



ETHERCAT SET UP GUIDE

SYSMAC STUDIO - BECKHOFF

RICCARDO PICCININI

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EtherCAT®



OVERVIEW AND PROCESS DATA

OVERVIEW

The present document describes the adherence of the Minimotor stack to the following specification:

CanOPEN

- CiA DS301 v4.02 (CanOPEN DLL)
- CiA DS402 v3.0.1.15 (servodrive profile)

CanOPEN over EtherCAT:

- ETG1000-2 v1.0.1 (physical layer)
- ETG1000-3 v1.0.1 (DLL services)
- ETG1000-4 v1.0.1 (DLL protocols)
- ETG1000-5 v1.0.1 (AL services)
- ETG1000-6 v1.0.1 (AL protocols)
- CiA DS402 v3.0.1.15 (servodrive)
- ETG6010 v1.1.0 (CiA 402 impl. directives)

Ethernet PowerLink (EPL)

- EPSG DS 301 V1.2.0 (Powerlink DLL)

The purpose of the present document is to describe what optional feature are implemented by the servo-motor CanOPEN, CoE or EPL.

***** Applicable DBS55/---/--- software release: ≥v4.036 *****

DS301 COMMUNICATION LAYER

This paragraph describe the details of the DS301 layer of the CanOpen interface.
It applies only to the CanOPEN over can-bus implementation.

PHYSICAL LAYER

Supported baudrate:

- | | | |
|-----------|----------|--------------------|
| • 1Mbps | tq=71ns | SamplingPoint=11tq |
| • 500Kbps | tq=142ns | SamplingPoint=12tq |
| • 250Kbps | tq=284ns | SamplingPoint=12tq |
| • 125Kbps | tq=571ns | SamplingPoint=12tq |

- 50Kbps tq=1.43us SamplingPoint=12tq
- 20Kbps tq=3.57us SamplingPoint=12tq

SDO PROTOCOL

- Maximum supported object size: 32bit
- Eexpedited transfer supported SUPPORTED
- Segmented transfer: NOT SUPPORTED
- Block transfer: NOT SUPPORTED

TIME PROTOCOL

The time protocol is NOT supported.

PDO PROTOCOL

The implementation supports up to 4 Pdo TX and 4 Pdo RX; each object can map up to 8 objects; mapping can be done only using the whole size of the object (i.e. is not possible to map 8 bit of a 32 bit object).

The following transmit type are implemented for PDO TX:

Transmission type	
0	PDO is emitted when changes after SYNC is received
1..240	PDO emitted after SYNC, depending on SYNC message occurrence (1 every sync, 2 every 2 sync etc.).
241..251	NOT supported
252..253	PDO is emitted after RTR reception: • 252: data sampled on SYNC, emitted after RTR • 253: data sampled and emitted after RTR
254	NOT supported
255	PDO is emitted asynchronously; two feature are supported for emission control: • inhibit time for emission only when PDO content changes • event timer for periodical (asynchronous) emission

Defaults:

- inhibit time: 100ms
- event time: 0 (periodic emission on TT=255 disabled by default)

See application profile for default PDO configuration. (See paragraph **Errore. L'origine riferimento non è stata trovata.**)

EMCY PROTOCOL

Emergency protocol is implemented for reporting alarms from the servodrive; to control the emission of EMCY messages, the inhibit time (object 1015h) can be modified.

See the application profile for detailed list of alarms. (See paragraph **Errore. L'origine riferimento non è stata trovata.**)

NMT PROTOCOL

The NMT implementation includes standard commands for NMT state machine management.

For node alive checking, the NODE GUARDING protocol is implemented; the behaviour of node guarding is set by objects 100Ch (guard time) and 100Dh (life factor).

HEARTBEATING

Heartbeating Protocol is supported. Register 1016h defines the time in multiples of 1ms for the Heartbeat protocol consumer. Register 1017h determines the time in multiples of 1ms for the producer of the protocol. Object 1029h determines the behaviour when the error is triggered.

OBJECT DICTIONARY

Object dictionary is divided in the following sections:

Range oggetti	Funzioni
1000h ... 1FFFh	Communication profile area
2000h ... 21FFh	Manufacturer parameter area
3000h ... 3FFFh	Manufacturer specific object area
6000h ... 67FFh	Profiled objects

Other areas are unused; the object list is common between CanOPEN, CoE and EPL implementation.

COMMUNICATION AREA

The following table shows the list of communication area objects; since some object are relevant only for CanOPEN or CoE implementation, the table shows in which fieldbus the object is relevant.

Index	Description	CanOPEN	CoE	EPL
1000	Device type	X	X	X
1001	Error register	X	X	X
1003	Predefined error	X	X	
1006	Cycle length			X
100C	Guard time	X		
100D	Life factor	X		
1010	Store parameters (*1)	X	X	X
1014	EMCY cob-id	X		
1015	EMCY inhibit time	X	X	
1016	Consumer Heartbeat Time	X		
1017	Producer Heartbeat Time	X		
1018	Identity object	X	X	X
1020	CFM Verify Configuration			X

1029	Error Behaviour	X		
1030	NMT Interface Group 0h			X
1300	SDO Sequ Layer Timeout			X
1400	PDO RX 1 – config (*2)	X	X	X
1401	PDO RX 2 – config	X		
1402	PDO RX 3 – config	X		
1403	PDO RX 4 – config	X		
1600	PDO RX 1 – mapping (*2)	X	X	X
1601	PDO RX 2 – mapping	X		
1602	PDO RX 3 – mapping	X		
1603	PDO RX 4 – mapping	X		
1800	PDO TX 1 – config (*2)	X	X	X
1801	PDO TX 2 – config	X		
1802	PDO TX 3 – config	X		
1803	PDO TX 4 – config	X		
1A00	PDO TX 1 – mapping (*2)	X	X	X
1A01	PDO TX 2 – mapping	X		
1A02	PDO TX 3 – mapping	X		
1A03	PDO TX 4 – mapping	X		
1C00	Sync manager types		X	
1C0A	DLL_CnCollision REC			X
1C0B	DLL_CnLoss REC			X
1C0C	DLL_CnLossSoC_REC			X
1C0D	DLL_CnLossSoA REC			X
1C0E	DLL_CnSpCJitter REC			X
1C0F	DLL_CnCRCErrror REC			X
1C10	Sync manager 0 config		X	
1C11	Sync manager 1 config		X	
1C12	Sync manager 2 config		X	
1C13	Sync manager 3 config (*2)		X	
	DLL_CnSocJitterRange (*2)			X
1C14	DLL_CnLossOfSocTolerance			X
1C32	Output sync parameters		X	
1C33	Input sync parameters		X	
1E40	NWL_IpAddrTable_0h_REC			X
1E4A	NWL_IpGroup_REC			X
1F82	NMT_FeatureFlags_U32			X
1F83	NMT_EPLVersion_U8			X

1F8C	NMT_CurrNMTState_U8			X
1F93	NMT_EPLNodeID_REC			X
1F98	NMT_CycleTiming_REC			X
1F99	NMT_CNBasicEthernetTimeout_U32			X
1F9A	NMT_HostName_VSTR			X
1F9E	NMT_ResetCmd_U8			X

(*1) To save 2000h parameters to non-volatile storage a 32bit write to object 1010h.1 needs to be performed; in particular the value to be written to save parameter is 65766173h ("SAVE").

(*2) PDO config and mapping have different encoding for CoE/CanOPEN and EPL. Please check DLL manual for details.

MANUFACTURER PARAMETER AREA

The object range 2000h ... 21FFh allows to access servodrive parameters; the following table summarize the details of a parameter object:

Object details

Subidx	0
Object type	16bit, signed integer
Access	Read/Write
Pdo mappable	NO

Object dictionary for manufacturer parameters

Index	
2000	Parameter 0
2001	Parameter 1
...	
21FF	Parameter 511

For details of the parameter meaning and encoding refer to the servodrive manual.

NOTE: write objects in the 2000h ... 21FFh range will alter only RAM image of the parameter; to actually save parameter to non-volatile storage a write to object 1010h.0 needs to be performed (see 1010h).

MANUFACTURER SPECIFIC AREA

This area contains several object that allows to read/write manufacturer specific data.

