MAIN FEATURES

This board is used when it is necessary to select a signal among a maximum of 3 inputs.
The EMD board accepts input signals coming from a maximum of 3 encoders and provides as output the signals of one of these encoders.
Output signals are selected connecting properly the two inputs, in1 and in2, according to the operating diagram (see next page).
EMD and encoder electronics must be indicated in the ordering code and the electrical interfaces of the connected encoders must be all identical. Moreover the EMD provides 3 contacts normally open that close when respective input is selected.
The following example is needful to understand better the use of this board.
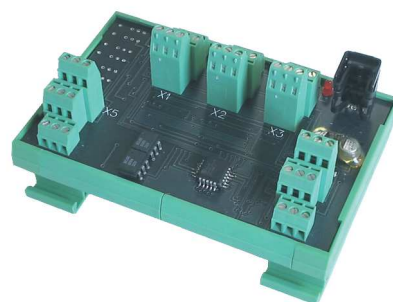We would like to read the signals of 3 encoders (or other devices with similar features) in sequential way. Encoders must have same output electronics, for example 5 V DC line driver. The instrument for data acquisition, on the contrary, has a different electrical interface, for example 24 V DC push-pull.
In this case the EMD board will perfom the selection function among the connected encoders and the matching of the electrical interfaces.

The ordering code will be:
EMD5L8/24P, where EMD**5L** indicates that inputs are 5 V DC line driver, EMD5L**8/24P** indicates that output is 8÷24 V DC push-pull. EMD power supply must be the highest value among requested voltages: in this case 8÷24 V DC. The encoder selection is carried out through a logic type signal at in1 and in2 inputs on the terminal board.
Logic level "1" is obtained connecting a voltage included between 5 and 24 V DC to above mentioned inputs.
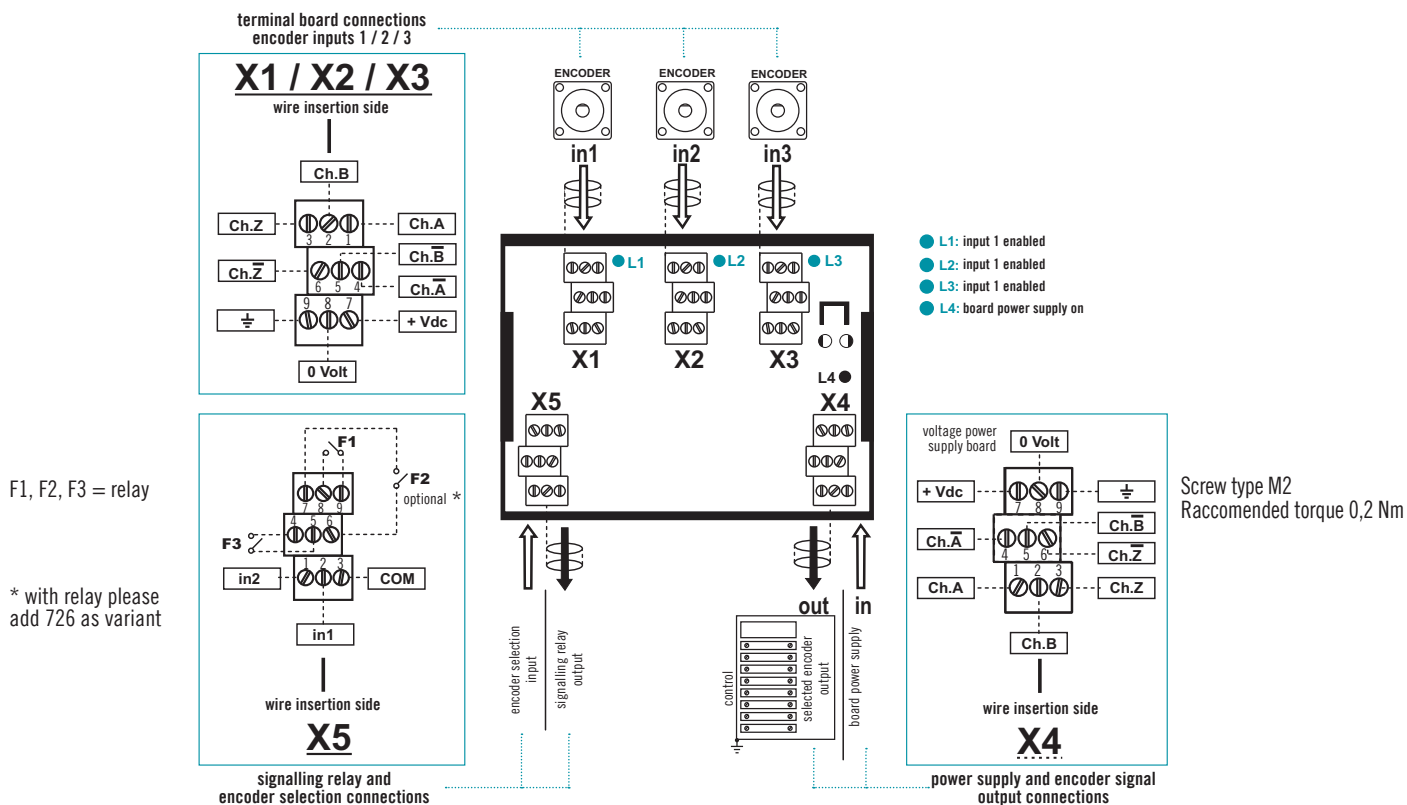Logic level "0", instead, is correctly interpreted if voltage is included between 0 and 3 V DC. The combination of logic levels at in1 and in2 inputs sets outputs to 4 different states, as described in the table in the following page.

