Can Open standard and extended PDOs

Standard PDO configuration - Standard Firmware

This implementation comprising 1 TXPDO and 1 RXPDO. EDS File:
:integrated_drive_motors:nli_integrated_motor_standard.zip

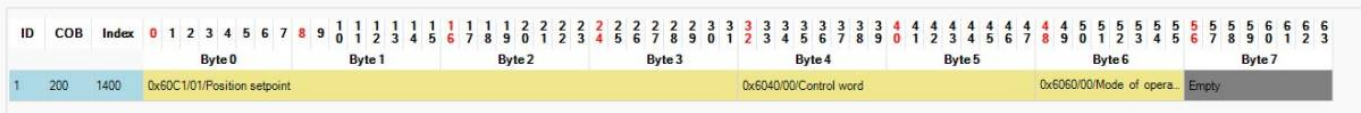
Tx PDO - Address 0x1A00



Index	Name	Type	Register Address	Value
1	*PositionActualValue (counts)	DINT	0x6064	0x60640020
2	Statusword	UINT	0x6041	0x60410010
3	ModesofOperationDisplay	SINT	0x6061	0x60610008

*Note that in order to have mm you have to multiple the position actual value in counts with the scaling factor F=pole pitch/65535. For NLi080 pole pitch=30000, for NLi120 pole pitch=60000.

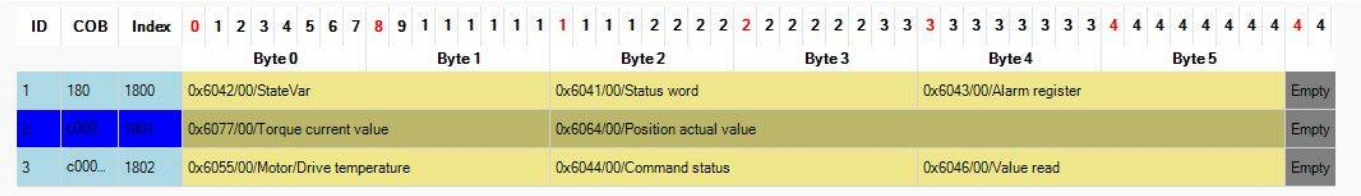
Rx PDO - Address 0x1600 - Interpolated positioning & Profile position



Index	Name	Type	Register Address	Value
1	InterpolationDataRecord	DINT	0x60C1	0x60C10120
2	Controlword	UINT	0x6040	0x60400010
3	ModesofOperation	SINT	0x6060	0x60600008

Extended PDO configuration - Firmware on Demand

This implementation comprising 3 TXPDO and 3 RXPDO. EDS File:
:integrated_drive_motors:nli_integrated_motor_extended.zip
Please contant NILAB to receive the Firmware.



TXPDO - From motor to PLC

Parameter	Type	Dim	Address	Description
StateVar	UINT	16	0x6042	INTERNAL MACHINE STATE
Status Word	UINT	16	0x6041	DS402 STATUS WORD
WarnWord	UINT	16	0x6043	ALARM REGISTER
Demand Current	INT	16	0x6077	TORQUE CURRENT VALUE
*Postion Actual Value (counts)	DINT	32	0x6064	POSITION ACTUAL VALUE
Motor drive temperature	UINT	16	0x6055	MOTOR / DRIVE TEMPERATURE
Command status	UINT	16	0x6044	0=NONE,1=OK_READ,2=OK_WRITE
Cfg Value In	INT	16	0x6046	VALUE READ

*Note that in order to have mm you have to multiple the position actual value in counts with the scaling factor F=pole pitch/65535. For NLi080 pole pitch=30000, for NLi120 pole pitch=60000.

