

Installation instructions

i Refer to installation use and maintenance manual for more information.



2 Axis bipolar stepper drive technical data:

- DC Supply: 24 ÷ 48 Vdc
- Phase current: up to 4.2 Apeak for each motor
- Chopper frequency: ultrasonic 40 kHz
- Stepless Control Technology (65536 position per turn)
- Protections against: over current, over/under voltage, overheating, short circuit between motor phase-to-phase and phase-to-ground
- Industrial Ethernet interfaces: Powerlink or EtherCAT or Modbus TCP/IP or Profinet (see ordering code)
- Incremental Encoder (not isolated): 24V Sink or 5V Single-Ended (TTL/CMOS) (see ordering code)
- Service SCI interface for programming and real time debugging
- Dimensions: 98.6 x 84.4 x 44 mm (without connectors)
- Protection degree: IP65
- Pollution degree: 2
- Category C3 following standard EN 61800-3
- Working temperature: 5°C ÷ 40°C
- Storage temperature: -25°C ÷ 55°C
- Humidity: 5% ÷ 85% not condensing

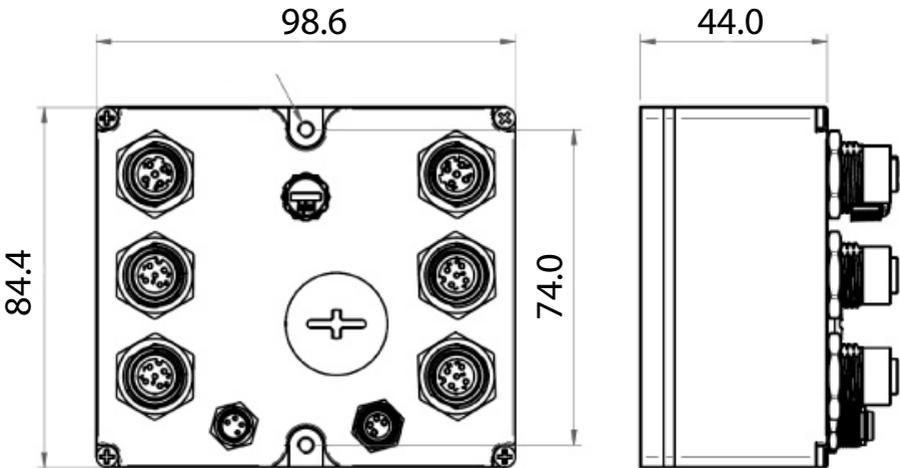
TITANIO
VECTOR - STEPPER - DRIVES



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Mechanical data

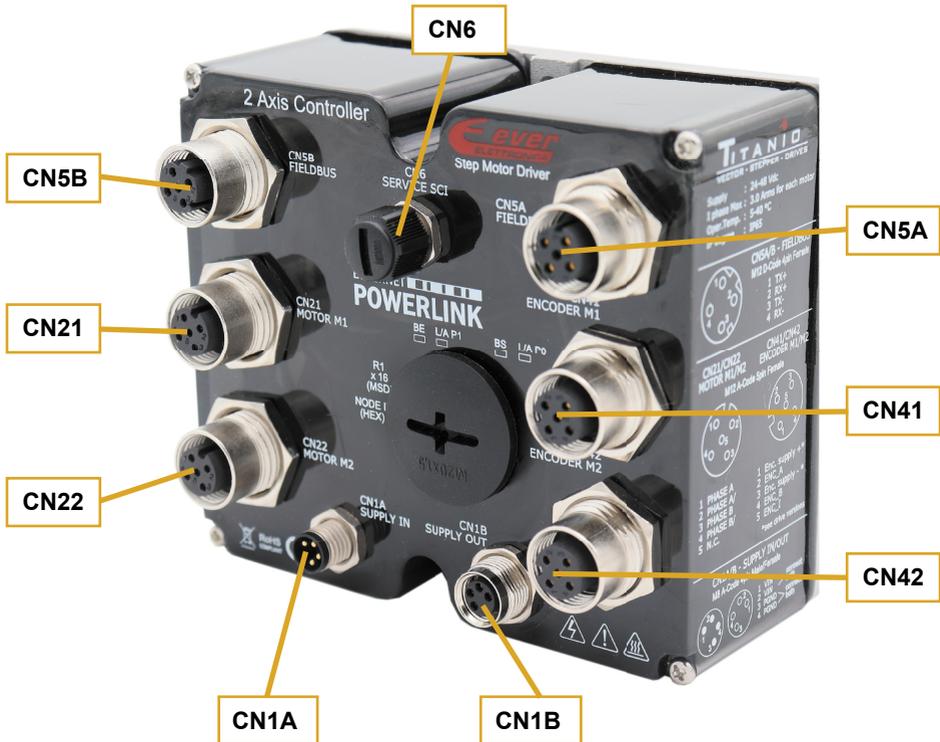


Available models

System code	Industrial ethernet interfaces	Incremental encoder type
SN4D2030R202-00	Powerlink	24V Sink
SN4D2030R202-01		5V Single-Ended (TTL/CMOS)
SN4D2030H202-00	EtherCAT	24V Sink
SN4D2030H202-01		5V Single-Ended (TTL/CMOS)
SN4D2030E202-00	Modbus TCP/IP	24V Sink
SN4D2030E202-01		5V Single-Ended (TTL/CMOS)
SN4D2030T202-00	Profinet	24V Sink
SN4D2030T202-01		5V Single-Ended (TTL/CMOS)

