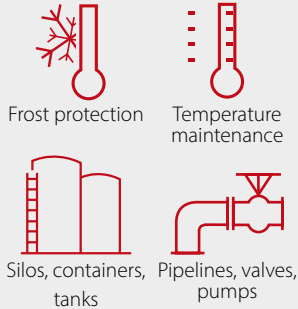




At a glance

Applications



- › Potentially explosive areas
- › Power plants
- › Chemical industry
- › Petrochemical industry
- › Oil and gas industry
- › Pharmaceutical industry
- › Plastics industry
- › Process technology

Advantages

- › Three function options
- › No static charging
- › Cover can be closed quickly
- › Easy to work with
- › High mechanical safety and reliability
- › Modular design
- › Easy setup and easy operation

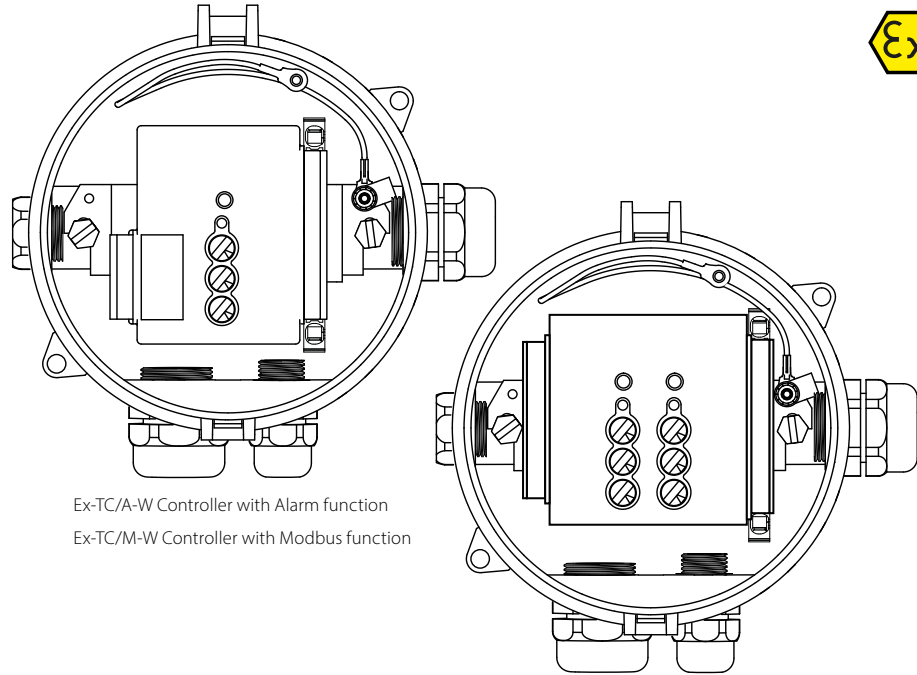
Approvals



- › II 2D Ex ib tb IIIC T85°C Db
- › II 2G Ex eb ib mb IIC T6 Gb
- › IBExU20ATEX1015X
- › IECEx IBE 20.0002X
- › UKEx CML 21UKEX3952X

Ex-TC-W

Temperature Controller & Limiter



Ex-TC/A-W Controller with Alarm function
Ex-TC/M-W Controller with Modbus function

Ex-TC/AL-W Controller and Limiter with Alarm function

The electronic temperature controller Ex-TC was developed for use in potentially explosive atmospheres. We offer different variants for different purposes, for wall mounting or for fastening onto pipelines. Choose between a temperature controller with alarm relay, a variant with RS 485 interface with Modbus protocol or a controller-limiter combination with alarm relay. The device is able to switch high nominal currents and with its round shape it ensures optimum mechanical safety. The cover closes quickly with a snap lock, making it easy to handle where it is used. All variants are suitable for use with our self-regulating heating cables (ELSR) and resistance heating cables (ELK, ELP).