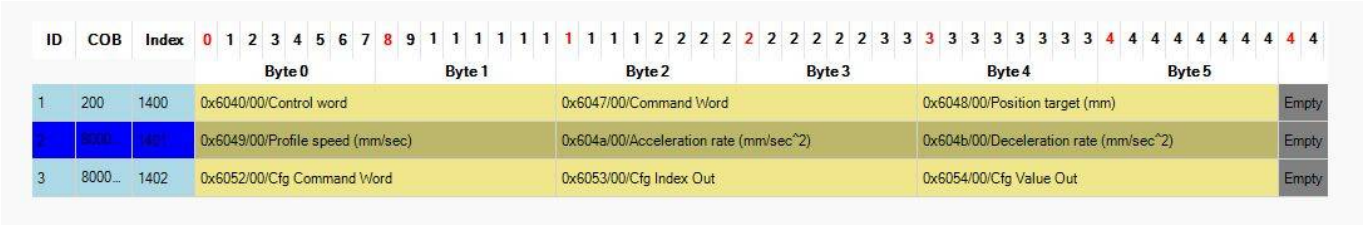
Internal state machine - STATEVAR

STATUS WORD VALUE [DEC]	DESCRIPTION
0	Init state
1	Ready
2	Phase calculation
3	Automatic Homing
4	Manual Mode
5	Run
6	I2T Fault
7	Manual Homing
8	Write configuration to flash
9	Write to flash done
10	Flash error
11	Read configuration from flash
12	Flash fault
13	SIN/COS Overrange fault
14	Motor overtemperature fault
15	Power stage overccurent
16	DC Link overrange

Alarm Register Bits

Alarm type	D0	D1	D2	D3	D4	D5	D6	D7
OVERLOAD I2T	1	X	X	X	X	X	X	X
SINCOS OVERRANGE	X	1	X	X	X	X	X	X
MOTOR OVERTEMP	X	X	1	X	X	X	X	X
DCLINK OVERANGE	X	X	X	1	X	X	X	X
MOTOR OVERCURRENT	X	X	X	X	1	X	X	X

RXPDO - From PLC to motor



ID	COB	Index	Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	
1	200	1400	0x6040/00/Control word		0x6047/00/Command Word		0x6048/00/Position target (mm)		Empty
2	8000...	1401	0x6049/00/Profile speed (mm/sec)		0x604a/00/Acceleration rate (mm/sec^2)		0x604b/00/Deceleration rate (mm/sec^2)		Empty
3	8000...	1402	0x6052/00/Cfg Command Word		0x6053/00/Cfg Index Out		0x6054/00/Cfg Value Out		Empty

Parameter	Type	Dim	Address	Description
Control Word	UINT	16	0x6040	DS402 CONTROL WORD
MC CWORD	UINT	16	0x6047	COMMAND WORD
MC Param 0	UINT	16	0x6048	PROFILE POSITION (millimeter)
MC Param 1	UINT	16	0x6049	PROFILE SPEED (mm/s)
MC Param 2	UINT	16	0x604A	ACCELERATION RATE (m/s²)
MC Param 3	UINT	16	0x604B	DECELERATION RATE (m/s²)
Cfg Command Word	UINT	16	0x6052	0=NO_COMMAND,1=READ_16BIT,2=WRITE_16BIT
Cfg Index Out	UINT	16	0x6053	REGISTER INDEX TO READ OR WRITE
Cfg Value Out	UDINT	32	0x6054	WRITE VALUE

Command Word

COMMAND WORD VALUE [DEC]	DESCRIPTION
0	No command
1	Start Homing
2	Reserved
3	Enable drive
4	Disable drive
5	Manuall Homing
6	Fault Reset
7	Phase calculation
8	Store configuration to Flash
9	Read configuration from Flash
10	Start Motion
11	Stop Motion
12	Drive Reset
13	Profile positioning mode (OPMODE = 1)
14	Jump to Bootloader (FW update)
15	Internal motion controller (OPMODE = 0)

From:
https://www.nilab.at/dokuwiki/ - **NiLAB GmbH Knowledgebase**

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