System connections

Connectors:



Since electromagnetic disturbances are deflected via the base plate on the back, it is important to ensure that the mounting location has good conductivity. The mounting location must also be connected with ground potential with good conductivity.



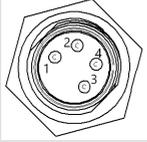
The supply is connected using circular connectors (M8, 4-pin). The supply is connected via connector CN1A (male). Connector CN1B (female) is used to route the supply to other modules. The maximum permissible current per pin is 4 A (in summation 8 A).

System connection

CN1A: Power supply IN

M8 A-Code 4 pins Male

CN1A.1	VIN	PWR_IN	Positive DC power supply input
CN1A.2	VIN		BOTH PINS MUST BE CONNECTED
CN1A.3	PGND	PWR_IN	Negative DC power supply input
CN1A.4	PGND		BOTH PINS MUST BE CONNECTED

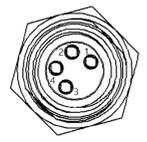


Note : VIN and PGND are each available in two terminal. Make sure that both terminal are connected in order to split the supply current in two terminal and thereby avoid an overload of the connector.

CN1B: Power supply OUT

M8 A-Code 4 pins Female

CN1B.1	VIN	PWR_OUT	Positive DC power supply output
CN1B.2	VIN		BOTH PINS MUST BE CONNECTED
CN1B.3	PGND	PWR_OUT	Negative DC power supply output
CN1B.4	PGND		BOTH PINS MUST BE CONNECTED



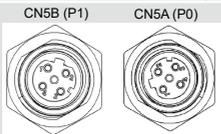
Note : VIN and PGND are each available in two terminal. Make sure that both terminal are connected in order to split the supply current in two terminal and thereby avoid an overload of the connector.

CN5A and CN5B: Industrial ethernet interface

100 BASE-TX (100Mb/sec) ports

Dual M12 D-Code 4 pins Female (P0-P1)

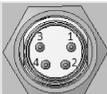
CN5x.1	TD+	DIG_OUT	Transmit Data +
CN5x.2	RD+	DIG_IN	Receive Data +
CN5x.3	TD-	DIG_OUT	Transmit Data -
CN5x.4	RD-	DIG_IN	Receive Data -
Housing	Connected to base plate		



CN6: Service SCI interface

M8 A-Code 4 pins Male

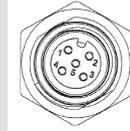
CN6.1	GND	GND Power out
CN6.2	+5L	+5V power out
CN6.3	DE/RE	Drive Enable Negated / Receive Enable
CN6.4	TX/RX	Transmit / Receive Line



CN21: Motor M1 connection

M12 A-Code 5 pins Female

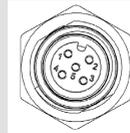
CN21.1	Phase A	PWR_OUT	Motor M1 output phase A
CN21.2	Phase A/	PWR_OUT	Motor M1 output phase A/
CN21.3	Phase B	PWR_OUT	Motor M1 output phase B
CN21.4	Phase B/	PWR_OUT	Motor M1 output phase B/
CN21.5	N.C.		Not connected



CN22: Motor M2 connection

M12 A-Code 5 pins Female

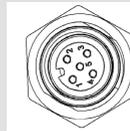
CN22.1	Phase A	PWR_OUT	Motor M2 output phase A
CN22.2	Phase A/	PWR_OUT	Motor M2 output phase A/
CN22.3	Phase B	PWR_OUT	Motor M2 output phase B
CN22.4	Phase B/	PWR_OUT	Motor M2 output phase B/
CN22.5	N.C.		Not connected



CN41: Encoder M1 input

M12 A-Code 5 pins Female

	24 V Sink version	5 V Single-Ended version
CN41.1	+24 Vdc	+5 Vdc
CN41.2		ENCA
CN41.3		GND
CN41.4		ENCB
CN41.5		ENCC



CN42: Encoder M2 input

M12 A-Code 5 pins Female

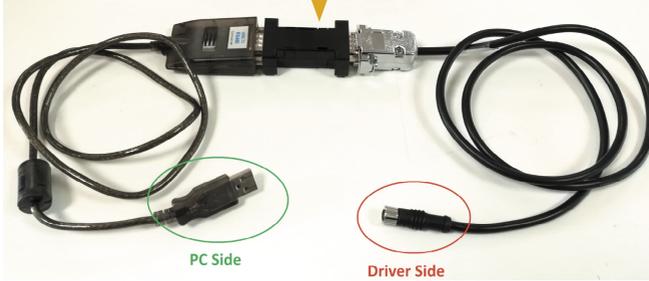
	24 V Sink version	5 V Single-Ended version
CN42.1	+24 Vdc	+5 Vdc
CN42.2		ENCA
CN42.3		GND
CN42.4		ENCB
CN42.5		ENCC



