parameter (R/W)
Description	Sets/gets the position controller variable gain.
Syntax	Write: POS.KP.VG[<i>axis</i>] = <value> Read: ?POS.KP.VG[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0.1 to 10
Default Value	1
Units	NA
CAN Index	NA

Pos.Kvfr.Act

Name Parameter	POS.KVFR.ACT
Definition	Position controller actual speed feedforward gain
Type	Parameter (R)
Description	Reports the actual position controller velocity feedforward.
Syntax	Read: ?POS.KVFR.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	-2 to 2
Default Value	0
Units	NA
CAN Index	0x27be, sub-index 0

Pos.Kvfrc.Act

Name Parameter	POS.KVFRC.ACT
Definition	Position controller actual speed feedforward to ICMD gain
Type	Parameter (R)
Description	Reports the actual position controller velocity feedforward to the ICMD.
Syntax	Read: ?POS.KVFRC.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	-2 to 2
Default Value	0
Units	NA
CAN Index	0x27c2, sub-index 0

Pos.Kvfr

Name Parameter	POS.KVFR
Definition	Position controller speed feedforward gain.
Type	Parameter (R/W)
Description	Sets/gets the position controller velocity feedforward. Note: When the value is changed, Pos.Execute is required.
Syntax	Write: POS.KVFR[axis][index]= <value> Read: ?POS.KVFR[axis][index]
Firmware	3.0.1.12
Value Range	-2 to 2
Index Range	0 to 10
Default Value	0
Units	NA
CAN Index	0x2023, sub-index 0

Pos.Kvfr.Pole.F

Name Parameter	POS.KVFR.POLE.F
Definition	Position controller speed feedforward filter pole frequency
Type	Parameter (R/W)
Description	Sets/gets the position controller speed feedforward filter pole frequency. Note: When the value is changed, Pos.Execute is required.
Syntax	Write: POS.KVFR.POLE.F[axis][index]= <value> Read: ?POS.KVFR.POLE.F[axis][index]
Firmware	3.0.1.12
Value Range	20 to 4000
Index Range	0 to 10
Default Value	4000
Units	Hz
CAN Index	0x2319, sub-index 0

Pos.Kvfr.Pole.F.Act

Name Parameter	POS.KVFR.POLE.F.ACT
Definition	Position controller actual speed feedforward filter pole frequency
Type	Parameter (R)
Description	Reports the actual position controller speed feedforward filter pole frequency.
Syntax	Read: ?POS.KVFR.POLE.F.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	20 to 4000
Default Value	4000
Units	Hz
CAN Index	0x27c0, sub-index 0

Pos.Kvfrc

Name Parameter	POS.KVFRC
Definition	Position controller speed feedforward to lcmd gain
Type	Parameter (R/W)
Description	Sets/gets the position controller velocity feedforward to the ICMD. Note: When the value is changed, Pos.Execute is required.
Syntax	Write: POS.KVFRC[<i>axis</i>][<i>index</i>]= <value> Read: ?POS.KVFRC[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	-2 to 2
Index Range	0 to 10
Default Value	0
Units	NA
CAN Index	0x27c1, sub-index 0

Pos.Kvfrc.Pole.F

Name Parameter	POS.KVFRC.POLE.F
Definition	Position controller speed feedforward to icmd filter pole frequency
Type	Parameter (R/W)
Description	Sets/gets the position controller speed feedforward to the ICMD filter pole frequency. Note: When the value is changed, Pos.Execute is required.
Syntax	Write: POS.KVFRC.POLE.F[axis][index]= <value> Read: ?POS.KVFRC.POLE.F[axis][index]
Firmware	3.0.1.12
Value Range	20 to 4000
Index Range	0 to 10
Default Value	4000
Units	Hz
CAN Index	0x27c3, sub-index 0

Pos.Kvfrc.Pole.F.Act

Name Parameter	POS.KVFRC.POLE.F.ACT
Definition	Position controller actual speed feedforward to icmd filter pole frequency
Type	Parameter (R)
Description	Reports the position controller actual speed feedforward to ICMD filter pole frequency.
Syntax	Read: ?POS.KVFRC.POLE.F.ACT[axis]
Firmware	3.0.1.12
Value Range	20 to 4000
Default Value	4000
Units	Hz
CAN Index	0x27c4, sub-index 0

Pos.Pe.Inpos

Name Parameter	POS.PE.INPOS
Definition	Position error tolerance
Type	Parameter (R/W)
Description	Sets/gets the position error tolerance for declaring In Position (Pos.Inpos) status.
Syntax	Write: POS.PE.INPOS[<i>axis</i>]= <value> Read: ?POS.PE.INPOS[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 9000000000
Default Value	1000000
Units	2 ^x /rev
CAN Index	NA

Pos.Pe.Inpos.Time

Name Parameter	POS.PE.INPOS.TIME
Definition	In position time
Type	Parameter (R/W)
Description	Sets/gets the duration for which the position error (Pos.Pe) must be within the position error tolerance (Pos.Pe.Inpos) before a Stopped status is declared.
Syntax	Write: POS.PE.INPOS.TIME[<i>axis</i>]= <value> Read: ?POS.PE.INPOS.TIME[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1e+07
Default Value	150000
Units	μs
CAN Index	NA

Pos.Settling.Time

Name Parameter	POS.SETTLING.TIME
Definition	Settling time serial move command
Type	Parameter (R)
Description	Reports the settling time when performing serial move command (Move).
Syntax	Read: ?POS.SETTLING.TIME[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1e+07
Default Value	0
Units	μs
CAN Index	0x27d1, sub-index 0

Pos.Stopped

Name Parameter	POS.STOPPED
Definition	Position motion ended
Type	Parameter (R)
Description	Indicates whether the position profile generated by Move has been completed, therefore allowing the next command to be issued. 0 = not completed 1 = profile completed
Syntax	Read: ?POS.STOPPED[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	0x22d9, sub-index 0

Pos.Vcmd.Offset

Name Parameter	POS.VCMD.OFFSET
Definition	Offset value for velocity command from position controller.
Type	Parameter (R/W)
Description	Sets/gets the velocity command offset.
Syntax	Write: POS.VCMD.OFFSET[axis] = <value> Read: ?POS.VCMD.OFFSET[axis]
Firmware	3.0.1.12
Value Range	-100 to 100
Default Value	0
Units	NA
CAN Index	0x2132, sub-index 0

Ptpvcmd

Name Parameter	PTPVCMD
Definition	Velocity command from position controller.
Type	Parameter (R)
Description	Reports the velocity command from the position controller.
Syntax	Read: ?PTPVCMD[axis]
Firmware	3.0.1.12
Value Range	NA to NA
Default Value	NA
Units	rps
CAN Index	NA

2.31 Power

Vbus

Parameter Name	VBUS
Definition	Raw bus voltage
Type	Parameter (R)
Description	Gets the drive bus voltage, used for current controller design.
Syntax	Read: ?VBUS
Firmware	3.0.1.12
Value Range	0 to HW defined
Default Value	NA
Units	V
CAN Index	NA

Vbus.Ov.Thresh

Parameter Name	VBUS.OV.THRESH
Definition	Over-voltage level
Type	Parameter (R/W)
Description	Sets/gets the level for detection of an over-voltage condition. Note: Stored in EEPROM.
Syntax	Write: VBUS.OV.THRESH= <value> Read: ?VBUS.OV.THRESH
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	420
Units	V
CAN Index	0x20a1, sub-index 0

Vbus.Scale

Parameter Name	VBUS.SCALE
Definition	Bus voltage scale
Type	Parameter (R/W)
Description	Sets/gets the bus voltage scaling. Note: Stored in EEPROM.
Syntax	Write: VBUS.SCALE= <value> Read: ?VBUS.SCALE
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	0.01926782
Units	NA
CAN Index	NA

Vbus.Uv.Thresh

Parameter Name	VBUS.UV.THRESH
Definition	Under Voltage Level
Type	Parameter (R/W)
Description	Sets/gets the level for detection of an under-voltage condition. Note: Stored in EEPROM.
Syntax	Write: VBUS.UV.THRESH= <value> Read: ?VBUS.UV.THRESH
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	160
Units	V
CAN Index	0x20cf, sub-index 0

2.32 PWM

Pwm.Raw

Parameter Name	PWM.RAW
Definition	PWM Raw Value
Type	Parameter (R)
Description	Reports the raw PWM value written to the FPGA.
Syntax	Read: ?PWM.RAW[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	software-defined
Index Range	0 to 3
Default Value	software-defined
Units	NA
CAN Index	NA

2.33 Recording

Recdone

Parameter Name	RECDONE
Definition	Recording done
Type	Parameter (W)
Description	Command to report whether the recording is finished and data is available.
Syntax	Write: RECDONE
Example	-1>recdone -1>Complete
Example	-1>recdone -1>Waiting for trigger, filling buffer
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	NA

Recgap

Parameter Name	RECGAP
Definition	Recording sampling time
Type	Parameter (W)
Description	Defines the rate at which data is recorded. The sampling value must be equal to or greater than 1. The interval value is specified in multiples of the drive's default sampling rate, which is 62.5 μs. For example, an interval of 4 means data is recorded once every 4 samples, or once per 250 μs ($4 \times 62.5 = 250$), or 0.25 ms.
Syntax	Write: RECGAP <sample_factor>
Example	<pre>recoff recoffs 100 recgap 1 rectrig active[1] > 0 record 2000 active[1] en[1] = 1 #PLOT</pre>
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	multiples of 62.5 μ s.
CAN Index	NA

Recoff

Parameter Name	RECOFF
Definition	Stop recording
Type	Parameter (W)
Description	Command to stop an active recording.
Syntax	Write: RECORD
Example	<pre>recoff recoffs 100 recgap 1 rectrig active[1] > 0 record 6000 ptpvcmd[1]</pre>
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	NA

Recoffs

Parameter Name	RECOFFS
Definition	Points pre-trigger
Type	Parameter (W)
Description	Command to record a specified number of points before the trigger condition occurs.
Syntax	Write: RECOFFS <number_pre-points>
Example	<pre>recoff recoffs 100 recgap 1 rectrig active[1] > 0 record 6000 ptpvcmd[1]</pre>
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	multiples of 62.5 μ s.
CAN Index	NA

Record

Parameter Name	RECORD
Definition	Record data
Type	Parameter (W)
Description	Command to capture real-time variables to memory. The command syntax must include the number of points to record, followed by the name/s of the parameter/s to be recorded.
Syntax	Write: RECORD <number_of_points> <parameter(s)>
Example	<pre>recoff recoffs 200 recgap 4 rectrig active[2] > 0 && active[3] == 1 ptpvcmd[3] > 0 record 5000 ptpvcmd[1] ptpvcmd[2] ptpvcmd[3] ptpvcmd[4]</pre>
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	NA

Recordclose

Parameter Name	RECORDCLOSE
Definition	Save the recording
Type	Parameter (W)
Description	Command to save the recorded data to the drive with a specific file name.
Syntax	Write: RECORDCLOSE <name_of_file> (saved in .txt format) RECORDCLOSE <name_of_file.csv> (saved in .csv format)
Example	<pre> recoff recoffs 1000 recgap 1 rectrig active[1] > 0 record 5000 active[1] en[1] = 1 #DELAY 2000 en[1] = 0 recordclose rec1.csv </pre>
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	NA

Rectrig

Parameter Name	RECTRIG
Definition	Trigger recording
Type	Parameter (W)
Description	Command to trigger the recording. The recording mechanism tracks the value of a system variable and starts the recording as soon as the value goes higher or lower than the specified value. The recorder can use comparison and logical operators in the expression of the condition. It is also possible to include more than one condition for different axes.
Syntax	Write: RECTRIG <parameter + condition>
Example	<pre>rectrig active[1] > 0 active[2] > 0 && active[3] = = 1 en[4] == 1 flt.exist[2] > 1 ptpvcmd[3] >= 10</pre>
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	multiples of 62.5 μ s.
CAN Index	NA

2.34 Regenerative Resistance**Regen.Off.Thresh**

Parameter Name	REGEN.OFF.THRESH
Definition	Low regen threshold
Type	Parameter (R/W)
Description	Sets/gets the level for detection of regenerative resistor off. Note: Stored in EEPROM.
Syntax	Write: REGEN.OFF.THRESH= <value> Read: ?REGEN.OFF.THRESH
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	380
Units	V
CAN Index	0x2336, sub-index 0

Regen.On.Thresh

Parameter Name	REGEN.ON.THRESH
Definition	High regen threshold
Type	Parameter (R/W)
Description	Sets/gets the level for detection of regenerative resistor on. Note: Stored in EEPROM.
Syntax	Write: REGEN.ON.THRESH= <value> Read: ?REGEN.ON.THRESH
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	390
Units	V
CAN Index	0x2337, sub-index 0

Regen.Oc

Parameter Name	REGEN.OC
Definition	Regen over-current status
Type	Parameter (R)
Description	Reports the regenerative resistor over-current status. 0 = no over-current 1 = over-current
Syntax	Read: ?REGEN.OC
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Regen.On

Parameter Name	REGEN.ON
Definition	Regen on status
Type	Parameter (R/W)
Description	Reports the regenerative resistor active status. 0 = regen resistor off 1 = regen resistor on
Syntax	Write: REGEN.ON= <value> Read: ?REGEN.ON
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Regen.Res

Parameter Name	REGEN.RES
Definition	Regen resistance
Type	Parameter (R/W)
Description	Sets/gets the regenerative resistor resistance.
Syntax	Write: REGEN.RES= <value> Read: ?REGEN.RES
Firmware	3.0.1.12
Value Range	1 to 1000
Default Value	100
Units	Ohm
CAN Index	0x2338, sub-index 0

Regen.Power

Parameter Name	REGEN.POWER
Definition	Regen resistor power
Type	Parameter (R/W)
Description	Sets/gets the regenerative resistor power.
Syntax	Write: REGEN.POWER= <value> Read: ?REGEN.POWER
Firmware	3.0.1.12
Value Range	1 to 1000
Default Value	60
Units	W
CAN Index	0x2339, sub-index 0

Regen.Time.On

Parameter Name	REGEN.TIME.ON
Definition	Regen max on time
Type	Parameter (R/W)
Description	Sets/gets the maximum time for regenerative resistor On.
Syntax	Write: REGEN.TIME.ON= <value> Read: ?REGEN.TIME.ON
Firmware	3.0.1.12
Value Range	10 to 100
Default Value	40
Units	ms
CAN Index	0x2340, sub-index 0

Regen.Flt.Mode

Parameter Name	REGEN.FLT.MODE
Definition	Regen fault mode
Type	Parameter (R/W)
Description	Sets/gets the regenerative resistor fault mode. Modes 0 = warning 1 = fault
Syntax	Write: REGEN.FLT.MODE= <value> Read: ?REGEN.FLT.MODE
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	0x2341, sub-index 0

2.35 Runaway**Runaway.Detect.Vel.Th**

Parameter Name	RUNAWAY.DETECT.VEL.TH
Definition	Runaway velocity threshold
Type	Parameter (R/W)
Description	Sets/gets the minimum velocity threshold for runaway detection.
Syntax	Write: RUNAWAY.DETECT.VEL.TH[axis]= <value> Read: ?RUNAWAY.DETECT.VEL.TH[axis]
Firmware	3.0.1.12
Value Range	0 to 100
Default Value	3.3
Units	rps
CAN Index	0x23dc, sub-index 0

Runaway.Detect.Iq.Th

Parameter Name	RUNAWAY.DETECT.IQ.TH
Definition	Runaway current threshold
Type	Parameter (R/W)
Description	Sets/gets the minimum current threshold (percent of Motor.Icont) for runaway detection.
Syntax	Write: RUNAWAY.DETECT.IQ.TH[axis]= <value> Read: ?RUNAWAY.DETECT.IQ.TH[axis]
Firmware	3.0.1.12
Value Range	0 to 100
Default Value	20
Units	%
CAN Index	NA

Runaway.Detect.Pos.Th

Parameter Name	RUNAWAY.DETECT.POS.TH
Definition	Runaway distance travelled
Type	Parameter (R/W)
Description	Sets/gets the minimum distance travelled for runaway detection.
Syntax	Write: RUNAWAY.DETECT.POS.TH[axis]= <value> Read: ?RUNAWAY.DETECT.POS.TH[axis]
Firmware	3.0.1.12
Value Range	0 to 1000
Default Value	0.5
Units	rev
CAN Index	0x23dd, sub-index 0

