

LABOR – ASTER

INDUSTRIAL AUTOMATION



AC 083
QMS

TWO-WIRE CIRCUITS SEPARATOR TYPE S3

- **Circuit separator with translation**
any standard $\Rightarrow$ 4...20mA loop

APPLICATION :

Separator **S3** is designed to galvanically separate input voltage or current signal from two-wire 4...20mA output circuit.

Any standard signal: 0...5mA, 0...20mA, 4...20mA, 0...5V, 0...10V, 1...5V after galvanic separation can be converted to 4...20mA current signal. Current output signal can be converted to voltage signal on a reference load resistance. A typical application of separator **S3** is galvanic separation of object-oriented circuits (e.g. measurement converter, positioner) from central part (driver, regulator, recorder, indicator, data acquisition system). The use of the separator reduces the impact of the object interferences on the operation of the central part.

The user can calibrate the beginning and the span of the range with ZERO and SPAN potentiometers which are accessible through the holes on the front panel of the separator.

The user can also control the input and output current (without disconnecting cables) with an ammeter as shown on fig. 3b, 3d.

BASIC TECHNICAL PARAMETERS:

Input signal	- any standard : 0(4)...20mA 0...5mA, 0...10V, 1...5V
Input resistance	
input 0(4)...20mA	- 50Ω
input 0(1)...5mA	- 200Ω
voltage inputs	- $\geq 100k\Omega$
Output signal	- current 4...20mA loop supplied from external U_z voltage
Supply voltage U_z for output circuit	- 9...36V
Load resistance	- max 750Ω dla $U_z=24V$ $R_{load}=(U_z-9V)/20mA$ [kΩ]
Class	- 0,15%
Nonlinearity	- $\pm 0.05\%$
Error due to load resistance and U_z voltage	- $\pm 0.05\%$
Temperature drift	- $\pm 0.01\%/^{\circ}C$
Time constant	- 0.1s (or in accordance with the order in range 0.001s...1s)
Galvanic separation	- 4kV, 50Hz or equivalent DC
Housing IP40 on rail TS35 and TS32	- with a width of 22.5mm
MTBF	- 300 000 hours

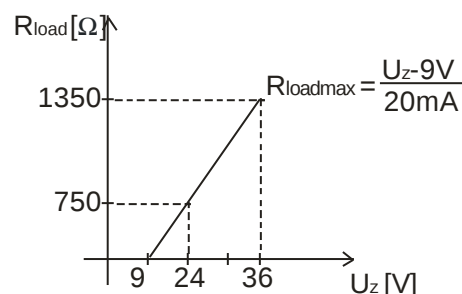
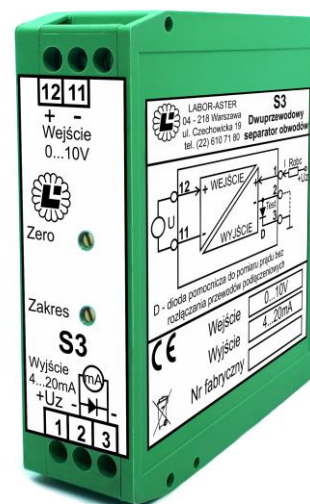


Fig.1. How to determine load resistance of the separator S3.

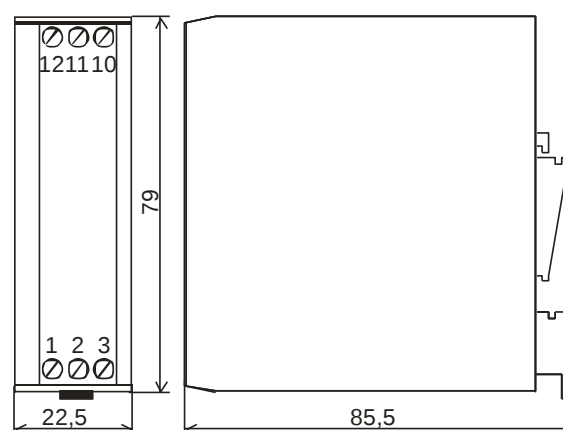


Fig. 2. Positions of the terminals of the separator S3.

