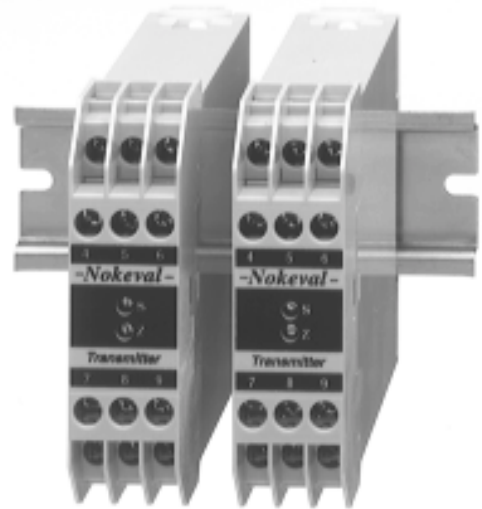


## Signal converter 641

- Current inputs 0/4..20 mA
- Voltage inputs 0..5, 0..10 V,  $\pm 10V$
- Potentiometer
- Output 0/4..20 mA, 0..5/10 V,  $\pm 10V$ , or passive 2-wire output 4-20 mA
- Power supply for 2-wire transmitter
- Galvanic isolation
- Four selectable dampings
- Nominal accuracy 0.05 % of range
- Power supply 24 VDC  $\pm 10\%$
- mV-inputs on request



Signal converter 641 is designed to convert standard process input /output signals. Current inputs 0/4..20 mA can be converted into voltage outputs, -10..+10 V can be converted to 0..10 V, low mV inputs can be converted to standard outputs etc. Signal converter 641 accepts 2-wire transmitters without a separate power supply. Potentiometer input as a standard.

Galvanic isolation is made at the same time with the conversion. Galvanic isolation cuts the noise signals which may exist when using low voltage signals, e.g. thermocouples.

Output selectable via DIP-switches: voltage 0.. $\pm 5$  V, 0.. $\pm 10$

V or current 0/4..20 mA.

Converter 641 gives also the possibility to signal damping. There is four selectable dampings: 10 ms, 250 ms, 500 ms or 750 ms. Selection via DIP-switches.

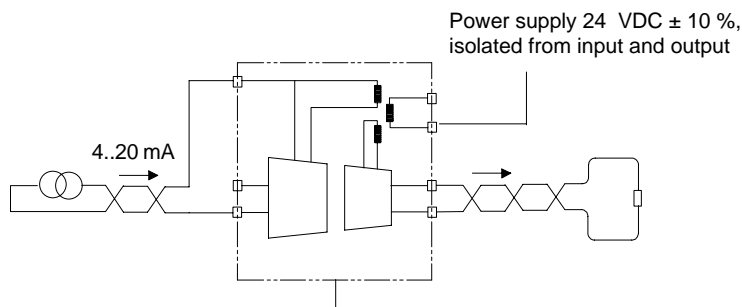
Operating voltage 24 VDC  $\pm 10\%$  is also isolated from input and output.

The common inputs and outputs are selected via DIP-switches, see table next page. Fine adjustment is made with front panel zero and span potentiometers. The ranges, not given in the table, may be delivered on request. Signal converter 641 is delivered always to ordered range.

### Signal converter 641

#### Input:

0...20 mA  
4..20 mA  
0...5 V  
0...10 V  
 $\pm 10V$   
20...4 mA  
10..0 V  
Potentiometer  
mV-inputs

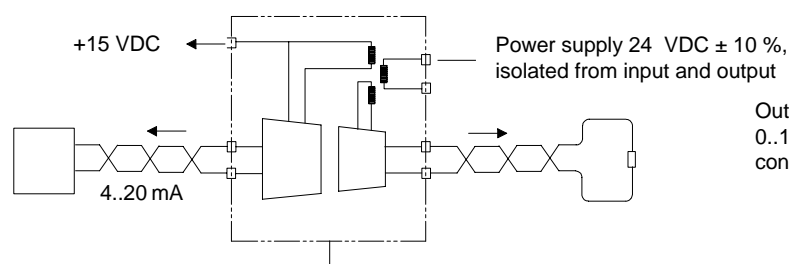


2-wire transmitter 4-20 mA connection

#### Output:

0...20 mA  
4..20 mA  
0...5 V  
0...10 V  
 $\pm 10V$   
20..4 mA (reversed)  
2-wire 4-20 mA  
passive output

