

MAIN FEATURES

This board is used when it is necessary to adjust encoder electronic features to control ones.

Main functions of EMB are output signal splitting and adaptation of output stages.

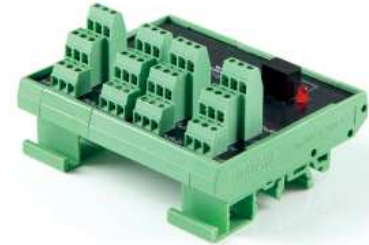
For instance, it happens to have an encoder with 5 V DC output and a control that accepts only 24 V DC inputs. It may also happen to use an encoder connected with a control with the same power supply, but different electronics.

It can solve a wide range of problems: check the ordering code to find further informations.

On the board there can be up to 2 different voltages and it must be supplied through the X4 connector with the higher voltage used. Moreover it is possible to obtain up to 8 outputs from the same input by assembling several boards in a single support in order to reduce wirings drastically.

In this case the ordering code will contain informations about all outputs.

For example, a board with one 5 V DC NPN input and eight 5 V DC line driver outputs has the following ordering code: **EMB5N5L5L5L5L5L5L5L**.



ORDERING CODE	EMB	*0	5	L	8/24	P	8/24	P	.2V	.XXX
SERIES signal splitter EMB										
INPUT OPTION * add for optically isolated input 0										
INPUT VOLTAGE X1 CONNECTOR 5 V DC 5 (mod. EMB) 8 ... 24 V DC 8/24 (mod. EMBO) 24 V DC 24										
INPUT ELECTRONICS X1 CONNECTOR (mod. EMB) NPN N (mod. EMB) NPN open collector C push-pull P line driver L (mod. EMB) PNP R										
OUTPUT VOLTAGE (OUT1) X2 CONNECTOR 5 V DC 5 (mod. EMB) 8 ... 24 V DC 8/24 (mod. EMBO) 24 V DC 24										
OUTPUT ELECTRONICS (OUT1) X2 CONNECTOR (mod. EMB) NPN N (mod. EMB) NPN open collector C push-pull P line driver L										
OUTPUT VOLTAGE (OUT2) X3 CONNECTOR 5 V DC 5 (mod. EMB) 8 ... 24 V DC 8/24 (mod. EMBO) 24 V DC 24										
OUTPUT ELECTRONICS (OUT2) X3 CONNECTOR (mod. EMB) NPN N (mod. EMB) NPN open collector C push-pull P line driver L										
VERSION version 2. .2V										
VARIANT custom version .XXX										

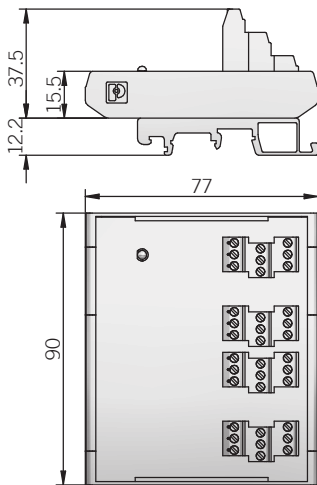
The following example may explain better a typical EMB application: an encoder with 5 V DC RS-422 output has to be connected to a 24 V DC push-pull input and also to an instrument with 5 V DC RS-422 input. Ordering code will be: **EMB5L8/24P5L** where

EMB5L indicates 5 V DC line driver input on X1 connector
 EMB5L8/24P indicates 24 V DC push-pull output on X2 connector
 EMB5L8/24P5L indicates 5 V DC line driver output on X3 connector

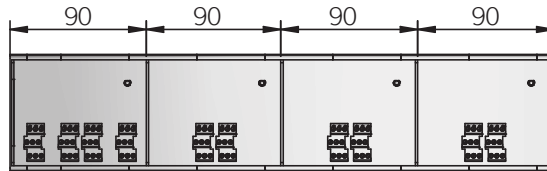
Power supply of this board is 24 V DC, because it is the highest used value, and it will be supplied through X4 connector.