Runaway.Detect.Gravitymode

Parameter Name	RUNAWAY.DETECT.GRAVITYMODE
Definition	Runaway gravity mode
Type	Parameter (R/W)
Description	Sets/gets runaway detection gravity mode in use indication. 0 = not in use 1 = in use
Syntax	Write: RUNAWAY.DETECT.GRAVITYMODE[axis]= <value> Read: ?RUNAWAY.DETECT.GRAVITYMODE[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	0x2143, sub-index 0

2.36 Safety

Safety.Sto.Status

Parameter Name	SAFETY.STO.STATUS
Definition	Safety STO status
Type	Parameter (R)
Description	Reports the safe torque off (STO) status. 0 = No STO (24V provided) 1 = STO active (no 24V)
Syntax	Read: ?SAFETY.STO.STATUS
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	NA
Units	NA
CAN Index	NA

2.37 Security

Security.Code

Parameter Name	SECURITY.CODE
Definition	Security code
Type	Parameter (R)
Description	Reports the security code from drive. Required for unlocking drive for first time use.
Syntax	Read: ?SECURITY.CODE
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	NA

Security.Key

Parameter Name	SECURITY.KEY
Definition	Security key
Type	Parameter (W)
Description	Sets security key. Required for unlocking drive for first time use. Required when power cycling the drive.
Syntax	Write: SECURITY.KEY
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	NA

2.38 Smoothing

Pos.Smoothing.Active

Parameter Name	POS.SMOOTHING.ACTIVE
Definition	Active position smoothing filter
Type	Parameter (R/W)
Description	Sets/gets position smoothing filter active. 0 = Not in use 1 = Activate smoothing filter
Syntax	Write: POS.SMOOTHING.ACTIVE[axis]= <value> Read: ?POS.SMOOTHING.ACTIVE[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	0x2139, sub-index 0

Pos.Smoothing.Lpf.Frequency

Parameter Name	POS.SMOOTHING.LPF.FREQUENCY
Definition	Position smoothing LPF frequency
Type	Parameter (R/W)
Description	Sets/gets position smoothing low pass filter cut-off frequency.
Syntax	Write: POS.SMOOTHING.LPF.FREQUENCY[axis]= <value> Read: ?POS.SMOOTHING.LPF.FREQUENCY[axis]
Firmware	3.0.1.12
Value Range	1 to 4000
Default Value	4000
Units	Hz
CAN Index	0x2142, sub-index 0

Pos.Smoothing.Mode

Parameter Name	POS.SMOOTHING.MODE
Definition	Position smoothing filter mode
Type	Parameter (R/W)
Description	Sets/gets position smoothing filter mode. Modes 0 = SMA (simple moving average) 1 = TMA (triangular moving average) 2 = LPF (low-pass filter)
Syntax	Write: POS.SMOOTHING.MODE[axis]= <value> Read: ?POS.SMOOTHING.MODE[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	0x2138, sub-index 0

Pos.Smoothing.Window

Parameter Name	POS.SMOOTHING.WINDOW
Definition	Position smoothing moving average period window
Type	Parameter (R/W)
Description	Sets/gets position smoothing moving average period window
Syntax	Write: POS.SMOOTHING.WINDOW[axis]= <value> Read: ?POS.SMOOTHING.WINDOW[axis]
Firmware	3.0.1.12
Value Range	0.125 to 128
Default Value	12.5
Units	msec
CAN Index	0x2141, sub-index 0

Ptpvcmd.Smoothing.Active

Parameter Name	PTPVCMD.SMOOTHING.ACTIVE
Definition	Active Ptpvcmd smoothing
Type	Parameter (R/W)
Description	Sets/gets velocity smoothing filter active. 0 = Not in use 1 = Activate smoothing filter
Syntax	Write: PTPVCMD.SMOOTHING.ACTIVE[axis]=<value> Read: ?PTPVCMD.SMOOTHING.ACTIVE[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	0x2140, sub-index 0

Smoothing.Acnd

Parameter Name	SMOOTHING.ACMD
Definition	Position smoothing profile acceleration command
Type	Parameter (R)
Description	Reports the smoothed profile acceleration command (without LP filter).
Syntax	Read: ?SMOOTHING.ACMD[axis]
Firmware	3.0.1.12
Value Range	-1e+07 to 1e+07
Default Value	0
Units	rps/s
CAN Index	NA

Smoothing.Ptpvcmd

Parameter Name	SMOOTHING.PTPVCMD
Definition	Position smoothing profile velocity command
Type	Parameter (R)
Description	Reports the smoothed profile velocity command (without LP filter).
Syntax	Read: ?SMOOTHING.PTPVCMD[<i>axis</i>]
Firmware	3.0.1.12
Value Range	-2000 to 2000
Default Value	0
Units	rps
CAN Index	NA

2.39 System

Sys.Clock

Parameter Name	SYS.CLOCK
Definition	System clock
Type	Parameter (R)
Description	Reports the system clock.
Syntax	Read: ?SYS.CLOCK
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	ms
CAN Index	NA

Sys.Freq

Parameter Name	SYS.FREQ
Definition	System frequency
Type	Parameter (R)
Description	Reports the system frequency.
Syntax	Read: ?SYS.FREQ
Firmware	3.0.1.12
Value Range	0 to hardware-defined
Index Range	0
Default Value	hardware-defined
Units	us
CAN Index	NA

Sys.Mts

Parameter Name	SYS.MTS
Definition	System MTS number
Type	Parameter (R)
Description	Reports the multi-time system (MTS) number.
Syntax	Read: ?SYS.MTS[<i>axis</i>]
Firmware	3.0.1.12
Value Range	software-defined
Default Value	NA
Units	NA
CAN Index	NA

Sys.Ticks

Parameter Name	SYS.TICKS
Definition	System ticks
Type	Parameter (R)
Description	Reports the system ticks.
Syntax	Read: ?SYS.TICKS[<i>axis</i>]
Firmware	3.0.1.12
Value Range	software-defined
Default Value	NA
Units	us
CAN Index	NA

Sys.Time.Day

Parameter Name	SYS.TIME.DAY
Definition	System time and day of month
Type	Parameter (R/W)
Description	Sets/gets day of month
Syntax	Write: SYS.TIME.DAY= <value> Read: ?SYS.TIME.DAY
Firmware	3.0.1.12
Value Range	1 to 31
Default Value	15
Units	NA
CAN Index	NA

Sys.Time.Date

Parameter Name	SYS.TIME.DATE
Definition	System time date
Type	Parameter (R)
Description	Reports the system date information (Day-Month-Year Hours-Minutes-Seconds).
Syntax	Read: ?SYS.TIME.DATE
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	NA

Sys.Time.Format

Parameter Name	SYS.TIME.FORMAT
Definition	System time date format
Type	Parameter (R/W)
Description	Sets/gets system time and date format.
Syntax	Write: SYS.TIME.FORMAT= <value> Read: ?SYS.TIME.FORMAT
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	NA

Sys.Time.Hour

Parameter Name	SYS.TIME.HOUR
Definition	System time hour
Type	Parameter (R/W)
Description	Sets/gets hour
Syntax	Write: SYS.TIME.HOUR= <value> Read: ?SYS.TIME.HOUR
Firmware	3.0.1.12
Value Range	0 to 23
Default Value	0
Units	NA
CAN Index	NA

Sys.Time.Min

Parameter Name	SYS.TIME.MIN
Definition	System time minute
Type	Parameter (R/W)
Description	Sets/gets minute.
Syntax	Write: SYS.TIME.MIN= <value> Read: ?SYS.TIME.MIN
Firmware	3.0.1.12
Value Range	0 to 59
Default Value	0
Units	NA
CAN Index	NA

Sys.Time.Month

Parameter Name	SYS.TIME.MONTH
Definition	System time month
Type	Parameter (R/W)
Description	Sets/gets month
Syntax	Write: SYS.TIME.MONTH= <value> Read: ?SYS.TIME.MONTH
Firmware	3.0.1.12
Value Range	1 to 12
Default Value	1
Units	NA
CAN Index	NA

Sys.Time.Sec

Parameter Name	SYS.TIME.SEC
Definition	System time seconds
Type	Parameter (R/W)
Description	Sets/gets second.
Syntax	Write: SYS.TIME.SEC= <value> Read: ?SYS.TIME.SEC
Firmware	3.0.1.12
Value Range	0 to 59
Default Value	0
Units	NA
CAN Index	NA

Sys.Time.Timedate

Parameter Name	SYS.TIME.TIMEDATE
Definition	System time and date
Type	Parameter (R/W)
Description	Sets/gets drive time and date. Indexes 0 = year 1 = month 1-12 2 = day of month: 1-31 3 = hour 0 -23 4 = minute 0-59 5 = second 0-59
Syntax	Write: SYS.TIME.TIMEDATE= <value> Read: ?SYS.TIME.TIMEDATE
Firmware	3.0.1.12
Value Range	2020 to 2029
Index Range	0 to 6
Default Value	2020
Units	NA
CAN Index	0x23a3, sub-index 0

Sys.Time.Year

Parameter Name	SYS.TIME.YEAR
Definition	System time year
Type	Parameter (R/W)
Description	Sets/gets system year information.
Syntax	Write: SYS.TIME.YEAR= <value> Read: ?SYS.TIME.YEAR
Firmware	3.0.1.12
Value Range	2020 to 2029
Default Value	2020
Units	NA
CAN Index	NA

Stat.Time.En

Parameter Name	STAT.TIME.EN
Definition	Enable time since last power up
Type	Parameter (R)
Description	Reports the enabled time since the last power up drive (axis) status
Syntax	Read: ?STAT.TIME.EN[axis]
Firmware	3.0.1.12
Value Range	NA
Default Value	0
Units	s
CAN Index	0x23b0, sub-index 0

Stat.Time.En.Total

Parameter Name	STAT.TIME.EN.TOTAL
Definition	Total enabled time
Type	Parameter (R)
Description	Reports the total enabled time since the drive was last powered up.
Syntax	Read: ?STAT.TIME.EN.TOTAL[axis]
Firmware	3.0.1.12
Value Range	0 to 0
Default Value	0
Units	s
CAN Index	0x23af, sub-index 0

Stat.Time.On

Parameter Name	STAT.TIME.ON
Definition	Power on time since last power up
Type	Parameter (R)
Description	Reports the powered on time since the drive was last powered up.
Syntax	Read: ?STAT.TIME.ON[<i>axis</i>]
Firmware	3.0.1.12
Value Range	NA
Default Value	0
Units	s
CAN Index	0x23ae, sub-index 0

Stat.Time.On.Total

Parameter Name	STAT.TIME.ON.TOTAL
Definition	Total on time of the drive
Type	Parameter (R)
Description	Reports the total powered on time since the drive was last powered up.
Syntax	Read: ?STAT.TIME.ON.TOTAL[<i>axis</i>]
Firmware	3.0.1.12
Value Range	NA
Default Value	0
Units	s
CAN Index	0x23ad, sub-index 0

2.40 Temperature

Temp.Adc.Offset

Parameter Name	TEMP.ADC.OFFSET
Definition	Temperature offset calculation of ADC device
Type	Parameter (R/W)
Description	Sets/gets the temperature offset calculation of the ADC device. Note: Stored in EEPROM.
Syntax	Write: TEMP.ADC.OFFSET[axis]= <value> Read: ?TEMP.ADC.OFFSET[axis]
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	-20.66
Units	NA
CAN Index	NA

Temp.Adc.Scale

Parameter Name	TEMP.ADC.SCALE
Definition	Temperature scale calculation of ADC device
Type	Parameter (R/W)
Description	Sets/gets temperature scaling calculation of the ADC device. Note: Stored in EEPROM.
Syntax	Write: TEMP.ADC.SCALE[axis]= <value> Read: ?TEMP.ADC.SCALE[axis]
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	47.62
Units	NA
CAN Index	NA

Temp.Cpu

Parameter Name	TEMP.CPU
Definition	Average temperature
Type	Parameter (R)
Description	Reports the calculated average temperature of CPU.
Syntax	Read: ?TEMP.CPU
Firmware	3.0.1.12
Value Range	-60 to 250
Default Value	0
Units	deg C
CAN Index	NA

Temp.Cpu.Cor

Parameter Name	TEMP.CPU.COR
Definition	Device core temperature
Type	Parameter (R)
Description	Reports the temperature of the core in the device.
Syntax	Read: ?TEMP.CPU.COR
Firmware	3.0.1.12
Value Range	-60 to 250
Default Value	0
Units	deg C
CAN Index	NA

Temp.Cpu.Dsp

Parameter Name	TEMP.CPU.DSP
Definition	DSPEVE temperature
Type	Parameter (R)
Description	Reports the DSPEVE temperature of device
Syntax	Read: ?TEMP.CPU.DSP
Firmware	3.0.1.12
Value Range	-60 to 250
Default Value	0
Units	deg C
CAN Index	NA

Temp.Cpu.Flt.High

Parameter Name	TEMP.CPU.FLT.HIGH
Definition	CPU over-temperature fault upper threshold
Type	Parameter (R/W)
Description	Sets/gets CPU over-temperature fault high threshold. Note: Stored in EEPROM.
Syntax	Write: TEMP.CPU.FLT.HIGH= <value> Read: ?TEMP.CPU.FLT.HIGH
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	100
Units	deg C
CAN Index	NA

Temp.Cpu.Flt.Low

Parameter Name	TEMP.CPU.FLT.LOW
Definition	CPU over-temperature fault low threshold
Type	Parameter (R/W)
Description	Sets/gets CPU over-temperature fault low threshold. Note: Stored in EEPROM.
Syntax	Write: TEMP.CPU.FLT.LOW= <value> Read: ?TEMP.CPU.FLT.LOW
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	95
Units	deg C
CAN Index	NA

Temp.Cpu.Gpu

Parameter Name	TEMP.CPU.GPU
Definition	GPU temperature
Type	Parameter (R)
Description	Reports the temperature of the GPU.
Syntax	Read: ?TEMP.CPU.GPU
Firmware	3.0.1.12
Value Range	-60 to 250
Default Value	0
Units	deg C
CAN Index	NA

Temp.Cpu.Iva

Parameter Name	TEMP.CPU.IVA
Definition	IVA temperature
Type	Parameter (R)
Description	Reports the temperature of the IVA.
Syntax	Read: ?TEMP.CPU.IVA
Firmware	3.0.1.12
Value Range	-60 to 250
Default Value	0
Units	deg C
CAN Index	NA

Temp.Cpu.Mpu

Parameter Name	TEMP.CPU.MPU
Definition	MPU temperature
Type	Parameter (R)
Description	Reports the temperature of the MPU.
Syntax	Read: ?TEMP.CPU.MPU
Firmware	3.0.1.12
Value Range	-60 to 250
Default Value	0
Units	deg C
CAN Index	NA

Temp.Cpu.Wrn.High

Parameter Name	TEMP.CPU.WRN.HIGH
Definition	CPU over-temperature warning high threshold
Type	Parameter (R/W)
Description	Sets/gets the CPU over-temperature warning high threshold. Note: Stored in EEPROM.
Syntax	Write: TEMP.CPU.WRN.HIGH= <value> Read: ?TEMP.CPU.WRN.HIGH
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	95
Units	deg C
CAN Index	NA

Temp.Cpu.Wrn.Low

Parameter Name	TEMP.CPU.WRN.LOW
Definition	CPU over-temperature warning low threshold
Type	Parameter (R/W)
Description	Sets/gets CPU over-temperature warning low threshold. Note: Stored in EEPROM.
Syntax	Write: TEMP.CPU.WRN.LOW= <value> Read: ?TEMP.CPU.WRN.LOW
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	90
Units	deg C
CAN Index	NA

Temp.Ipm

Parameter Name	TEMP.IPM
Definition	IPM temperature
Type	Parameter (R)
Description	Reports the IPM temperature
Syntax	Read: ?TEMP.IPM[<i>axis</i>]
Firmware	3.0.1.12
Value Range	-60 to 250
Default Value	0
Units	deg C
CAN Index	0x239c, sub-index 0

