

Programmable Isolation Amplifier Type M3042

- ✓ Programmable input and output
- ✓ 3-way isolation 2500VAC
- ✓ Bus system for power supply
- ✓ Compact housing
- ✓ Modbus



Technical description

The isolation amplifier and line conditioner interfaces and/or converts an analog process signal for computers and industrial control equipment as PLC's, etc. Also, a computer or control equipment's analog signal can be adapted to the process environment. Isolation amplifiers are also installed where ground-loop problems require to separate different signal grounds to avoid signal distortion and to convert one signal to another.

An additional application is to extract and isolate the measuring signal out of 2-wire transmitter's power supply. Input, output and supply are isolated against each other. A 2-wire transmitter supply is integrated in the amplifier.

An additional application is the signal processing. For example an input signal of 4...20mA can be converted to an output signal of 0...10V. This output signal is isolated against supply and input.

The amplifier can be programmed through the USB-Programming-Adapter connected to a Laptop/PC. If needed, the measuring range can be programmed from the factory.

The M3042 isolation amplifier uses a universal power supply from 20 to 253VAC/DC.

Signal inputs: Voltage/current (DC and AC), frequency and platinum/nickel sensors

Signal outputs: Voltage/Current/Modbus

Technical data

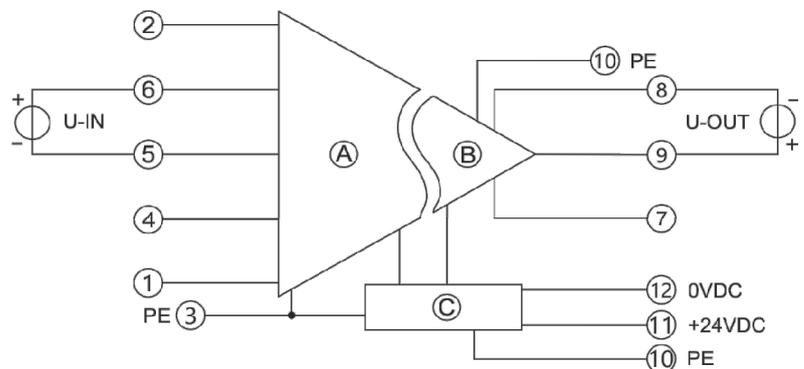
Input range:	-100...100V DC, -20...20mA DC, Pt100 -100...400°C, 0...100kHz active, other ranges on request
Input impedance	
Current input:	51Ω (= input load)
Voltage input:	1MΩ
Output range:	0...1V DC, 0 ... 10V DC, 0...20mA DC
Output impedance	
Current output:	≥ 1MΩ
Max. load current output:	500Ω
Voltage output:	< 0.1Ω
Current limit output:	30mA, short circuit protected
Special signal range:	
Current input:	±2mA DC to ±20mA DC, others on request
Voltage input:	±100mV DC to ±100V DC, others on request
Temperature:	Pt100 -100...400°C, others on request
Frequency:	0...100kHz / >5VDC, other on request
Current output:	0...20mA DC, others on request
Voltage output::	0...10V DC, others on request
Range setup:	Dip switch and through USB-Programming-Adapter
Isolation voltage:	2500VAC/1Min. (I/O/P)
Common mode rejection ratio:	Min. 140dB @ 100V DC Min. 100dB @ 100VAC/50Hz
Measuring error	
Gain:	Max. 0.05% of FS
Offset:	Max. 0.05% of FS
Frequency:	1%
Working temperature range:	-5 ... +55 °C
Supply:	Universal power supply, 20 ... 253V AC/DC
Supply load:	2.4W @ I _A 25mA
CE-conformity:	fulfilled
Design:	17.5mm wide housing
Mounting:	35mm DIN-rail, EN50022-35
Weight:	Ca. 120g
Terminals:	Pluggable screw terminals
Warranty:	2 years
Options:	<ul style="list-style-type: none">- USB-Programming-Adapter with cable and software- Customer specific modifications and ranges- Bus connector for power supply (20...120VAC/DC)

