Technical manual BA 0711

Signal converter

Transcont TVA – 101

Isolation transmitter – passive

for galvanic isolation
of electrical current signals 0/4...20mA

Input signals 0...20mA resp. 4...20mA

Output signals 0...20mA resp. 4...20mA

Passive – no auxiliary supply necessary

Supply by input signal

No adjustment necessary

Transmission ratio 1 to 1

Galvanic isolation 1kV

ACS-CONTROL-SYSTEM
know how mit system

Lauterbachstr. 57 – 84307 Eggenfelden – Germany
Tel: +49 8721/9668-0 – Fax: +49 8721/9668-30
info@acs-controlsystem.de – www.acs-controlsystem.de

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1. Application

The device **Transcont TVA – 101** is a passive isolation transmitter for galvanic isolation of electrical current signals 0...20mA resp. 4...20mA.

This allows a simple potential separation and protection function in complex measuring systems.

2. Function

The device needs no separate auxiliary supply. The supply is proceeded by the input current signal.

The input current signal 0...20mA resp. 4...20mA is captured by the input stage and transmitted galvanically isolated in the ratio 1 to 1 to the output stage.

To ensure a faultless function of the device the signal current source must supply a sufficient voltage. The maximum connectable load at the output of the isolation transmitter depends on the available input voltage. The necessary signal source voltage consists on the sum of the voltage drop at the output load, at the input of the isolation transmitter and at the wire resistances.

3. Safety notes

Each person that is engaged with inauguration and operation of this device, must have read and understood this technical manual and especially the safety notes.

Installation, electrical connection, inauguration and operation of the device must be made by a qualified employee according to the informations in this technical manual and the relevant standards and rules.

The device may only be used within the permitted operation limits that are listed in this technical manual. Every use besides these limits as agreed can lead to serious dangers.

The device meets the legal requirements of all relevant EC directives. CE

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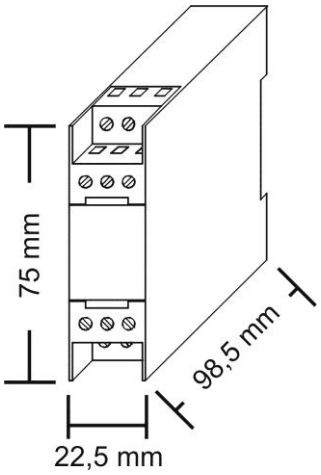
4. Installation

The device is conceived for vertical installation on a standard fastening rail acc. to DIN EN 60715 TH 35-7,5 resp. TH35-15.



The device must be installed protected against dust and humidity, e.g. in control stations or in a suitable protection housing with a minimum protection classification IP55 acc. to DIN EN 60529.

The devices must be installed wheather and stroke protected, ideally at places without direct solar radiation. This is especially important in warm climatic regions.

5. Maintenance

The device is free of maintenance.

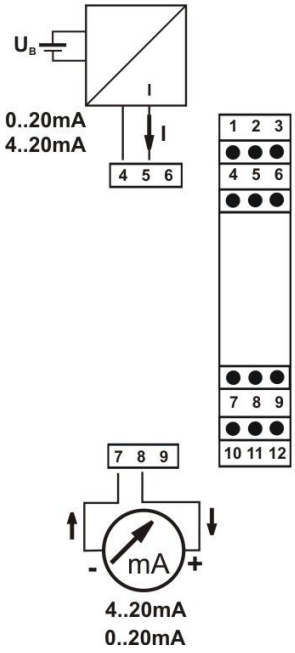
6. Repair

A repair may only be carried out by the manufacturer. When sending back the device, add a note with the description of the error and the application.

7. Electrical connection

The electrical connection of the device must be carried out according to the respective country specific standards. Incorrect installation or adjustment could cause applicationally conditioned risks.

The use of a shielded signal cable is recommended, if strong electromagnetic influences could happens, e.g. due to machines or radio equipment. In that case the shielding of the cable should be connected to earth only at the side of signaling transmitter resp. measuring transducer.
The signal cable should be installed separated from power leading wires.



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8. Technical data

Auxiliary power supply

Supply:	is proceeded by the input current signal
Isolation voltage:	1kV~ signal input to signal output

Signal input

Operation range:	0...20mA resp. 4...20mA, max. 30mA / 25V
Input load:	R_{in} = 250Ω + output load

Signal output

Operation range:	0...20mA resp. 4...20mA, max. 30mA
Output load:	≤ 1000Ω
Transmission ratio:	1 : 1

Measuring accuracy

Characteristic deviation [3) 5)]:	≤ ±0,15% FS [2)]	
Nonlinearity:	≤ ±0,15% FS [2)]	
Long term drift:	≤ ±0,1% FS [2)] / year	not cumulative
Temperature deviation:	≤ ±0,05% FS [2)] / 10 K	
Influence of output load:	≤ 0,1% FS [2)] / 100Ω	

Materials

Connection housing:	PC – polycarbonate
Terminal housing:	PC – polycarbonate
Sticker:	PE – polyester

Connection terminals

Number:	4 terminal blocks with each 4 terminals, everlasting screws
Connection cross-section:	maximum 1 x 2,5 mm or 2 x 1,5 mm

Housing style

Housing:	Series installation housing, 22,5mm wide
Weight:	95 g

Environmental conditions

Environmental temperature:	– 20°C...+70°C		
Climatic classification:	3K3 resp. 3M2	DIN EN 60721-3-3	
Protection classification:	IP20	DIN EN 60529	
EM – compatibility:	Emission	DIN EN 61326-1	operation device class B
	Immunity	DIN EN 61326-1	industrial range

[2)] Referring to nominal measuring span resp. full scale (FS)
[3)] Nonlinearity + Hysteresis + Reproducibility
[5)] Limit point adjustment

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