

MOD4AM12: 4-channel 0÷10V or 4÷20mA (0÷21mA) analog input module

MOD4AM12 analog input module allows transmitting up to four analog signals through the **CONTATTO** bus. This module may be furnished in two options (to be specified at the order):

- for 0÷10V analog input signals
- for 4÷20mA analog input signals; in this last case the input range is 0 to 21mA, in order to allow the handling of over range conditions (>20mA and <4mA)

MOD4AM12 module converts each analog signal applied to its input in a 12-bit digital code; this means that the measurement range will be divided into 4095 steps per channel and the related codes will be transmitted through the bus.

The module provides the electrical insulation among the bus and the 4 input channels, in order to avoid any interference of the system to the external analog sources.

Notes: the four input channels are insulated from the bus but not between themselves. MOD4AM12 modules may be applied in systems where the control module is MCP release 4.x (or higher), using the functions "16-bit analog input module" or "Configuration".

MOD4AM12 module provides a 9-poles terminal block to connect the four analog signals and a 5-poles terminal block for the connection to the 4 wire bus; the 5th pole of this last terminal block is used by the addresses programmer only.

A green LED on the front panel signals the power on condition; 2 red LEDs for each channel show, when lighted, if the value of the related applied signal is lower than 2% or greater than 98% of the full input range. When both these LEDs are OFF, then the related applied signal is among 2% to 98% of the full range.

A label on the front panel allows to write the address programmed in the module for an immediate visual identification and two check boxes show the 4÷20mA or 0÷10V option of the module.

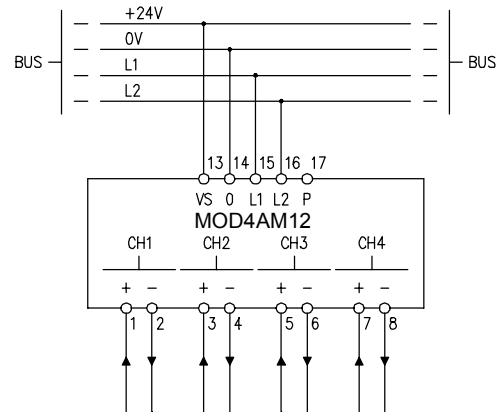
Address programming

Each MOD4AM12 module takes up a single input address of **CONTATTO** 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 **A.i.n**, where **i** is the module address and **n** is the channel number; e.g., **A3.2** identifies the channel 2 of the 12-bit analog module which address is 3 (for details refer to MCP user's manual).

Wiring diagram

The following diagram shows the connections between the module and the bus, and the signal terminations on the input terminal block.



Technical characteristics for current input option

Supply voltage	24V \pm 25% SELV
MAX current consumption	70mA
Input signal	4 x 0 ÷ 21mA
Resolution for each channel	5.127µA (12bit)
Linearity	\pm 1 LSB
MAX error	\pm 0.1% of full scale
Input impedance	255Ω
Operating temperature	-10 ÷ +50 °C
Storage temperature	-30 ÷ +85 °C
Protection degree	IP20

Technical characteristics for voltage input option

Supply voltage	24V \pm 25% SELV
MAX current consumption	70mA
Input signal	4 x 0 ÷ 10Vcc
Resolution for each channel	2.44mV (12bit)
Linearity	\pm 1 LSB
MAX error	\pm 0.1% of full scale
Input impedance	160KΩ
Operating temperature	-10 ÷ +50 °C
Storage temperature	-30 ÷ +85 °C
Protection degree	IP20

Outline dimensions

