

**MODCNT: 4-channel counter module in modular housing**

MODCNT module allows to transmit, through the CONTACTTO bus, the values of 4 counters implemented in the module itself; each counter is incremented by proper pulses applied to the relevant input; typical applications of this module, when combined to special meters, are energy measurement systems, water consumption systems, etc.

MODCNT module has an internal non volatile memory (EEPROM), avoiding the loss of counting values at the power supply failure. Each channel drives a 16 bit counter, allowing to count up to 65535 pulses; after this limit the counting value restart from zero (roll-over).

The inputs of each channel are opto-insulated each one from the others and from the bus, making easy the connection to several energy meter available on the market.

MODCNT module has a 9-terminal block for the input connections and a 5-terminal block for the connection to the 4 wire bus; the 5th terminal is used by the addresses programmer only.

**Warning:** the module, in its standard version, has 18÷30Vdc input voltage range; under request, modules with other input ranges can be supplied (see next page).

On the front panel, 4 red LEDs are lighted during the pulse at the relevant input; a green LED signals the power on condition.

A label on the front panel is reserved to write the address programmed in the module for an immediate visual identification.

MODCNT module needs, for proper operation, the controller MCP release 4.0 or higher.

**Address programming**

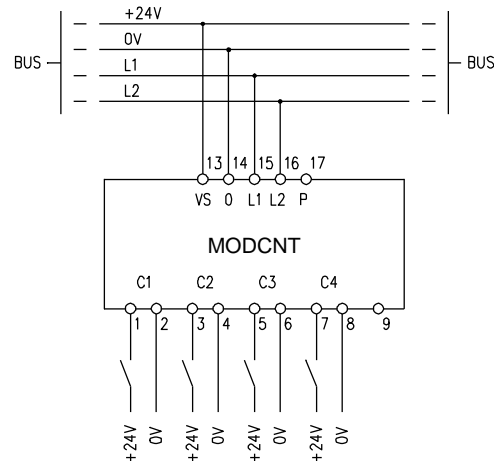
Each MODCNT module takes up a single input address of CONTACTTO system; to assign the address to the module, simply choose it on FXPRO programmer (in the range 1 to 127). Each channel will be referenced in MCP program by a notation like *Ci.n*, where *i* is the module address and *n* is the channel number; e.g., C3.2 identifies the channel 2 of the counter module which address is 3 (for details refer to MCP user's manual).

**Wiring diagram**

The following diagram shows the connections between the module, the bus and the counting inputs.

The input are electrically insulated each one from the others and from the bus, with automatic polarity detection, therefore the connections at the inputs may be reversed in respect of the following diagram.

At the closing of one of the contacts shown in the diagram, the relevant counter will be incremented by one unit. The counting is enabled even if the controller of CONTACTTO system (MCP) is stopped, avoiding the pulse loss during the reprogramming or during the maintenance of the installation (but only if the power supply of MODCNT modules remains connected).



**Note:** terminal 9 is not internally connected.

**Technical characteristics**

Supply voltage	24V ± 25% SELV
TYP current consumption	12mA @ 24Vdc
MAX current consumption	25mA @ 24Vdc / 28mA @ 30Vdc
Current for each input	7mA @ 24Vdc
MIN allowed input voltage	18Vdc (Note1)
MAX allowed input voltage	30Vdc (Note1)
MIN required duration of the impulse pulse	20ms
MAX counting frequency for each input	25Hz at duty cycle 50%
Operating temperature	-10 ÷ +50 °C
Storage temperature	-30 ÷ +85 °C
Protection degree	IP20

**Note1:** Under request, module versions with input ranges other than above specified may be supplied; to verify the module version, refer to the label on the rear side of the housing: the code will be similar to the following:

**F14298Y15**

Last two digits of the code (15 in above example) give the nominal input value for each channel. The MIN and MAX values may be obtained evaluating -25% and +25% of the nominal value.

**Outline dimensions**

