

REMOTE DIGITAL I/O - CX-CAN-011 / CX-CAT-011

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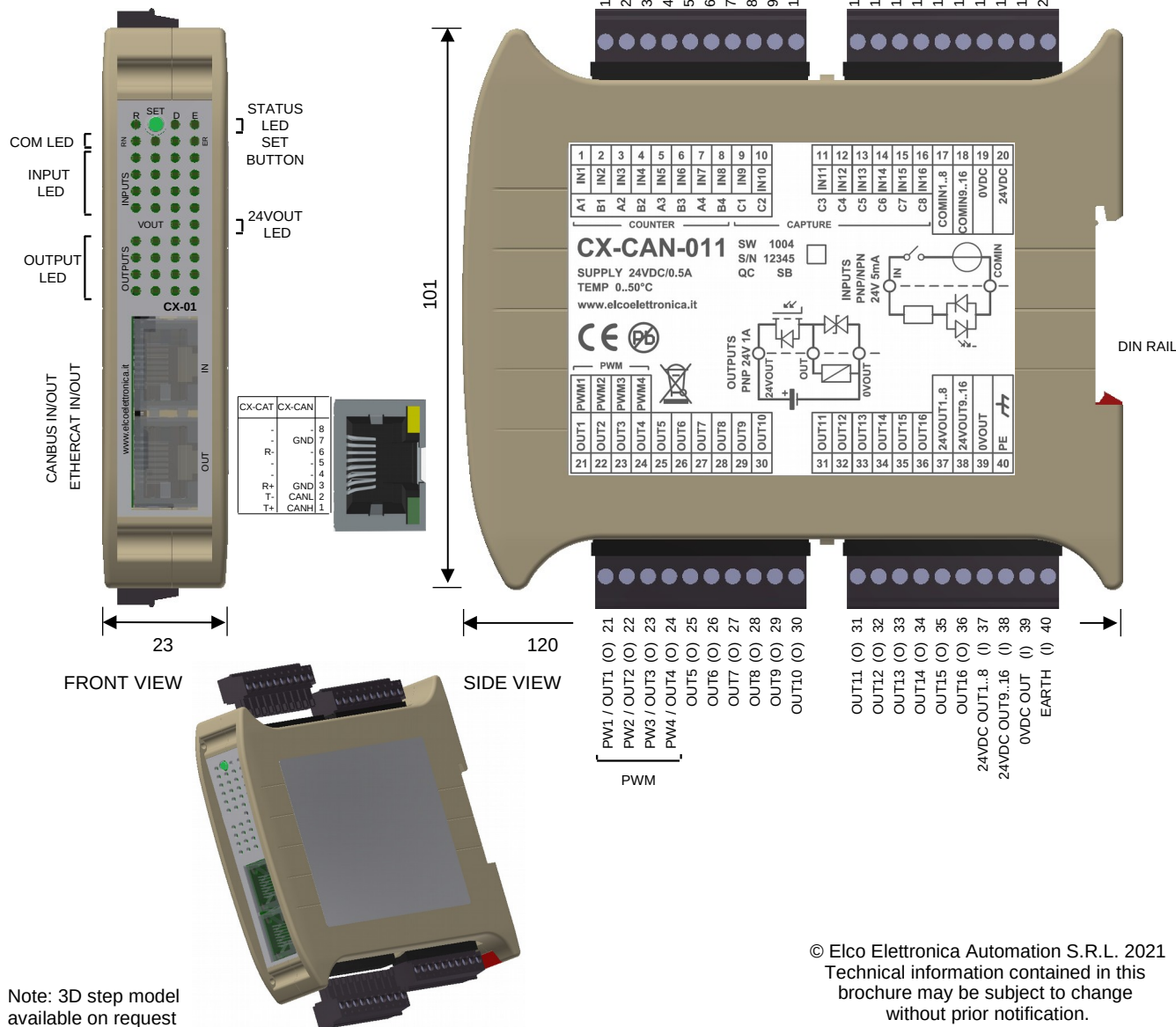
MAIN FEATURES

