

Temperature Transmitters for Head- and Rail-Mounting

Temperature transmitters from ROESSEL in 2-wire technique are designed for direct input from thermocouples, resistance thermometers or potentiometers. The design for thermocouples has an in-built cold junction compensation and is available for a multitude of thermocouple types.

Resistance thermometers or potentiometers can be connected by 2-, 3- or 4-wire technique, depending on the transmitter type.

The 2-wire technique significantly reduces installation costs. A RFI-resistant standard signal of 4 ... 20 mA is generated in closest proximity of the sensor and can be transmitted over long distances.

The majority of transmitters in this Product Information are also available in intrinsically safe design II 2(1)G EEx ia/ib IIC T6 according to ATEX.

The classification for immunity against electromagnetic interference is met according to industrial standards EN 50 081 and EN 50 082 for normal requirements.

The transmitters are certified according to DIN EN 61 508:2002 "Functional Safety" for SIL II.

Different designs are manufactured by ROESSEL. Preferred is the mounting of the transmitters in the connection head cap or directly on the measuring insert. Designs for field housings are available as well as for rail housings in sub-distribution or panels. In our delivery program we differentiate between analog and digital transmitters.

Programmable Transmitters

combine all the advantages of analog 2-wire transmitters and are in addition programmable. Using a standard PC with a user-friendly surface all major parameters like measuring range, sensor type, element type etc. are programmable. Thus only one design is needed for all applications. The direct results are low inventory costs and also low costs in the case of upgrading or modification of units.

As an alternative to the programming on-site or in the workshop a remote configuration via a FSK-interface with HART™ protocol is available.

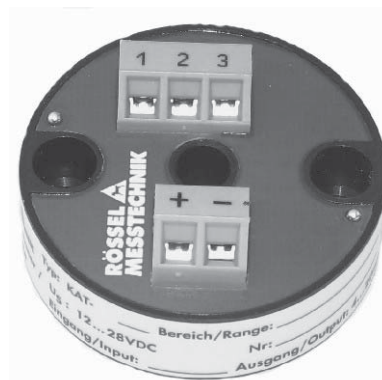
Programming via PDM is possible.



Special Features:

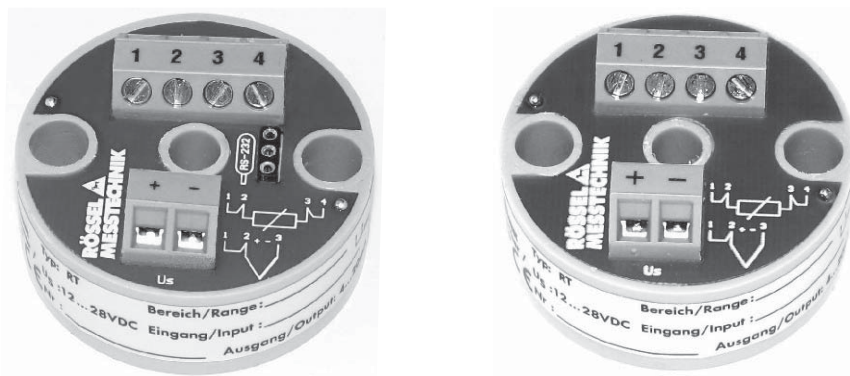
- Intrinsically safe transmitters according to ATEX II 2(1) G EEx ia / ib IIC T6
- SIL II certified according to DIN EN 61508:2001
- Fits in DIN connection heads form B or bigger
- Narrow rail-mounting versions save expensive cabinet space
- From compact to programmable - suitable for (almost) all applications