Index		Access	Data type	Pdo mappable
3000	Ain0 value	RO	INT16	YES

	-32768 ... 32768			
3001	Digital input bit0: digital input0 bit1: digital input1 bit2: digital input2 bit3: digital input3 bit4: digital input4	RO	UINT16	YES
3002	Digital output bit0: digital output0	RW	UINT16	YES
3003	Heatsink temperature as tenth of °C (200 >> 20.0°C)	RO	INT16	YES
3005	Motor temperature as tenth of °C (200 >> 20.0°C)	RO	INT16	YES
3008	Actual alarm: 0: no alarm >0: an alarm is pending NOTE: value read from this object is the alarm code as defined in the DBS manual (e.g. OVERVOLTAGE=3 etc) Value IS NOT the EMCY code as defined in this document.	RO	UINT16	YES
3009	Events 0: 16 1-16: event code (see 6.1)	RO	UINT	NO
3010	Power stage tension as tenth of Volt (240 >> 24.0V)	RO	UINT16	YES
3011	Motor IQ current as milliAmpere (+10 >> +1.0A)	RO	INT16	YES
3012	Motor IQ limit as milliampere (10 >> 1.0A)	RW	UINT16	YES
3014	Output Power (1Watt/lsb)	RO	IN16	YES
3020	Touchprobe Positioning offset	RW	INT32	YES
3021	Touchprobe Positioning Modulo	RW	UINT32	YES
3030	Acceleration rms modulus (milli-G)	RO	UINT16	YES
3031	Acceleration rms x (milli-G)	RO	UINT16	YES
3032	Acceleration rms y (milli-G)	RO	UINT16	YES
3033	Acceleration rms z (milli-G)	RO	UINT16	YES
3034	Acceleration dc x (milli-G)	RO	UINT16	YES

3035	Acceleration dc y (milli-G)	RO	UINT16	YES
3036	Acceleration dc z (milli-G)	RO	UINT16	YES
3037	Istantaneous Acceleration x (milli-G)	RO	INT16	YES
3038	Istantaneous Acceleration y (milli-G)	RO	INT16	YES
3039	Istantaneous Acceleration z (milli-G)	RO	INT16	YES

PROFIED OBJECTS

The range 6000h ... 67FFh of objects are defined as specified by CiA402; refer to the application area for further information.

Index		Access	Type	Pdo mappable
6040	Control word	RW	U16	YES
6041	StatusWord	RO	U16	YES
605A	Quickstop option code	RW	U16	
605B	Shutdown option code	RW	U16	
605C	Disable operation option code	RW	U16	
605D	Halt option code	RW	U16	
605E	Fault reaction option code	RW	U16	
6060	Mode of operation	RW	S8	YES
6061	Mode of operation display	RO	S8	YES
6062	Position demand value	RO	S32	YES
6064	Position actual value	RO	S32	YES
6065	Following error window	RW	U32	
6066	Following error time	RW	U16	
6067	Position window	RW	U32	
6068	Position window time	RW	U16	
606B	Velocity demand	RO	S32	YES
606C	Velocity actual value	RO	S32	YES
606D	Velocity window	RW	U16	
606E	Velocity window time	RW	U16	
606F	Velocity threshold	RW	U16	
6070	Velocity threshold time	RW	U16	
6071	Target torque	RW	S16	YES
6072	Max torque	RW	U16	YES
6073	Max current	RW	U16	YES

6074	Torque demand value	RO	S16	YES
6075	Motor rated current	RO	U32	YES
6076	Motor rated torque	RO	U32	YES
6077	Torque actual value	RO	S16	YES
6078	Current actual value	RO	S16	YES
6079	Dclink voltage	RO	U32	YES
607A	Target position	RW	S32	YES
607B	Position Range			
	607B.0: number of sub-idx (2)	RO	U8	
	607B.1: Negative limit	RW	S32	YES
	607B.2: Positive limit	RW	S32	YES
607C	Home offset	RW	S32	YES
607D	Software position limit			
	607D.0: number of sub-idx (2)	RO	U8	
	607D.1: Negative limit	RW	S32	YES
	607D.2: Positive limit	RW	S32	YES
607E	Polarity	RW	U8	
607F	Max speed	RO	U32	YES
6080	Max speed	RO	U32	YES
6081	Profile velocity	RW	U32	YES
6083	Profile acceleration	RW	U32	YES
6084	Profile deceleration	RW	U32	YES
6085	Quick stop deceleration	RW	U32	YES
6087	Torque slope	RW	U32	YES
6098	Homing method	RW	S8	YES
6099	Homing speed			
	6099.0 – number of subidx (2)	RO	U8	
	6099.1 – Switch speed	RW	U32	YES
	6099.2 – Index speed	RW	U32	YES
609A	Homing acceleration	RW	U32	YES
60B0	Position offset	RW	S32	YES
60B1	Velocity offset	RW	S32	YES
60B2	Torque offset	RW	S16	YES
60B8	Touch-probe function	RW	U16	YES
60B9	Touch-probe status	RW	U16	YES
60BA	Touch-probe positive edge latched position	RW	S32	YES
60BB	Touch-probe negative edge latched position	RW	S32	YES
60C0	IpData submode selection	RO	S16	NO

60C1	IpDataRecord			
	60C1.0 – Number of sub-idx (1)	RO	U8	
	60C1.1 – IpData record	RW	S32	YES
60C2	Interpolation time period			
	60C2.0 – number of sub-idx	RO	U8	
	60C2.1 – Ip time units	RW	S8	
	60C2.2 – Ip time index	RW	S8	
60F2	Position Option Code	RW	U16	YES
60FD	Digital inputs	RO	U32	YES
60FE	Digital outputs			
	60FE.0 – number of sub-idx (2)	RO	U8	
	60FE.1 – physical outputs	RW	U32	YES
	60FE.2 – output mask	RW	U32	YES
60FF	Target velocity	RW	S32	YES
6502	Supported mode of operation	RO	U32	NO