- 16 DIGITAL OPTO-ISOLATED 24V INPUT
- 2 INDEPENDENT AND SEPARATED SLOTS
- 4 MONO AND BIDIRECTIONAL COUNTER 5kHz
- 8 CAPTURE SIGNALS
- 16 DIGITAL OPTO-ISOLATED PNP 24V 1A OUTPUT WITH PROTECTION AND DIAGNOSTIC
- 2 INDEPENDENT AND SEPARATED SLOTS
- 4 PWM, OUTPUT 1kHz
- LED RUN, DIAG, ERROR AND COM
- ID AND BAUDRATE SETUP WITH LOCAL BUTTON OR VIA USB
- LED I/O WITH DIAGNOSTIC FUNCTIONS
- POWER SUPPLY 24VDC / 0.5A
- INDEPENDENT AND STANDARD IN/OUT BUS CONNECTORS
- TERMIC CONTROL
- CPU 32BIT / 72MHz / 128kB FLASH / 24kB RAM
- COMPACT DIMENSIONS AND DIN RAIL MOUNTING
- REMOVABLE SCREW CONNECTORS
- SW UPDATE VIA BUS
- STANDARD CANOPEN DS401 AND ETHERCAT CoE

TECHNICAL SPECIFICATION

Power Supply Protection	24Vdc $\pm$ 10% 0.5A Protection against s.c. and inversion
Temperature	0..50°C
Protection	IP20
Digital Input and fast counters	PNP/NPN/PP 24V 5mA 10ms 2.5kV 0...5Vil / 19...30Vih 5kHz
Digital Output	PNP 24V 1A (8A tot) 10ms 2.5kV
Can Bus Ethercat	1 Mbps Max 10/100 Base T
Dimensions	23 x 101 x 119 mm

DIMENSIONS



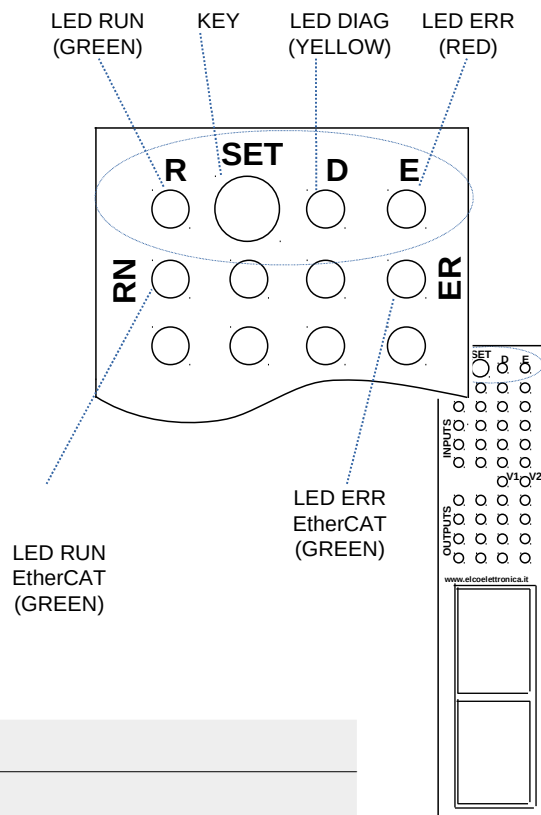
STATUS AND CONFIGURATION

CX module has a configuration key and 3 STATUS LED: LED RUN (green) LED DIAG (yellow) and LED ERR (red)

Every LED has its own function and all the status are described in the lower table: the green LED is for the power supply and communication status, the yellow LED is for the device status and the red LED is for alarm status.

The module configuration / setup can be performed via Sw or, for the Can Open version, with the mechanical key. With this button it is possible to set ID and BAUDRATE (ref. MANUAL SETUP PROCEDURE FOR CANOPEN) and the default values are ID=1 and BAUDRATE=1Mbps.

Below the RUN and ERROR LED there are 2 more led, specific for EtherCAT communication: the green on the left is for RUN status, and the red on the right for the ERROR status.