Temp.Ipm.Flt.High

Parameter Name	TEMP.IPM.FLT.HIGH
Definition	High threshold IPM over-temperature fault
Type	Parameter (R/W)
Description	Sets/gets high threshold IPM over-temperature fault. Note: Stored in EEPROM.
Syntax	Write: TEMP.IPM.FLT.HIGH[<i>axis</i>]=< <i>value</i> > Read: ?TEMP.IPM.FLT.HIGH[<i>axis</i>]
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	95
Units	deg C
CAN Index	0x2327, sub-index 0

Temp.Ipm.Flt.Low

Parameter Name	TEMP.IPM.FLT.LOW
Definition	Low threshold IPM OT fault
Type	Parameter (R/W)
Description	Sets/gets low threshold IPM over-temperature fault. Note: Stored in EEPROM.
Syntax	Write: TEMP.IPM.FLT.LOW[axis]= <value> Read: ?TEMP.IPM.FLT.LOW[axis]
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	90
Units	deg C
CAN Index	0x2326, sub-index 0

Temp.Ipm.Wrn.High

Parameter Name	TEMP.IPM.WRN.HIGH
Definition	High threshold IPM Over-temperature warning
Type	Parameter (R/W)
Description	Sets/gets high threshold IPM over-temperature warning. Note: Stored in EEPROM.
Syntax	Write: TEMP.IPM.WRN.HIGH[axis]= <value> Read: ?TEMP.IPM.WRN.HIGH[axis]
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	85
Units	deg C
CAN Index	0x231f, sub-index 0

Temp.Ipm.Wrn.Low

Parameter Name	TEMP.IPM.WRN.LOW
Definition	Low threshold IPM over-temperature warning
Type	Parameter (R/W)
Description	Sets/gets low threshold IPM over-temperature warning. Note: Stored in EEPROM.
Syntax	Write: TEMP.IPM.WRN.LOW[axis]= <value> Read: ?TEMP.IPM.WRN.LOW[axis]
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	80
Units	deg C
CAN Index	0x231e, sub-index 0

Temp.Motor

Parameter Name	TEMP.MOTOR
Definition	Motor temperature
Type	Parameter (R)
Description	Reports the motor temperature.
Syntax	Read: ?TEMP.MOTOR[axis]
Firmware	3.0.1.12
Value Range	-60 to 250
Default Value	0
Units	deg C
CAN Index	0x20c7, sub-index 0

Temp.Motor.Flt.High

Parameter Name	TEMP.MOTOR.FLT.HIGH
Definition	High threshold motor over-temperature fault
Type	Parameter (R/W)
Description	Sets/gets the upper threshold value of the motor over-temperature fault.
Syntax	Write: TEMP.MOTOR.FLT.HIGH[axis]= <value> Read: ?TEMP.MOTOR.FLT.HIGH[axis]
Firmware	3.0.1.12
Value Range	-60 to 250
Default Value	105
Units	deg C
CAN Index	0x232b, sub-index 0

Temp.Motor.Flt.Low

Parameter Name	TEMP.MOTOR.FLT.LOW
Definition	Low threshold motor over-temperature fault
Type	Parameter (R/W)
Description	Sets/gets the lower threshold value of the motor over-temperature fault.
Syntax	Write: TEMP.MOTOR.FLT.LOW[axis]= <value> Read: ?TEMP.MOTOR.FLT.LOW[axis]
Firmware	3.0.1.12
Value Range	-60 to 250
Default Value	100
Units	deg C
CAN Index	0x20c5, sub-index 0

Temp.Motor.Wrn.High

Parameter Name	TEMP.MOTOR.WRN.HIGH
Definition	High threshold motor over-temperature warning
Type	Parameter (R/W)
Description	Sets/gets the upper threshold value of the motor over-temperature warning
Syntax	Write: TEMP.MOTOR.WRN.HIGH[axis]= <value> Read: ?TEMP.MOTOR.WRN.HIGH[axis]
Firmware	3.0.1.12
Value Range	-60 to 250
Default Value	95
Units	deg C
CAN Index	0x2323, sub-index 0

Temp.Motor.Wrn.Low

Parameter Name	TEMP.MOTOR.WRN.LOW
Definition	Low threshold motor over-temperature warning
Type	Parameter (R/W)
Description	Sets/gets the lower threshold value of the motor over-temperature warning
Syntax	Write: TEMP.MOTOR.WRN.LOW[axis]= <value> Read: ?TEMP.MOTOR.WRN.LOW[axis]
Firmware	3.0.1.12
Value Range	-60 to 250
Default Value	90
Units	deg C
CAN Index	0x2322, sub-index 0

Temp.Pb.Flt.High

Parameter Name	TEMP.PB.FLT.HIGH
Definition	Power over-temperature fault high threshold
Type	Parameter (R/W)
Description	Sets/gets the upper threshold for a power over-temperature fault. Note: Stored in EEPROM.
Syntax	Write: TEMP.PB.FLT.HIGH= <value> Read: ?TEMP.PB.FLT.HIGH
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	85
Units	deg C
CAN Index	NA

Temp.Pb.Flt.Low

Parameter Name	TEMP.PB.FLT.LOW
Definition	Power over-temperature fault low threshold
Type	Parameter (R/W)
Description	Sets/gets the lower threshold for a power over-temperature fault. Note: Stored in EEPROM.
Syntax	Write: TEMP.PB.FLT.LOW= <value> Read: ?TEMP.PB.FLT.LOW
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	80
Units	deg C
CAN Index	NA

Temp.Pb.Wrn.High

Parameter Name	TEMP.PB.WRN.HIGH
Definition	Power over-temperature warning high threshold
Type	Parameter (R/W)
Description	Sets/gets the upper threshold for a power over-temperature warning. Note: Stored in EEPROM.
Syntax	Write: TEMP.PB.WRN.HIGH= <value> Read: ?TEMP.PB.WRN.HIGH
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	75
Units	deg C
CAN Index	NA

Temp.Pb.Wrn.Low

Parameter Name	TEMP.PB.WRN.LOW
Definition	Power over-temperature warning low threshold
Type	Parameter (R/W)
Description	Sets/gets the lower threshold for a power over-temperature warning. Note: Stored in EEPROM.
Syntax	Write: TEMP.PB.WRN.LOW= <value> Read: ?TEMP.PB.WRN.LOW
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	70
Units	deg C
CAN Index	NA

Temp.Power

Parameter Name	TEMP.POWER
Definition	Ambient temperature
Type	Parameter (R)
Description	Reports the ambient temperature.
Syntax	Read: ?TEMP.POWER
Firmware	3.0.1.12
Value Range	-60 to 250
Default Value	0
Units	deg C
CAN Index	NA

2.41 Variable Gains**Vargains.Active**

Parameter Name	VARGAINS.ACTIVE
Definition	Active gain set
Type	Parameter (R/W)
Description	Sets/gets the active variable gain set.
Syntax	Write: VARGAINS.ACTIVE= <value> Read: ?VARGAINS.ACTIVE
Firmware	3.0.1.12
Value Range	0 to 9
Default Value	0
Units	NA
CAN Index	0x23c6, sub-index 0

Vargains.Axis.Cplg

Parameter Name	VARGAINS.AXIS.CPLG
Definition	Variable gains – axis coupling ratio
Type	Parameter (R/W)
Description	Sets/gets the axis coupling factor. This factor is the coupling ratio between axes.
Syntax	Write: VARGAINS.AXIS.CPLG[axis][index]= <value> Read: ?VARGAINS.AXIS.CPLG[axis][index]
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Index Range	0 to 3
Default Value	0
Units	NA
CAN Index	0x23c3, sub-index 0

Vargains.Axis.Desc

Parameter Name	VARGAINS.AXIS.DESC
Definition	Variable gains – axis description
Type	Parameter (R/W)
Description	Sets/gets axis gain set description. The parameter provides data about available gain set: what is a desired combination of axis states and payload required for the gain set to be selected
	Sets/gets the description of the axis variable gain set. This parameter provides data about the axis gain set such as a suitable combination of axis states, and a suitable payload for a specific gain set.
Syntax	Write: VARGAINS.AXIS.DESC[0][<i>index</i>]= <value> Read: ?VARGAINS.AXIS.DESC[0][<i>index</i>]
Example	<pre> vargains.axis.description[0][0] = {"SystemType":"AIO", "AxisName":"Axis1", "AxisState":["FullRange;-180;180"], "AxisUnits":"Deg"} vargains.axis.description[0][1] = {"SystemType":" AIO ", "AxisName":"Axis2", "AxisState":["FullRange;-180;180"], "AxisUnits":"Deg"} vargains.axis.description[0][2] = {"SystemType":" AIO ", "AxisName":"Axis3", "AxisState":["FullRange;-170;40"], "AxisUnits":"mm"} vargains.axis.description[0][3] = {"SystemType":" AIO ", "AxisName":"Axis4", "AxisState":["FullRange;-360;360"], "AxisUnits":"Deg" </pre>
Firmware	3.0.1.12
Value Range	NA
Index Range	0 to 3
Default Value	NA
Units	NA
CAN Index	NA

Vargains.Axis.Offset

Parameter Name	VARGAINS.AXIS.OFFSET
Definition	Variable gains – axis offset
Type	Parameter (R/W)
Description	Sets/gets axis position offset factor from the motion controller.
Syntax	Write: VARGAINS.AXIS.OFFSET[axis]= <value> Read: ?VARGAINS.AXIS.OFFSET[axis]
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	0
Units	NA
CAN Index	0x23c1, sub-index 0

Vargains.Axis.Posfactor

Parameter Name	VARGAINS.AXIS.POSFACTOR
Definition	Variable gains – axis position coefficient
Type	Parameter (R/W)
Description	Sets/gets the axis position offset factor. This coefficient includes motion controller units factors: axis position factor, axis direction, gear and feed ratio.
Syntax	Write: VARGAINS.AXIS.POSFACTOR[axis]= <value> Read: ?VARGAINS.AXIS.POSFACTOR[axis]
Firmware	3.0.1.12
Value Range	-3.402823e+38 to 3.402823e+38
Default Value	1
Units	NA
CAN Index	0x23c2, sub-index 0

Vargains.Axis.Stateact

Parameter Name	VARGAINS.AXIS.STATEACT
Definition	Gain set axis actual state
Type	Parameter (R/W)
Description	Sets/gets the actual axis variable gains calculated state.
Syntax	Write: VARGAINS.AXIS.STATEACT[axis]= <value> Read: ?VARGAINS.AXIS.STATEACT[axis]
Firmware	3.0.1.12
Value Range	-2147483647 to 2147483647
Default Value	0
Units	NA
CAN Index	NA

Vargains.Axis.Statecnt

Parameter Name	VARGAINS.AXIS.STATECNT
Definition	Variable gains axis states count
Type	Parameter (R/W)
Description	Sets/gets the total number of variable gains axis states.
Syntax	Write: VARGAINS.AXIS.STATECNT[axis]= <value> Read: ?VARGAINS.AXIS.STATECNT[axis]
Firmware	3.0.1.12
Value Range	0 to 5
Default Value	0
Units	NA
CAN Index	NA

Vargains.Axis.Statemax

Parameter Name	VARGAINS.AXIS.STATEMAX
Definition	Variable gains axis states maximum limits
Type	Parameter (R/W)
Description	Sets/gets the variable gains axis states maximum limits
Syntax	Write: VARGAINS.AXIS.STATEMAX[axis][index]= <value> Read: ?VARGAINS.AXIS.STATEMAX[axis][index]
Firmware	3.0.1.12
Value Range	-9223372036854775807 to 9223372036854775807
Index Range	0 to 4
Default Value	0
Units	2 ^x /rev
CAN Index	NA

Vargains.Axis.Statemin

Parameter Name	VARGAINS.AXIS.STATEMIN
Definition	Variable gains axis states minimum limits
Type	Parameter (R/W)
Description	Sets/gets variable gains axis states minimum limits.
Syntax	Write: VARGAINS.AXIS.STATEMIN[axis][index]= <value> Read: ?VARGAINS.AXIS.STATEMIN[axis][index]
Firmware	3.0.1.12
Value Range	-9223372036854775807 to 9223372036854775807
Index Range	0 to 4
Default Value	0
Units	2 ^x /rev
CAN Index	NA

Vargains.Axis.Status

Parameter Name	VARGAINS.AXIS.STATUS
Definition	Variable gain – axis status
Type	Parameter (R)
Description	Reports the variable gain axis status.
Syntax	Read: ?VARGAINS.AXIS.STATUS
Firmware	3.0.1.12
Value Range	0 to 130
Default Value	0
Units	NA
CAN Index	NA

Vargains.Enable

Parameter Name	VARGAINS.ENABLE
Definition	Variable gain activation
Type	Parameter (R/W)
Description	Sets/gets whether the gain set function is active. 0 = Variable gain set feature is not active 1 = Variable gain set feature is active
Syntax	Write: VARGAINS.ENABLE= <value> Read: ?VARGAINS.ENABLE
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Vargains.Execute

Parameter Name	VARGAINS.EXECUTE
Definition	Variable gains – execution
Type	Parameter (R/W)
Description	Sets/gets gain set execution. This parameter initiates a parsing of axis and gain set descriptions. 1 = Execute changes
Syntax	Write: VARGAINS.EXECUTE= <value> Read: ?VARGAINS.EXECUTE
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Vargains.Gainset.Desc

Parameter Name	VARGAINS.GAINSET.DESC
Definition	Variable gains – gain set description
Type	Parameter (R/W)
Description	Sets/gets the gain set description. This parameter provides data about the gain set, such as a suitable combination of axis states, and a suitable payload for a specific gain set.
Syntax	Write: VARGAINS.GAINSET.DESC[0][<i>index</i>] = <value> Read: ?VARGAINS.GAINSET.DESC[0][<i>index</i>]
Example	<pre> vargains.gainset.desc[0][0] = {"Axis1":"FullRange", "Axis2":"FullRange", "Axis3":"FullRange", "Axis4":"FullRange", "Payload":"0.0"} vargains.gainset.desc[0][1] = {"Axis1":"FullRange", "Axis2":"FullRange", "Axis3":"FullRange", "Axis4":"FullRange", "Payload":"1.0"} vargains.gainset.desc[0][2] = {"Axis1":"FullRange", "Axis2":"FullRange", "Axis3":"FullRange", "Axis4":"FullRange", "Payload":"3.0"} vargains.gainset.desc[0][3] = {"Axis1":"FullRange", "Axis2":"FullRange", "Axis3":"FullRange", "Axis4":"FullRang </pre>
Firmware	3.0.1.12
Value Range	NA
Index Range	0 to 9
Default Value	NA
Units	NA
CAN Index	NA

Vargains.Gainset.Active

Parameter Name	VARGAINS.GAINSET.ACTIVE
Definition	Variable gains – active gain set
Type	Parameter (R/W)
Description	Sets/gets the gain set number for the axis.
Syntax	Write: VARGAINS.GAINSET.ACTIVE[<i>axis</i>]= < <i>value</i> > Read: ?VARGAINS.GAINSET.ACTIVE[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 9
Default Value	0
Units	NA
CAN Index	NA

Vargains.Payload

Parameter Name	VARGAINS.PAYLOAD
Definition	Variable gains – payload
Type	Parameter (R/W)
Description	Sets/gets the payload for the gain set.
Syntax	Write: VARGAINS.PAYLOAD= < <i>value</i> > Read: ?VARGAINS.PAYLOAD
Firmware	3.0.1.12
Value Range	0 to 1000
Default Value	0
Units	kg
CAN Index	0x23c0, sub-index 0

Vargains.Pcmdact

Parameter Name	VARGAINS.PCMDACT
Definition	Variable gains – actual position command
Type	Parameter (R/W)
Description	Sets/gets the actual coupled position command
Syntax	Write: VARGAINS.PCMDACT[axis]= <value> Read: ?VARGAINS.PCMDACT[axis]
Firmware	3.0.1.12
Value Range	-9223372036854775807 to 9223372036854775807
Default Value	0
Units	2 ^x /rev
CAN Index	NA

Vargains.Status

Parameter Name	VARGAINS.STATUS
Definition	Variable gains – gain set execution status
Type	Parameter (R)
Description	Reports the variable gain set status. Overall gain change status 0 = change in progress 1 = change finished 1 bit per axis Bit 0 = Axis 1 status Bit 1 = Axis 2 status Bit N = Axis N+1 status
Syntax	Read: ?VARGAINS.STATUS
Firmware	3.0.1.12
Value Range	0 to 7
Default Value	0
Units	NA
CAN Index	0x23c4, sub-index 0