APPLICATION EXAMPLE - OMRON

TOOLS

>> [Sysmac Studio Profile Example](#) <<

>> [Sysmac Studio CSP Example](#) <<

>> [DBS/FC BSI Interface Software](#) <<

OVERVIEW

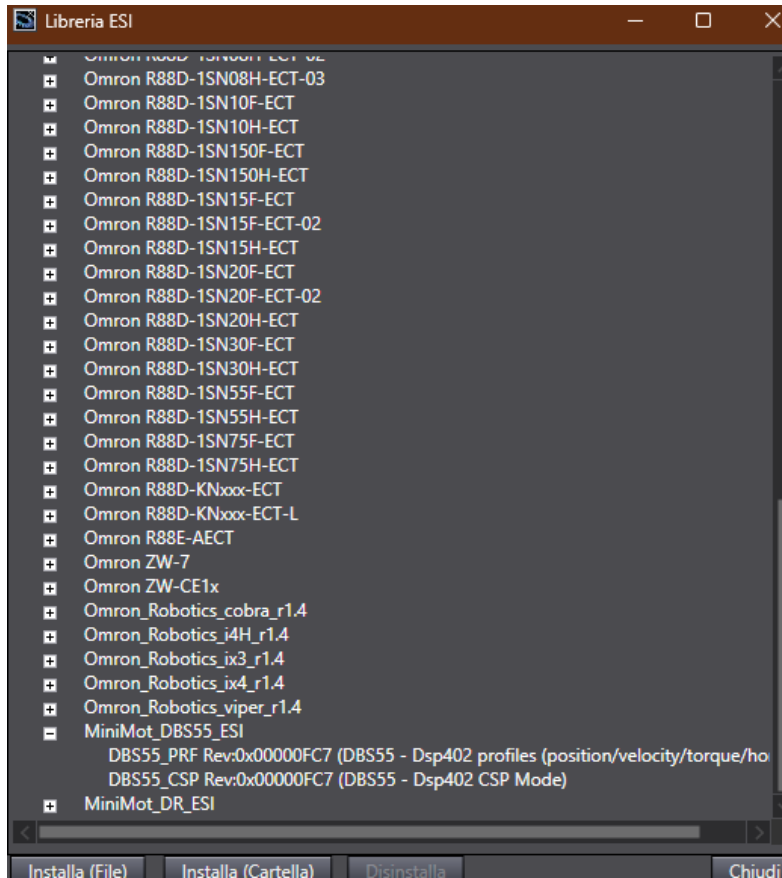


DBS FW: >= 4.39

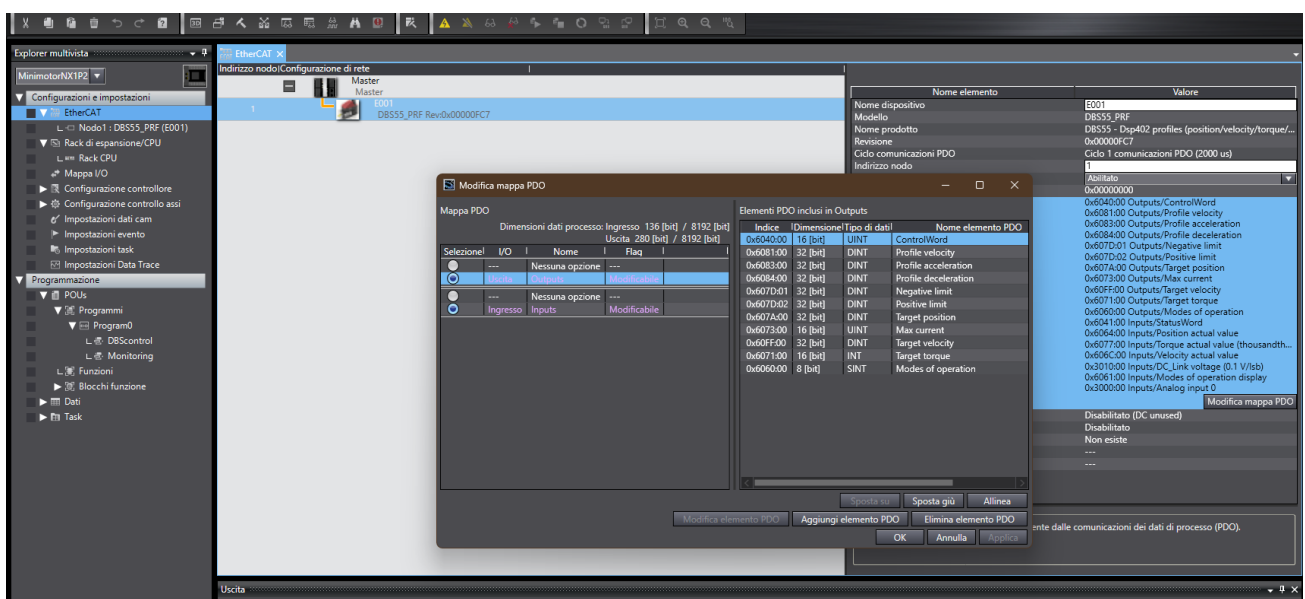
Sysmac Studio V 1.45

INSTALL DBS ESI FILE

- Get the ESI file from the \MM-DBS_v4.xxx\DeviceDesc\EtherCAT
- Copy it in C:\Program Files\OMRON\Sysmac Studio\IODeviceProfiles\EsiFiles\UserEsiFiles
- Install ESI file from library (right click on the PLC in EtherCAT)



- If you want to use the motor as a node, use DBS55_PRF ESI file.
- If you want to use the motor as an electrical axis, use DBS55_CSP ESI file. The motor must be ordered with the CSP option for this to work and parameter P198 must be set on 1-CSP (default on CSP motors).
- In the EtherCAT field add the Motor, assign the node and build the PDO. In the Examples we'll have prebuild PDOs to show all motor functions.



The Profile Example Program shows the motor working with the CanOpen DS402 Profile Velocity, Profile Position, Profile Torque and Profile Homing modes, as described by the DS402 Standard.

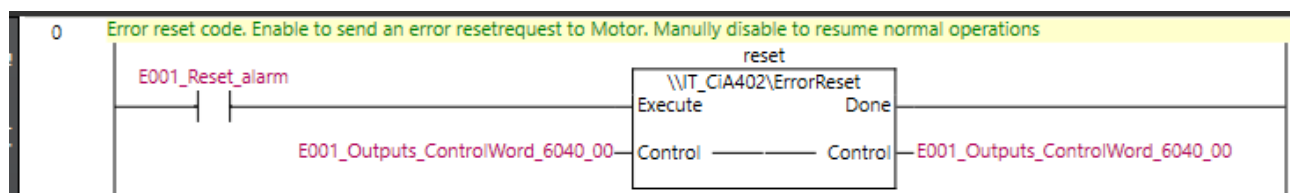
You can download the DS402 Library used in the example [here](#).

DBS CONTROL

In this part of the program you have all of the ways to control the motor following the DS402 supported profiles. You can look inside the non library block to see which data is transferred to the motor.

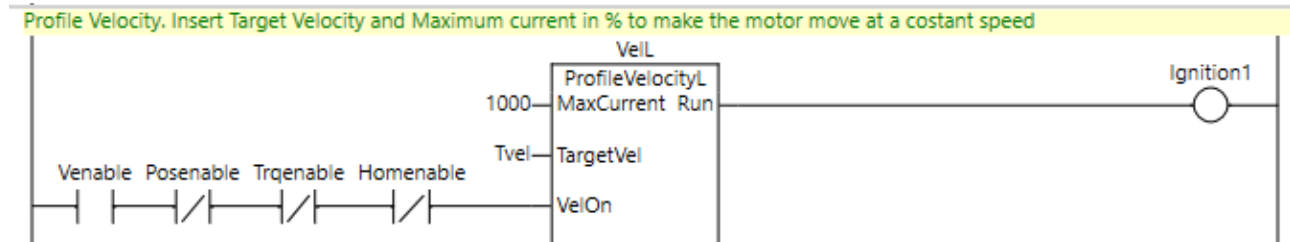
ALARM RESET

This rung is used to send an error reset to the motor. Used to clear alarms.



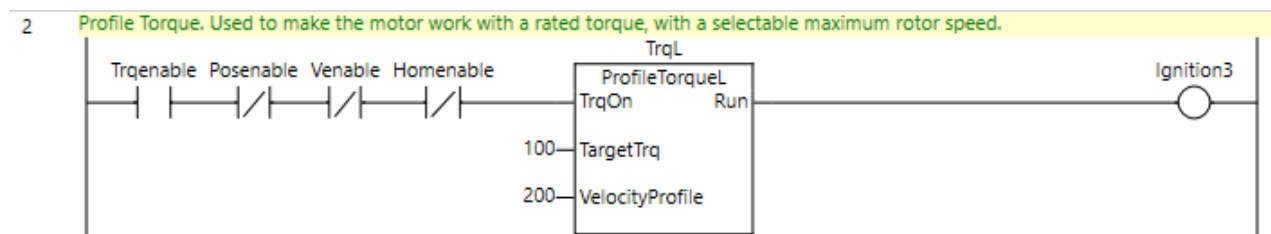
PROFILE VELOCITY

In the profile velocity the motor keeps the target speed using up to the maximum current. Maximum Current = % of rated current.



PROFILE TORQUE

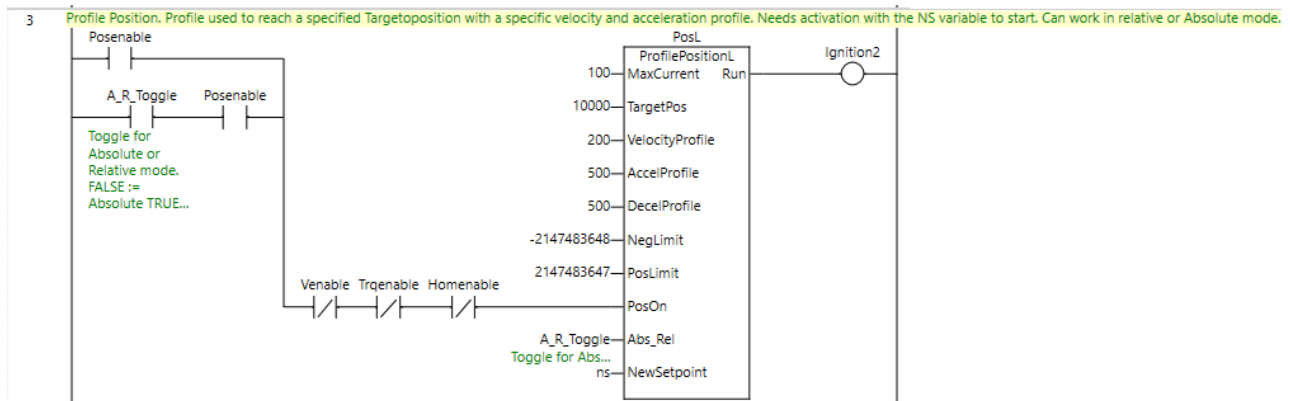
In the profile Torque section the motor will use up to target torque keeping a maxium profile speed. Target Torque= % of rated torque.