ORDERING CODE	EMD	in		out		
		5	L	8/24	P	. XXX

SERIES
signal selector EMD

INPUT VOLTAGE X1 / X2 / X3 CONNECTOR
5 V DC 5
8 ... 24 V DC 8/24

INPUT ELECTRONICS X1 / X2 / X3 CONNECTOR
(with input voltage 8/24) push-pull P
line driver L

OUTPUT VOLTAGE X4 CONNECTOR
5 V DC 5
8 ... 24 V DC 8/24

OUTPUT ELECTRONICS X4 CONNECTOR
push-pull P
line driver L

VARIANT
custom version XXX
add 726 as variant for relay model

TERMINAL BOARD CONNECTIONS

terminal board connections
encoder inputs 1 / 2 / 3

X1 / X2 / X3
wire insertion side

ENCODER   ENCODER   ENCODER

in1   in2   in3

Ch.B
Ch.Z   Ch.A
Ch.Z̄   Ch.B̄
Ch.Ā
+ Vdc
0 Volt

L1   L2   L3
X1   X2   X3
L4

● L1: input 1 enabled
● L2: input 1 enabled
● L3: input 1 enabled
● L4: board power supply on

F1, F2, F3 = relay

F1
F2 optional *
F3
in2   COM
in1

* with relay please
add 726 as variant

wire insertion side
X5
signalling relay and
encoder selection connections

X5   X4

encoder selection input
signalling relay output

out   in

control
selected encoder output
board power supply

voltage power supply board

0 Volt
+ Vdc   ÷
Ch.Ā   Ch.B̄
Ch.Z̄
Ch.A   Ch.Z
Ch.B

Screw type M2
Raccomended torque 0,2 Nm

wire insertion side
X4
power supply and encoder signal
output connections

LOGIC STATES

Logic state on X5		Selected encoder on X4			Selected contact on X5 (with variant 726)		
in1	in2	X1	X2	X3	F1	F2	F3
0	0	-	-	-	-	-	-
1	0	●	-	-	●	-	-
0	1	-	●	-	-	●	-
1	1	-	-	●	-	-	●

ELECTRICAL SPECIFICATIONS

Power supply[1]	5 = 4,5 ... 5,5 V DC 8/24 = 7,6 ... 25,2 V DC
Current consumption without load	150 mA max
Max output current	P = 20 mA / channel L = 40 mA / channel
Electrical interface[2]	push-pull / line driver
Max input current	10 mA for channel
Input logic levels in1 and in2	"1" = 5 ... 24 V DC "0" = 0 ... 3 V DC
Contact specifications	Vmax = 125 V AC / 60 V DC Imax = 0,5 A Vmin = 5 V DC Imin = 1 mA
Electromagnetic compatibility	according to 2014/30/EU directive
RoHS	according to 2011/65/EU directive
UL / CSA	certificate n. E212495

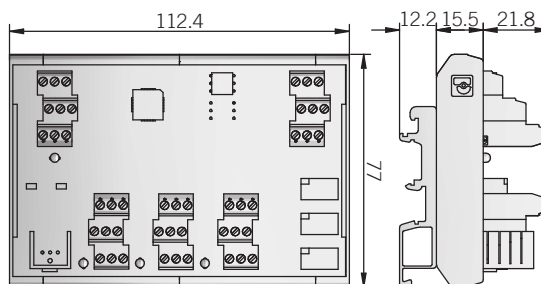[1] as measured at the terminal board without cable influences
[2] for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section
[3] measured on rack
[4] condensation not allowed

MECHANICAL SPECIFICATIONS

Enclosure rating	IP00
Operating temperature[3, 4]	0° ... +40°C (+32° ... +104°F)
Storage temperature[4]	-10° ... +60°C (+14° ... +140°F)
Mounting type	DIN 46277-3 rail (Omega) DIN 46277-2 rail (G type)
Weight	150 g (5,29 oz)

112.4   12.2 15.5 21.8   77

dimensions in mm

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