ExTemp

Intrinsically Safe Infrared Temperature Sensor

- Suitable for hazardous areas, Zone 0, 1 and 2 (gas), and Zone 20, 21 and 22 (dust), with a suitable Intrinsically Safe isolator
- Temperature range: -20°C to 1000°C
- Two wire, 4-20 mA output
- Rescalable output and adjustable emissivity setting via optional USB adapter
- Fast response time and high stability
- Stainless steel 316 housing - ideal for offshore applications
- IP65 sealed
- Supplied with up to 25 m cable

General Specifications

Temperature range	See table of Model Numbers
Maximum Temperature Span	1000°C
Minimum Temperature Span	100°C
Output	4 to 20 mA
Field of View	See table of Model Numbers
Accuracy	± 1°C or 1%, whichever is greater
Repeatability	± 0.5°C or 0.5%, whichever is greater
Emissivity Setting Range	0.20 to 1.00 (pre-set to 0.95)
Emissivity Setting Method	User configurable via USB interface
Response Time	240 ms (90% response)
Spectral Range	8 to 14 μm
Supply Voltage	12 to 24 V DC ± 5%
Maximum Current Draw	25 mA
Maximum Loop Impedance	See Application Guide (available separately)

Mechanical

Construction	Stainless Steel 316
Major Dimensions	Ø 20 x length 150 mm (see Dimensions)
Mounting	M20 x 1.5 mm thread, length 46 mm, supplied with two mounting nuts
Cable Length	5 m, 10 m or 25 m as standard (custom lengths also available)
Weight with 5 m Cable	475 g

Environmental

Environmental Rating	IP65 (NEMA 4)
Ambient Temperature Range	0°C to 70°C (Operating range)
Relative Humidity	Max. 95% non-condensing
CE Marked	Yes
RoHS Compliant	Yes

Hazardous Area Classification

The ExTemp is ATEX, IECEx and TIIS certified.

ATEX Classification	Ex II 1GD
IECEx Classification (Gas)	Ex ia IIC T4 Ga
IECEx Classification (Dust)	Ex ia IIIC T135°C IP65 Da
Ambient Temperature Rating	-20°C ≤ Ta ≤ 70°C
Maximum DC Input Voltage	U_i = 28 V
Maximum Input Current	I_i = 93 mA
Maximum Input Power	P_i = 650 mW
Maximum Internal Capacitance	C_i = 8 nF
Maximum Internal Inductance	L_i = 0 mH
ATEX Certificate Number	CML 14ATEX2079
IECEx Certificate Number	IECEx CML 14.0032
TIIS Certificate Number	TC21097

CONFIGURATION

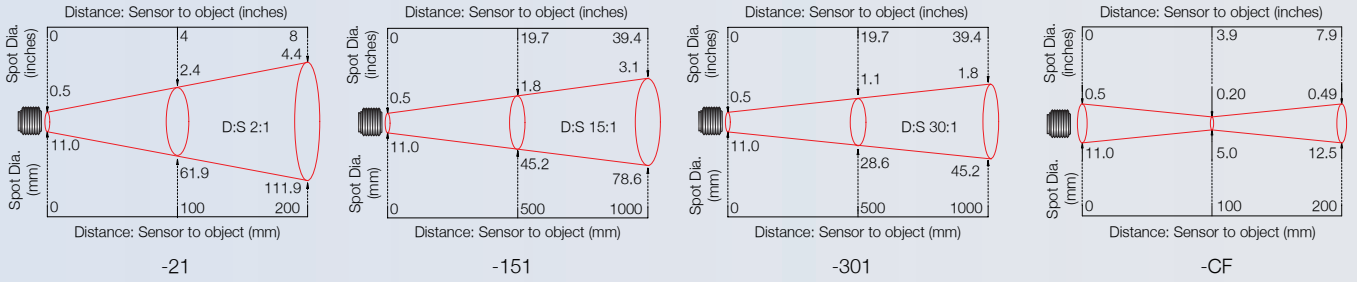The ExTemp sensor may be connected to a PC via the optional USB adapter and included Windows software.

Configurable settings include the emissivity setting, 4-20 mA temperature range, averaging, peak and valley hold processing and reflected energy compensation.

For more information on the software, please see the CalexConfig / CalexSoft 2 data sheet.