Vargains.Status.Cntr

Parameter Name	VARGAINS.STATUS.CNTR
Definition	Variable gains – gain set status counter
Type	Parameter (R)
Description	Reports the number of changes in the gain set status. The counter is incremented after a gain change is executed. The counter is zeroed if it reaches 32.
Syntax	Read: ?VARGAINS.STATUS.CNTR
Firmware	3.0.1.12
Value Range	0 to 15
Default Value	0
Units	NA
CAN Index	0x23c5, sub-index 0

2.42 Velocity Control**Vact**

Parameter Name	VACT
Definition	Actual velocity
Type	Parameter (R)
Description	Reports the velocity of the motor measured by the primary feedback.
Syntax	Read: ?VACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	rps
CAN Index	0x2417, sub-index 0

Vact.Execute

Parameter Name	VACT.EXECUTE
Definition	Vact module internal execute
Type	Parameter (R/W)
Description	Sets/gets execution of configuration for velocity. The Vact.Execute command is required after actual velocity parameters are modified.
Syntax	Write: VACT.EXECUTE[axis]= <value> Read: ?VACT.EXECUTE[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	1
Units	NA
CAN Index	NA

Vact.Kalman.Acqr

Parameter Name	VACT.KALMAN.ACQR
Definition	Kalman filter A, C, q and r matrices data in JSON format
Type	Parameter (R)
Description	Reports the data to be sent to the GUI for Kalman filter design.
Syntax	Read: ?VACT.KALMAN.ACQR[axis]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	0x2685, sub-index 0

Vact.Kalman.Design

Parameter Name	VACT.KALMAN.DESIGN
Definition	Kalman filter design option
Type	Parameter (R/W)
Description	Sets/gets Kalman filter mode. 0 = KF Velocity Observer not designed 1 = Update model with user parameters and find KF gains 2 = Update model with self learning LMJR parameters and find KF gains 3 = Update model with user parameters 4 = Update model with self learning LMJR parameters
Syntax	Write: VACT.KALMAN.DESIGN[<i>axis</i>] = <value> Read: ?VACT.KALMAN.DESIGN[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 4
Default Value	0
Units	NA
CAN Index	0x2686, sub-index 0

Vact.Kalman.Design.Status

Parameter Name	VACT.KALMAN.DESIGN.STATUS
Definition	Kalman filter design process status
Type	Parameter (R)
Description	Indicates whether A,C,qr matrices were sent, and if L was set. To be read by the GUI for the design process.
Syntax	Read: ?VACT.KALMAN.DESIGN.STATUS[<i>axis</i>]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	NA
CAN Index	0x2687, sub-index 0

Vact.Kalman.Pobs

Parameter Name	VACT.KALMAN.POBS
Definition	Kalman filter estimated position
Type	Parameter (R)
Description	Reports the Kalman filter estimated position.
Syntax	Read: ?VACT.KALMAN.POBS[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 100000
Default Value	0
Units	2 ^x /rev
CAN Index	0x268a, sub-index 0

Vact.Kalman.Q

Parameter Name	VACT.KALMAN.Q
Definition	Kalman filter input noise gain matrix
Type	Parameter (R/W)
Description	Sets/gets Kalman filter input noise gain matrix. q*q [^] is usually represented by Q for a Kalman filter
Syntax	Write: VACT.KALMAN.Q[<i>axis</i>][<i>index</i>]=<value> Read: ?VACT.KALMAN.Q[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	1e-06 to 100000
Index Range	0 to 2
Default Value	1e-06
Units	NA
CAN Index	NA

Vact.Kalman.R

Parameter Name	VACT.KALMAN.R
Definition	Kalman filter output noise gain
Type	Parameter (R/W)
Description	Sets/gets Kalman filter output noise gain matrix. $r \cdot r^{\wedge}$ is usually represented by R for a Kalman filter.
Syntax	Write: VACT.KALMAN.R[axis]= <value> Read: ?VACT.KALMAN.R[axis]
Firmware	3.0.1.12
Value Range	1e-06 to 100000
Default Value	1e-06
Units	NA
CAN Index	NA

Vact.Kpafrv.Factor

Parameter Name	VACT.KPAFRV.FACTOR
Definition	Internal auxiliary velocity filter subfactor for position acceleration feedforward factor
Type	Parameter (R/W)
Description	Reports the internal auxiliary velocity filter subfactor for position acceleration feedforward factor.
Syntax	Write: VACT.KPAFRV.FACTOR[axis]= <value> Read: ?VACT.KPAFRV.FACTOR[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	s
CAN Index	0x232f, sub-index 0

Vcmd

Parameter Name	VCMD
Definition	Velocity command to position loop
Type	Parameter (R)
Description	Reports the velocity command of trajectory generator.
Syntax	Read: ?VCMD[<i>axis</i>]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Units	rps
CAN Index	NA

Vel.Ctrl.Mode

Parameter Name	VEL.CTRL.MODE
Definition	Velocity controller mode
Type	Parameter (R/W)
Description	Sets/gets mode for velocity controller. 1 = PDFF controller 2 = Standard pole placement controller Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.CTRL.MODE[<i>axis</i>][<i>index</i>]= <value> Read: ?VEL.CTRL.MODE[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	1 to 3
Index Range	0 to 10
Default Value	1
Units	NA
CAN Index	0x20d4, sub-index 0

Vel.Ctrl.Mode.Act

Parameter Name	VEL.CTRL.MODE.ACT
Definition	Velocity controller mode
Type	Parameter (R)
Description	Reports the mode for velocity controller. 1 = PDFF controller 2 = Standard pole placement controller
Syntax	Read: ?VEL.CTRL.MODE.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	1 to 3
Default Value	1
Units	NA
CAN Index	0x26f3, sub-index 0

Vel.Err

Parameter Name	VEL.ERR
Definition	Velocity controller error
Type	Parameter (R)
Description	Reports the velocity controller error.
Syntax	Read: ?VEL.ERR[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	rps
CAN Index	0x26f6, sub-index 0

Vel.Err.Max

Parameter Name	VEL.ERR.MAX
Definition	Velocity controller error fault threshold
Type	Parameter (R/W)
Description	Sets/gets the velocity controller error fault threshold.
Syntax	Write: VEL.ERR.MAX[axis]= <value> Read: ?VEL.ERR.MAX[axis]
Firmware	3.0.1.12
Value Range	0 to 2000
Default Value	100
Units	rps
CAN Index	0x2347, sub-index 0

Vel.Execute

Parameter Name	VEL.EXECUTE
Definition	Velocity controller execute configuration set
Type	Parameter (R/W)
Description	Sets/gets the execution configuration for velocity controller. Vel.Execute command is required after velocity control parameters are modified.
Syntax	Write: VEL.EXECUTE[axis]= <value> Read: ?VEL.EXECUTE[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	1
Units	NA
CAN Index	0x2345, sub-index 0

Vel.Fb

Parameter Name	VEL.FB
Definition	Velocity controller feedback
Type	Parameter (R)
Description	Reports the velocity controller feedback.
Syntax	Read: ?VEL.FB[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	rps
CAN Index	0x26f9, sub-index 0

Vel.Fb.Filter

Parameter Name	VEL.FB.FILTER
Definition	Velocity feedback LPF for velocity controller
Type	Parameter (R/W)
Description	Sets/gets the LPF cutoff frequency. Note: Index defines the gain set. Note: When the value parameter is changed, Vact.Execute is required.
Syntax	Write: VEL.FB.FILTER[<i>axis</i>][<i>index</i>] = <value> Read: ?VEL.FB.FILTER[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	20 to 4000
Index Range	0 to 10
Default Value	600
Units	Hz
CAN Index	0x232d, sub-index 0

Vel.Fb.Filter.Act

Parameter Name	VEL.FB.FILTER.ACT
Definition	Velocity feedback actual LPF for velocity controller
Type	Parameter (R)
Description	Reports the actual velocity feedback LPF cutoff frequency for the velocity controller.
Syntax	Read: ?VEL.FB.FILTER.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	20 to 4000
Default Value	600
Units	Hz
CAN Index	0x26e5, sub-index 0

Vel.Fb.Filter.Current

Parameter Name	VEL.FB.FILTER.CURRENT
Definition	Velocity feedback LPF for current controller
Type	Parameter (R/W)
Description	Sets/gets the velocity feedback LPF for the current controller.
Syntax	Write: VEL.FB.FILTER.CURRENT[<i>axis</i>]= <value> Read: ?VEL.FB.FILTER.CURRENT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	20 to 4000
Index Range	0
Default Value	440
Units	Hz
CAN Index	0x26e6, sub-index 0

Vel.Filt1.Lead.F

Parameter Name	VEL.FILT1.LEAD.F
Definition	Velocity controller first filter lead frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller lead frequency for the first filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT1.LEAD.F[axis][index]= <value> Read: ?VEL.FILT1.LEAD.F[axis][index]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	Hz
CAN Index	0x2357, sub-index 0

Vel.Filt1.Lead.F.Act

Parameter Name	VEL.FILT1.LEAD.F.ACT
Definition	Velocity controller actual first filter lead frequency
Type	Parameter (R)
Description	Reports the actual velocity controller lead frequency for the first filter.
Syntax	Read: ?VEL.FILT1.LEAD.F.ACT[axis]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0
Default Value	1500
Units	Hz
CAN Index	0x2541, sub-index 0

Vel.Filt1.Lead.Phase

Parameter Name	VEL.FILT1.LEAD.PHASE
Definition	Velocity controller first filter lead phase
Type	Parameter (R/W)
Description	Sets/gets the velocity controller lead phase for the first filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT1.LEAD.PHASE[axis][index]= <value> Read: ?VEL.FILT1.LEAD.PHASE[axis][index]
Firmware	3.0.1.12
Value Range	5 to 65
Index Range	0 to 10
Default Value	50
Units	deg phase
CAN Index	0x2358, sub-index 0

Vel.Filt1.Lead.Phase.Act

Parameter Name	VEL.FILT1.LEAD.PHASE.ACT
Definition	Velocity controller actual first filter lead phase
Type	Parameter (R)
Description	Reports the actual velocity controller lead phase for the first filter.
Syntax	Read: ?VEL.FILT1.LEAD.PHASE.ACT[axis]
Firmware	3.0.1.12
Value Range	5 to 65
Default Value	50
Units	deg phase
CAN Index	0x2543, sub-index 0

Vel.Filt1.Mode

Parameter Name	VEL.FILT1.MODE
Definition	Velocity controller first filter mode
Type	Parameter (R/W)
Description	Sets/gets the velocity controller first filter mode. Modes 0 = Transparent, the filter is transparent, output = input 1 = Pole 2 = Zero 3 = Notch 4 = Complex pole 5 = Complex zERO 6 = Lead 7 = Asymmetric notch 8 = User Note: Index defines the gain set. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT1.MODE[axis][index]= <value> Read: ?VEL.FILT1.MODE[axis][index]
Firmware	3.0.1.12
Value Range	0 to 8
Index Range	0 to 10
Default Value	0
Units	NA
CAN Index	0x2050, sub-index 0

Vel.Filt1.Mode.Act

Parameter Name	VEL.FILT1.MODE.ACT
Definition	Velocity controller actual first filter mode
Type	Parameter (R)
Description	Reports the actual velocity controller first filter mode. Modes 0 = Transparent, the filter is transparent, output = input 1 = Pole 2 = Zero 3 = Notch 4 = Complex pole 5 = Complex zero 6 = Lead 7 = Asymmetric notch 8 = User Note: Index defines the gain set.
Syntax	Read: ?VEL.FILT1.MODE.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 8
Default Value	0
Units	NA
CAN Index	0x2545, sub-index 0

Vel.Filt1.Notch.Bw

Parameter Name	VEL.FILT1.NOTCH.BW
Definition	Velocity controller first filter notch bandwidth
Type	Parameter (R/W)
Description	Sets/gets the velocity controller notch bandwidth for the first filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT1.NOTCH.BW[<i>axis</i>][<i>index</i>]=<value> Read: ?VEL.FILT1.NOTCH.BW[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	5 to 1000
Index Range	0 to 10
Default Value	100
Units	Hz
CAN Index	0x2355, sub-index 0

Vel.Filt1.Notch.Bw.Act

Parameter Name	VEL.FILT1.NOTCH.BW.ACT
Definition	Velocity controller actual first filter notch bandwidth
Type	Parameter (R)
Description	Reports the actual velocity controller notch bandwidth for the first filter.
Syntax	Read: ?VEL.FILT1.NOTCH.BW.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	5 to 1000
Default Value	100
Units	Hz
CAN Index	0x2547, sub-index 0

Vel.Filt1.Notch.Center

Parameter Name	VEL.FILT1.NOTCH.CENTER
Definition	Velocity controller first filter notch center
Type	Parameter (R/W)
Description	Sets/gets the velocity controller notch center frequency for the first filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT1.NOTCH.CENTER[<i>axis</i>][<i>index</i>]= <value> Read: ?VEL.FILT1.NOTCH.CENTER[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	5 to 3000
Index Range	0 to 10
Default Value	1000
Units	Hz
CAN Index	0x2354, sub-index 0

Vel.Filt1.Notch.Center.Act

Parameter Name	VEL.FILT1.NOTCH.CENTER.ACT
Definition	Velocity controller actual first filter notch center frequency
Type	Parameter (R)
Description	Reports the actual velocity controller notch center frequency for the first filter.
Syntax	Read: ?VEL.FILT1.NOTCH.CENTER.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	5 to 3000
Default Value	1000
Units	Hz
CAN Index	0x2549, sub-index 0

Vel.Filt1.Notch.Phase

Parameter Name	VEL.FILT1.NOTCH.PHASE
Definition	Velocity controller first filter notch phase
Type	Parameter (R/W)
Description	Sets/gets the velocity controller notch phase for the first filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT1.NOTCH.PHASE[<i>axis</i>][<i>index</i>] = <value> Read: ?VEL.FILT1.NOTCH.PHASE[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	5 to 65
Index Range	0 to 10
Default Value	50
Units	deg phase
CAN Index	0x2356, sub-index 0

Vel.Filt1.Notch.Phase.Act

Parameter Name	VEL.FILT1.NOTCH.PHASE.ACT
Definition	Velocity controller actual first filter notch phase
Type	Parameter (R)
Description	Reports the actual velocity controller first filter notch phase.
Syntax	Read: ?VEL.FILT1.NOTCH.PHASE.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	5 to 65
Default Value	50
Units	deg phase
CAN Index	0x254b, sub-index 0

Vel.Filt1.Pole.F

Parameter Name	VEL.FILT1.POLE.F
Definition	Velocity controller first filter pole frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller pole frequency first filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT1.POLE.F[<i>axis</i>][<i>index</i>] = <value> Read: ?VEL.FILT1.POLE.F[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	Hz
CAN Index	0x235e, sub-index 0

Vel.Filt1.Pole.F.Act

Parameter Name	VEL.FILT1.POLE.F.ACT
Definition	Velocity controller actual first filter pole frequency
Type	Parameter (R)
Description	Reports the actual velocity controller first filter pole frequency.
Syntax	Read: ?VEL.FILT1.POLE.F.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	20 to 3000
Default Value	1500
Units	Hz
CAN Index	0x254d, sub-index 0

Vel.Filt1.User

Parameter Name	VEL.FILT1.USER
Definition	Velocity controller first filter zero user defined
Type	Parameter (R/W)
Description	Sets/gets the velocity controller first filter user defined. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT1.USER[<i>axis</i>][<i>index</i>] = <value> Read: ?VEL.FILT1.USER[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	-100000 to 100000
Index Range	0 to 6
Default Value	0
Units	NA
CAN Index	NA

Vel.Filt1.Xpole.F

Parameter Name	VEL.FILT1.XPOLE.F
Definition	Velocity controller first filter complex pole frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller complex pole frequency first filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT1.XPOLE.F[axis][index]= <value> Read: ?VEL.FILT1.XPOLE.F[axis][index]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	Hz
CAN Index	0x2359, sub-index 0

