

PYROSPOT DT 25L

Pyrometer for industrial application

Overview

Digital 2-wire pyrometer with interface for parameterization



Special features

- For temperature measurement between -20 °C and 700 °C
- Standard 4 to 20 mA temperature linear output signal
- Integrated interface for parameterization
- Maximum and minimum value data storage
- Robust stainless steel housing
- Persuasive price/performance ratio

Description and application

The digital pyrometers PYROSPOT DT 25L are specifically designed for industrial purpose. They are suitable for temperature measurements from -20 °C to 700 °C on different non-metallic or coated metallic surfaces.

The solid construction in a compact stainless steel housing guarantees the using of the devices even under rough ambience conditions. An optional air purge is available for high dust loading. With a response time of 200 ms (t_{95}) only the pyrometer is also suitable for fast measurement tasks. The fixed optics with a distance ratio of 40 : 1 realizes measurement field diameters from 15 mm.

The standard 4 to 20 mA temperature linear output signal enables an easy implementation in existing I & C equipment. The devices are equipped with an interface for the adjustment of the pyrometer parameters at the rear side of the device.

The pyrometer values emissivity, response time, sub temperature range, data storage parameters and ambience temperature compensation can be adjusted via the parameterization interface to the application by using the parameterization software PYROSOFT Spot or with the optionally available handheld programming device DHP 1040.



Typical application areas:

- Drying processes
- Food industry
- Paper and packaging industry
- Building material industry
- Chemical industry
- Glass and ceramic industry

PYROSPOT DT 25L

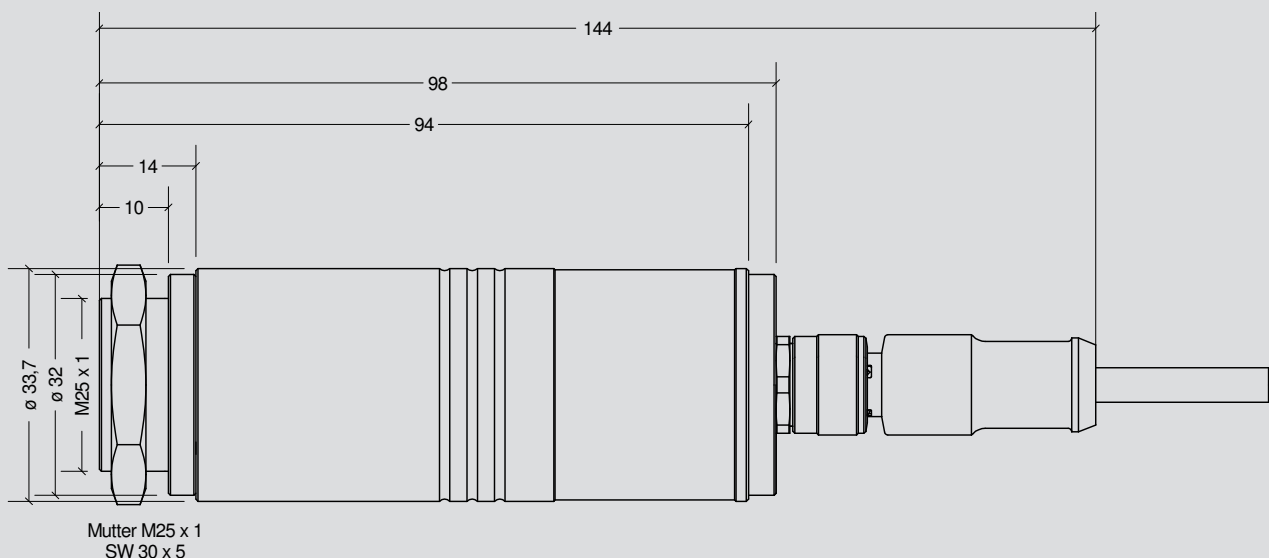
Pyrometer for industrial application

Technical data

Type	DT 25L
Measurement range	-20 °C to 700 °C
Part number	4258241301
Spectral range	8 µm to 14 µm
Fixed optics	40 : 1
Internal data processing	digital
Emissivity ϵ	0.200 to 1.000, adjustable via parameterization interface
Sub temperature range of analog output	adjustable via parameterization interface within measurement range, minimum span 50 °C
Response time (t_{95})	200 ms, adjustable up to 100 s via parameterization interface
Measurement uncertainty ^{1,2}	1 % of measured value in °C or 2 K
Reproducibility ^{1,2}	0.5 % of measured value in °C or 1 K
NETD ³	0.1 K ⁴
Output	4 to 20 mA, temperature linear, max. burden 600 Ω at 24 V
Interface	USB interface for parameterization
Data storage	minimum/maximum value data storage, adjustable via parameterization interface
Parameters	emissivity, response time, sub temperature range, data storage, ambience temperature compensation, adjustable via parameterization interface
Power supply	24 V DC \pm 25 %, residual ripple 500 mV
Power consumption	max. 0.6 W
Operating temperature	0 °C to 70 °C
Storage temperature	-20 °C to 70 °C
Protection class	IP65 (DIN EN 60529, DIN 40050)
Weight	approximately 250 g
Housing	stainless steel housing with plug connector
CE symbol	according to EU regulations
Scope of delivery	PYROSPOT DT 25L, user manual, mounting screw nut, without connection cable (please order separately)

¹ Specifications for black body radiator, $T_{amb} = 23$ °C, $t_{95} = 1$ s. ² Whichever is higher value. ³ Noise equivalent temperature difference. ⁴ For $T_{amb} = 23$ °C, $t_{95} = 500$ ms, $\epsilon = 1$, $T_{Object} = 100$ °C.