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OPTICS

Diameter of target spot measured versus distance from sensing head (90% energy)
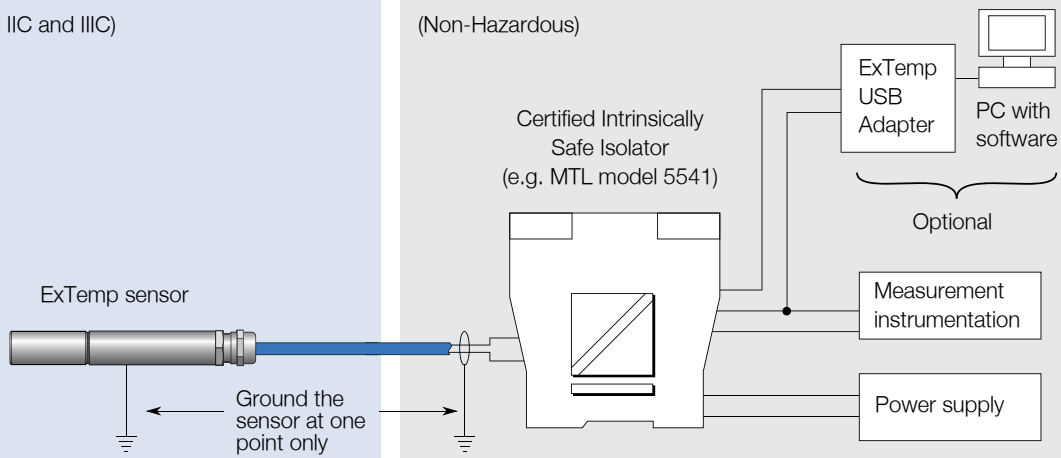

-21

-151

-301

-CF

Note: The sensor will measure at longer distances than shown, with a larger measured spot diameter. Contact Calex for more information.
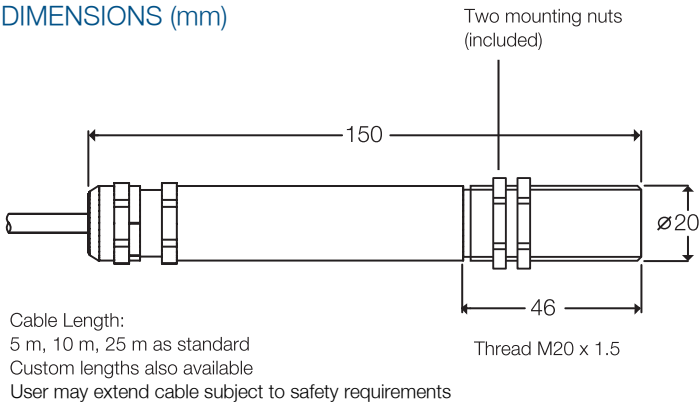
CONNECTIONS

Hazardous Area
(All Zones IIC and IIIC)

Safe Area
(Non-Hazardous)

ExTemp sensor

Ground the sensor at one point only

Certified Intrinsically Safe Isolator
(e.g. MTL model 5541)

ExTemp USB Adapter

PC with software

Optional

Measurement instrumentation

Power supply

DIMENSIONS (mm)

Two mounting nuts (included)

150

Ø20

46

Thread M20 x 1.5

Cable Length:
5 m, 10 m, 25 m as standard
Custom lengths also available
User may extend cable subject to safety requirements

MODEL NUMBERS

EX - 151 - LT - C - 25

Cable Length
5 = 5 m
10 = 10 m
25 = 25 m
Custom lengths also available

User Configurable
C = Configurable via optional USB adapter

Temperature Range
LT = -20°C to 100°C
MT = 0°C to 250°C
HT = 0°C to 500°C
XT = 0°C to 1000°C
ST = Special temperature range
On all models, temperature range may be re-scaled between limits -20°C and 1000°C via optional USB adapter and software

Field of View
21 = 2:1 divergent optics
151 = 15:1 divergent optics
301 = 30:1 divergent optics
CF = Close focus optics
(Spot Ø 5 mm at distance 100 mm)

ACCESSORIES

FBL	Fixed mounting bracket (1-axis rotation)
ABL	Adjustable mounting bracket (2-axis rotation)
APM	Air purge collar
CALCERTA	Calibration certificate, 3 temperature points, UKAS traceable
LCT	USB adapter and configuration software

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Specifications subject to change without notice