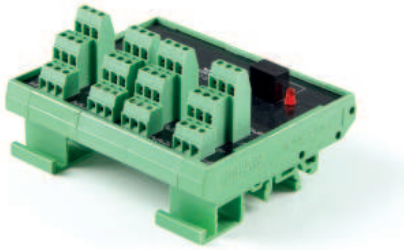
MAIN FEATURES

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.**

UNI EN ISO 9001:2008



			in		out1		out2 (optional)			
ORDERING CODE	**EMB**	***0**	**5**	**L**	**8/24**	**P**	**8/24**	**P**	**. 2V**	**. XXX**

SERIES
signal splitter EMB

INPUT OPTION
** add to ordering code for optically isolated input*

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

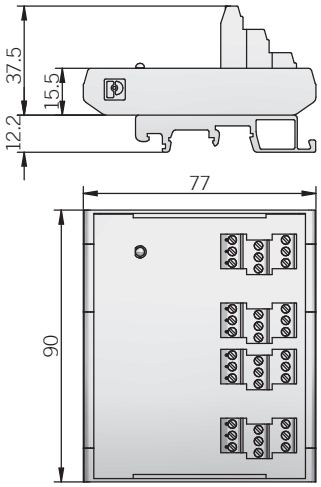
The following example may explain better a typical EMB application: an encoder with 5 V DC RS-422 output has to be connected to a 24 V DC push-pull input and also to an instrument with 5 V DC RS-422 input. Ordering code will be: **EMB5L8/24P5L** where

EMB**5L** indicates 5 V DC line driver input on X1 connector
EMB5L**8/24P** indicates 24 V DC push-pull output on X2 connector
EMB5L8/24P**5L** indicates 5 V DC line driver output on X3 connector

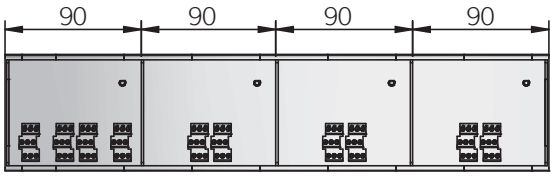
Power supply of this board is 24 V DC, because it is the highest used value, and it will be supplied through X4 connector.

EMB

Single implementation



Multiple implementation (4 modules / 8 outputs max)



dimensions in mm

ELECTRICAL SPECIFICATIONS

Power supply	5 = 4,5 ... 5,5 V DC 8/24 = 7,6 ... 25,2 V DC 24 = 22,8 ... 25,2 VDC
Current consumption without load on X4	70 mA max
Supply current on X1 (for sensor power supply)	100 mA max
Max current consumption	Imax = 280 + 960 + 100 = 1340 mA considering: 4 x EMB = 70 x 4 = 280 mA 3 x 8 outputs (40mA each) = 960 mA 1 x input sensor supply current = 100 mA
Output type *	NPN / NPN open collector / push-pull / line driver
Electromagnetic compatibility	IEC 61000-6-1 IEC 61000-6-4

**output levels according to power supply, for further details please see under Technical basics section*

MECHANICAL SPECIFICATIONS

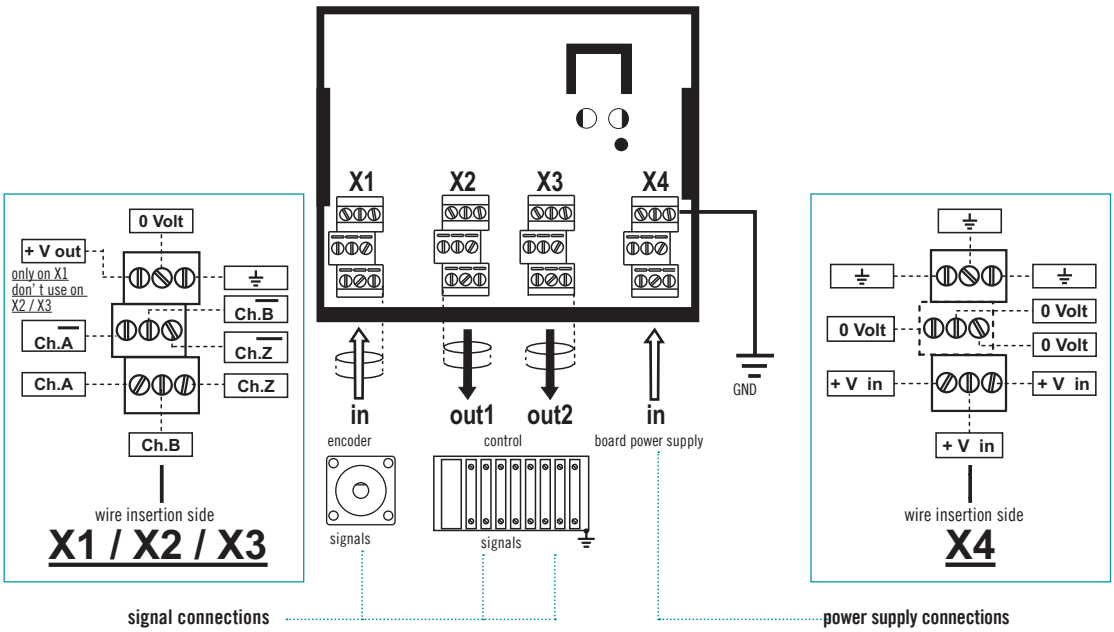
Enclosure rating	IP00
Operating temperature	-20° ... +85°C (-4° ... +185°F)
Storage temperature	-20° ... +85°C (-4° ... +185°F)
Fixing type	 DIN 46277-3 rail (Omega)  DIN 46277-2 rail (Omega)
Weight	150 g (5,29 oz) (1 module)

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 coll)	20	10
8/24R (PNP)	20	10

** depending on lenght and cable specs*

TERMINAL BOARD CONNECTIONS



APPLICATION EXAMPLES