Dimensional drawing



PYROSPOT DT 25L

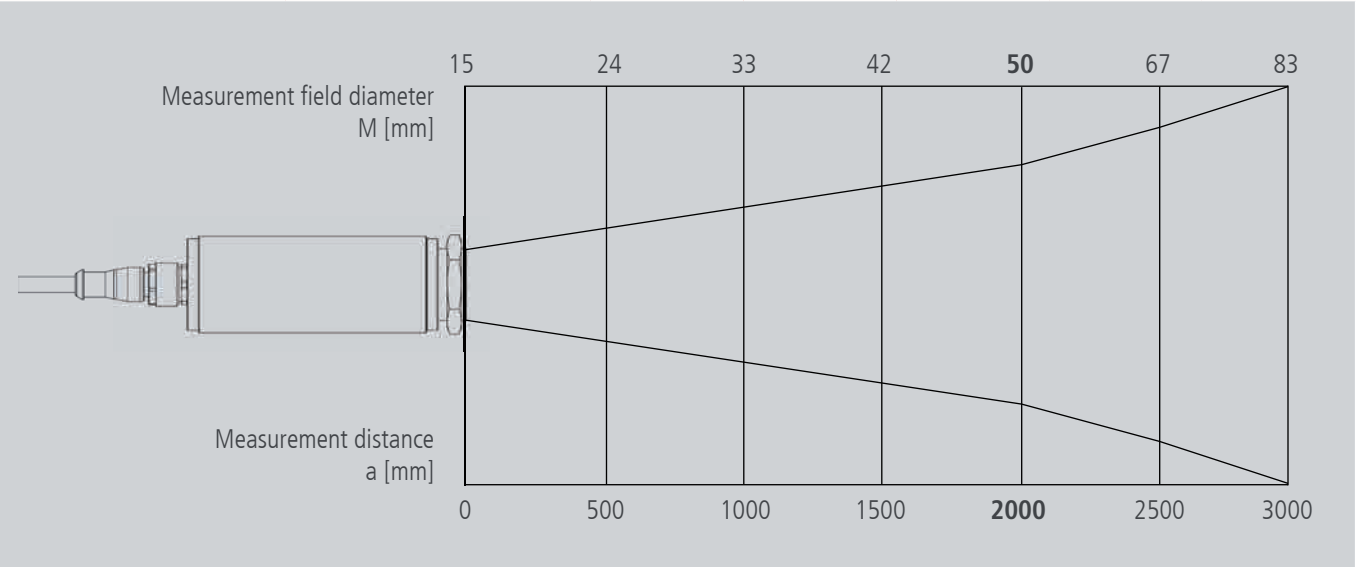
Pyrometer for industrial application

Optics

Fixed optics 40 : 1, aperture D = 15 mm, sharp point at a = 2000 mm

Measurement distance a [mm]	0	500	1000	1500	2000	2500	3000
Measurement field diameter M [mm]	15	24	33	42	50	67	83


Target size



Accessories

Description	Part number
Connection cable, series 25, length 5 m	3310A11322
Connection cable, series 25, length 15 m	3310A11324
Mounting angle, fixed	3310A21522
Air purge unit, stainless steel, purge air 0.1 to 0.5 bar, oil-free	3310A22520
USB parameterization cable, length 1.8 m, including Software PYROSOFT Spot	3310A14012
Handheld programming device DHP 1040 (mobile device for parameterization of the pyrometer)	3310A17010

Selected accessories – images

Mounting angle fixed	Air purge unit
Part number: 3310A21522 	Part number: 3310A22520 

PYROSPOT DT 25L

Pyrometer for industrial application

Parameterization

Possibility 1: Pyrometer DT 25L with USB parameterization cable and software PYROSOFT Spot



Connect the pyrometer PYROSPOT DT 25L with the optionally available USB parameterization cable (part number: 3310A14012) to a computer. The software PYROSOFT Spot must be installed on this PC.

The power supply of the pyrometer is made via USB interface. You can adjust the parameters of the pyrometer DT 25L via the program PYROSOFT Spot. The parameters stay stored in the pyrometer even when there is no operating voltage.

Possibility 2: Pyrometer DT 25L with USB parameterization cable and handheld programming device DHP 1040



Parameterize the pyrometer DT 25L with the handheld programming device DHP 1040 (part number: 3310A17010). Connect the device with the optionally available USB parameterization cable (part number: 3310A14012) to the pyrometer.

The operating voltage of the pyrometer is provided by the handheld programming device.

Possibility 3: Pyrometer DT 25L with prior parameterization



All parameters can be adjusted ex factory on customer request:

- Emissivity between 0.200 and 1.000
- Response time:
 - Min (200 ms), 500 ms, 1 s, 2 s, 5 s, 10 s, 20 s, 50 s or 100 s
- Sub temperature range between -20°C and 700°C , minimum span 50°C :
 - Start of sub temperature range = current output 4 mA,
 - End of sub temperature range = current output 20 mA
- Maximum value data storage or minimum value data storage:
 - Off
 - Max 500 ms, 1 s, 2 s, 5 s, 10 s, 20 s, 50 s, 100 s, auto
 - Min 500 ms, 1 s, 2 s, 5 s, 10 s, 20 s, 50 s, 100 s
- Ambience temperature compensation:
 - Off, auto (inner device temperature) or 0°C to 100°C