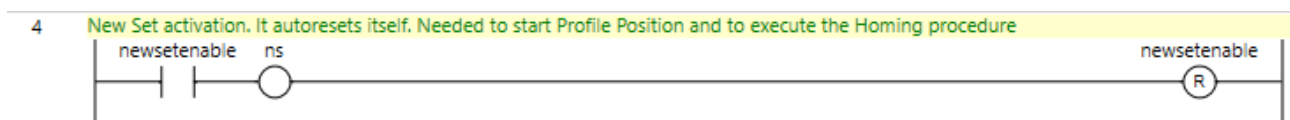
PROFILE POSITION

The profile position takes the profile velocity together with acceleration and deceleration, all in rpm and rpm/s and uses them to generate a trapezoidal trajectory going from actual position to the target position, using up to max

current. The software limits are used as software end of travel. At their maximum value (signed 32bit register) they are disengaged.



After enabling the block the motor will enable but will not move. To do so, it requires a rising edge on the new setpoint bit of the control word, handled by the rung 4



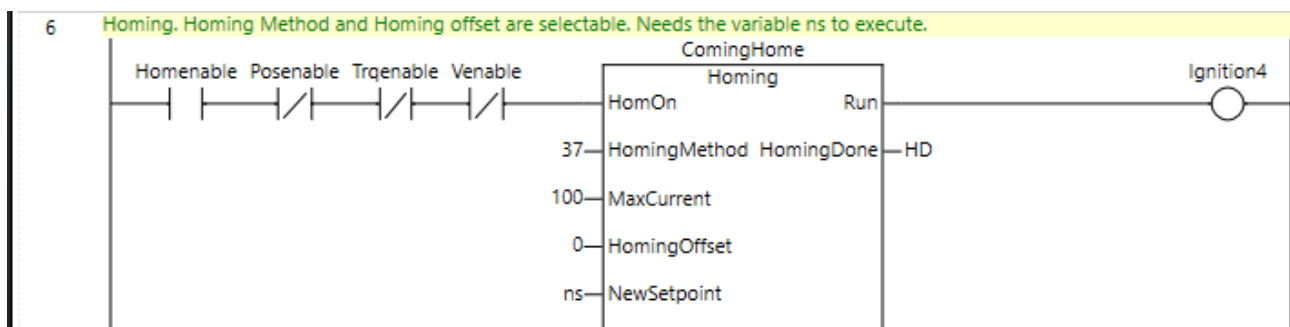
Activating this bit will make the motor act on the target position and start moving.

The HALT command is used to momentarily stop the motor command for as long as the halt command is held. Once set to 0 again, the motor will resume doing the previous command, be it a velocity command or a positioning.

HOMING

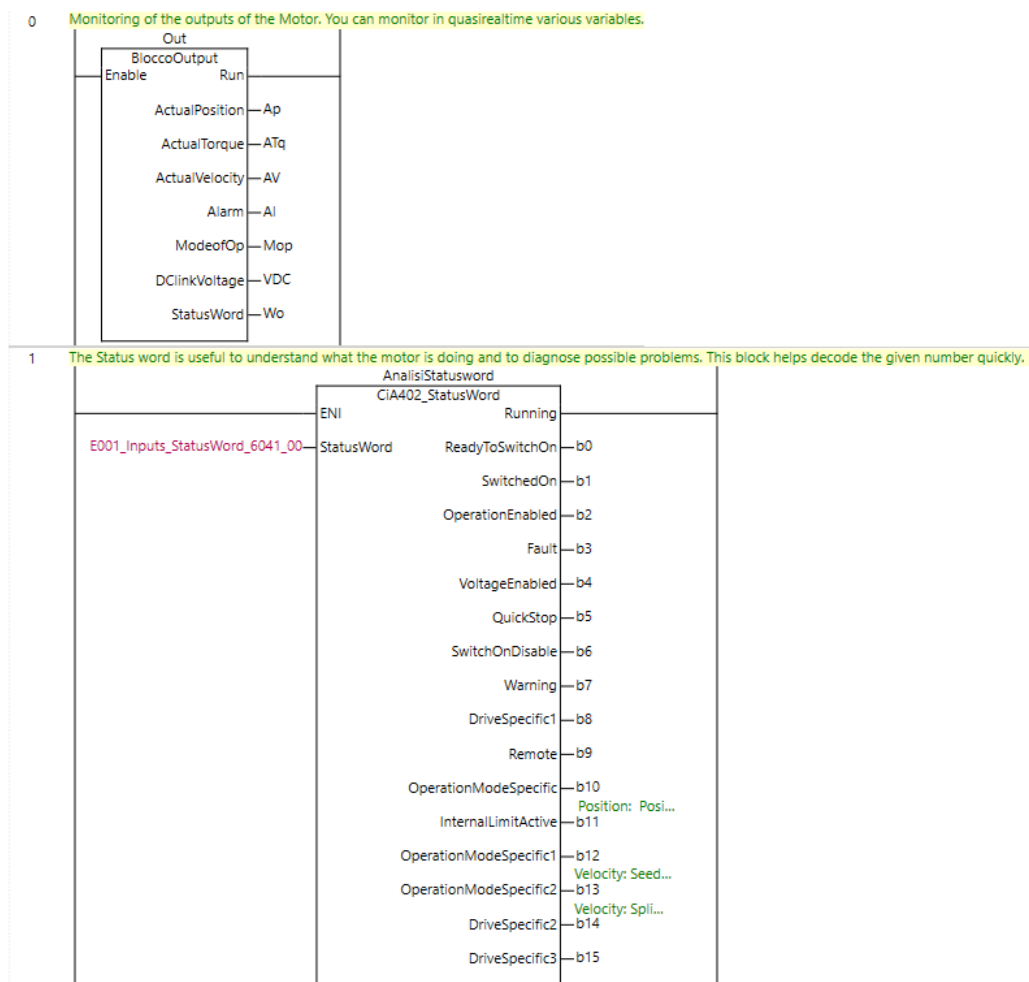
The homing procedure makes possible to home the motor position. The default homing method here is to set at 0 the current position. Check the manual for different homing procedures.

To start the homing you need to activate the Newsetenable in Rung 4, same as the profile position.



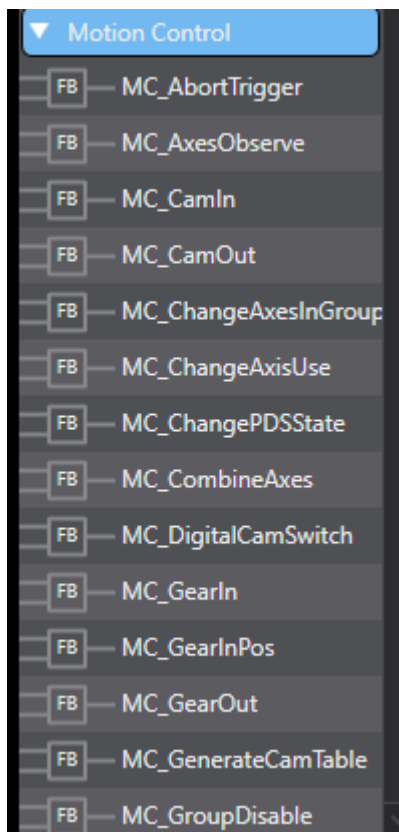
MONITORING

In the Monitoring part you can check all data coming from the motor. In the rung 0 you get the macro quantities, like speed, position and torque used. In rung 1 you can read each single bit of the status word to get a proper understanding of the status of the motor.



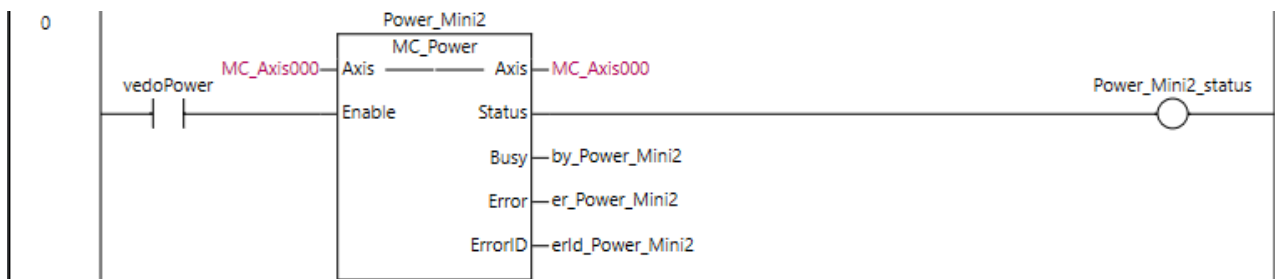
CSP EXAMPLE

In the CSP Example, the Motion Control blocks directly from Omron are used to get the motor running.



