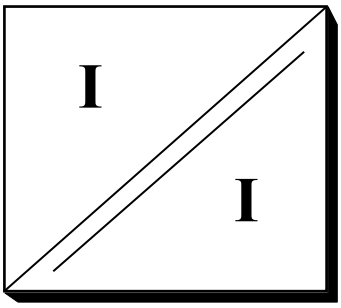
SIGNAL SEPARATOR T924s

- 4÷20 mA / 4÷20 mA
- accuracy class 0.1
- isolation test voltage 2kV
- supplied from current loop
- thin, 6.2 or 7mm, enclosure with screw or spring terminals



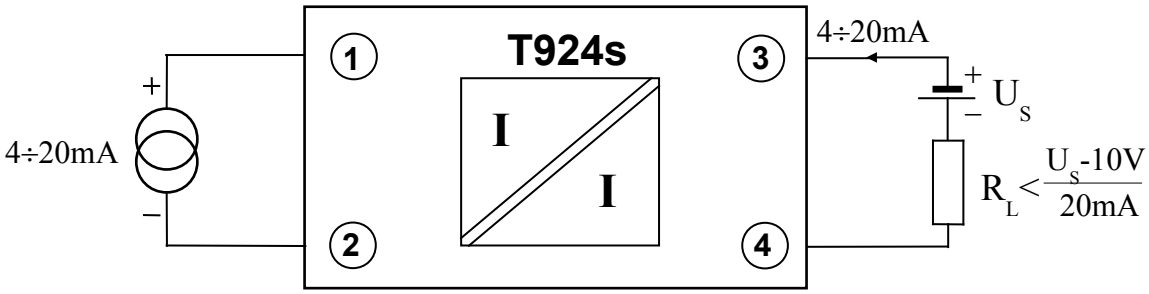
Separator provides galvanic isolation between input and output current loops while preserving the signal with basic accuracy better than 0.1%. Factory test isolation voltage equals 2kV.

The output part of the separator is supplied from output current loop forcing current flow proportional to the input signal. Thus, the transducer may be used together with contemporary controllers equipped with two-wire inputs able to supply over 10V to the current loop (plus voltage drop on the output load).

The normalized current signal of 4÷20 mA is also used to supply the input part of the separator. Such a solution allows to skip an internal DC to DC converter which in turn leads to a substantial cost reduction and elimination of electromagnetic interference sources. Thanks to a new technology, the input part consumes only few mW of power and a voltage drop of 1.5÷1.7V at the input is sufficient to provide this power. In fact, the separator will operate correctly with currents as low as 1.3 mA and preserve linearity up to *ca.* 24mA. The voltage drop is described by a formula: $1.5V+10\Omega\times I_{IN}$ (i.e. 1.7V for I_{IN}=20mA).

One of the main advantages of the separator 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 output current is limited internally to ca. 25 mA. Absolute maximum ratings are listed at the end of the data sheet.

Electrical connections:



Load resistance, R_L, is limited by the supply voltage, U_S, according to the formula presented in the above drawing. If necessary, the supply voltage may be increased up to 36V.

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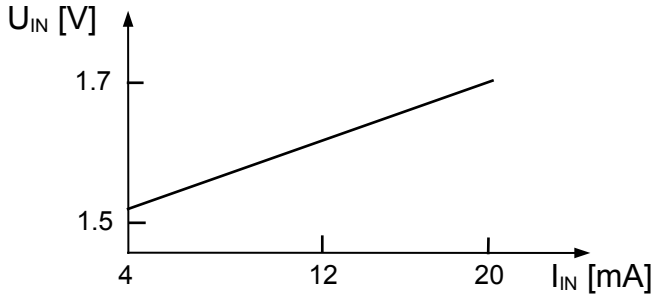
Separators are enclosed in thin, made of self-extinguishing plastic, adapted to standard 35mm top-hat rails enclosures. While placing your order please choose the type of enclosure as follows:

T924s-1 - screw terminals, 6.2mm width,
T924s-2 - spring terminals, 7mm width.

Dimensional drawings of both enclosures are presented on next page.

Technical data

Input:	current	4÷20 mA
	dynamic input resistance	10 Ω
	voltage drop (I_{IN}=20mA)	1.7 V



Output**:**	current	4÷20 mA
	voltage drop at output terminals	10÷36V

Accuracy class:	0.1
Isolation test voltage:	2 kV

General technical parameters:

frequency band		4 Hz
output noise level		< 10 μA
maximal nonlinearity error		0.05 %
temperature coefficient		0.01 %/°C
warm-up time		< 5 minutes
operating temperature range		-10÷50 °C
storage temperature range		-40÷80 °C
ambient relative humidity		30÷80 % (non-condensing)
ambient pressure		1000±200 hPa
external magnetic field		0÷400 A/m
working position		irrelevant
external dimensions	T924s-1	6.2×80×94mm^3
	T924s-2	7×91×64mm^3
housing protection type		IP 40

Absolute maximum ratings:

input current (internally limited)	100 mA
voltage applied to input terminals	50 V
output current (internally limited)	25 mA
voltage applied to output terminals	100 V

