PYROSPOT DT 42G

Pyrometer for application in glass industry

Overview

Pyrometer with emissivity adjustment

Features

- For temperature measurement between 100 °C and 2500 °C
- Digital 2-wire pyrometers
- Temperature linear output from 4 to 20 mA
- Spectral range 5 µm
- Emissivity adjustment at the device
- Robust stainless steel housing

Description and applications

The digital pyrometers PYROSPOT DT 42G are especially designed for applications in glass industry. The devices are suitable for temperature measurement from 100 °C to 2500 °C of glass surfaces, float glass and liquid glass.

The solid body in stainless steel housing allows usage even under rough environmental conditions. With a fast response time from 100 ms (t_{95}) these pyrometers are also suitable for fast measuring rocesses. Several fixed optic types realise measuring field diameters from 4.2 mm.

Emissivity can be adjusted directly at the backside of the device. The temperature linear standard output signal of 4 to 20 mA allows easy implementation in existing measuring and controlling systems.

The optional laser aiming light allows exact alignment to the measuring object.

Typical application areas:

- Glass industry
- Float glass
- Glass bottle production
- Liquid glass
- Glass forms

Accessories

- Connecting cable (several lengths)
- Power suuply PSU 15 (24 V DC, 0,6 A)
- Digital displays DD 200/210 and DD 400
- Mounting angle, fixed or adjustable
- Ball and socket mounting
- Air purge unit
- Sighting tube (for air purge unit, several lengths)
- Cooling jacket (stainless steel, integrated air purge unit)
- Vacuum flange (KF 16 with ZnSe window)
- Mirror 90° (incl. air purge unit)
- Window slide
- Protection window
- Emissivity enhancer
- Laser aiming light

[1] More accessories on request.

Emissivity can be adjusted directly at the backside of the device

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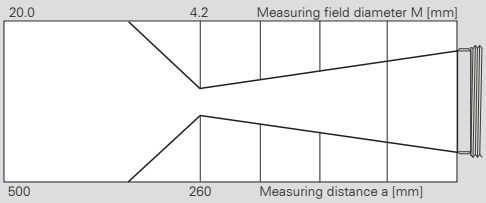
Technical data		
Type	**DT 42G**	**DT 42G**
Temperature range	100 °C to 1300 °C	500 °C to 2500 °C
Sub temperature range	adjustable within temperature range, minimum span 50 °C	
Spectral range	around 5 µm	
Optics (Order number)	300 (4428542001), 800 (4428543001)	300 (4428542003), 800 (4428543003)
Measurement uncertainty [1]	1.0 % of measured value in °C or 1 K [2]	
Reproducibility [1]	0.5 % of measured value in °C or 0.5 K [2]	
NETD [3]	0.1 K [4]	
Response time (t_{95})	100 ms, optional adjustable up to 100 s (factory-provided)	
Emissivity ε	0.20 to 1.00, adjustable (factory setting: 1.00)	
Output	4 to 20 mA, temperature linear, max. burden: 500 Ω at 24 V	
Interface	galvanically isolated USB interface	
Aiming	laser aiming light (optional accessories)	
Power supply	24 V DC ± 25 %, residual ripple 500 mV, for laser aiming light: 7 to 30 V DC, < 200 mW	
Power consumption	max. 0.6 W (without laser aiming light)	
Operating temperature	0 °C to 70 °C	
Storage temperature	–20 °C to 70 °C	
Weight	appr. 450 g	
Dimensions	thread M40 × 1,5, length 125 mm	
Housing	stainless steel with plug connector	
Safety class	IP 65 (according to DIN EN 60529 and DIN 40050)	
CE symbol	according to EU regulations	
Scope of delivery	PYROSPOT DT 42G with optics, manual, inspection sheet, two mounting screw nuts, connecting cable 5 m (5 pin), Other cable lengths on request.	

[1] Specifications for black body radiators , T_u = 23 °C, ε = 1, t95 = 1 s. [2] Whichever is higher value. [3] Noise equivalent temperature difference.
[4] T_{amb} = 23 °C, ε = 1, t_{95} = 200 ms, T_{Object} = 250 °C/700 °C.

Optics 300 and 800

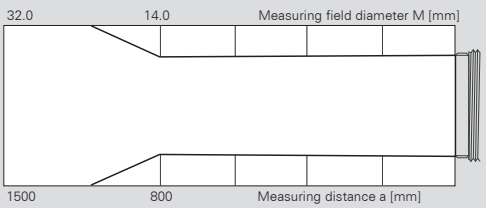
Optics 300 (sharp point at a = 260 mm), aperture ∅ D = 15 mm

Measuring distance a [mm]	0	100	200	**260**	295	400	500
	Measuring field diameter M [mm]						
DT 42G (100 °C to 2500 °C)	15.0	10.8	6.7	**4.2**	5.5	15.0	20.0



Optics 800 (sharp point at a = 800 mm), aperture ∅ D = 15 mm

Measuring distance a [mm]	0	300	600	**800**	1000	1500	2000
	Measuring field diameter M [mm]						
DT 42G (100 °C to 2500 °C)	15.0	14.6	14.3	**14.0**	18.0	32.0	48.0



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