RAIL TEMPERATURE SENSOR



- FOR S49 · S54 · UIC60 · R65
- PT100 4-WIRE, CLASS A
- 4...20 MA, INVERTIBLE
- GALVANICALLY SEPARATED
- STAINLESS HOUSING

Stainless Steel

VERSIONS

Property	Versions
Sensing element	Pt100 4-wire · Pt100 3-wire · thermocouple type K · Pt1000 3-wire · NTC
Output	4...20 mA · 20...4 mA · without transmitter
Fault output	NAMUR upscale · NAMUR downscale
Measuring range	standard -30...+60 °C · other, please state
Rail type	standard S 49, S 54 etc. · NT64
Cable length	standard 5 m · other, please state
Customer version	special model

A sensor that measures the temperature of the running rail and controls the point heating from it. The housing fits the rail types S 49, S 54, UIC 60 and R 65 without adaptation.

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TECHNICAL DATA

INPUT AND OUTPUT

Sensing element	Pt100, 4-wire, class A
Range ex works	-30 … +60 °C, configurable (1)
Resolution	0.1 °C
Output	4 … 20 mA, invertible to 20 … 4 mA
Technique	2-wire, linear to temperature
Output limits	3.8 … 20.5 mA to NAMUR
	3.6 … 21.5 mA without NAMUR
Fault signal	> 21.0 mA upscale · < 3.6 mA downscale (NAMUR)
Substitute value	3.5 … 23.0 mA, configurable
Reading update	about 2 per second

PERFORMANCE

Measuring error	< ±0.05 % of span
Temperature influence	< ±0.01 % of span per kelvin
Load influence	< ±0.01 % of span per 100 ohm
Supply influence	< 0.005 % of span per volt
Damping	0.5 s · 1 s … 60 s, configurable
Load	RA < (UB – 9 V) / 0.021 A
Insulation voltage	1500 VAC, 60 s
Configuration	by PC and configuration set, DTM-Control software
Interface	RS 232-C at the programming unit
Weight	approx. 1.5 kg

SUPPLY AND ENVIRONMENT

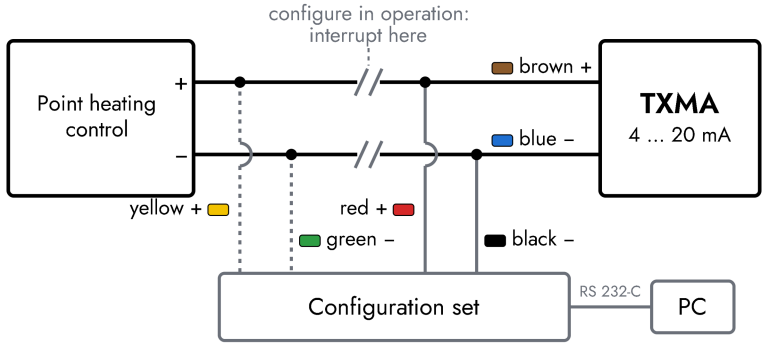
Supply	9 … 36 VDC
Load	RA < (UB – 9 V) / 0.021 A
Insulation voltage	1500 VAC, 60 s
Working temperature	-40 … +85 °C
Option	-50 … +105 °C
Storage temperature	-40 … +85 °C, option -50 … +105 °C
Cable	H07BQ-F, 2 × 1.5 mm², through a PG 11 gland out of the potting
Installation	below the heating rod (2)

MECHANICS

Housing	68 × 64 mm, fully potted
Material	x 25 CrNiSi 18.9
Colour	stainless steel, unpainted
Fastening	claw and counter claw, threaded rod M10
Strength	10.9, tightening torque 68 Nm
Rail types	S 49 · S 54 · UIC 60 · R 65
Connection	cable H07BQ-F, 2 × 1.5 mm², PG 11
Weight	approx. 1.5 kg

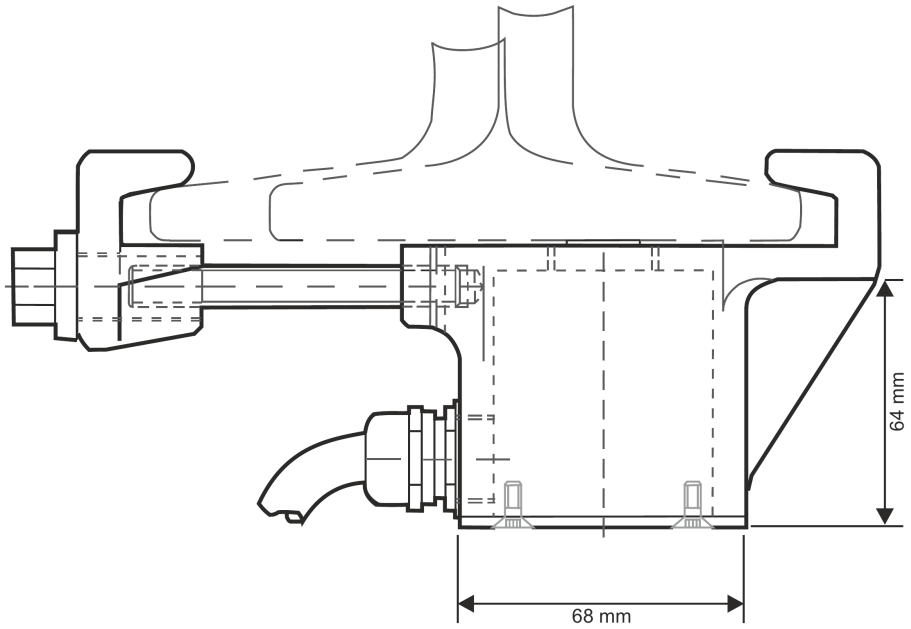
(1) The measuring range is configurable and is set to -30…+60 °C ex works. Whoever needs another one states it with the order or sets it with the configuration set.
(2) The sensor has to be mounted below the heating rod — otherwise it measures the heating instead of the rail.

ELECTRICAL CONNECTION



- Cable H07BQ-F, 2 × 1.5 mm², led out of the potting via a PG 11 gland, no connector
- brown +, blue –: 2-wire, 4 … 20 mA, to the point heating control
- Configuration set: red +, black – to the sensor; yellow +, green – to the supply; PC via RS 232-C
- Yellow and green only to configure during operation; for that, interrupt the link sensor – control

DIMENSIONS



Dimensions in mm.

CONFORMITY

Material	x 25 CrNiSi 18.9

ORDER INFORMATION

Accessories

- Configuration set with the DTM-Control software. Without it the measuring range cannot be changed; the link runs over RS 232-C to the PC.