CEBEK®
ELECTRONIC CIRCUITS

I-77
"AND" / "NAND" LOGICAL DOOR with RELAY.

The I-77 module do the AND/NAND logic operation regarding two input signals, connecting the corresponding output. It allows to select the operating mode as AMD or NAND door.
It incorporates indicator LED and protection against polarity inversion.

TECHNICAL CHARACTERISTICS.

Voltage.	12 V. D.C.
Minimum Consumption.	5 mA.
Maximum Consumptio.	55 mA.
Maximum admissible load.	5 A.
Input signal level .	0 - 12 V. D.C. (TTL - CMOS).
Protection against polarity inversion, (P.I.P.).	Si.
Dimensions.	70 x 38 x 30 mm.

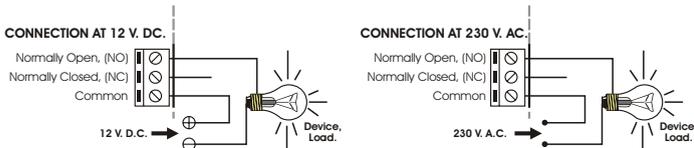## POWER SUPPLY and INSTALLATION..

POWER SUPPLY. Th I-77 circuit had to be supplied by a 12 VDC power supply correctly filtered. For this reason we recommend you to use the FE-2 power supply, which has been developed to perfectly answer to the circuit needs. To supply the module you have to connect the positive and the negative of the power supply to the respective terminals indicated as "Power", respecting the corresponding polarity. The distance between the power supply and the module has to be as short as possible.
Install a fuse and a switch has it is indicated on the "General Wiring Map" drawing. Both are necessary for the module's protection as well as for your own safety, as it is required by the "CE" regulations. Verify that the assembly is correct.
**Note:** Install a fuse and a switch has it is indicated on the schedule. Both are necessary for the module's protection as well as for your own safety, as it is required by the "CE" regulations.
Consult the corresponding power supply's instruction manual. Then, Verify that the assembly is correct.

OUTPUT CONNECTION. LOAD. The I-77 output is controlled by a relay, and it accepts any device up to 5 A. The relay is not a component supplying voltage but its function is limited to accept or deny the voltage passage like a standard switch. For this reason, you have to supply the load through this component.
The relay has three output terminals: The normally open quiescent (NO), the normally closed quiescent (NC) and the common. Install it between the Common and the NO in accordance with the drawing "Fig.1" For the inverse function you have to place the load between the NC and Common.

Fig. 1. How to connect the module's output at 12 V. DC and 230 V. AC.

CONNECTION AT 12 V. DC.
Normally Open, (NO)
Normally Closed, (NC)
Common
12 V. D.C.
Device, Load.

CONNECTION AT 230 V. AC.
Normally Open, (NO)
Normally Closed, (NC)
Common
230 V. A.C.
Device, Load.

INFORMATION ABOUT THE OUTPUT. During the operating mode and according to its load, it could happen a fluctuation or an incorrect working of the output. In such case, you have to install an anti-spark circuit (100 nF/400V **Type X2** Capacitor and 47W. ½ W resistor) between both contacts of the used relay, as it is indicated on the drawing.

NO
NC
Common
100nF/400 V. X2
47 1/2W.
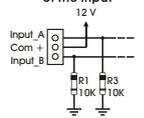Device, Load.
To supply the Load
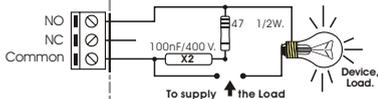
OPERATING MODE.

SIGNAL INPUT. The control signal injected to the module must be TTL or CMOS type, therefore, the maximum voltage level accepted by the circuit is 12 V D.C.
Connect the negative of the two input signals you wish to control to the negative terminal of the module's power supply. Then, connect one of the inputs to control to the terminal indicated as Input_A.
The outstanding input must to be connected to the Input_B. See General Wiring Map paragraph. The length of the cable as to be as short as possible.
If the distance is superior to 50 cm, you should use shielded cable, connecting the braid with the negative to the terminal ground. The maximum length being 2 meters.
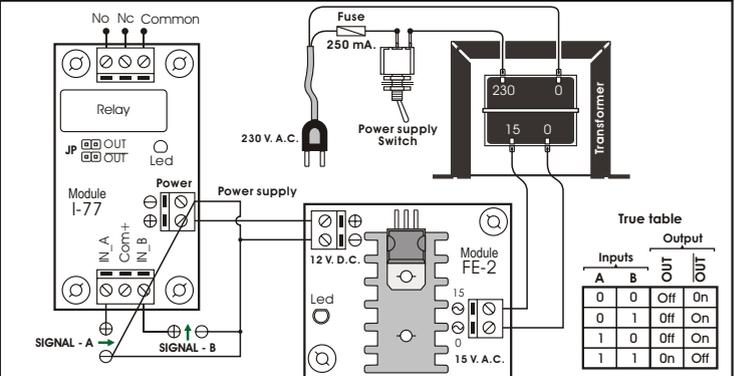The central terminal, "Com+" is internally connected to the positive of the circuit, for this reason it can be used for the logic operations in substitution of one of the two inputs. See fig 2, indicating the electrical drawing of the configuration of the module's input.
The I-77 can operate like AND door or like denied AND: NAND. To configure the module as AND door, you have to close or to connect terminals of OUT jumper. At the opposite, if you wish to configure the circuit as NAND door, you have to close the OUT jumper.

Fig. 2. Electrical drawing of the input
12 V
Input_A
Com +
Input_B
R1 10K
R3 10K

GENERAL WIRING MAP.

No Nc Common
Relay
JP OUT OUT
Led
Module I-77
Power
IN_A Com+ IN_B
SIGNAL - A
SIGNAL - B
Fuse 250 mA.
230 V. A.C.
Power supply Switch
230 0
15 0
Transformer
Power supply
12 V. D.C.
Led
Module FE-2
15
15 V. A.C.

True table

Inputs		Output	
A	B	OUT	OUT
0	0	Off	On
0	1	Off	On
1	0	Off	On
1	1	On	Off

TECHNICAL CONSULTATIONS.

For any consultations, please contact our technical department.
- By E-Mail, sat@cebek.com | byFax. 93.432.29.95 | By Post c/Quetzal, 17-21. (E-08014) BARCELONA .
- **Keep the invoice fo this module**. To apply the warranty, you have to add a copy of thi sone.
Without this invoice, the 3 years warranty offered to this product, will be automatically cancelled. .

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