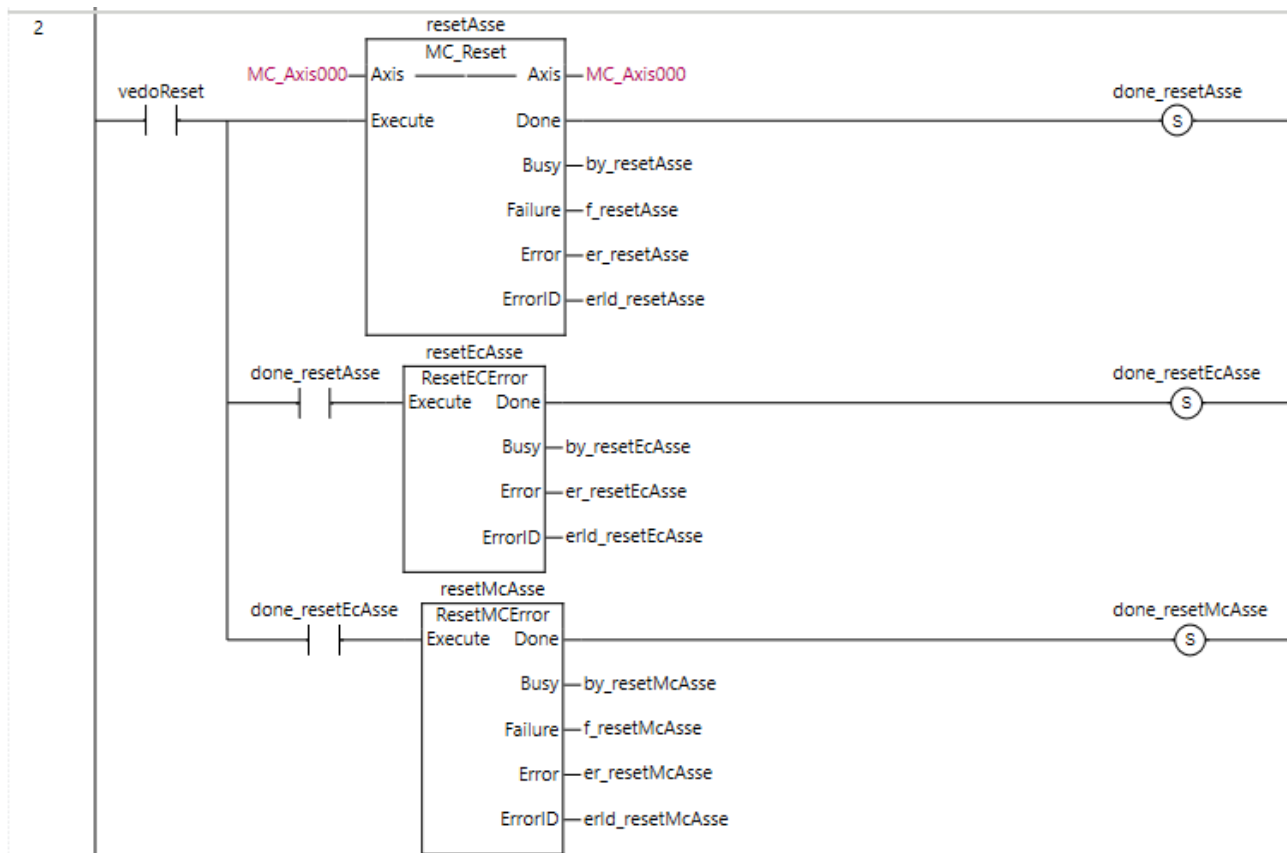
POWER

The first run is used to enable the system



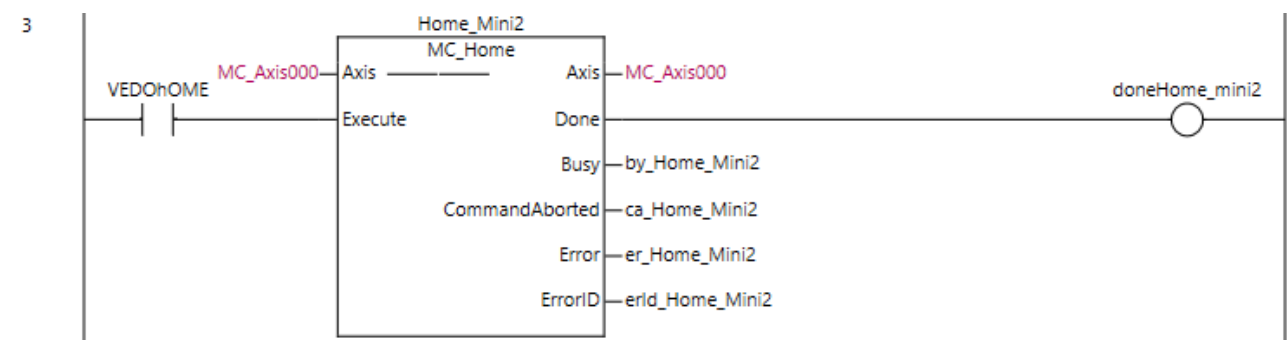
RESET

This run is used to reset the axis



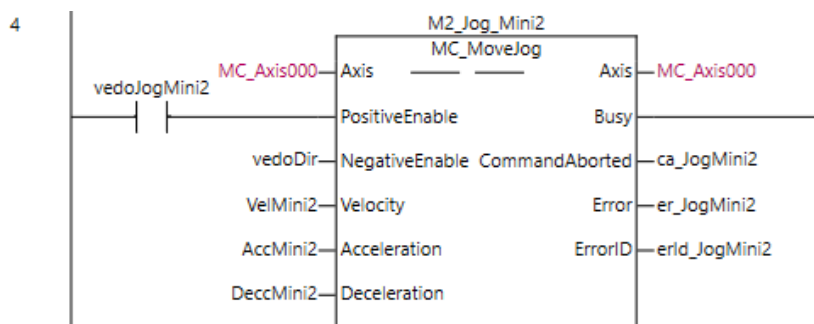
HOME

This rung is used to home the axis

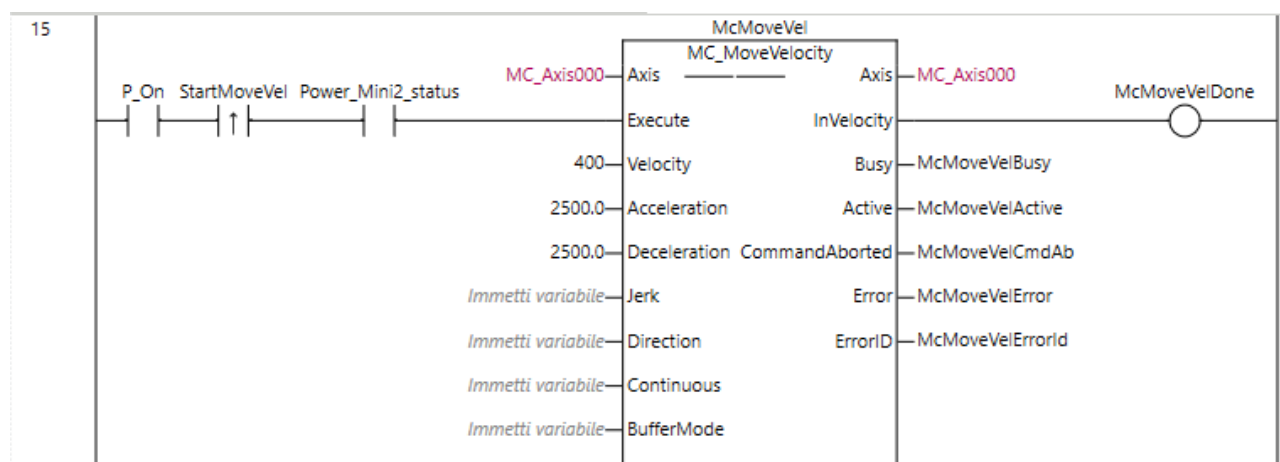


MOVEMENT

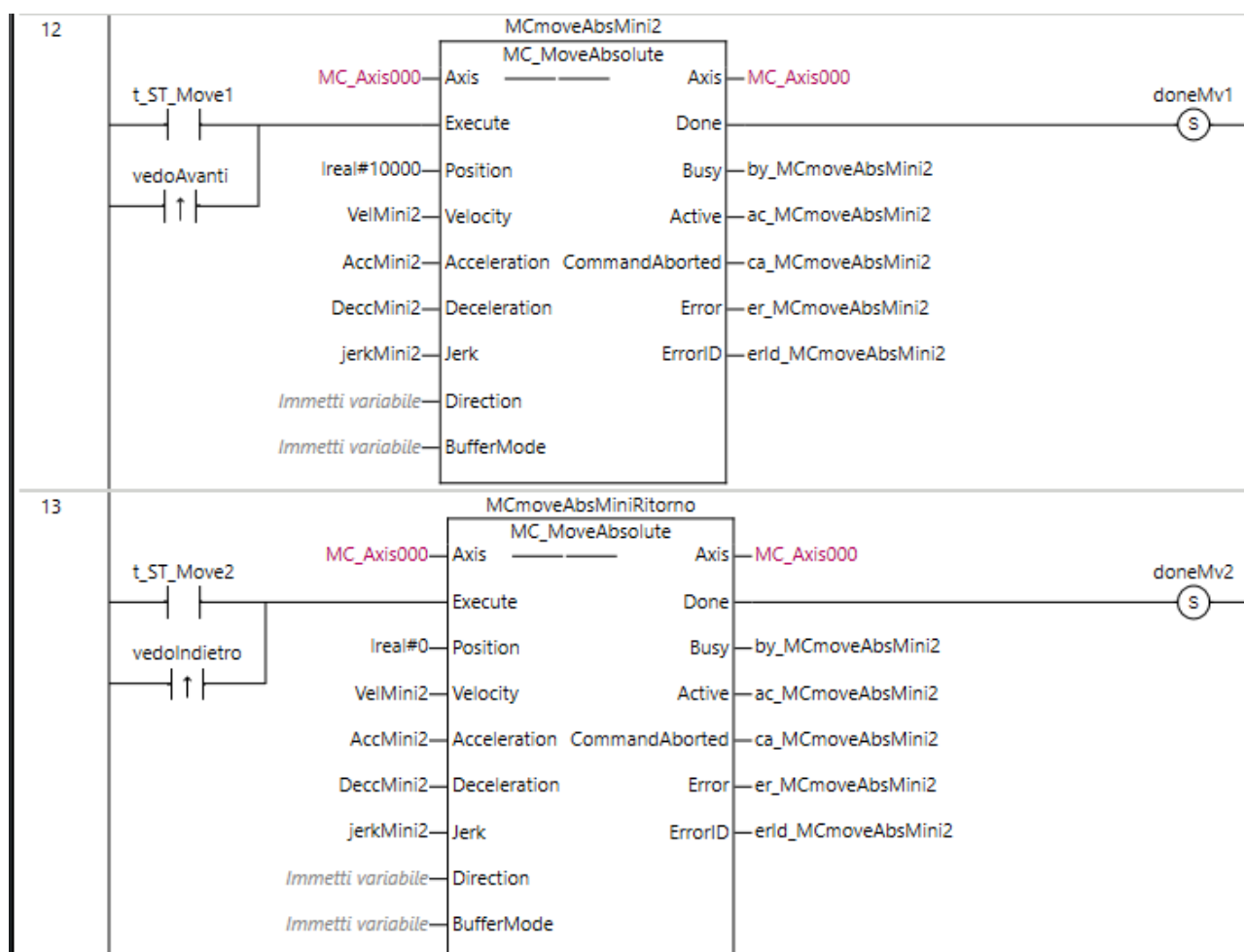
The movement in this example is shown with the Jog command



With the Move Velocity



And with the Positioning between two positions.