Checklist

Temperature sensors

ELTF-PT.15	Pt100, [ib], 3-wire, 5x50 mm, PTFE 3.0 m, IP67	0650070
ELTF-PT.2	Double Pt100, [ib], 3-wire, 5x50 mm, PFA 3.0 m, IP65	0650072

Assembly Accessories

EL-VSB 300	Mounting bracket, adjustable 180 to 300 mm, mat. 1.4301	0941085
EL-VSB 400	Mounting bracket, adjustable 280 to 400 mm, mat. 1.4301	0941086
ELB-13V1	Threaded strapping tape, 11 mm, 30 m, mat. 1.4301	2723001010
ELB-13V2	Turnbuckle 1.4301 (pkg. = 10 pieces), mat. 1.4301	0930042
ELB-15.04	Hose clamp, 25 - 40 mm, mat. 1.4301	2723001025
ELB-15.11	Hose clamp, 50 - 110 mm, mat. 1.4301	2723001090

Technical Specifications

Operating voltage	230 V AC $\pm 10\%$, 50 Hz
Nominal current	Max. 25 A (to 40 °C) T6 with power supply cable $\geq 2.5 \text{ mm}^2$ Max. 20 A (to 50 °C) T6 with power supply cable $\geq 2.5 \text{ mm}^2$
Power consumption	5 VA without load
External fuse protection	25 A (20 A)
Relay/output for collective alarm (not /M)	1 NO contact 3 A, 250 VAC, 100 VA or 5 A, 24 VDC, 100 W
Load relay	1 NO, single pole, max. 25 A (to 40 °C), max. 20 A (to 50 °C), resistive load
Ambient temperature	- 45 °C to + 40 °C / + 50 °C (depending on the current)
Specified temperature	°C
Setpoint temperature range	1 °C to 450 °C (T1)
Measuring range	- 99 °C to 450 °C (T1)
Switching hysteresis	< 100 °C: 3 K, > 100 °C: 3 %
Switching point accuracy	< 2 K
Sensor connection	Intrinsically safe connection up to 3 wires Pt100
Undertemperature alarm (/A, /M and /AL)	1 °C to 450 °C, factory setting: 0 °C
Overtemperature alarm (/AL only)	1 °C to 450 °C, factory setting: 0 °C
Limit value for limiter restart	5 K below limiter limit value
Modbus (/M only)	RS485 RTU (max. 120 devices), $U_m = 6V_{max}$
Interference immunity	> 7 J
Housing	Polyamide, non-conductive, UV-resistant
Protection	IP65
Connection cross-sections	0.2 ... 4 mm ²
Terminal tightening torque	0.6 ... 0.8 Nm
Weight	approx. 1.3 kg

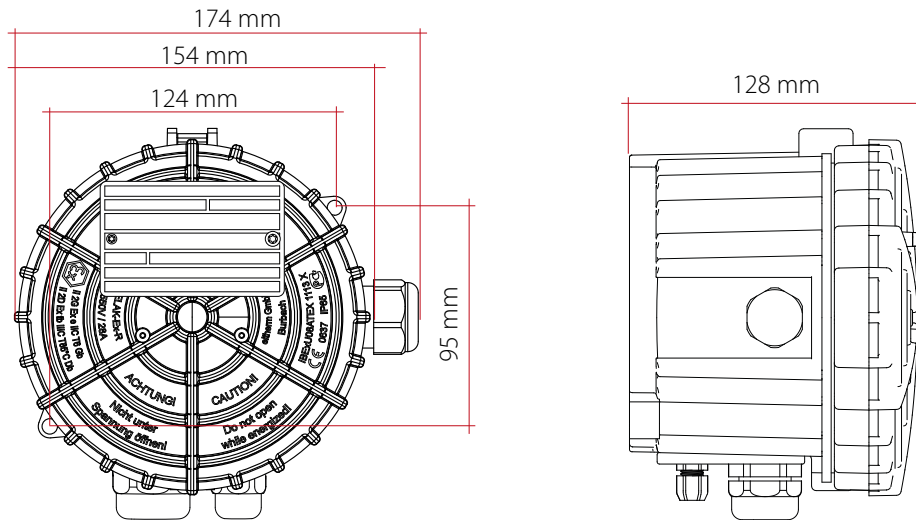
Intrinsically safe measuring circuit (maximum values) $U_0=2.5 \text{ V}$, $I_0=36.8 \text{ mA}$, $P_0=40 \text{ mW}$, $R=155 \text{ ohms}$