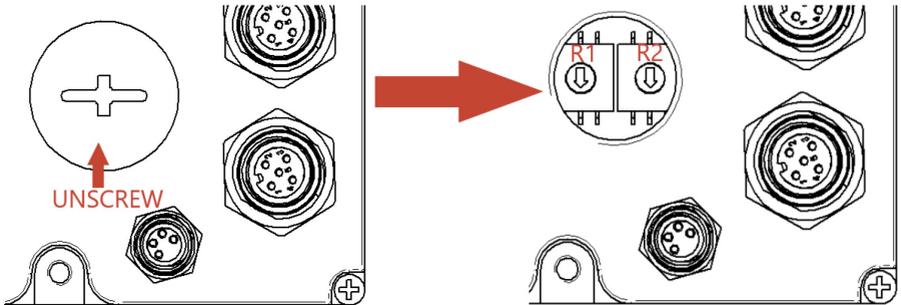
Service SCI connection



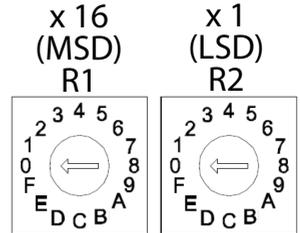
This connection is only possible with hardware and software provided by Ever.
Kit code: SN4D_SERV00-EE.



Roto-Switches settings



Node ID Selection (Hexadecimal Value)										
R1 x 16 (MSD)	0	0	0	0	...	2	2	...	F	F
R2 x 1 (LSD)	0	1	2	3	...	C	D	...	E	F
NODE ID #	SW settings (default)	1	2	3	...	44	45	---	254	255



R1 (MSD): Most Significant Digit that must be multiplied per 16
R2 (LSD): Least Significant Digit that must be multiplied per 1

Example: 5C
R1 = 5 ----> 5 x 16 = 80
R2 = C ----> 12 x 1 = 12
Node ID = 92

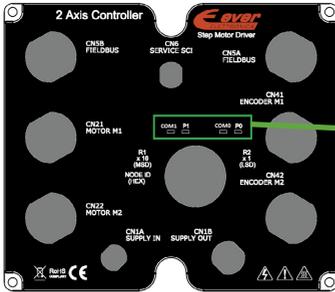


Node-ID selection from Roto-Switches are not used in all industrial ethernet protocol.
Refer to the software manual for more details.

Leds description

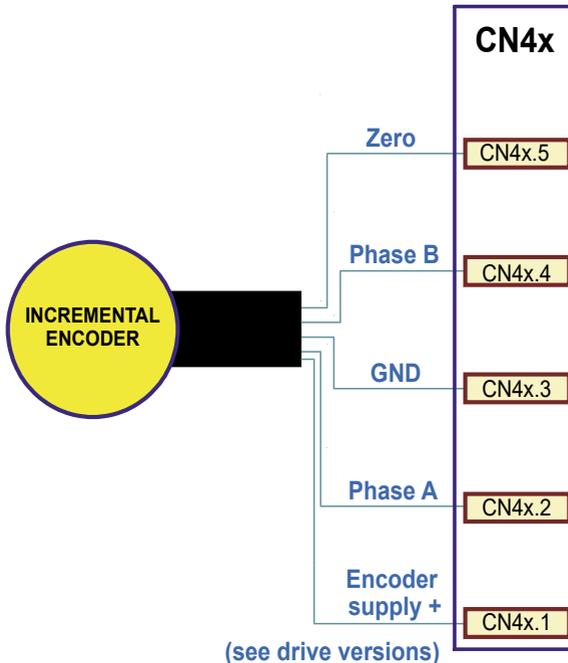
The meaning of LED's is defined by the industrial ethernet protocol used ([see ordering code](#)).
Refer to software manual for more details.

Led name	Powerlink	EtherCAT	Modbus TCP/IP	Profinet
COM0	BS - Green	RUN - Green	RUN - Green	SF - Red
COM1	BE - Red	ERR - Red	ERR - Red	BF - Red
P0	L/A P0 - Green	L/A IN - Green	LINK - Green ACT - Yellow	LINK - Green RX/TX - Yellow
P1	LA/P1 - Green	L/A OUT - Green	LINK - Green ACT - Yellow	LINK - Green RX/TX - Yellow



Encoder input connection (NOT isolated)

24V Sink or Single-Ended 5 Vdc TTL/CMOS ([see the ordering codes](#))



Maximum supply current 20 mA for each encoder (24V version).
Maximum supply current 100 mA for each encoder (5V version).