MANUAL SETUP PROCEDURE FOR CANOPEN

1. power up the module keeping the key button pressed: the 3 status LED will light ON and then OFF
2. the green LED will blink a number of times corresponding to the current ID
3. press the button how many times you need and the number of press will set the correspondent ID (max 32), then the green LED will blink according to the setup
4. press the key for a while in order to access the BAUDRATE setting and the yellow led will blink according to the current BAUDRATE

baudrate	
1	1Mbps
2	500kbps
3	250kbps
4	125kbps
5	62.5kbps

5. press the button how many times you need and the number of press will set the correspondent Baudrate
6. keep pressed the button for a while in order to complete the procedure and LED will start working in operation mode

LED	STATUS	DESCRIPTION
R (GREEN)	OFF	POWER OFF
	ON	POWER ON AND READY
	BLINK	COMMUNICATION IS RUNNING
D (YELLOW)	ON	"OPERATIONAL" STATUS
	FAST BLINK	"PRE-OPERATIONAL" STATUS
	SLOW BLINK	"STOP" STATUS
E (RED)	OFF	NO ERROR
	ON	COMMUNICATION ERROR AND "BUS OFF"
	BLINK	INTERNAL ERROR (THE BLINK NUMBER REFERS TO A SPECIFIC ERROR STATUS)

RESTORE TO FACTORY SETTINGS PROCEDURE

1. enter the setup mode
2. press the key button and keep it pressed for a long time (> 10s)
3. the 3 LED will blink and then will stay ON continuously
4. when the 3 LED are ON, after 3 seconds release the key.

ID, BAUDRATE and all parameters will be back to the *default*.

INPUT, OUTPUT AND WIRINGS

DIGITAL INPUT

The digital inputs are divided in two independent slots, isolated from the main power supply and from each other. These slots have two independent commons.

Every slot can be used in NPN or PNP mode

The two commons can be wired together and also with the main power supply.

The first 8 inputs (first slot) can also be assigned to counter functions, bidirectional mode (A e B) or monodirectional mode (A), and in this second way the B input will be available as a standard input.

Signals and sensors NPN or PNP or PP 24V can be used according to the slot configuration.

The counting maximum speed for 24V PP and duty-cycle max 40..60% can be 14kHz in monodirectional mode and 5kHz in bidirectional (NPN or PNP signals can perform lower speed, based on the cable lenght and sensor characteristics).

The second 8 inputs (second slot) can also be assigned to capture functions, in order to capture a counter position or to set outputs, and latency is 0.1ms on the rising edge and 0.2ms on the falling edge.

There are also 16 leds in the front panel indicating the inputs status.

DIGITAL OUTPUT

The digital outputs are divided in two independent slots, isolated from the main power supply and with two independent power supplies (0V is in common).

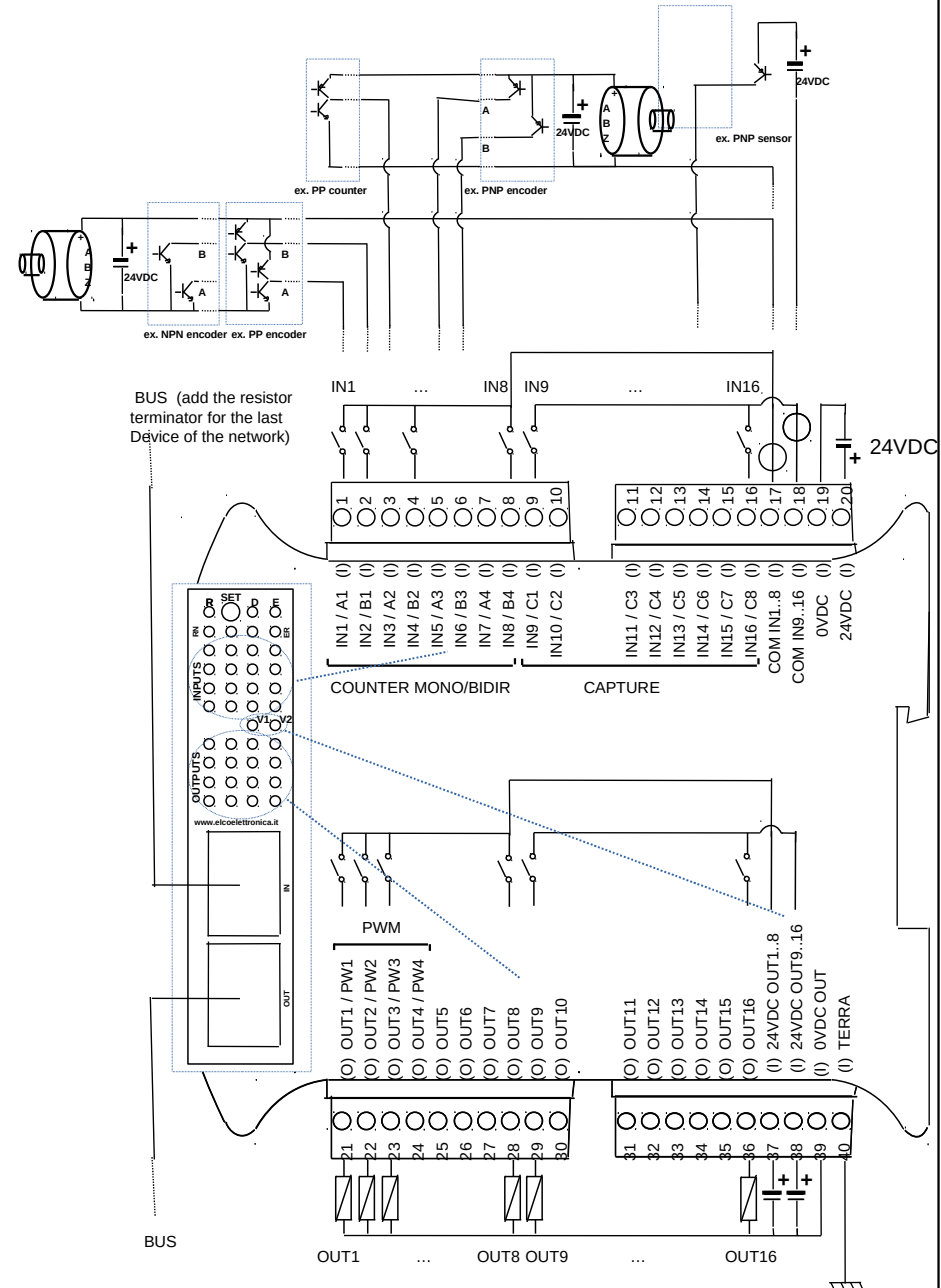
The outputs are PNP 24V 1A - 8A total (internally the outputs are group of 4 and it's suggested to distribute the power load).

The output are protected from shortcircuit, over temperature, over voltage and from inductive load.

There are two leds indicating the power supply of each slot.

There are 16 leds indicating the output status: ON /OFF when the output is ON or OFF, blinking slow in case of wiring mistake or short circuit and blinking fast (group of 4) in case of over temperature alarm.

The first 4 outputs can be also used for PWM signals (max 1 KHz): because of PNP signals, the higher frequencies can only be reached with low impedance loads and the duty-cycle is in any case distorted.



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ORDER CODES

P/N

CX-CAN-011

CX-CAT-011

DESCRIPTION

I/O (16+16) DIGITAL CANBUS

I/O (16+16) DIGITAL EtherCAT

P/N

CX-CABLE-7-KIT5

CX-CAN-TERM-KIT5

OPTIONAL

KIT WITH RJ45 7.5cm CABLES (5pcs)

KIT WITH 120 ohm resistor TERMINATOR CANBUS (5pcs)

DECODIFICA

CX - CAN - 01 1

Series Bus Type Rev.

CX SERIES – CE DECLARATION OF CONFORMITY

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Manufacturer

Elco Elettronica Automation S.R.L.

Address

**Via Costituzione 50
42015 Correggio (RE)
Italy**



Declares that product(s)

CX-CAN-011 (CX series modules)

conforms to EC Directives

DIRECTIVE 2014/30/EU – Electromagnetic Compatibility

DIRECTIVE 2012/19/UE – RAEE

DIRECTIVE 2011/65/EU – Reduction of Hazardous Substances

and specifically to the following standards

EN61000-6-2 Immunity for industrial environments

EN61000-6-3 Emission standard for residential, commercial and light-industrial environments

EN61000-4-2 Electrostatic discharge immunity test

EN61000-4-3 Radiated RF electromagnetic field immunity test

EN61000-4-4 Electrical fast transient immunity test

EN61000-4-5 Surge immunity test

EN61000-4-6 Immunity to conducted disturbances induced by RF fields

Correggio, 09/10/2020

*Alberto Ligabue
General manager*



Via Costituzione, 50 | 42015 | Correggio (RE)

Tel: +39 0522691024 | Fax: +39 0522 691322

elco@elcoelettronica.it www.elcoelettronica.it