Vel.Filt1.Xpole.F.Act

Parameter Name	VEL.FILT1.XPOLE.F.ACT
Definition	Velocity controller actual first filter complex pole frequency
Type	Parameter (R)
Description	Reports the actual velocity controller complex pole frequency first filter.
Syntax	Read: ?VEL.FILT1.XPOLE.F.ACT[axis]
Firmware	3.0.1.12
Value Range	20 to 3000
Default Value	1500
Units	Hz
CAN Index	0x2550, sub-index 0

Vel.Filt1.Xpole.Xi

Parameter Name	VEL.FILT1.XPOLE.XI
Definition	Velocity controller first filter complex pole xi
Type	Parameter (R/W)
Description	Sets/gets the velocity controller damping factor of the complex pole for first filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT1.XPOLE.XI[<i>axis</i>][<i>index</i>]= <value> Read: ?VEL.FILT1.XPOLE.XI[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	0.001 to 1
Index Range	0 to 10
Default Value	0.707
Units	Hz
CAN Index	0x235a, sub-index 0

Vel.Filt1.Xpole.Xi.Act

Parameter Name	VEL.FILT1.XPOLE.XI.ACT
Definition	Velocity controller actual first filter complex pole xi
Type	Parameter (R)
Description	Reports the actual velocity controller damping factor of the complex pole for the first filter.
Syntax	Read: ?VEL.FILT1.XPOLE.XI.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0.001 to 1
Default Value	0.707
Units	NA
CAN Index	0x2552, sub-index 0

Vel.Filt1.Xzero.F

Parameter Name	VEL.FILT1.XZERO.F
Definition	Velocity controller first filter complex zero frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller complex zero frequency for the first filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT1.XZERO.F[axis][index]= <value> Read: ?VEL.FILT1.XZERO.F[axis][index]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	Hz
CAN Index	0x235b, sub-index 0

Vel.Filt1.Xzero.F.Act

Parameter Name	VEL.FILT1.XZERO.F.ACT
Definition	Velocity controller actual first filter complex zero frequency
Type	Parameter (R)
Description	Reports the actual velocity controller complex zero frequency for the first filter.
Syntax	Read: ?VEL.FILT1.XZERO.F.ACT[axis]
Firmware	3.0.1.12
Value Range	20 to 3000
Default Value	1500
Units	Hz
CAN Index	0x2554, sub-index 0

Vel.Filt1.Xzero.Xi

Parameter Name	VEL.FILT1.XZERO.XI
Definition	Velocity controller first filter complex zero xi
Type	Parameter (R/W)
Description	Sets/gets the velocity controller damping factor of the complex zero for first filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT1.XZERO.XI[axis][index]= <value> Read: ?VEL.FILT1.XZERO.XI[axis][index]
Firmware	3.0.1.12
Value Range	0.001 to 1
Index Range	0 to 10
Default Value	0.707
Units	NA
CAN Index	0x235c, sub-index 0

Vel.Filt1.Xzero.Xi.Act

Parameter Name	VEL.FILT1.XZERO.XI.ACT
Definition	Velocity controller actual first filter complex zero xi
Type	Parameter (R)
Description	Reports the actual velocity controller complex zero Xi for the first filter.
Syntax	Read: ?VEL.FILT1.XZERO.XI.ACT[axis]
Firmware	3.0.1.12
Value Range	0.001 to 1
Default Value	0.707
Units	NA
CAN Index	0x2556, sub-index 0

Vel.Filt1.Zero.F

Parameter Name	VEL.FILT1.ZERO.F
Definition	Velocity controller first filter zero frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller zero frequency for the first filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT1.ZERO.F[axis][index]= <value> Read: ?VEL.FILT1.ZERO.F[axis][index]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	Hz
CAN Index	0x235d, sub-index 0

Vel.Filt1.Zero.F.Act

Parameter Name	VEL.FILT1.ZERO.F.ACT
Definition	Velocity controller actual first filter zero frequency
Type	Parameter (R)
Description	Reports the actual velocity controller first filter zero frequency.
Syntax	Read: ?VEL.FILT1.ZERO.F.ACT[axis]
Firmware	3.0.1.12
Value Range	20 to 3000
Default Value	1500
Units	Hz
CAN Index	0x2558, sub-index 0

Vel.Filt2.Lead.F

Parameter Name	VEL.FILT2.LEAD.F
Definition	Velocity controller second filter lead frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller lead frequency for the second filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT2.LEAD.F[axis][index]= <value> Read: ?VEL.FILT2.LEAD.F[axis][index]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	Hz
CAN Index	0x2363, sub-index 0

Vel.Filt2.Lead.F.Act

Parameter Name	VEL.FILT2.LEAD.F.ACT
Definition	Velocity controller actual second filter lead frequency
Type	Parameter (R)
Description	Reports the actual velocity controller lead frequency for the second filter
Syntax	Read: ?VEL.FILT2.LEAD.F.ACT[axis]
Firmware	3.0.1.12
Value Range	20 to 3000
Default Value	1500
Units	Hz
CAN Index	0x255a, sub-index 0

Vel.Filt2.Lead.Phase

Parameter Name	VEL.FILT2.LEAD.PHASE
Definition	Velocity controller second filter lead phase
Type	Parameter (R/W)
Description	Sets/gets the velocity controller lead phase for the second filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT2.LEAD.PHASE[<i>axis</i>][<i>index</i>] = <value> Read: ?VEL.FILT2.LEAD.PHASE[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	5 to 65
Index Range	0 to 10
Default Value	50
Units	deg phase
CAN Index	0x2364, sub-index 0

Vel.Filt2.Lead.Phase.Act

Parameter Name	VEL.FILT2.LEAD.PHASE.ACT
Definition	Velocity controller actual second filter lead phase
Type	Parameter (R)
Description	Reports the actual velocity controller lead phase for the second filter.
Syntax	Read: ?VEL.FILT2.LEAD.PHASE.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	5 to 65
Default Value	50
Units	deg phase
CAN Index	0x255c, sub-index 0

Vel.Filt2.Mode

Parameter Name	VEL.FILT2.MODE
Definition	Velocity controller second filter mode
Type	Parameter (R/W)
Description	Sets/gets the velocity controller second filter mode. Modes 0 = Transparent, the filter is transparent, output = input 1 = Pole 2 = Zero 3 = Notch 4 = Complex pole 5 = Complex zero 6 = Lead 7 = Asymmetric notch 8 = User Note: Index defines the gain set. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT2.MODE[axis][index]= <value> Read: ?VEL.FILT2.MODE[axis][index]
Firmware	3.0.1.12
Value Range	0 to 8
Index Range	0 to 10
Default Value	0
Units	NA
CAN Index	0x235f, sub-index 0

Vel.Filt2.Mode.Act

Parameter Name	VEL.FILT2.MODE.ACT
Definition	Velocity controller actual second filter mode
Type	Parameter (R)
Description	Reports the actual velocity controller second mode. Modes 0 = Transparent, the filter is transparent, output = input 1 = Pole 2 = Zero 3 = Notch 4 = Complex Pole 5 = Complex Zero 6 = Lead 7 = Asymmetric Notch 8 = User Note: Index defines the gain set.
Syntax	Read: ?VEL.FILT2.MODE.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 8
Default Value	0
Units	NA
CAN Index	0x255e, sub-index 0

Vel.Filt2.Notch.Bw

Parameter Name	VEL.FILT2.NOTCH.BW
Definition	Velocity controller second filter notch bandwidth
Type	Parameter (R/W)
Description	Sets/gets the velocity controller notch bandwidth for the second filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT2.NOTCH.BW[<i>axis</i>][<i>index</i>]=<value> Read: ?VEL.FILT2.NOTCH.BW[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	5 to 1000
Index Range	0 to 10
Default Value	100
Units	Hz
CAN Index	0x2361, sub-index 0

Vel.Filt2.Notch.Bw.Act

Parameter Name	VEL.FILT2.NOTCH.BW.ACT
Definition	Velocity controller actual second filter notch bandwidth
Type	Parameter (R)
Description	Reports the actual velocity controller notch bandwidth for the second filter.
Syntax	Read: ?VEL.FILT2.NOTCH.BW.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	5 to 1000
Default Value	100
Units	Hz
CAN Index	0x2560, sub-index 0

Vel.Filt2.Notch.Center

Parameter Name	VEL.FILT2.NOTCH.CENTER
Definition	Velocity controller second filter notch center
Type	Parameter (R/W)
Description	Sets/gets the velocity controller notch center frequency for the second filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT2.NOTCH.CENTER[<i>axis</i>][<i>index</i>]= <value> Read: ?VEL.FILT2.NOTCH.CENTER[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	5 to 3000
Index Range	0 to 10
Default Value	1000
Units	Hz
CAN Index	0x2360, sub-index 0

Vel.Filt2.Notch.Center.Act

Parameter Name	VEL.FILT2.NOTCH.CENTER.ACT
Definition	Velocity controller actual second filter notch center frequency
Type	Parameter (R)
Description	Reports the actual velocity controller notch center frequency for the second filter.
Syntax	Read: ?VEL.FILT2.NOTCH.CENTER.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	5 to 3000
Index Range	0
Default Value	1000
Units	Hz
CAN Index	0x2562, sub-index 0

Vel.Filt2.Notch.Phase

Parameter Name	VEL.FILT2.NOTCH.PHASE
Definition	Velocity controller second filter notch phase
Type	Parameter (R/W)
Description	Sets/gets the velocity controller notch phase for the second filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT2.NOTCH.PHASE[<i>axis</i>][<i>index</i>] = <value> Read: ?VEL.FILT2.NOTCH.PHASE[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	5 to 65
Index Range	0 to 10
Default Value	50
Units	deg phase
CAN Index	0x2362, sub-index 0

Vel.Filt2.Notch.Phase.Act

Parameter Name	VEL.FILT2.NOTCH.PHASE.ACT
Definition	Velocity controller actual second filter notch phase
Type	Parameter (R)
Description	Reports the actual velocity controller second filter notch phase.
Syntax	Read: ?VEL.FILT2.NOTCH.PHASE.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	5 to 65
Default Value	50
Units	deg phase
CAN Index	0x2564, sub-index 0

Vel.Filt2.Pole.F

Parameter Name	VEL.FILT2.POLE.F
Definition	Velocity controller second filter pole frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller pole frequency second filter. Note: Index defines the gain set. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT2.POLE.F[<i>axis</i>][<i>index</i>]=<value> Read: ?VEL.FILT2.POLE.F[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	Hz
CAN Index	0x236a, sub-index 0

Vel.Filt2.Pole.F.Act

Parameter Name	VEL.FILT2.POLE.F.ACT
Definition	Velocity controller actual second filter pole frequency
Type	Parameter (R)
Description	Reports the actual velocity controller second filter pole frequency.
Syntax	Read: ?VEL.FILT2.POLE.F.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	20 to 3000
Default Value	1500
Units	Hz
CAN Index	0x2566, sub-index 0

Vel.Filt2.User

Parameter Name	VEL.FILT2.USER
Definition	Velocity controller second filter zero user defined
Type	Parameter (R/W)
Description	Sets/gets the velocity controller second filter user defined. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT2.USER[<i>axis</i>][<i>index</i>] = <value> Read: ?VEL.FILT2.USER[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	-100000 to 100000
Index Range	0 to 6
Default Value	0
Units	NA
CAN Index	NA

Vel.Filt2.Xpole.F

Parameter Name	VEL.FILT2.XPOLE.F
Definition	Velocity controller second filter complex pole frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller complex pole frequency second filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT2.XPOLE.F[axis][index]= <value> Read: ?VEL.FILT2.XPOLE.F[axis][index]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	Hz
CAN Index	0x2365, sub-index 0

Vel.Filt2.Xpole.F.Act

Parameter Name	VEL.FILT2.XPOLE.F.ACT
Definition	Velocity controller actual second filter complex pole frequency
Type	Parameter (R)
Description	Reports the actual velocity controller complex pole frequency second filter.
Syntax	Read: ?VEL.FILT2.XPOLE.F.ACT[axis]
Firmware	3.0.1.12
Value Range	20 to 3000
Default Value	1500
Units	Hz
CAN Index	0x2569, sub-index 0

Vel.Filt2.Xpole.Xi

Parameter Name	VEL.FILT2.XPOLE.XI
Definition	Velocity controller second filter complex pole xi
Type	Parameter (R/W)
Description	Sets/gets the velocity controller damping factor of the complex pole for second filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT2.XPOLE.XI[axis][index]= <value> Read: ?VEL.FILT2.XPOLE.XI[axis][index]
Firmware	3.0.1.12
Value Range	0.001 to 1
Index Range	0 to 10
Default Value	0.707
Units	NA
CAN Index	0x2366, sub-index 0

Vel.Filt2.Xpole.Xi.Act

Parameter Name	VEL.FILT2.XPOLE.XI.ACT
Definition	Velocity controller actual second filter complex pole xi
Type	Parameter (R)
Description	Reports the actual velocity controller damping factor of the complex pole for the second filter.
Syntax	Read: ?VEL.FILT2.XPOLE.XI.ACT[axis]
Firmware	3.0.1.12
Value Range	0.001 to 1
Default Value	0.707
Units	NA
CAN Index	0x256b, sub-index 0

Vel.Filt2.Xzero.F

Parameter Name	VEL.FILT2.XZERO.F
Definition	Velocity controller second filter complex zero frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller complex zero frequency for the second filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT2.XZERO.F[axis][index]= <value> Read: ?VEL.FILT2.XZERO.F[axis][index]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	Hz
CAN Index	0x2367, sub-index 0

Vel.Filt2.Xzero.F.Act

Parameter Name	VEL.FILT2.XZERO.F.ACT
Definition	Velocity controller actual second filter complex zero frequency
Type	Parameter (R)
Description	Reports the actual velocity controller complex zero frequency for the second filter.
Syntax	Read: ?VEL.FILT2.XZERO.F.ACT[axis]
Firmware	3.0.1.12
Value Range	20 to 3000
Default Value	1500
Units	Hz
CAN Index	0x256d, sub-index 0

Vel.Filt2.Xzero.Xi

Parameter Name	VEL.FILT2.XZERO.XI
Definition	Velocity controller second filter complex zero xi
Type	Parameter (R/W)
Description	Sets/gets the velocity controller damping factor of the complex zero for the second filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT2.XZERO.XI[<i>axis</i>][<i>index</i>] = <value> Read: ?VEL.FILT2.XZERO.XI[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	0.001 to 1
Index Range	0 to 10
Default Value	0.707
Units	NA
CAN Index	0x2368, sub-index 0

Vel.Filt2.Xzero.Xi.Act

Parameter Name	VEL.FILT2.XZERO.XI.ACT
Definition	Velocity controller actual second filter complex zero xi
Type	Parameter (R)
Description	Reports the actual velocity controller second filter complex zero Xi.
Syntax	Read: ?VEL.FILT2.XZERO.XI.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0.001 to 1
Default Value	0.707
Units	NA
CAN Index	0x256f, sub-index 0

Vel.Filt2.Zero.F

Parameter Name	VEL.FILT2.ZERO.F
Definition	Velocity controller second filter zero frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller zero frequency for the second filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT2.ZERO.F[axis][index]= <value> Read: ?VEL.FILT2.ZERO.F[axis][index]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	Hz
CAN Index	0x2369, sub-index 0

Vel.Filt2.Zero.F.Act

Parameter Name	VEL.FILT2.ZERO.F.ACT
Definition	Velocity controller actual second filter zero frequency
Type	Parameter (R)
Description	Reports the actual velocity controller second filter zero frequency.
Syntax	Read: ?VEL.FILT2.ZERO.F.ACT[axis]
Firmware	3.0.1.12
Value Range	20 to 3000
Default Value	1500
Units	Hz
CAN Index	0x2571, sub-index 0

Vel.Filt3.Lead.F

Parameter Name	VEL.FILT3.LEAD.F
Definition	Velocity controller third filter lead frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller lead frequency for the third filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT3.LEAD.F[axis][index]= <value> Read: ?VEL.FILT3.LEAD.F[axis][index]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	Hz
CAN Index	0x2370, sub-index 0

Vel.Filt3.Lead.F.Act

Parameter Name	VEL.FILT3.LEAD.F.ACT
Definition	Velocity controller actual third filter lead frequency
Type	Parameter (R)
Description	Reports the actual velocity controller lead frequency for the third filter.
Syntax	Read: ?VEL.FILT3.LEAD.F.ACT[axis]
Firmware	3.0.1.12
Value Range	20 to 3000
Default Value	1500
Units	Hz
CAN Index	0x2573, sub-index 0