APPLICATION EXAMPLE – BECKHOFF

TOOLS

>> [Twincat 3 Profile Example](#) <<

>> [Twincat 3 CSP Example](#) <<

>> [DBS/FC BSI Interface Software](#) <<

OVERVIEW



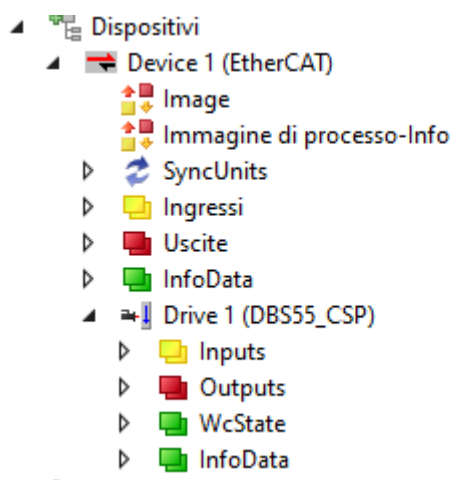
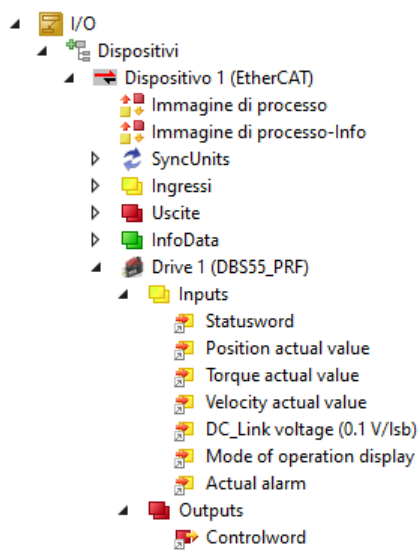
TcXaeShell 15.0.28307.1300 D15.9

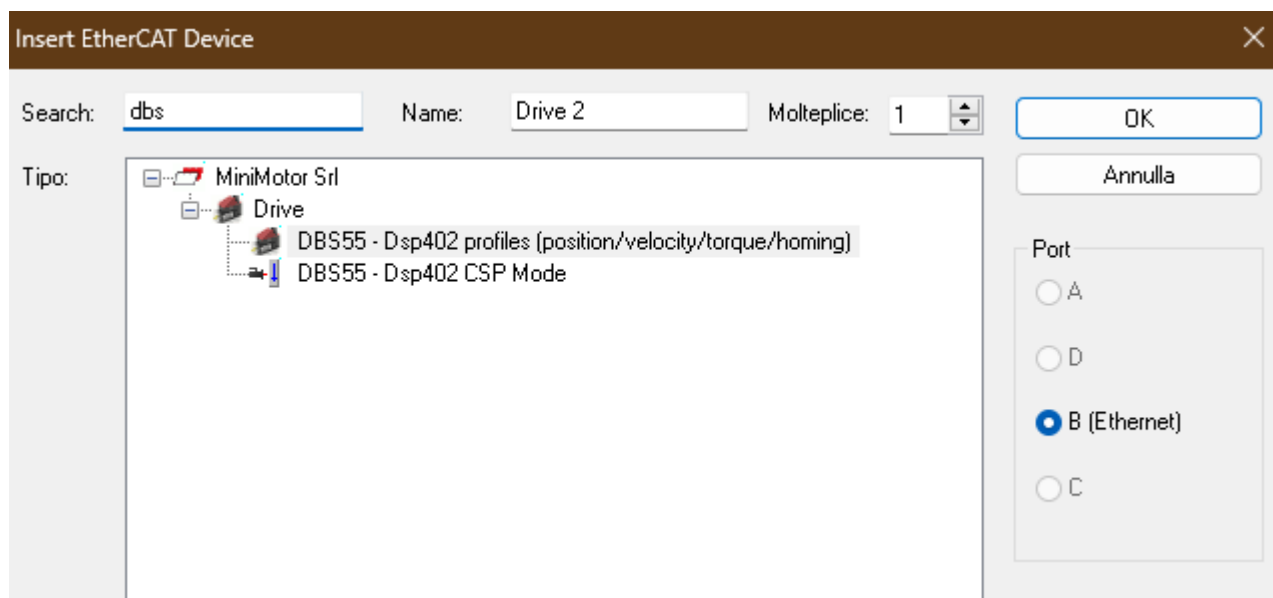
INSTALL ESI FILE

To install the ESI file simply copy it from the Device Description file folder from the BSI Interface Software to the \\TwinCAT\\3.1\\Config\\Io\\EtherCAT folder.