Working conditions:

- Ambient temperature - storing: -30°C...+60°C
- Ambient temperature - working: -25°C...+60°C
- Relative humidity: max 90%, no water vapor condensation
- Ambient atmosphere: free from dust and aggressive fumes

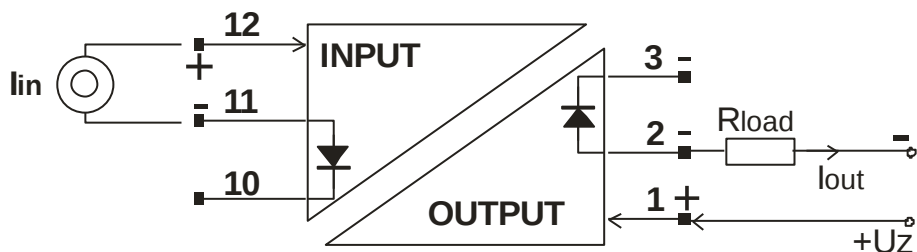


Fig.3a. Current signal connection without current measurement.

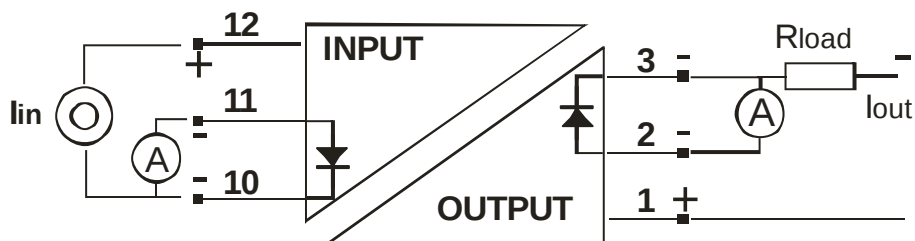


Fig.3b. Current signal connection with input and output current measurement.

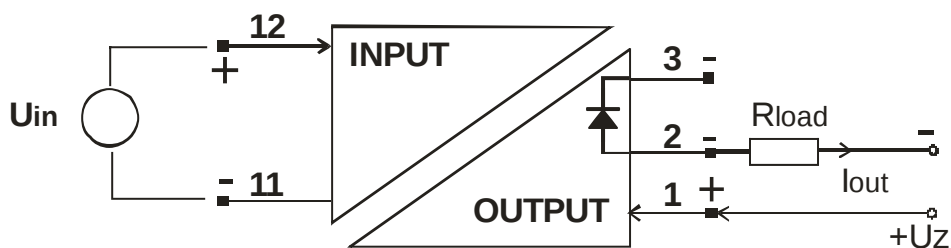


Fig.3c. Voltage signal connection without output current measurement.

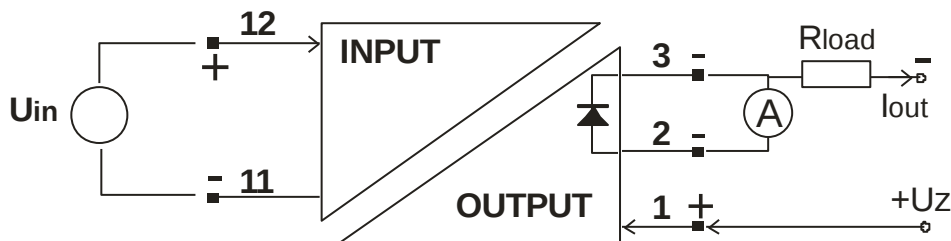


Fig.3d. Voltage signal connection with output current measurement.

HOW TO ORDER:

S3 -

Input range (1...7)

1 - 0...5mA;	2 - 0...20mA;	3 - 4...20mA
4 - 0...5V;	5 - 0...10V;	6 - 1...5V
7 - other (atypical)		

Order example: Two-wire separator, input 0...5mA type S3 - 1

Production and distribution:

LABOR – ASTER

Poland, 04-218 Warsaw, ul. Czechowicka 19

tel. +48 22 610 71 80 ; +48 22 610 89 45; fax. +48 22 610 89 48

e-mail: biuro@labor-automatyka.pl labor@labor-automatyka.pl ; [http:// www.labor-automatyka.pl](http://www.labor-automatyka.pl)

The manufacturer reserves the right to make changes to the product.

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