CE

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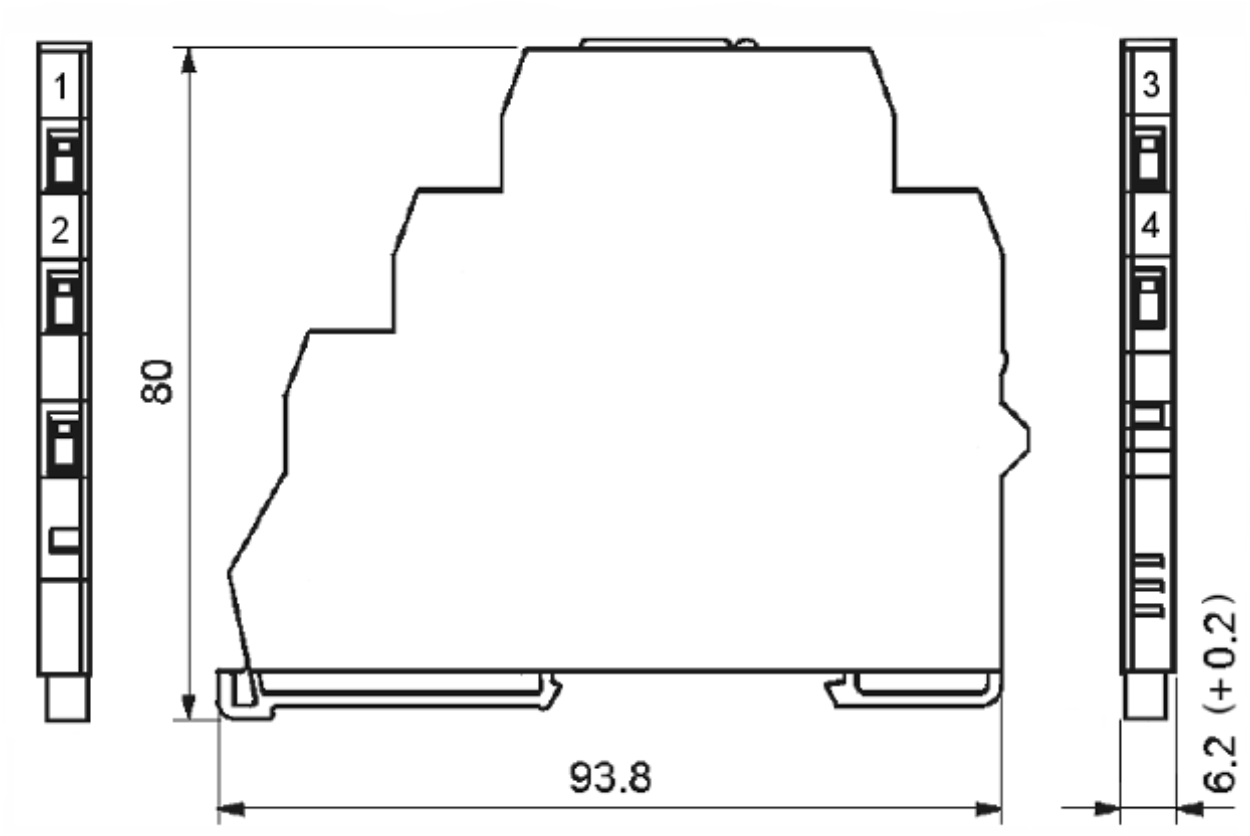
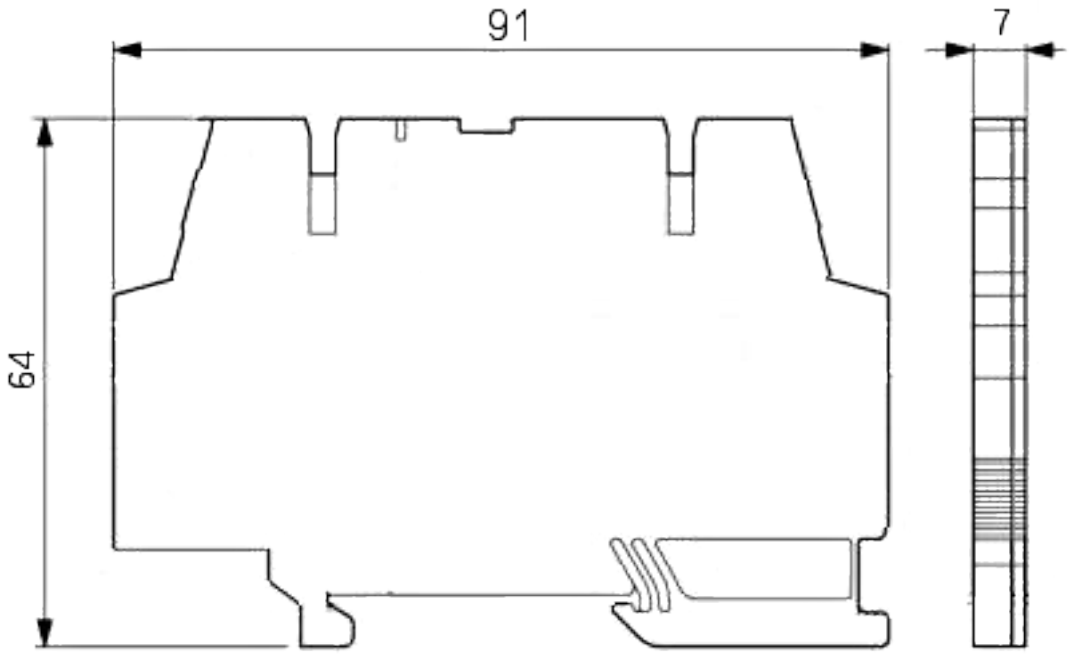
T924s-1



T924s-2



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