Vel.Filt3.Lead.Phase

Parameter Name	VEL.FILT3.LEAD.PHASE
Definition	Velocity controller third filter lead phase
Type	Parameter (R/W)
Description	Sets/gets the velocity controller lead phase for the third filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT3.LEAD.PHASE[axis][index]= <value> Read: ?VEL.FILT3.LEAD.PHASE[axis][index]
Firmware	3.0.1.12
Value Range	5 to 65
Index Range	0 to 10
Default Value	50
Units	deg phase
CAN Index	0x2371, sub-index 0

Vel.Filt3.Lead.Phase.Act

Parameter Name	VEL.FILT3.LEAD.PHASE.ACT
Definition	Velocity controller actual third filter lead phase
Type	Parameter (R)
Description	Reports the actual velocity controller lead phase for the third filter.
Syntax	Read: ?VEL.FILT3.LEAD.PHASE.ACT[axis]
Firmware	3.0.1.12
Value Range	5 to 65
Default Value	50
Units	deg phase
CAN Index	0x2575, sub-index 0

Vel.Filt3.Mode

Parameter Name	VEL.FILT3.MODE
Definition	Velocity controller third filter mode
Type	Parameter (R/W)
Description	Sets/gets the velocity controller third filter mode. Modes 0 = Transparent, the filter is transparent, output = input 1 = Pole 2 = Zero 3 = Notch 4 = Complex Pole 5 = Complex Zero 6 = Lead 7 = Asymmetric Notch 8 = User Note: Index defines the gain set. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT3.MODE[axis][index]= <value> Read: ?VEL.FILT3.MODE[axis][index]
Firmware	3.0.1.12
Value Range	0 to 8
Index Range	0 to 10
Default Value	0
Units	NA
CAN Index	0x236c, sub-index 0

Vel.Filt3.Mode.Act

Parameter Name	VEL.FILT3.MODE.ACT
Definition	Velocity controller actual third filter mode
Type	Parameter (R)
Description	Reports the actual velocity controller third filter mode. Modes: 0 = Transparent, the filter is transparent, output = input 1 = Pole 2 = Zero 3 = Notch 4 = Complex Pole 5 = Complex Zero 6 = Lead 7 = Asymmetric Notch 8 = User Note: Index defines the gain set.
Syntax	Read: ?VEL.FILT3.MODE.ACT[axis]
Firmware	3.0.1.12
Value Range	0 to 8
Default Value	0
Units	NA
CAN Index	0x2577, sub-index 0

Vel.Filt3.Notch.Bw

Parameter Name	VEL.FILT3.NOTCH.BW
Definition	Velocity controller third filter notch bandwidth
Type	Parameter (R/W)
Description	Sets/gets the velocity controller notch bandwidth for the third filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT3.NOTCH.BW[axis][index]=<value> Read: ?VEL.FILT3.NOTCH.BW[axis][index]
Firmware	3.0.1.12
Value Range	5 to 1000
Index Range	0 to 10
Default Value	100
Units	Hz
CAN Index	0x236e, sub-index 0

Vel.Filt3.Notch.Bw.Act

Parameter Name	VEL.FILT3.NOTCH.BW.ACT
Definition	Velocity controller actual third filter notch bandwidth
Type	Parameter (R)
Description	Reports the actual velocity controller notch bandwidth for the third filter.
Syntax	Read: ?VEL.FILT3.NOTCH.BW.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	5 to 1000
Default Value	100
Units	Hz
CAN Index	0x2579, sub-index 0

Vel.Filt3.Notch.Center

Parameter Name	VEL.FILT3.NOTCH.CENTER
Definition	Velocity controller third filter notch center
Type	Parameter (R/W)
Description	Sets/gets the velocity controller notch center frequency for the third filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT3.NOTCH.CENTER[<i>axis</i>][<i>index</i>]= <value> Read: ?VEL.FILT3.NOTCH.CENTER[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	5 to 3000
Index Range	0 to 10
Default Value	1000
Units	Hz
CAN Index	0x236d, sub-index 0

Vel.Filt3.Notch.Center.Act

Parameter Name	VEL.FILT3.NOTCH.CENTER.ACT
Definition	Velocity controller actual third filter notch center frequency
Type	Parameter (R)
Description	Reports the actual velocity controller notch center frequency for the third filter.
Syntax	Read: ?VEL.FILT3.NOTCH.CENTER.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	5 to 3000
Default Value	1000
Units	Hz
CAN Index	0x257b, sub-index 0

Vel.Filt3.Notch.Phase

Parameter Name	VEL.FILT3.NOTCH.PHASE
Definition	Velocity controller third filter notch phase
Type	Parameter (R/W)
Description	Sets/gets the velocity controller notch phase for the third filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT3.NOTCH.PHASE[<i>axis</i>][<i>index</i>] = <value> Read: ?VEL.FILT3.NOTCH.PHASE[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	5 to 65
Index Range	0 to 10
Default Value	50
Units	deg phase
CAN Index	0x236f, sub-index 0

Vel.Filt3.Notch.Phase.Act

Parameter Name	VEL.FILT3.NOTCH.PHASE.ACT
Definition	Velocity controller actual third filter notch phase
Type	Parameter (R)
Description	Reports the velocity controller actual third filter notch phase
Syntax	Read: ?VEL.FILT3.NOTCH.PHASE.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	5 to 65
Default Value	50
Units	deg phase
CAN Index	0x257d, sub-index 0

Vel.Filt3.Pole.F

Parameter Name	VEL.FILT3.POLE.F
Definition	Velocity controller third filter pole frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller pole frequency third filter. Note: Index defines the gain set. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT3.POLE.F[<i>axis</i>][<i>index</i>]=<value> Read: ?VEL.FILT3.POLE.F[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	Hz
CAN Index	0x2377, sub-index 0

Vel.Filt3.Pole.F.Act

Parameter Name	VEL.FILT3.POLE.F.ACT
Definition	Velocity controller actual third filter pole frequency
Type	Parameter (R)
Description	Reports the actual velocity controller third filter pole frequency.
Syntax	Read: ?VEL.FILT3.POLE.F.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	20 to 3000
Default Value	1500
Units	Hz
CAN Index	0x257f, sub-index 0

Vel.Filt3.User

Parameter Name	VEL.FILT3.USER
Definition	Velocity controller third filter user defined
Type	Parameter (R/W)
Description	Sets/gets the velocity controller third filter user defined. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT3.USER[<i>axis</i>][<i>index</i>] = <value> Read: ?VEL.FILT3.USER[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	-100000 to 100000
Index Range	0 to 6
Default Value	0
Units	NA
CAN Index	NA

Vel.Filt3.Xpole.F

Parameter Name	VEL.FILT3.XPOLE.F
Definition	Velocity controller third filter complex pole frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller complex pole frequency third filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT3.XPOLE.F[axis][index]= <value> Read: ?VEL.FILT3.XPOLE.F[axis][index]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	Hz
CAN Index	0x2372, sub-index 0

Vel.Filt3.Xpole.F.Act

Parameter Name	VEL.FILT3.XPOLE.F.ACT
Definition	Velocity controller actual third filter complex pole frequency
Type	Parameter (R)
Description	Reports the actual velocity controller complex pole frequency third filter.
Syntax	Read: ?VEL.FILT3.XPOLE.F.ACT[axis]
Firmware	3.0.1.12
Value Range	20 to 3000
Default Value	1500
Units	Hz
CAN Index	0x2582, sub-index 0

Vel.Filt3.Xpole.Xi

Parameter Name	VEL.FILT3.XPOLE.XI
Definition	Velocity controller third filter complex pole xi
Type	Parameter (R/W)
Description	Sets/gets the velocity controller damping factor of the complex pole for the third filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT3.XPOLE.XI[axis][index]= <value> Read: ?VEL.FILT3.XPOLE.XI[axis][index]
Firmware	3.0.1.12
Value Range	0.001 to 1
Index Range	0 to 10
Default Value	0.707
Units	NA
CAN Index	0x2373, sub-index 0

Vel.Filt3.Xpole.Xi.Act

Parameter Name	VEL.FILT3.XPOLE.XI.ACT
Definition	Velocity controller actual third filter complex pole xi
Type	Parameter (R)
Description	Reports the actual velocity controller damping factor of the complex pole for the third filter.
Syntax	Read: ?VEL.FILT3.XPOLE.XI.ACT[axis]
Firmware	3.0.1.12
Value Range	0.001 to 1
Default Value	0.707
Units	NA
CAN Index	0x2584, sub-index 0

Vel.Filt3.Xzero.F

Parameter Name	VEL.FILT3.XZERO.F
Definition	Velocity controller third filter complex zero frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller complex zero frequency for the third filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT3.XZERO.F[axis][index]= <value> Read: ?VEL.FILT3.XZERO.F[axis][index]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	Hz
CAN Index	0x2374, sub-index 0

Vel.Filt3.Xzero.F.Act

Parameter Name	VEL.FILT3.XZERO.F.ACT
Definition	Velocity controller actual third filter complex zero frequency
Type	Parameter (R)
Description	Reports the actual velocity controller complex zero frequency for the third filter.
Syntax	Read: ?VEL.FILT3.XZERO.F.ACT[axis]
Firmware	3.0.1.12
Value Range	20 to 3000
Default Value	1500
Units	Hz
CAN Index	0x2586, sub-index 0

Vel.Filt3.Xzero.Xi

Parameter Name	VEL.FILT3.XZERO.XI
Definition	Velocity controller third filter complex zero Xi
Type	Parameter (R/W)
Description	Sets/gets the velocity controller damping factor of the complex zero for the third filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT3.XZERO.XI[<i>axis</i>][<i>index</i>] = <value> Read: ?VEL.FILT3.XZERO.XI[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	0.001 to 1
Index Range	0 to 10
Default Value	0.707
Units	NA
CAN Index	0x2375, sub-index 0

Vel.Filt3.Xzero.Xi.Act

Parameter Name	VEL.FILT3.XZERO.XI.ACT
Definition	Velocity controller actual third filter complex zero Xi
Type	Parameter (R)
Description	Reports the actual velocity controller third filter complex zero Xi.
Syntax	Read: ?VEL.FILT3.XZERO.XI.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0.001 to 1
Default Value	0.707
Units	NA
CAN Index	0x2588, sub-index 0

Vel.Filt3.Zero.F

Parameter Name	VEL.FILT3.ZERO.F
Definition	Velocity controller third filter zero frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller zero frequency for the third filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT3.ZERO.F[axis][index]= <value> Read: ?VEL.FILT3.ZERO.F[axis][index]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	Hz
CAN Index	0x2376, sub-index 0

Vel.Filt3.Zero.F.Act

Parameter Name	VEL.FILT3.ZERO.F.ACT
Definition	Velocity controller actual third filter zero frequency
Type	Parameter (R)
Description	Reports the actual velocity controller third filter zero frequency.
Syntax	Read: ?VEL.FILT3.ZERO.F.ACT[axis]
Firmware	3.0.1.12
Value Range	20 to 3000
Default Value	1500
Units	Hz
CAN Index	0x258a, sub-index 0

Vel.Filt4.Lead.F

Parameter Name	VEL.FILT4.LEAD.F
Definition	Velocity controller fourth filter lead frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller lead frequency for the fourth filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT4.LEAD.F[axis][index]= <value> Read: ?VEL.FILT4.LEAD.F[axis][index]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	Hz
CAN Index	0x237d, sub-index 0

Vel.Filt4.Lead.F.Act

Parameter Name	VEL.FILT4.LEAD.F.ACT
Definition	Velocity controller actual fourth filter lead frequency
Type	Parameter (R)
Description	Reports the actual velocity controller lead frequency for the fourth filter.
Syntax	Read: ?VEL.FILT4.LEAD.F.ACT[axis]
Firmware	3.0.1.12
Value Range	20 to 3000
Default Value	1500
Units	Hz
CAN Index	0x258c, sub-index 0

Vel.Filt4.Lead.Phase

Parameter Name	VEL.FILT4.LEAD.PHASE
Definition	Velocity controller fourth filter lead phase
Type	Parameter (R/W)
Description	Sets/gets the velocity controller lead phase for the fourth filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT4.LEAD.PHASE[axis][index]= <value> Read: ?VEL.FILT4.LEAD.PHASE[axis][index]
Firmware	3.0.1.12
Value Range	5 to 65
Index Range	0 to 10
Default Value	50
Units	deg phase
CAN Index	0x237e, sub-index 0

Vel.Filt4.Lead.Phase.Act

Parameter Name	VEL.FILT4.LEAD.PHASE.ACT
Definition	Velocity controller actual fourth filter lead phase
Type	Parameter (R)
Description	Reports the actual velocity controller lead phase for the fourth filter.
Syntax	Read: ?VEL.FILT4.LEAD.PHASE.ACT[axis]
Firmware	3.0.1.12
Value Range	5 to 65
Default Value	50
Units	deg phase
CAN Index	0x258e, sub-index 0

Vel.Filt4.Mode

Parameter Name	VEL.FILT4.MODE
Definition	Velocity controller fourth filter mode
Type	Parameter (R/W)
Description	Sets/gets the velocity controller fourth filter mode. Modes: 0 = Transparent, the filter is transparent, output = input 1 = Pole 2 = Zero 3 = Notch 4 = Complex pole 5 = Complex zero 6 = Lead 7 = Asymmetric notch 8 = User Note: Index defines the gain set. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT4.MODE[axis][index]= <value> Read: ?VEL.FILT4.MODE[axis][index]
Firmware	3.0.1.12
Value Range	0 to 8
Index Range	0 to 10
Default Value	0
Units	NA
CAN Index	0x2379, sub-index 0

Vel.Filt4.Mode.Act

Parameter Name	VEL.FILT4.MODE.ACT
Definition	Velocity controller actual fourth filter mode
Type	Parameter (R)
Description	Reports the actual velocity controller fourth filter mode. Modes: 0 = Transparent, the filter is transparent, output = input 1 = Pole 2 = Zero 3 = Notch 4 = Complex Pole 5 = Complex Zero 6 = Lead 7 = Asymmetric Notch 8 = User Note: Index defines the gain set.
Syntax	Read: ?VEL.FILT4.MODE.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 8
Default Value	0
Units	NA
CAN Index	0x2590, sub-index 0

Vel.Filt4.Notch.Bw

Parameter Name	VEL.FILT4.NOTCH.BW
Definition	Velocity controller fourth filter notch bandwidth
Type	Parameter (R/W)
Description	Sets/gets the velocity controller notch bandwidth for the fourth filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT4.NOTCH.BW[<i>axis</i>][<i>index</i>]=<value> Read: ?VEL.FILT4.NOTCH.BW[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	5 to 1000
Index Range	0 to 10
Default Value	100
Units	Hz
CAN Index	0x237b, sub-index 0

Vel.Filt4.Notch.Bw.Act

Parameter Name	VEL.FILT4.NOTCH.BW.ACT
Definition	Velocity controller actual fourth filter notch bandwidth
Type	Parameter (R)
Description	Reports the actual velocity controller notch bandwidth for the fourth filter.
Syntax	Read: ?VEL.FILT4.NOTCH.BW.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	5 to 1000
Default Value	100
Units	Hz
CAN Index	0x2592, sub-index 0

Vel.Filt4.Notch.Center

Parameter Name	VEL.FILT4.NOTCH.CENTER
Definition	Velocity controller fourth filter notch center
Type	Parameter (R/W)
Description	Sets/gets the velocity controller notch center frequency for the fourth filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT4.NOTCH.CENTER[<i>axis</i>][<i>index</i>]= <value> Read: ?VEL.FILT4.NOTCH.CENTER[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	5 to 3000
Index Range	0 to 10
Default Value	1000
Units	Hz
CAN Index	0x237a, sub-index 0

Vel.Filt4.Notch.Center.Act

Parameter Name	VEL.FILT4.NOTCH.CENTER.ACT
Definition	Velocity controller actual fourth filter notch center frequency
Type	Parameter (R)
Description	Reports the actual velocity controller notch center frequency for the fourth filter.
Syntax	Read: ?VEL.FILT4.NOTCH.CENTER.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	5 to 3000
Default Value	1000
Units	Hz
CAN Index	0x2594, sub-index 0