IMPORT MOTOR AND PDO CONFIGURATION

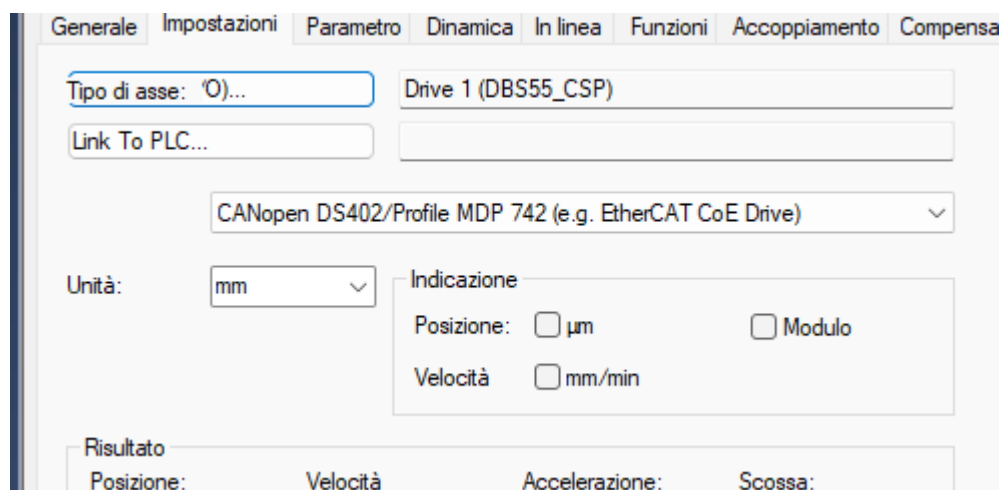
Simply add a Profile Device or CSP device under the EtherCAT device





Depending if you need to command the motor as a node using Profile Speed – Torque – Position or use it as an electrical Axis, in interpolated mode.

In interpolated mode it can be linked to a NC Axis with the following command profile



In the device property, in the Process Data Tab, you can build your cyclic data exchange to suit your needs

Generale EtherCAT DC Process Data Plc Arvio CoE - Online In linea

Sync Manager:

SM	Size	Type	Flags
0	128	MbxOut	
1	128	MbxIn	
2	12	Outputs	
3	14	Inputs	

PDO List:

Index	Size	Name	Flags	SM	SU
0x1A00	14.0	Inputs		3	0
0x1600	12.0	Outputs		2	0

PDO Assignment (0x1C12):

☒ 0x1600

PDO Content (0x1A00):

Index	Size	Offs	Name	Type	Default (hex)
0x6064:00	4.0	2.0	Position actual value	DINT	
0x606C:00	4.0	6.0	Velocity actual value	DINT	
0x6077:00	2.0	10.0	Torque actual value	INT	
0x3010:00	2.0	12.0	DC Link voltage (0.1 V/Veh)	UINT	

Download

☒ PDO Assignment

☒ PDO Configuration

Predefined PDO Assignment: (nessuno)

Load PDO info from device

Sync Unit Assignment...

Nome	Online	Tipo	Gran...	>Indiri...	Entra...	User ID	Collegato a
Statusword	X	UINT	2.0	71.0	Ingre...	0	nState1, nState2
Position actual v...	X	DINT	4.0	73.0	Ingre...	0	nDataIn1, In, Ingressi, ...
Velocity actual v...	X	DINT	4.0	77.0	Ingre...	0	nDataIn7, In, Ingressi, ...
Torque actual va...	X	INT	2.0	81.0	Ingre...	0	nDataIn3[0], nDataIn3, l...
DC Link voltage...	X	UINT	2.0	83.0	Ingre...	0	.DcLink, Standard Input...
WcState	X	BIT	0.1	1522.3	Ingre...	0	nState4, nState4
InputToggle	X	BIT	0.1	1524.3	Ingre...	0	nState4, nState4
State	X	UINT	2.0	1548.0	Ingre...	0	
AdsAddr	X	AMSADDR	8.0	1550.0	Ingre...	0	
Chn0	X	USINT	1.0	1558.0	Ingre...	0	
DcOutputShift	X	DINT	4.0	1559.0	Ingre...	0	nDcOutputTime, In, In...
DcInputShift	X	DINT	4.0	1563.0	Ingre...	0	nDcInputTime, In, Ingr...
Controlword	X	UINT	2.0	71.0	Uscita	0	nCtrl1, nCtrl2
Target position	X	DINT	4.0	73.0	Uscita	0	nDataOut1, Out, Uscite...

PROFILE EXAMPLE

In the Profile example provided, the system is already rigged to work with a single motor and show all possible basic function with the drive. The PDO is already built with all necessary variables to test all available profiles.

ETHERCAT - Rev 4.037

Fault Reset

Maximum Torque %

Profile Velocity Enable

Target Vel (rpm)

Profile Torque Enable

Target Torque (%)

Profile Pos Enable

Target Pos (pulses)

New Pos Absolute **New Pos Relative**

ChangeNow

Profile Homing Enable

Home

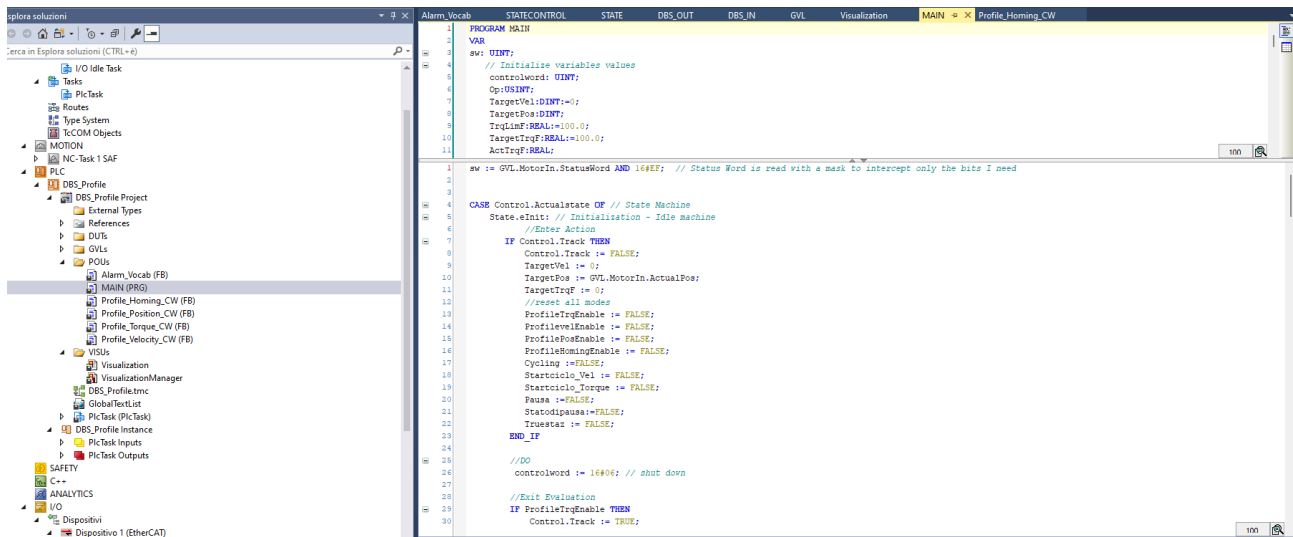


Status Word: 16#%x	CW Bit0 Switch On	SW Bit0 Ready to Switch On
Control Word: 16#%x	CW Bit1 Enable Voltage	SW Bit1 Switched On
Mode of Operation: %d	CW Bit2 Quick Stop	SW Bit2 Operation Enabled
Mode of Operation Display: %d	CW Bit3 Enable Operation	SW Bit3 Fault
Actual Vel: %d rpm	CW Bit4 New Setpoint	SW Bit4 Voltage Enabled
Torque: %4.1f%%	CW Bit5 Change Set Immediately	SW Bit5 Quick Stop
Actual Pos: %d pulses	CW Bit6 Abs-Rel	SW Bit6 Switch On Disabled
Actual Alarm: %d	CW Bit7 Fault Reset	SW Bit7 Warning
Profile Vel: %d rpm	CW Bit8 Halt	SW Bit8 M/S
Profile Acc: %d rpm/s	CW Bit9 Change on setpoint	SW Bit9 Remote
Profile Dec: %d rpm/s	CW Bit10 Reserved	SW Bit10 Target Reached
Position Limit NEG: %d pulses	CW Bit11 Touch Probe Offset mode	SW Bit11 Internal Limit Active
Position Limit POS: %d pulses	CW Bit12 Touch Probe Module mode	SW Bit12 Zero Speed / Set Point Ack
Homing Offset: %d pulses	CW Bit13 MS	SW Bit13 Slipage / Following Er
Homing Method: %d	CW Bit14 MS	SW Bit14 Touch Probe Armed
DC Link V: %d	CW Bit15 MS	SW Bit15 Touch Probe Saved

In the Visualization provided you can check the Control Word and Status Word state at every step of the test and you have two main command column. The one on the far left has all the keys for Enabling each operation Profile, with the relevant target value below the button.

In the central columns you can read all kinds of variables and write the relevant inputs, such as the acceleration and deceleration to build the trajectory.

The program is handled by the state machine built in the MAIN (PRG), and the satellites Function Blocks which handle the control word – status word dialogue between the motor and the PLC to transition to the correct state for operations.



CSP EXAMPLE

In the CSP example the motor is commanded as an electrical NC axis.

The drive is attached to an SDR_Axis and the motor is commanded using the MC_XXX function blocks.

MiniMotor - DBS55 demo CSP Interpolation

%s

RUN

Servodrive Enable

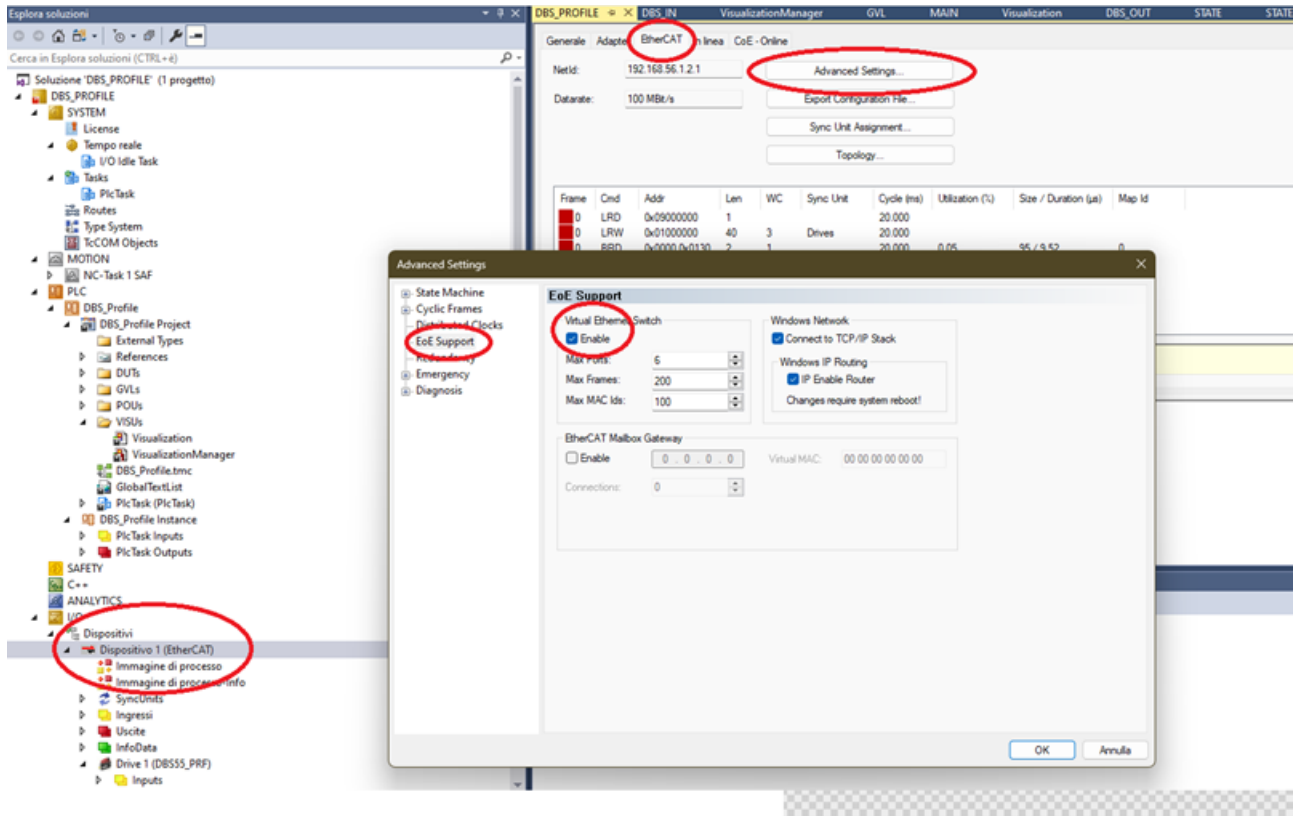
Move Velocity		Move Position		Move Between 2 positions		Home	
CC/CCW		POS %6.2f		POS1 %6.2f POS2 %6.2f			
SPEED	%6.0f %/s	SPEED	%6.0f %/s	SPEED	%6.0f %/s		
ACC	%6.0f %/s^2	ACC	%6.0f %/s^2	ACC	%6.0f %/s^2		
DEC	%6.0f %/s^2	DEC	%6.0f %/s^2	DEC	%6.0f %/s^2		
JERK	%9.0f %/s^3	JERK	%9.0f %/s^3	JERK	%9.0f %/s^3		

Using the interface it's possible to launch the motor in jog mode, in position mode, to have it flip between two positions and to home the motor position.

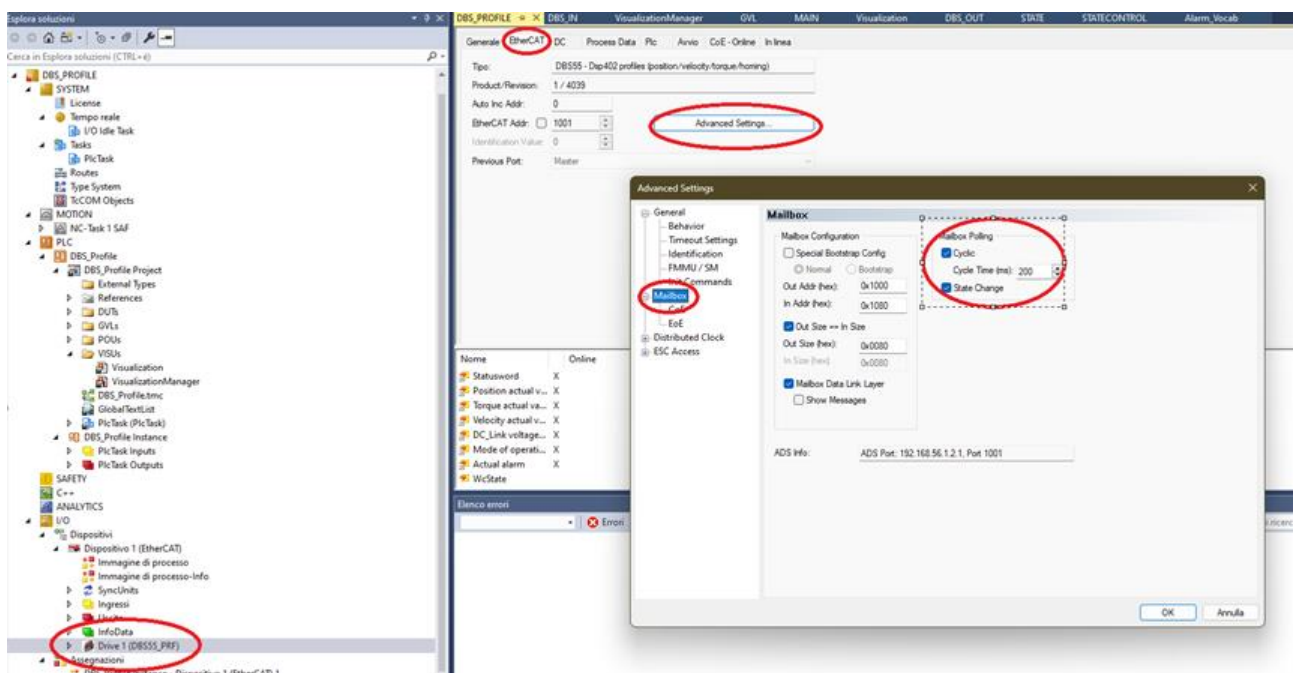
EOE ACTIVATION

If you want to activate the Ethernet over Ethercat feature on beckhoff, just follow this procedure:

- Select the Ethercat Master -> Ethercat tab -> Advanced Setting -> EoE Support -> Enable



- Select each device -> Ethercat Tab -> Advanced Setting -> Mailbox -> Activate Cyclyc polling (50-100ms)



- Then on the Device->Ethercat->Advanced Setting -> Mailbox -> Select and choose the IP address you want for it in the EoE tab.

Advanced Settings

- General
- Mailbox
 - CoE
 - EoE
- Distributed Clock
- ESC Access

EoE

☒ Virtual Ethernet Port

Virtual MAC Id:

☐ Switch Port

☒ IP Port

☐ DHCP

☒ IP indirizzo

Subnet Mask:

Default Gateway:

DNS Server:

DNS Name:

☐ Time Stamp Requested

- Build the program, download it and it will work.
- Mind that sometimes windows can get complicated with routing. In that case check with the route print command in windows CMD how things are set and you could add a route with the `route add [EoE device IP address] [PLC IP address]`.

```
C:\Users\riccardo.piccinini>route add 192.168.10.10 192.168.10.100|
```