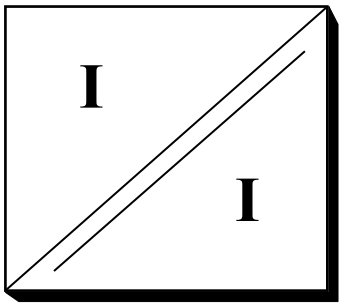
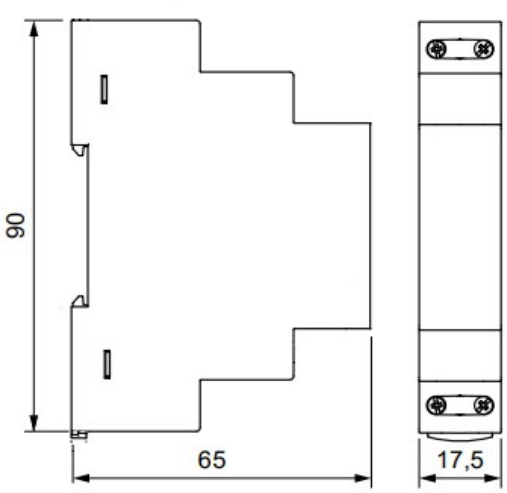
SIGNAL SEPARATOR T924P1

- 4÷20 mA / 4÷20 mA
- passive separator
- accuracy class: 0.05
- galvanic isolation: 2kV
- modular enclosure





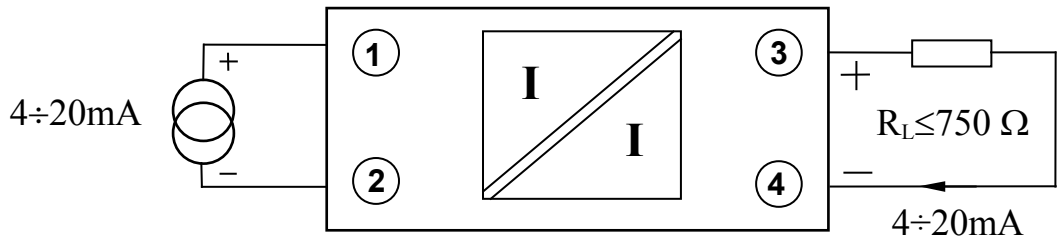
Module T924P1 is a passive separator of 4÷20mA signal (it functions in fact from almost 0mA to about 25mA where internal limiting circuit turns on). Factory test isolation voltage equals 2kV.

T924P1 module works as constant current transformer - input signal is switched at comparatively high frequency to be passed through a transformer, and magnetic field feedback ensures accurate reproduction of input signal at the output. Typical accuracy within the nominal 4÷20mA signal range, including nonlinearity, does not exceed ±0.02% (for 50Ω load resistance). Some of the energy carried by signal is lost on protection elements and used to supply internal circuitry of the separator, which is seen externally as additional voltage drop that adds to voltage drop on load resistance. This additional voltage drop reaches 3.1V at 20mA. Load resistance affects the accuracy of signal transfer, but in a predictable way – deviation from ideal load resistance of 50Ω (where error is minimal) causes change of gain leading to error of -0.03% at 20mA per every 100Ω increase of load resistance. Load resistance should not exceed 750Ω.

One of the main advantages of the module is a system of overvoltage and overcurrent protections preventing accidental damage during installation or malfunction of other automation elements during exploitation. Both input and output are protected against overvoltage and bias reversal. The input current is limited internally to ca. 25 mA. Absolute maximum ratings are listed at the end of the data sheet.

T924P1 is fitted into modular enclosure of 18mm in width made of self-extinguishing material. As all such enclosures, it may be mounted on standard 35mm ‘top-hat’ rails.

Electrical connections:



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Technical data:

Input:	current	4÷20 mA
	voltage drop (I_{IN}=20mA)	3.1V + 20mA × R_L
Output:	current	4÷20 mA
	load resistance (R_L)	≤ 750 Ω
Accuracy class:		0.05
	additional error (I=20mA)	– 0.03% × R_L/100Ω
Isolation test voltage:		2 kV

General technical parameters:

frequency band	500 Hz
output noise level	< 50 μA
maximal nonlinearity error	< 0.02 %
temperature coefficient	< 50 ppm/°C
warm-up time	< 1 s
operating temperature range	-25÷60 °C
storage temperature range	-40÷80 °C
ambient relative humidity	5÷90 % (no condensation)
ambient pressure	1000±200 hPa
external magnetic field	0÷400 A/m
working position	irrelevant
external dimensions	17.5×90×65 mm^3
housing protection type	IP 20

Absolute maximum ratings:

voltage applied to input terminals	100 V
input current (internally limited)	27 mA (at 20ºC)
voltage applied to output terminals	100 V

CE