Vel.Filt4.Notch.Phase

Parameter Name	VEL.FILT4.NOTCH.PHASE
Definition	Velocity controller fourth filter notch phase
Type	Parameter (R/W)
Description	Sets/gets the velocity controller notch phase for the fourth filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT4.NOTCH.PHASE[<i>axis</i>][<i>index</i>] = <value> Read: ?VEL.FILT4.NOTCH.PHASE[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	5 to 65
Index Range	0 to 10
Default Value	50
Units	deg phase
CAN Index	0x237c, sub-index 0

Vel.Filt4.Notch.Phase.Act

Parameter Name	VEL.FILT4.NOTCH.PHASE.ACT
Definition	Velocity controller actual fourth filter notch phase
Type	Parameter (R)
Description	Reports the actual velocity controller actual fourth filter notch phase
Syntax	Read: ?VEL.FILT4.NOTCH.PHASE.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	5 to 65
Default Value	50
Units	deg phase
CAN Index	0x2596, sub-index 0

Vel.Filt4.Pole.F

Parameter Name	VEL.FILT4.POLE.F
Definition	Velocity controller fourth filter pole frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller pole frequency fourth filter. Note: Index defines the gain set. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT4.POLE.F[<i>axis</i>][<i>index</i>]=<value> Read: ?VEL.FILT4.POLE.F[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	Hz
CAN Index	0x2384, sub-index 0

Vel.Filt4.Pole.F.Act

Parameter Name	VEL.FILT4.POLE.F.ACT
Definition	Velocity controller actual fourth filter pole frequency
Type	Parameter (R)
Description	Reports the actual velocity controller fourth filter pole frequency.
Syntax	Read: ?VEL.FILT4.POLE.F.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	20 to 3000
Default Value	1500
Units	Hz
CAN Index	0x2598, sub-index 0

Vel.Filt4.User

Parameter Name	VEL.FILT4.USER
Definition	Velocity controller fourth filter user defined
Type	Parameter (R/W)
Description	Sets/gets the velocity controller fourth filter user defined. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT4.USER[<i>axis</i>][<i>index</i>] = <value> Read: ?VEL.FILT4.USER[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	-100000 to 100000
Index Range	0 to 6
Units	NA
CAN Index	NA

Vel.Filt4.Xpole.F

Parameter Name	VEL.FILT4.XPOLE.F
Definition	Velocity controller fourth filter complex pole frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller complex pole frequency fourth filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT4.XPOLE.F[axis][index]= <value> Read: ?VEL.FILT4.XPOLE.F[axis][index]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	Hz
CAN Index	0x237f, sub-index 0

Vel.Filt4.Xpole.F.Act

Parameter Name	VEL.FILT4.XPOLE.F.ACT
Definition	Velocity controller actual fourth filter complex pole frequency
Type	Parameter (R)
Description	Reports the actual velocity controller complex pole frequency fourth filter.
Syntax	Read: ?VEL.FILT4.XPOLE.F.ACT[axis]
Firmware	3.0.1.12
Value Range	20 to 3000
Default Value	1500
Units	Hz
CAN Index	0x259b, sub-index 0

Vel.Filt4.Xpole.Xi

Parameter Name	VEL.FILT4.XPOLE.XI
Definition	Velocity controller fourth filter complex pole xi
Type	Parameter (R/W)
Description	Sets/gets the velocity controller damping factor of the complex pole for the fourth filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT4.XPOLE.XI[<i>axis</i>][<i>index</i>]= <value> Read: ?VEL.FILT4.XPOLE.XI[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	0.001 to 1
Index Range	0 to 10
Default Value	0.707
Units	NA
CAN Index	0x2380, sub-index 0

Vel.Filt4.Xpole.Xi.Act

Parameter Name	VEL.FILT4.XPOLE.XI.ACT
Definition	Velocity controller actual fourth filter complex pole xi
Type	Parameter (R)
Description	Reports the actual velocity controller damping factor of the complex pole for the fourth filter.
Syntax	Read: ?VEL.FILT4.XPOLE.XI.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0.001 to 1
Default Value	0.707
Units	NA
CAN Index	0x259d, sub-index 0

Vel.Filt4.Xzero.F

Parameter Name	VEL.FILT4.XZERO.F
Definition	Velocity controller fourth filter complex zero frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller complex zero frequency for the fourth filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT4.XZERO.F[axis][index]= <value> Read: ?VEL.FILT4.XZERO.F[axis][index]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	Hz
CAN Index	0x2381, sub-index 0

Vel.Filt4.Xzero.F.Act

Parameter Name	VEL.FILT4.XZERO.F.ACT
Definition	Velocity controller actual fourth filter complex zero frequency
Type	Parameter (R)
Description	Reports the actual velocity controller fourth filter complex zero frequency.
Syntax	Read: ?VEL.FILT4.XZERO.F.ACT[axis]
Firmware	3.0.1.12
Value Range	20 to 3000
Default Value	1500
Units	Hz
CAN Index	0x259f, sub-index 0

Vel.Filt4.Xzero.Xi

Parameter Name	VEL.FILT4.XZERO.XI
Definition	Velocity controller fourth filter complex zero xi
Type	Parameter (R/W)
Description	Sets/gets the velocity controller damping factor of the complex zero for the fourth filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT4.XZERO.XI[axis][index]= <value> Read: ?VEL.FILT4.XZERO.XI[axis][index]
Firmware	3.0.1.12
Value Range	0.001 to 1
Index Range	0 to 10
Default Value	0.707
Units	NA
CAN Index	0x2382, sub-index 0

Vel.Filt4.Xzero.Xi.Act

Parameter Name	VEL.FILT4.XZERO.XI.ACT
Definition	Velocity controller actual fourth filter complex zero xi
Type	Parameter (R)
Description	Reports the actual velocity controller fourth filter complex zero Xi.
Syntax	Read: ?VEL.FILT4.XZERO.XI.ACT[axis]
Firmware	3.0.1.12
Value Range	0.001 to 1
Default Value	0.707
Units	NA
CAN Index	0x25a1, sub-index 0

Vel.Filt4.Zero.F

Parameter Name	VEL.FILT4.ZERO.F
Definition	Velocity controller fourth filter zero frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller zero frequency for the fourth filter. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.FILT4.ZERO.F[axis][index]= <value> Read: ?VEL.FILT4.ZERO.F[axis][index]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	Hz
CAN Index	0x2383, sub-index 0

Vel.Filt4.Zero.F.Act

Parameter Name	VEL.FILT4.ZERO.F.ACT
Definition	Velocity controller actual fourth filter zero frequency
Type	Parameter (R)
Description	Reports the actual velocity controller fourth filter zero frequency.
Syntax	Read: ?VEL.FILT4.ZERO.F.ACT[axis]
Firmware	3.0.1.12
Value Range	20 to 3000
Default Value	1500
Units	Hz
CAN Index	0x25a3, sub-index 0

Vel.Integrator

Parameter Name	VEL.INTEGRATOR
Definition	Velocity controller integrator
Type	Parameter (R)
Description	Reports the actual velocity controller integrator.
Syntax	Read: ?VEL.INTEGRATOR[<i>axis</i>]
Firmware	3.0.1.12
Value Range	-100000 to 100000
Default Value	0
Units	A
CAN Index	0x2105, sub-index 0

Vel.Integrator.Ff

Parameter Name	VEL.INTEGRATOR.FF
Definition	Velocity integrator feedforward by anti-nod
Type	Parameter (R)
Description	Velocity integrator feedforward by anti-nod
Syntax	Read: ?VEL.INTEGRATOR.FF[<i>axis</i>]
Firmware	3.0.1.12
Value Range	-100 to 100
Default Value	0
Units	A
CAN Index	0x2116, sub-index 0

Vel.Kp.Vg

Parameter Name	VEL.KP.VG
Definition	Velocity controller variable gain factor
Type	Parameter (R/W)
Description	Reports the actual velocity controller gain factor.
Syntax	Write: VEL.KP.VG[<i>axis</i>]= <value> Read: ?VEL.KP.VG[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0.1 to 10
Default Value	1
Units	NA
CAN Index	NA

Vel.Lim.Act

Parameter Name	VEL.LIM.ACT
Definition	Actual velocity limit
Type	Parameter (R)
Description	Reports the actual velocity limit for the application, which is the minimum of all velocity limit inputs, such as motor speed, and application velocity limit (user limit).
Syntax	Read: ?VEL.LIM.ACT[axis]
Firmware	3.0.1.12
Value Range	0 to 2000
Default Value	0
Units	rps
CAN Index	0x2330, sub-index 0

Vel.Pdff.Kfr

Parameter Name	VEL.PDFF.KFR
Definition	Velocity feedforward gain PDFF controller
Type	Parameter (R/W)
Description	Sets/gets the velocity feedforward gain for the PDFF controller. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.PDFF.KFR[axis][index]= <value> Read: ?VEL.PDFF.KFR[axis][index]
Firmware	3.0.1.12
Value Range	0.0 to 1.0
Index Range	0 to 10
Default Value	1.0
Units	NA
CAN Index	0x2025, sub-index 0

Vel.Pdff.Kfr.Act

Parameter Name	VEL.PDFF.KFR.ACT
Definition	Velocity controller actual PDFF feedforward
Type	Parameter (R)
Description	Reports the actual velocity feedforward gain for the PDFF controller.
Syntax	Read: ?VEL.PDFF.KFR.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0.0 to 1.0
Default Value	1.0
Units	NA
CAN Index	0x25aa, sub-index 0

Vel.Pdff.Ki

Parameter Name	VEL.PDFF.KI
Definition	Velocity integrator gain PDFF controller
Type	Parameter (R/W)
Description	Sets/gets the velocity integrator gain for the PDFF controller. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.PDFF.KI[<i>axis</i>][<i>index</i>]= <value> Read: ?VEL.PDFF.KI[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	0 to 1000
Index Range	0 to 10
Default Value	10
Units	Hz
CAN Index	0x2026, sub-index 0

Vel.Pdff.Ki.Act

Parameter Name	VEL.PDFF.KI.ACT
Definition	Velocity controller actual PDFF i gain
Type	Parameter (R)
Description	Reports the actual velocity integrator gain for the PDFF controller.
Syntax	Read: ?VEL.PDFF.KI.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1000
Default Value	10
Units	Hz
CAN Index	0x2661, sub-index 0

Vel.Pdff.Kp

Parameter Name	VEL.PDFF.KP
Definition	Velocity proportional gain PDFF controller
Type	Parameter (R/W)
Description	Sets/gets the velocity proportional gain for the PDFF controller. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.PDFF.KP[axis][index]= <value> Read: ?VEL.PDFF.KP[axis][index]
Firmware	3.0.1.12
Value Range	0.001 to 1000
Index Range	0 to 10
Default Value	0.01
Units	A/rps
CAN Index	0x2027, sub-index 0

Vel.Pdff.Kp.Act

Parameter Name	VEL.PDFF.KP.ACT
Definition	Velocity controller actual PDFF P gain
Type	Parameter (R)
Description	Reports the actual velocity proportional gain for the PDFF controller.
Syntax	Read: ?VEL.PDFF.KP.ACT[axis]
Firmware	3.0.1.12
Value Range	0.001 to 1000
Default Value	0.01
Units	A/rps
CAN Index	0x2663, sub-index 0

Vel.Poslim

Parameter Name	VEL.POSLIM
Definition	Velocity controller positive limit
Type	Parameter (R/W)
Description	Sets/gets the velocity controller positive limit. 0 = Positive movement allowed 1 = Positive movement not allowed
Syntax	Write: VEL.POSLIM[axis]= <value> Read: ?VEL.POSLIM[axis]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Vel.Pp.Bw

Parameter Name	VEL.PP.BW
Definition	Velocity loop bandwidth for pole placement
Type	Parameter (R/W)
Description	Sets/gets the velocity control loop bandwidth for the pole placement controller. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.PP.BW[axis][index]= <value> Read: ?VEL.PP.BW[axis][index]
Firmware	3.0.1.12
Value Range	5 to 500
Index Range	0 to 10
Default Value	20
Units	Hz
CAN Index	0x2010, sub-index 0

Vel.Pp.Bw.Act

Parameter Name	VEL.PP.BW.ACT
Definition	Velocity controller actual pole placement bandwidth
Type	Parameter (R)
Description	Reports the actual velocity control loop bandwidth for the pole placement controller.
Syntax	Read: ?VEL.PP.BW.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	5 to 500
Default Value	20
Units	Hz
CAN Index	0x2665, sub-index 0

Vel.Pp.Gain

Parameter Name	VEL.PP.GAIN
Definition	Velocity controller pole placement gain
Type	Parameter (R/W)
Description	Sets/gets the gain for the pole placement velocity controller. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.PP.GAIN[<i>axis</i>][<i>index</i>] = <value> Read: ?VEL.PP.GAIN[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	0.1 to 10
Index Range	0 to 10
Default Value	1
Units	NA
CAN Index	0x2344, sub-index 0

Vel.Pp.Gain.Act

Parameter Name	VEL.PP.GAIN.ACT
Definition	Velocity controller actual pole placement gain
Type	Parameter (R)
Description	Reports the actual gain for the pole placement velocity controller.
Syntax	Read: ?VEL.PP.GAIN.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0.1 to 10
Default Value	1
Units	NA
CAN Index	0x2667, sub-index 0

Vel.Pp.Tf

Parameter Name	VEL.PP.TF
Definition	Velocity tracking factor for pole placement controller
Type	Parameter (R/W)
Description	Sets/gets the tracking factor for the pole placement velocity controller. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.PP.TF[<i>axis</i>][<i>index</i>]= <value> Read: ?VEL.PP.TF[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	0 to 200
Index Range	0 to 10
Default Value	100
Units	NA
CAN Index	0x20c3, sub-index 0

Vel.Pp.Tf.Act

Parameter Name	VEL.PP.TF.ACT
Definition	Velocity controller actual pole placement tracking factor
Type	Parameter (R)
Description	Reports the actual tracking factor for the pole placement velocity controller.
Syntax	Read: ?VEL.PP.TF.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 200
Default Value	100
Units	NA
CAN Index	0x2669, sub-index 0

Vel.Prefilt.Lead.F

Parameter Name	VEL.PREFILT.LEAD.F
Definition	Velocity controller prefilter lead frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller prefilter lead frequency. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.PREFILT.LEAD.F[<i>axis</i>][<i>index</i>] = <value> Read: ?VEL.PREFILT.LEAD.F[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	NA
CAN Index	0x234c, sub-index 0

Vel.Prefilt.Lead.F.Act

Parameter Name	VEL.PREFILT.LEAD.F.ACT
Definition	Velocity controller actual prefilter lead frequency
Type	Parameter (R)
Description	Reports the actual velocity controller prefilter lead frequency.
Syntax	Read: ?VEL.PREFILT.LEAD.F.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	20 to 3000
Default Value	1500
Units	Hz
CAN Index	0x266b, sub-index 0

Vel.Prefilt.Lead.Phase

Parameter Name	VEL.PREFILT.LEAD.PHASE
Definition	Velocity controller prefilter lead phase
Type	Parameter (R/W)
Description	Sets/gets the velocity controller prefilter lead phase. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.PREFILT.LEAD.PHASE[<i>axis</i>][<i>index</i>] = <value> Read: ?VEL.PREFILT.LEAD.PHASE[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	5 to 65
Index Range	0 to 10
Default Value	50
Units	deg phase
CAN Index	0x234d, sub-index 0

Vel.Prefilt.Lead.Phase.Act

Parameter Name	VEL.PREFILT.LEAD.PHASE.ACT
Definition	Velocity controller actual prefilter lead phase
Type	Parameter (R)
Description	Reports the actual velocity controller prefilter lead phase.
Syntax	Read: ?VEL.PREFILT.LEAD.PHASE.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	5 to 65
Default Value	50
Units	deg phase
CAN Index	0x266d, sub-index 0

Vel.Prefilt.Mode

Parameter Name	VEL.PREFILT.MODE
Definition	Velocity controller prefilter mode
Type	Parameter (R/W)
Description	Sets/gets the velocity controller prefilter mode. Modes 0 = Transparent, the filter is transparent, output = input 1 = Pole 2 = Zero 3 = Notch 4 = Complex pole 5 = Complex zero 6 = Lead 7 = Asymmetric notch 8 = User Note: Index defines the gain set. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.PREFILT.MODE[axis][index]= <value> Read: ?VEL.PREFILT.MODE[axis][index]
Firmware	3.0.1.12
Value Range	0 to 8
Index Range	0 to 10
Default Value	0
Units	NA
CAN Index	0x2348, sub-index 0

Vel.Prefilt.Mode.Act

Parameter Name	VEL.PREFILT.MODE.ACT
Definition	Velocity controller prefilter mode
Type	Parameter (R)
Description	Reports the velocity controller prefilter mode. Modes 0 = Transparent, the filter is transparent, output = input 1 = Pole 2 = Zero 3 = Notch 4 = Complex pole 5 = Complex zero 6 = Lead 7 = Asymmetric notch 8 = User Note: Index defines the gain set.
Syntax	Read: ?VEL.PREFILT.MODE.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 8
Default Value	0
Units	NA
CAN Index	0x266f, sub-index 0

Vel.Prefilt.Notch.Bw

Parameter Name	VEL.PREFILT.NOTCH.BW
Definition	Velocity controller prefilter notch bandwidth
Type	Parameter (R/W)
Description	Sets/gets the velocity controller prefilter notch center frequency. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.PREFILT.NOTCH.BW[<i>axis</i>][<i>index</i>]=<value> Read: ?VEL.PREFILT.NOTCH.BW[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	5 to 1000
Index Range	0 to 10
Default Value	100
Units	Hz
CAN Index	0x234a, sub-index 0

Vel.Prefilt.Notch.Bw.Act

Parameter Name	VEL.PREFILT.NOTCH.BW.ACT
Definition	Velocity controller actual prefilter notch bandwidth
Type	Parameter (R)
Description	Reports the actual velocity controller prefilter notch bandwidth.
Syntax	Read: ?VEL.PREFILT.NOTCH.BW.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	5 to 1000
Default Value	100
Units	Hz
CAN Index	0x2671, sub-index 0

Vel.Prefilt.Notch.Center

Parameter Name	VEL.PREFILT.NOTCH.CENTER
Definition	Velocity controller prefilter notch center frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller prefilter notch center frequency. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.PREFILT.NOTCH.CENTER[<i>axis</i>][<i>index</i>]= <value> Read: ?VEL.PREFILT.NOTCH.CENTER[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	5 to 3000
Index Range	0 to 10
Default Value	1000
Units	Hz
CAN Index	0x2349, sub-index 0

Vel.Prefilt.Notch.Center.Act

Parameter Name	VEL.PREFILT.NOTCH.CENTER.ACT
Definition	Velocity controller actual prefilter notch center frequency
Type	Parameter (R)
Description	Reports the actual velocity controller prefilter notch center frequency.
Syntax	Read: ?VEL.PREFILT.NOTCH.CENTER.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	5 to 3000
Default Value	1000
Units	Hz
CAN Index	0x2673, sub-index 0

Vel.Prefilt.Notch.Phase

Parameter Name	VEL.PREFILT.NOTCH.PHASE
Definition	Velocity controller prefilter notch phase
Type	Parameter (R/W)
Description	Sets/gets the velocity prefilter controller notch. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.PREFILT.NOTCH.PHASE[<i>axis</i>][<i>index</i>] = <value> Read: ?VEL.PREFILT.NOTCH.PHASE[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	5 to 65
Index Range	0 to 10
Default Value	50
Units	deg phase
CAN Index	0x234b, sub-index 0

Vel.Prefilt.Notch.Phase.Act

Parameter Name	VEL.PREFILT.NOTCH.PHASE.ACT
Definition	Velocity controller actual prefilter notch phase
Type	Parameter (R)
Description	Reports the actual velocity controller prefilter notch phase.
Syntax	Read: ?VEL.PREFILT.NOTCH.PHASE.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	5 to 65
Default Value	50
Units	deg phase
CAN Index	0x2675, sub-index 0

Vel.Prefilt.Pole.F

Parameter Name	VEL.PREFILT.POLE.F
Definition	Velocity controller prefilter pole frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller prefilter pole frequency. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.PREFILT.POLE.F[<i>axis</i>][<i>index</i>] = <value> Read: ?VEL.PREFILT.POLE.F[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	Hz
CAN Index	0x2353, sub-index 0

Vel.Prefilt.Pole.F.Act

Parameter Name	VEL.PREFILT.POLE.F.ACT
Definition	Velocity controller actual prefilter pole frequency
Type	Parameter (R)
Description	Reports the actual velocity controller prefilter pole frequency.
Syntax	Read: ?VEL.PREFILT.POLE.F.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	20 to 3000
Default Value	1500
Units	Hz
CAN Index	0x2690, sub-index 0

Vel.Prefilt.User

Parameter Name	VEL.PREFILT.USER
Definition	Velocity controller prefilter user defined
Type	Parameter (R/W)
Description	Sets/gets the velocity controller prefilter user defined. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.PREFILT.USER[<i>axis</i>][<i>index</i>]= <value> Read: ?VEL.PREFILT.USER[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	-100000 to 100000
Index Range	0 to 6
Default Value	0
Units	NA
CAN Index	NA

Vel.Prefilt.Xpole.F

Parameter Name	VEL.PREFILT.XPOLE.F
Definition	Velocity controller prefilter complex pole frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller prefilter complex pole frequency. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.PREFILT.XPOLE.F[axis][index]= <value> Read: ?VEL.PREFILT.XPOLE.F[axis][index]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	Hz
CAN Index	0x234e, sub-index 0

Vel.Prefilt.Xpole.F.Act

Parameter Name	VEL.PREFILT.XPOLE.F.ACT
Definition	Velocity controller actual prefilter complex pole frequency
Type	Parameter (R)
Description	Reports the actual velocity controller prefilter complex pole frequency.
Syntax	Read: ?VEL.PREFILT.XPOLE.F.ACT[axis]
Firmware	3.0.1.12
Value Range	20 to 3000
Default Value	1500
Units	Hz
CAN Index	0x2678, sub-index 0

Vel.Prefilt.Xpole.Xi

Parameter Name	VEL.PREFILT.XPOLE.XI
Definition	Velocity controller prefilter complex pole Xi
Type	Parameter (R/W)
Description	Sets/gets the velocity controller prefilter complex damping factor pole. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.PREFILT.XPOLE.XI[axis][index]= <value> Read: ?VEL.PREFILT.XPOLE.XI[axis][index]
Firmware	3.0.1.12
Value Range	0.001 to 1
Index Range	0 to 10
Default Value	0.707
Units	NA
CAN Index	0x234f, sub-index 0

Vel.Prefilt.Xpole.Xi.Act

Parameter Name	VEL.PREFILT.XPOLE.XI.ACT
Definition	Velocity controller actual prefilter complex pole Xi
Type	Parameter (R)
Description	Reports the actual velocity controller prefilter complex damping factor pole.
Syntax	Read: ?VEL.PREFILT.XPOLE.XI.ACT[axis]
Firmware	3.0.1.12
Value Range	0.001 to 1
Default Value	0.707
Units	NA
CAN Index	0x267a, sub-index 0

Vel.Prefilt.Xzero.F

Parameter Name	VEL.PREFILT.XZERO.F
Definition	Velocity controller prefilter complex zero frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller prefilter complex zero frequency. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.PREFILT.XZERO.F[axis][index]= <value> Read: ?VEL.PREFILT.XZERO.F[axis][index]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	Hz
CAN Index	0x2350, sub-index 0

Vel.Prefilt.Xzero.F.Act

Parameter Name	VEL.PREFILT.XZERO.F.ACT
Definition	Velocity controller actual prefilter complex zero frequency
Type	Parameter (R)
Description	Reports the actual velocity controller prefilter complex zero frequency.
Syntax	Read: ?VEL.PREFILT.XZERO.F.ACT[axis]
Firmware	3.0.1.12
Value Range	20 to 3000
Default Value	1500
Units	Hz
CAN Index	0x267c, sub-index 0

Vel.Prefilt.Xzero.Xi

Parameter Name	VEL.PREFILT.XZERO.XI
Definition	Velocity controller prefilter complex zero xi
Type	Parameter (R/W)
Description	Sets/gets the velocity controller prefilter complex damping factor zero. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.PREFILT.XZERO.XI[<i>axis</i>][<i>index</i>] = <value> Read: ?VEL.PREFILT.XZERO.XI[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	0.001 to 1
Index Range	0 to 10
Default Value	0.707
Units	NA
CAN Index	0x2351, sub-index 0

Vel.Prefilt.Xzero.Xi.Act

Parameter Name	VEL.PREFILT.XZERO.XI.ACT
Definition	Velocity controller actual prefilter complex zero xi
Type	Parameter (R)
Description	Reports the actual velocity controller prefilter complex damping factor zero.
Syntax	Read: ?VEL.PREFILT.XZERO.XI.ACT[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0.001 to 1
Index Range	0
Default Value	0.707
Units	NA
CAN Index	0x267e, sub-index 0

Vel.Prefilt.Zero.F

Parameter Name	VEL.PREFILT.ZERO.F
Definition	Velocity controller prefilter zero frequency
Type	Parameter (R/W)
Description	Sets/gets the velocity controller prefilter zero frequency. Note: When the value parameter is changed, Vel.Execute is required.
Syntax	Write: VEL.PREFILT.ZERO.F[axis][index]= <value> Read: ?VEL.PREFILT.ZERO.F[axis][index]
Firmware	3.0.1.12
Value Range	20 to 3000
Index Range	0 to 10
Default Value	1500
Units	Hz
CAN Index	0x2352, sub-index 0

Vel.Prefilt.Zero.F.Act

Parameter Name	VEL.PREFILT.ZERO.F.ACT
Definition	Velocity controller actual prefilter zero frequency
Type	Parameter (R)
Description	Reports the actual velocity controller prefilter zero frequency.
Syntax	Read: ?VEL.PREFILT.ZERO.F.ACT[axis]
Firmware	3.0.1.12
Value Range	20 to 3000
Default Value	1500
Units	Hz
CAN Index	0x2680, sub-index 0

Vlim

Parameter Name	VLIM
Definition	User velocity limit
Type	Parameter (R/W)
Description	Sets/gets the application velocity limit, allowing the user to limit the motor peak velocity. VLIM limits the velocity command that will be accepted from the user or issued by the control loops.
Syntax	Write: VLIM[axis]= <value> Read: ?VLIM[axis]
Firmware	3.0.1.12
Value Range	0 to 2000
Default Value	100
Units	rps
CAN Index	0x232c, sub-index 0

2.43 Velocity Observer (VOB)**Vobs**

Parameter Name	VOBS
Definition	Observer-estimated velocity
Type	Parameter (R)
Description	Reports the observer estimated velocity.
Syntax	Read: ?VOBS[axis]
Firmware	3.0.1.12
Value Range	0 to max allowed
Default Value	NA
Units	rps
CAN Index	0x2418, sub-index 0

2.44 Warnings and Faults

Flt.Mute

Parameter Name	FLT.MUTE
Definition	Fault mute
Type	Parameter (W)
Description	Mutes a specific fault for an axis.
Syntax	Write: FLT.MUTE[axis]= <fault number>
Firmware	3.0.1.12
Value Range	0 to 4294967295
Default Value	0
Units	NA
CAN Index	NA

Flt.Active.List

Parameter Name	FLT.ACTIVE.LIST
Definition	Active fault list
Type	Parameter (R)
Description	Returns the list of active faults for the axis. Read index 0 to see the number of active faults. Other indexes indicate the ID of the active fault.
Syntax	Read: ?FLT.ACTIVE.LIST[axis][index]
Firmware	3.0.1.12
Value Range	0 to 4294967295
Index Range	0 to 256
Default Value	0
Units	NA
CAN Index	0x23b7, sub-index 0

Flt.Can.Error.Code

Parameter Name	FLT.CAN.ERROR.CODE
Definition	CAN error code
Type	Parameter (R)
Description	Returns the CAN error code of the first latched fault.
Syntax	Read: ?FLT.CAN.ERROR.CODE[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 65535
Default Value	0
Units	NA
CAN Index	NA

Flt.Clear

Parameter Name	FLT.CLEAR
Definition	Clear faults
Type	Parameter (W)
Description	Clears all faults for the specific axis. 1 = Clear fault(s) for axis
Syntax	Write: FLT.CLEAR[<i>axis</i>]= <value>
Firmware	3.0.1.12
Value Range	0 to 1
Example	<code>flt.clear[axis] = 1</code>
Default Value	0
Units	NA
CAN Index	NA

Flt.Unmute

Parameter Name	FLT.UNMUTE
Definition	Disable fault mute
Type	Parameter (W)
Description	Stops the muting of a specific fault for the axis.
Syntax	Write: FLT.UNMUTE[<i>axis</i>]= <fault number>
Firmware	3.0.1.12
Value Range	0 to max number of fault
Default Value	0
Units	NA
CAN Index	NA

Flt.Exist

Parameter Name	FLT.EXIST
Definition	Fault exists
Type	Parameter (R)
Description	Reports whether a fault exists for the axis. 0 = the fault not exist 1 = the fault exist
Syntax	Read: ?FLT.EXIST[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Flt.Hist

Parameter Name	FLT.HIST
Definition	Fault history
Type	Parameter (R)
Description	Reports the fault history of the axis. Note: Index 0 is most recent fault.
Syntax	Read: ?FLT.HIST[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	NA
Index Range	0 to 256
Default Value	NA
Units	NA
CAN Index	NA

Flt.Last

Parameter Name	FLT.LAST
Definition	First latched fault
Type	Parameter (R/W)
Description	Reports the first latched fault in the axis.
Syntax	Write: FLT.LAST[axis]= <value> Read: ?FLT.LAST[axis]
Firmware	3.0.1.12
Value Range	NA
Default Value	NA
Example	?flt.last[5] 1314563
Units	NA
CAN Index	NA

Inhibit.Active.List

Parameter Name	INHIBIT.ACTIVE.LIST
Definition	Active inhibits
Type	Parameter (R)
Description	Returns the list of active inhibits for the axis. Read index 0 to see the number of active inhibits. Other indexes indicate the IDs of active inhibits.
Syntax	Read: ?INHIBIT.ACTIVE.LIST[axis][index]
Firmware	3.0.1.12
Value Range	0 to 4294967295
Index Range	0 to Max Axis
Default Value	0
Units	NA
CAN Index	NA

Inhibit.Exist

Parameter Name	INHIBIT.EXIST
Definition	Inhibit exist
Type	Parameter (R)
Description	Reports whether inhibit exists for the axis. 0 = the inhibit does not exist 1 = the inhibit exist
Syntax	Read: ?INHIBIT.EXIST[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Inhibit.Hist

Parameter Name	INHIBIT.HIST
Definition	Inhibit history
Type	Parameter (R)
Description	Reports the inhibit history of the axis. Index 0 is most recent inhibit.
Syntax	Read: ?INHIBIT.HIST[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	NA
Index Range	0 to 256
Default Value	NA
Units	NA
CAN Index	NA

Wrn.Active.List

Parameter Name	WRN.ACTIVE.LIST
Definition	Active warning list
Type	Parameter (R)
Description	Returns the list of active warnings for the axis. Read index 0 to see the number of active warnings. Other indexes indicate the IDs of active warnings.
Syntax	Read: ?WRN.ACTIVE.LIST[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	0 to 4294967295
Index Range	0 to max axis
Default Value	0
Units	NA
CAN Index	NA

Wrn.Exist

Parameter Name	WRN.EXIST
Definition	Warning exists
Type	Parameter (R)
Description	Reports whether a warning exists for the axis. 0 = warning does not exist 1 = warning exists
Syntax	Read: ?WRN.EXIST[<i>axis</i>]
Firmware	3.0.1.12
Value Range	0 to 1
Default Value	0
Units	NA
CAN Index	NA

Wrn.Hist

Parameter Name	WRN.HIST
Definition	Warning history
Type	Parameter (R)
Description	Reports the warning history of the axis. Index 0 is most recent warning.
Syntax	Read: ?WRN.HIST[<i>axis</i>][<i>index</i>]
Firmware	3.0.1.12
Value Range	NA
Index Range	0 to 256
Default Value	NA
Units	NA
CAN Index	NA