

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 [Ex 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 (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 [Ex 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 |

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 the 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 |

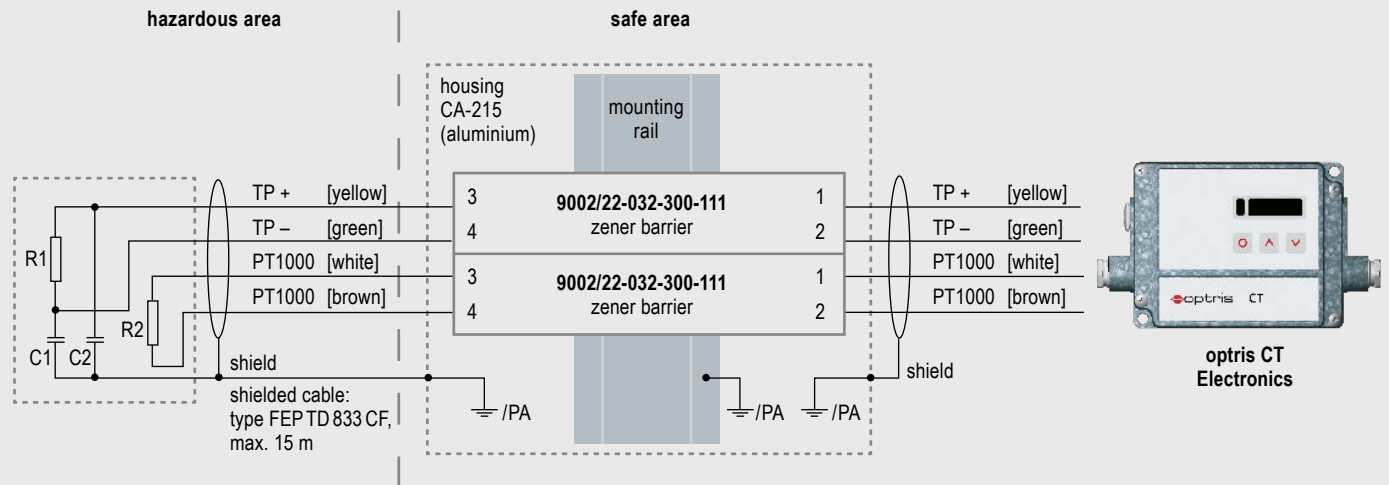
In relation to a cable length of 15 m:

| | | |
|-----------------------|----------------|----------------|
| 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