Ex ib	IIC			IIB, IIIC		
Max. external inductance	44 mH	10 mH	1 mH	100 mH	10 mH	1 mH
Max. external capacitance	1.2 μF	7.1 μF	14 μF	28 μF	65 μF	110 μF

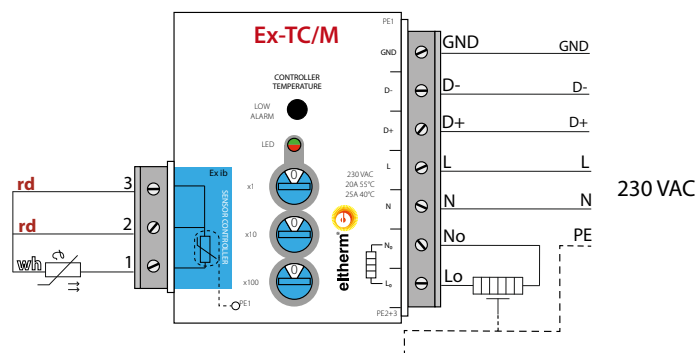
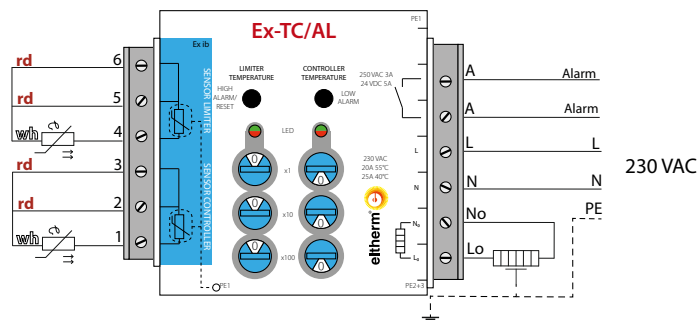
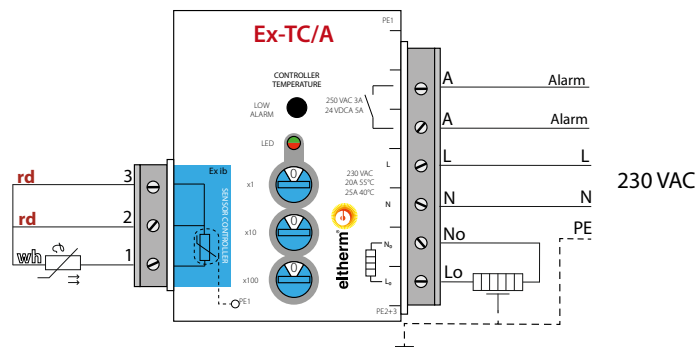
Ordering Information

Type	Mounting	Ø of power supply cable	Ø of alarm/bus cable	Item no.
Ex-TC/A-W Controller with Alarm function	Wall mounting	9 mm – 17 mm	4 mm – 13 mm	0X60103
Ex-TC/AL-W Controller and Limiter with Alarm function	Wall mounting	9 mm – 17 mm	4 mm – 13 mm	0X60123
Ex-TC/M-W Controller with Modbus function	Wall mounting	9 mm – 17 mm	4 mm – 13 mm 2 x 7.2 mm – 8 mm	0X60133

Dimensions

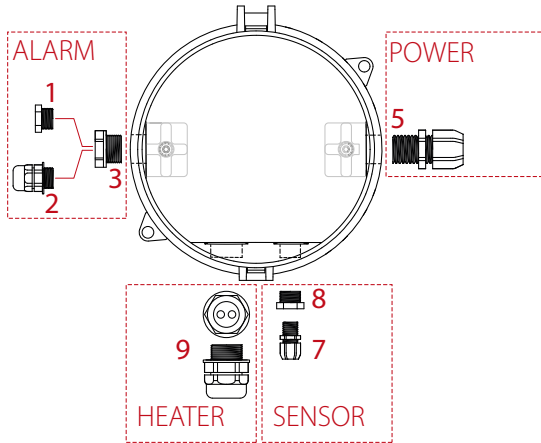


Connection diagram



Scope of Delivery

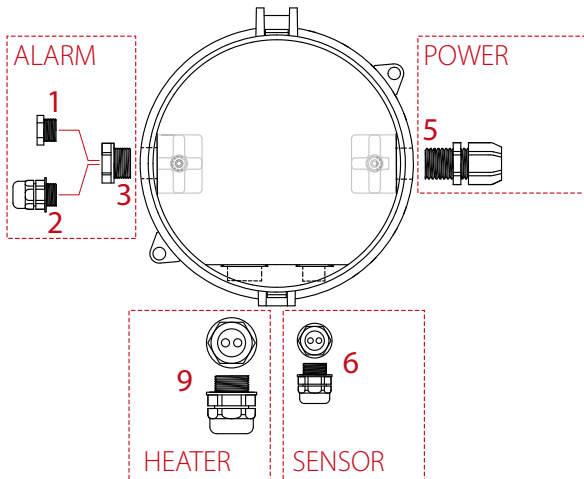
Ex-TC/A-W (CONNECTION ELK/ELKM/ELK-MI)



Item	Type	Art.No.	Clamping range
1	Plug M20x1,5	2576020056	-
2	Cable gland M20x1,5	2576020058	4-13
3	Reduction M25x1,5/M20x1,5	2572580009	-
5	Cable gland M25x1,5	2576025092	9-17
7	Cable gland M12x1,5, blue	2576012022	3-6,5
8	Reduction M20x1,5/M12x1,5	2572580008	-
9	Cable gland M25x1,5	2576025093	2x5,4-6

Note: When using ELSR and ELP, connection sets must be ordered separately.

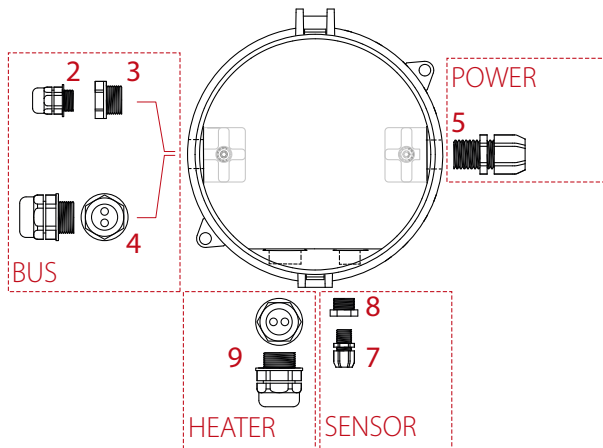
Ex-TC/AL-W (CONNECTION ELK/ELKM/ELK-MI)



Item	Type	Art.No.	Clamping range
1	Plug M20x1,5	2576020056	-
2	Cable gland M25x1,5	2576020058	4-13
3	Reduction M25x1,5/M20x1,5	2572580009	-
5	Cable gland M25x1,5	2576025092	9-17
6	Cable gland M20x1,5, blue	2576020057	2x3,6-4
9	Cable gland M25x1,5	2576025093	2x 5,4-6

Note: When using ELSR and ELP, connection sets must be ordered separately.

Ex-TC/M-W (CONNECTION ELK/ELKM/ELK-MI)



Item	Type	Art.No.	Clamping range
2	Cable gland M20x1,5	2576020058	4-13
3	Reduction M25x1,5/M20x1,5	2572580009	-
4	Cable gland M25x1,5	2576025050	2x7,2-8
5	Cable gland M25x1,5	2576025092	9-17
7	Cable gland M12x1,5, blue	2576012022	3-6,5
8	Reduction M20x1,5/M12x1,5	2572580008	-
9	Cable gland M25x1,5	2576025093	2x 5,4-6

Note: When using ELSR and ELP, connection sets must be ordered separately.

Note: Connection and end termination sets are not included with delivery of the Ex-TC system. Please order these as separate items depending on the type of heating cable you are using.