Terminals

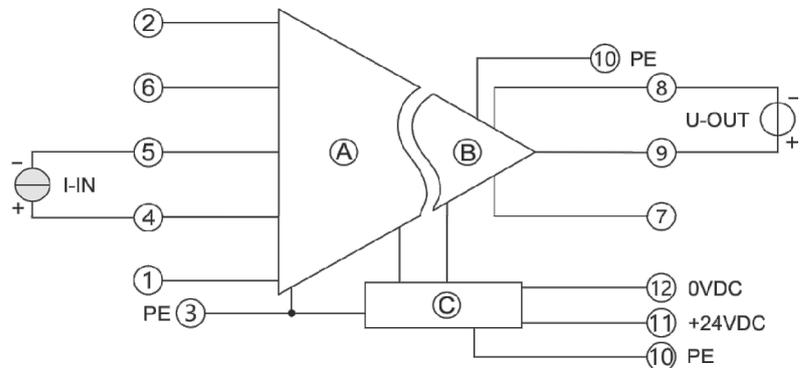
1	2-Wire Supply +24V	5	Signal input: current/voltage/frequency/sensor (-)	9	Signal output: current/voltage (+) / Modbus
2	Signal input: Sensor Sense (+)	6	Signal input: voltage/frequency (+)	10	Power supply: PE
3	Signal input: PE	7	Signal output: current (-) / Modbus	11	Power supply: AC~/DC(+)
4	Signal input: current (+) / Sensor (+)	8	Signal output: voltage (-)	12	Power supply: AC~/DC(-)

Wiring

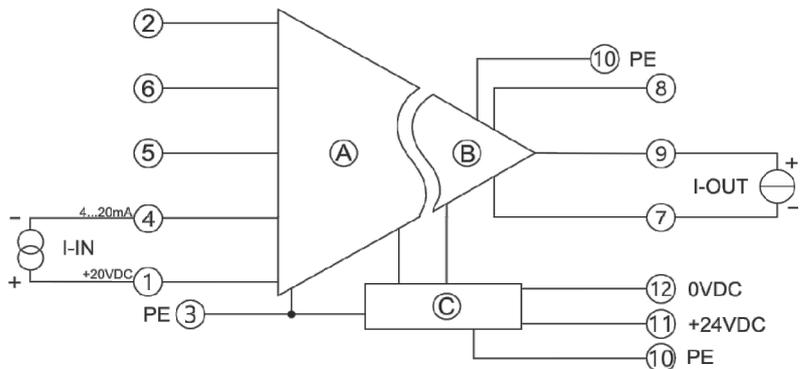
Input: 0...10VDC
Output: 0...10VDC
Supply: 24VDC



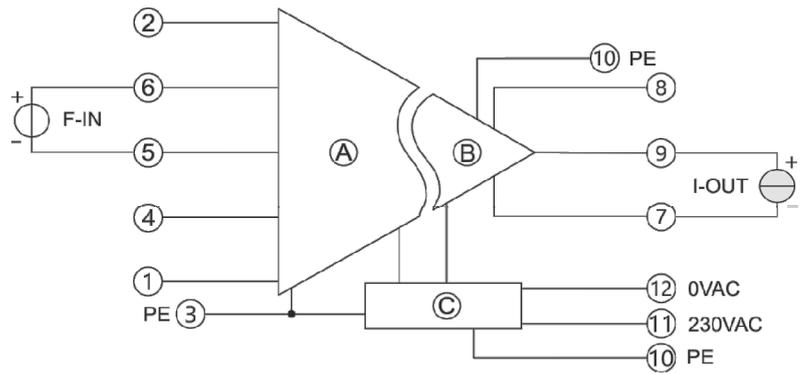
Input: 0...20mA
Output: 0...1VDC
Supply: 24VDC



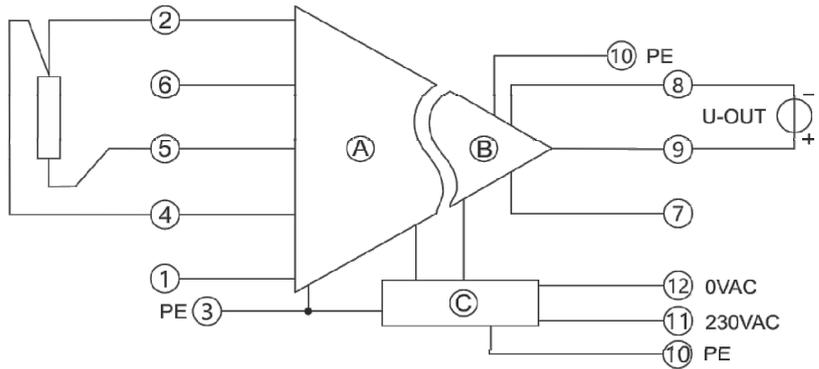
Input: 4...20mA / 2-Wire
Output: 4...20mA
Supply: 24VDC



Input: 0...10kHz / 5VDC
 Output: 4...20mA
 Supply: 230VAC



Input: 0...100°C / Pt100
 Output: 0...10VDC
 Supply: 230VAC



Dimensions