Compact analog transmitters



Model	KAT-W / KAT-T / KAT-P	KAT-W/OP / KAT-T/OP
	Compact transmitter for high requirements and a wide range of applications. EMI standards are met for normal requirements	
Input	KAT-W: Pt 100 DIN EN 60 751 Pt 500, Pt 1000, Ni 100, Cu 53 in 2- or 3-wire circuit KAT-T: Thermocouples DIN EN 60 584 (Type L acc. to DIN 43 710) KAT-P: Retransmitting potentiometer	KAT-W/OP: Pt 100 DIN EN 60 751 Pt 500, Pt 1000, Ni 100, Cu 53 in 2- or 3-wire circuit KAT-T/OP: Thermocouples DIN EN 60 584 (Type L acc. to DIN 43 710) Other standards upon request
Minimum Span	KAT-W: 20 K; KAT-T: 2 mV KAT-P: 10 Ohm	KAT-W/OP: 20 K; KAT-T/OP: 2 mV
Output	KAT-W/OP: 4 ... 20 mA, temperature linear, KAT-T/OP: 4 ... 20 mA, voltage linear KAT-P: 4 ... 20 mA proportional to input signal	
Power	12 ... 36 VDC, Ex application 12 ... 28 VDC	
Galvanic Insulation	none	
Ambient Temperature	-40 ... +85 °C (-40 ... +110 °C with extended drift values)	
Explosion Proof (KAT-W, KAT-W/OP, KAT-P only)	II2G EEX ib C T6, TÜV 00 ATEX 1622	II2(1)G EEx ia II C T6, TÜV 01 ATEX 1710
Communication	Analog transmitter without communication interface	
RFI (Radio Frequency Interference)	Industrial standard DIN EN 50 081 / 50 082	
SIL (Safety Integrated Level)	SIL II - certified acc. to DIN EN 61 508:2001	
Dimensions	43 mm diameter x 17mm height	
Mounting	Inside connection head DIN EN 50 446 form A or B	
Speciality	With potentiometer for span and zero	Without potentiometer
Operation Application Example	Chemistry, petrochemistry, plant engineering, power station, engine construction, retransmitting potentiometers	

Compact digital (smart) transmitters



Model	RT	RT-H
	Programmable transmitter with galvanic insulation. RS 232 interface with adapter	Programmable transmitter with galvanic insulation. FSK Interface with HART-Protocol
Input	Pt 100 DIN EN 60 751, Ni 100 2-, 3- or 4-wire circuit Thermocouples DIN EN 60 584 ;Type L acc. to DIN 43 710 Resistance and Voltage Other standards upon request	
Minimum Span	Resistance thermometers: 15 K; thermocouples: 2 mV	
Output	4 ... 20 mA temperature linear or proportional to input signal	
Power	12 ... 30 VDC, Ex Application 12 ... 28 VDC	
Galvanic Insulation	500 Veff	
Ambient Temperature	-40 ... +85 °C (-40 ... +110 °C with extended drift values)	
Explosion Proof	TÜV 00 ATEX 1536; II 2(1) G EEx ia II C T6	
Communication	RS 232 Interface	FSK Interface with HART-Protocol
RFI (Radio Frequency Interference)	Industrial standard EN 50 081 / 50 082	
SIL (Safety Integrated Level)	SIL II - certified acc. to DIN EN 61 508:2001	
Dimensions	43 mm diameter x 26mm height	
Mounting	Inside connection head DIN EN 50 446 form A or B	
Speciality	One model for all sensor types	
Operation Application Example	Chemistry, petrochemistry, plant engineering, power station	

Transmitters in rail-mounting housing



Model	KATR-W / KATR-T	RT-R / RT-RH
	Analog transmitters for standard applications	Programmable transmitters with RS 232 Interface or HART-Protocol
Input	KATR-W: Pt 100 DIN EN 60 751 Pt 500, Pt 1000, Ni 100, Cu 53 in 2- or 3-wire circuit KATR-T: Thermocouples DIN EN 60 584 (Type L acc. to DIN 43 710) Other standards upon request	Pt 100 DIN EN 60 751, Ni 100 Thermocouples EN 60 584 (DIN 43 710) Resistance and voltage Other standards upon request
Minimum Span	KATR-W: 20 K; KATR-T: 2 mV	Pt 100: 15 K / TE'S: 2 mV
Output	KATR-W: 4 ... 20 mA, temperature linear KATR-T: 4 ... 20 mA, voltage linear	4 ... 20 mA, temp.-linear or proportional to input signal
Power	12 ... 36 VDC	12 ... 30 VDC
Galvanic Insulation	none	500 Veff
Ambient Temperature	-40 ... +85 °C (-40 ... 110 °C with extended drift values)	
Explosion Proof	none	
Communication	Analog transmitter without communication interface	RS 232 Interface or HART-Protocol
RFI (Radio Frequency Interference)	Industrial standard DIN EN 50 081 / 50 082	
SIL (Safety Integrated Level)	SIL II - certified acc. to DIN EN 61 508:2001	
Dimensions	22,5 x 104 x 75 mm (W x H x D)	
Mounting	DIN rail 35 mm	
Speciality	With potentiometer for span and zero	One model for all sensor types
Operation Application Example	Engineering, air-conditioning, food and drug	Chemistry, power station, engineering

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