2-wire transmitter  
without external  
power supply



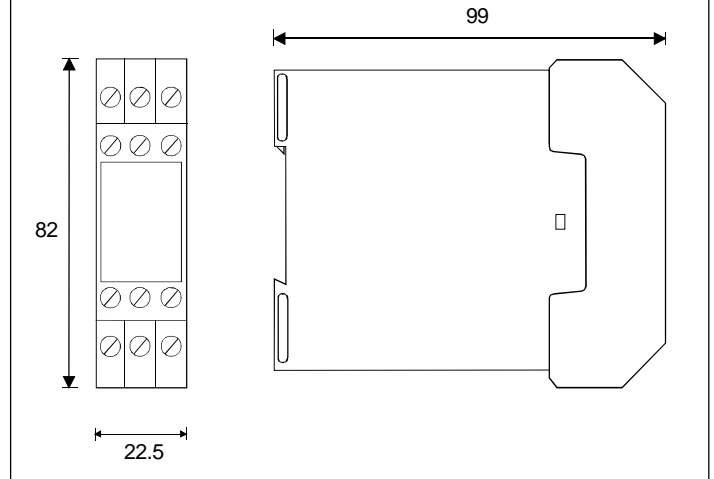
DIP-switches for range selection

Output 0/4..20 mA,  
0..10 V or 2-wire  
connection 4..20 mA

## Technical specifications:

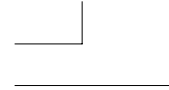
Accuracy	< 0,05% of range
Typical linearity	< 0.05 % of range
Temperature effects:	typical 0.006% /°C
Input resistance	50 Ω for current > 100 MΩ for voltage input
Potentiometer	500Ω - 100 kΩ
Output load	Max. 600 Ω
Power supply	24 VDC ± 10 %
Isolation	>1000 V input-output
Power consumption	40 mA, voltage output 60mA, mA-output 80 mA, 2-wire transmitter
Range selection	DIP-switches and jumpers
Damping	Four selectable dampings
T=63%	0,1 ms, 250 ms, 500 ms, 700ms
Rise time 100%	300 μs
Frequency response	10 ms, 0...1 kHz, ± 10V input/output
Ambient temp.	45°C
Case width	22,5 mm
Mounting	DIN-rail, DIN46277
Terminal blocks	2 x 2,5 mm <sup>2</sup>

## Dimensions (mm):



**Order code: 641- 4/20mA - 0/10V**

**Input**  
**Output**



## Standard ranges:

Input	Output	Input	Output	Input	Output
0/20 mA	0/20 mA	0/10 V	0/20 mA	-20/-4 mA	4/20 mA
0/20 mA	4/20 mA	0/10 V	4/20 mA	-5/+5 V	-10/+10 V
0/20 mA	0/10 V	0/10 V	0/10 V	-5/+5 V	-5/+5 V
0/20 mA	0/5 V	0/10 V	0/5 V	-10/+10 V	-10/+10 V
4/20 mA	0/20 mA	0/5 V	0/20 mA	-10/+10 V	-5/+5 V
4/20 mA	4/20 mA	0/5 V	4/20 mA	Potentiometer	0/20 mA
4/20 mA	0/10 V	0/5 V	0/10 V	Potentiometer	4/20 mA
4/20 mA	0/5 V	0/5 V	0/5 V	Potentiometer	0/10 V
4/20 mA	-10/+10 V			Potentiometer	0/5 V
4/20 mA	-5/+5 V				

When selecting new ranges, fine adjustment is made via front panel potentiometers.

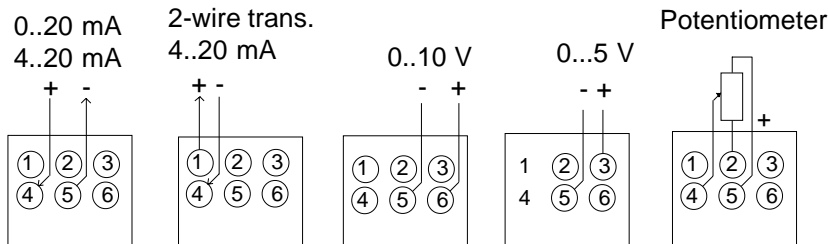
Potentiometer input is delivered according to potentiometer size, which can be changed later by selecting new range resistors.

Signal converter 641 is delivered always to ordered range.

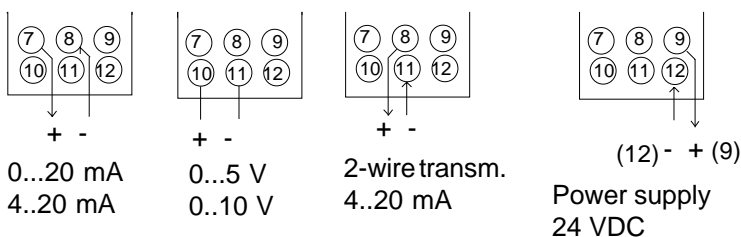
The ranges, not given in the table, may be delivered on request (mV, high voltages etc.).

## Terminal connections:

### Input:



Other inputs and outputs are connected as shown in users manual.



### Output:

