

optris CT for applications
in hazardous areas



Features:

- Two-piece measuring system with active electronic for evaluation and passive IR receiver (sensing head)
- CText sensing head can be installed as passive element in hazardous areas
- Energy limitation with appropriate zener barriers (STAHL) with approval for zone 1 (PTB 01 ATEX 2053/ E II (1/2) GD [EEx ia/ib] IIC/IIB)

Concept/Scope of delivery

Concept	Classification of the optris CT sensing heads according to EN 60079-0/ EN 60079-11 (category of simple electrical devices) ²⁾
	Intrinsically safe by limitation of the energy with two double zener barriers, type 9002/22-032-300-111 (R. STAHL AG)
Scope of delivery	CTLT – Sensor (optics 2:1, 15:1, 22:1) with cable length 3 m, 8 m or 15 m (3.3 ft, 16.4 ft, 49.2 ft) (selectable)
	Aluminum housing with mounting appliance for two zener barriers and CT electronics
	2 zener barriers, type 9002/22-032-300-111 (R. STAHL AG) ³⁾

Technical data (zener barriers)¹⁾

Approvals: Type 9002/22-032-300-111	Europe (CENELEC): for zone 1: PTB 01 ATEX 2053X for zone 2: PTB 01 ATEX 2054X IECEX PTB 08.0057X
	USA: UL E81680V1S3
	Canada: CSA 1284580 (LR 43394)
Classes, Divisions and Groups	Europe (CENELEC): for zone 1: E II (1/2) GD [EEx ia/ib] IIC/IIB for zone 2: E II 3 GD EEx nA II T4
	USA: I.S. circuits for: class I, II, III, division 1, groups A, B, C, D, E, F, G I.S. circuits for: class I, zone 0, group IIC class I, division 2, groups A, B, C, D class I, zone 2, group IIC
	Canada: I.S. circuits for: class I, groups A, B, C, D; class II, groups E, F, G class III class I, division 2, groups A, B, C, D class I, zone 2, groups IIC
Installation	In zone 2, division 2 and in safe area
Environmental rating	acc. to IEC 60529/ clamping carrier IP 20/ housing IP 40
Ambient temperature	-20 °C ... 60 °C (-4 °F ... 140 °F)

¹⁾ Declaration of company R. Stahl AG

²⁾ Verification by the operator

³⁾ NOTE: The functionality and correct reading of the CT sensor can only be guaranteed if the recommended barriers are used.

Manufacturer's declaration for CText measurement system

To verify that the optris CT sensing head is a simple electrical device according to EN 60079-11 item 5.7 we hereby confirm the following technical data:

• **Inductance (available for the sensor cable only):**

Inductance of the loops
 min. 0.55 mH/ km max. 0.56 mH/ km

• In relation to a cable length of 15 m:

Inductance of the loops
 min. $0.825 \cdot 10^{-3}$ mH max. $0.84 \cdot 10^{-3}$ mH

• **Capacitance:**

Capacitance of the sensor cable:

Capacitance lead/lead	min. 16.5 nF/ km	max. 17.9 nF/ km
Capacitance lead/rest	min. 101.0 nF/ km	max. 103.4 nF/ km

In relation to a cable length of 15 m:

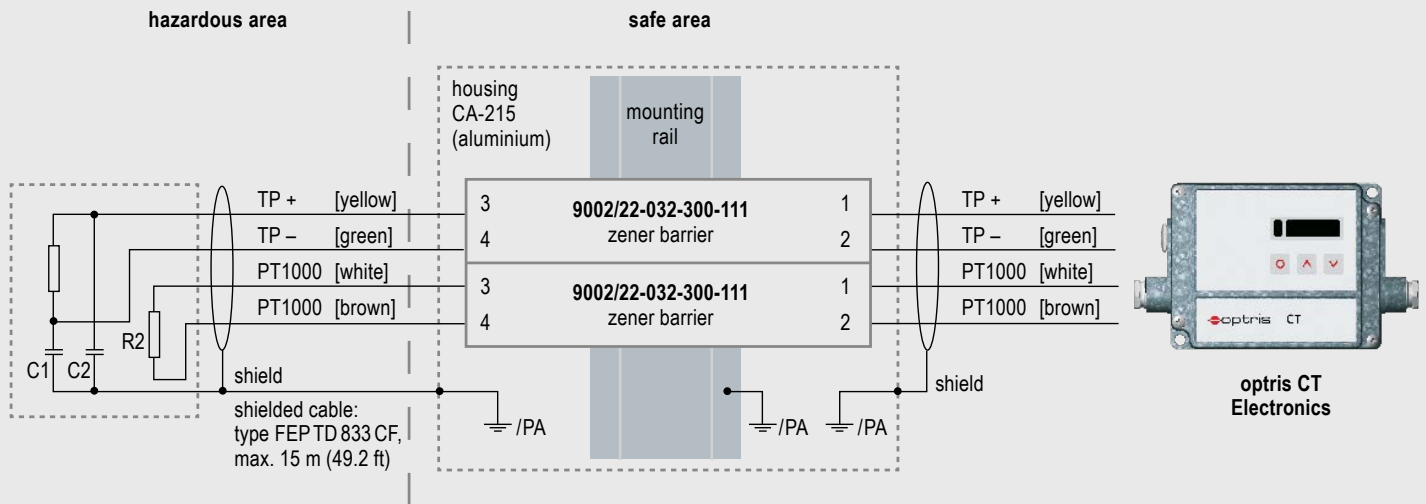
Capacitance lead/lead	min. 0.2475 nF	max. 0.2685 nF
Capacitance lead/rest	min. 1.515 nF	max. 1.551 nF

Capacitance in the sensing head:

C1 = Ceramic SMD Capacitor 6.8 nF +/- 20 %

C2 = Ceramic SMD Capacitor 6.8 nF +/- 20 %

Connections



Dimensions in mm