EMB

Single implementation



dimensions in mm

Multiple implementation
(4 modules / 8 outputs max)

ELECTRICAL SPECIFICATIONS



Power supply¹	5 = 4,5 ... 5,5 V DC 8/24 = 7,6 ... 30 V DC (reverse polarity protection) 24 = 22,8 ... 25,2 V DC (reverse polarity protection)
Current consumption without load on X4	70 mA max
Supply current on X1 (for sensor power supply)	100 mA max
Max current consumption	$I_{max} = 280 + 960 + 100 = 1340$ mA considering: 4 x EMB = $70 \times 4 = 280$ mA 3 x 8 outputs (40mA each) = 960 mA 1 x input sensor supply current = 100 mA
Electrical interface² (input)	N / C / P / 8/24L / R = window comparator with hysteresis 5L = RS-422 (26LS32 or similar)
Electrical interface² (output)	NPN / NPN open coll. (AEIC-7273, pull-up max +30 V DC) push-pull / line driver HTL (AEIC-7272) 5L = line driver RS-422 (AELT-5000 or similar)
Electromagnetic compatibility	according to 2014/30/EU directive
RoHS	according to 2011/65/EU directive
UL / CSA	certificate n. E212495

X1 INPUT ELECTRONIC SPECIFICATIONS

Input type	Max load current (mA per channel)	Max input frequency (kHz)*
5P (TTL compatible)	15	100
5L (RS-422 compatible)	40	200
8/24P (push pull)	20	100
8/24L (line driver HTL)	20	100
8/24N (NPN)	20	10
8/24C (NPN open)	20	10
8/24R (PNP)	20	10

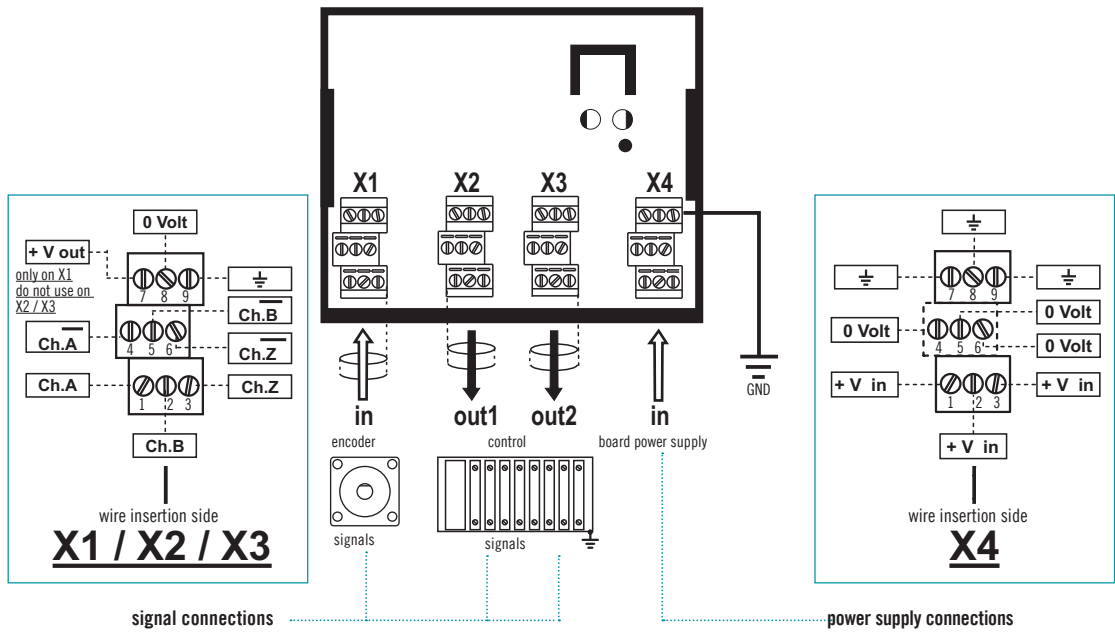
* depending on length and cable specs

MECHANICAL SPECIFICATIONS

Enclosure rating	IP00	
Operating temperature^{3,4}	-20° ... +85°C (-4° ... +185°F)	
Storage temperature⁴	-20° ... +85°C (-4° ... +185°F)	
Mounting type	 DIN 46277-3 rail (Omega)	 DIN 46277-2 rail (Omega)
Weight	150 g (5,29 oz) (1 module)	

¹ as measured at the terminal board without cable influences² for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section³ measured on rack⁴ condensation not allowed

TERMINAL BOARD CONNECTIONS



APPLICATION EXAMPLES

