

optris® CT for  
applications in  
hazardous areas

Features:

- Two-piece measuring system with active electronic for evaluation and passive IR receiver (sensing head)
- CTex 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)



Technical data (zener barriers)<sup>1)</sup>

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)

Explosion protection

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

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) <sup>2)</sup>
	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) <sup>3)</sup>

<sup>1)</sup> Declaration of company R. Stahl AG

<sup>2)</sup> Verification by the operator

<sup>3)</sup> 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

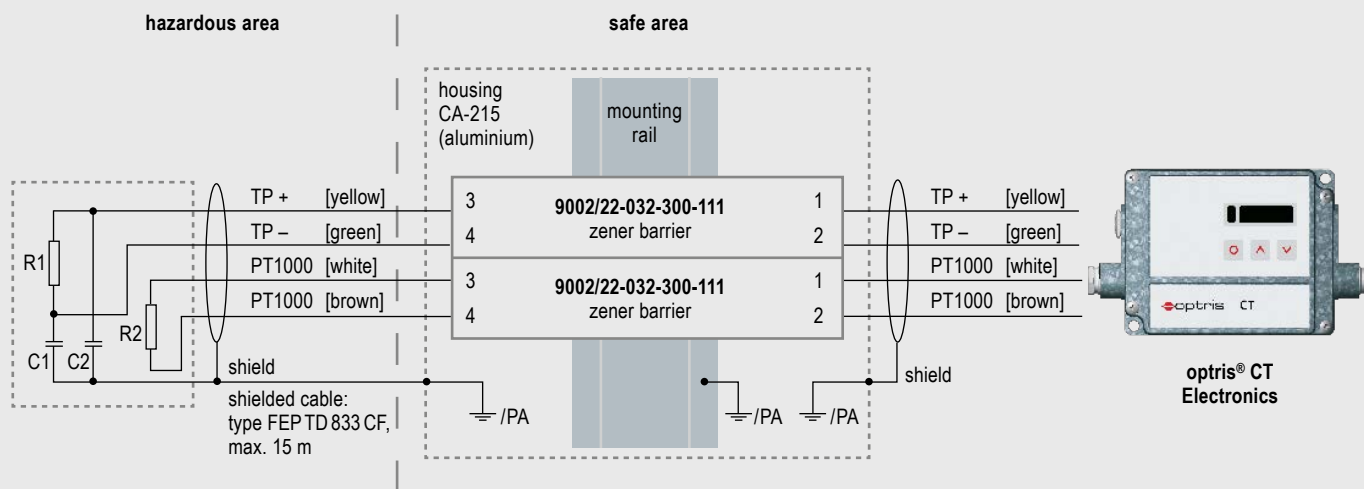
In relation to a cable length of 15 m:

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

