# PYROSPOT DT 10G

## Pyrometer for application in glass industry

### Overview

### Digital pyrometers with RS-485 interface


### Features

- For temperature measurements between 150 °C and 2500 °C
- Keyboard and display for emissivity and temperature
- Temperature linear output 0/4 to 20 mA
- Aiming: laser aiming light or through-lens sighting
- Short response times from 10 ms
- Vario optics

### Description and applications

The digital pyrometers PYROSPOT DT 10G are specially designed for industry and research applications. The devices are suitable for temperature measurement from 150 °C especially in glass industry.

The solid construction in form of a compact housing allows usage even under rough environmental conditions. With a short response time of only 10 ms (t90) these pyrometers are also suitable for fast measuring processes. The vario optics realise measuring field diameters from 1.1 mm.

The integrated laser aiming light or the alternative through-lens sighting enables to focus the measuring object exactly.

The emissivity is also adjustable via push-buttons and display directly on the device. All parameters can be easily adjusted to the application by using the convenient parameterizing and evaluation software PYROSOFT Spot.

The temperature linear standard output signal of 0/4 to 20 mA allows easy implementation in existing measurement and controll systems. The device is equipped with a galvanically isolated RS-485 interface which allows parameterising and software evaluation even in bus systems.

Typical pyrometer application areas:

- Glass industry (in general)
- Float glass
- Glass bottle production
- Liquid glass
- Glass forms

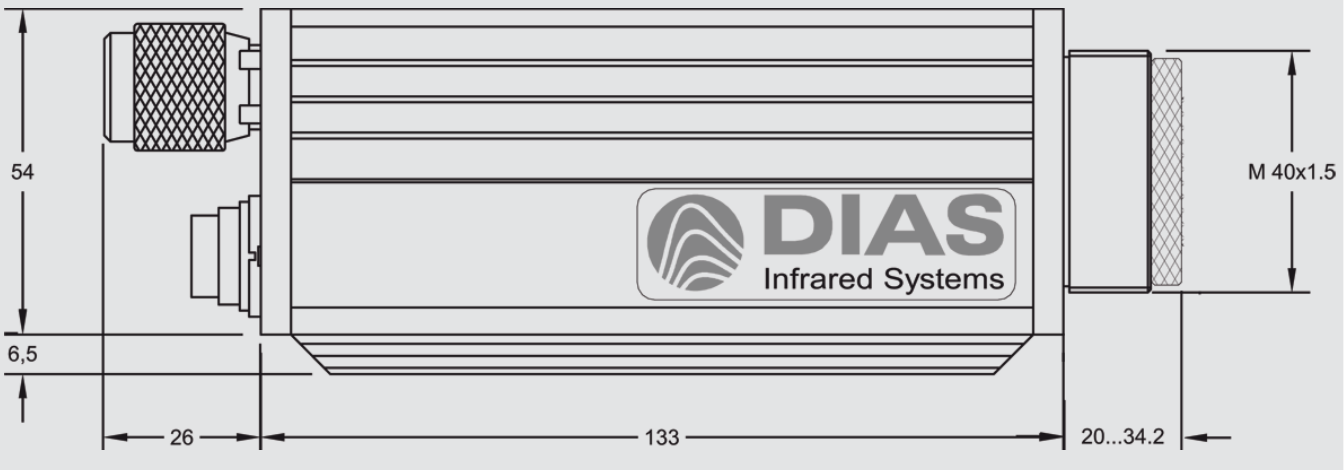
# PYROSPOT DT 10G

## Pyrometer for application in glass industry

| Technical data | | |
|---|---|---|
| **Type** | **DT 10G** | **DT 10G** |
| Temperature range | 150 °C to 1400 °C | 500 °C bis 2500 °C |
| Sub temperature range | adjustable within temperature range, minimum span 50 °C | |
| Spectral range | around 5 µm | |
| Optics | vario optics, measuring field diameters from 1.1 mm, distance ratio approx. 100 : 1 | |
| Measurement uncertainty [1] | 0.6 % of measured value in °C or 1 K [3] | |
| Reproducibility [1] | 0.3 % of measured value in °C or 0,5 K [3] | |
| NETD [2] | 0.2 K [4] | |
| Response time (t90) | 10 ms, adjustable via RS-485 interface | |
| Emissivity | 0.200 to 1.000, adjustable via RS-485 interface | |
| Storage | maximum value storage, adjustable via interface | |
| Output | 0/4 to 20 mA, switchable via software, temperature linear, max. burden 700 Ω | |
| Interface | RS-485 (galvanically isolated), half duplex, baudrate up to 115 kBd, data protocol Modbus RTU | |
| Aiming | laser aiming light or through-lens sighting | |
| Software | PYROSOFT Spot for Windows®, optional: PYROSOFT Spot Pro | |
| Parameters | emissivity, response time, temperature unit °C or °F, storage, sub temperature range, adjustable via interface | |
| User controls | emissivity control push-buttons (resolution 0.001), aiming light push-button, display | |
| Power supply | 24 V DC ± 25 %, residual ripple 500 mV | |
| Power consumption | max. 1.5 W | |
| Operating temperature | 0 °C to 70 °C | |
| Storage temperature | –20 °C to 70 °C | |
| Weight | appr. 500 g | |
| Dimensions | 54 × 54 mm, length 170 mm | |
| Housing | compact housing with plug connector, display and push-buttons | |
| Safety class | IP65 (DIN 40 050, DIN EN 60529) | |
| CE symbol | according to EU regulations (EN 50 011) | |
| Scope of delivery | PYROSPOT DT 10G, mounting screw nut, inspection sheet, manual, PYROSOFT Spot for Windows® (**without** connection cable, please order separately) | |

[1] Specifications for blac body radiator $T_U$ = 23 °C, ε = 1, t95 = 1 s. [2] Noise equivalent temperature difference. [3] Whichever is higher value. [4] At $T_U$ = 23 °C, t95 = 100 ms, ε = 1, $T_{Object}$ = 300 °C.

## Dimensional drawing pyrometer

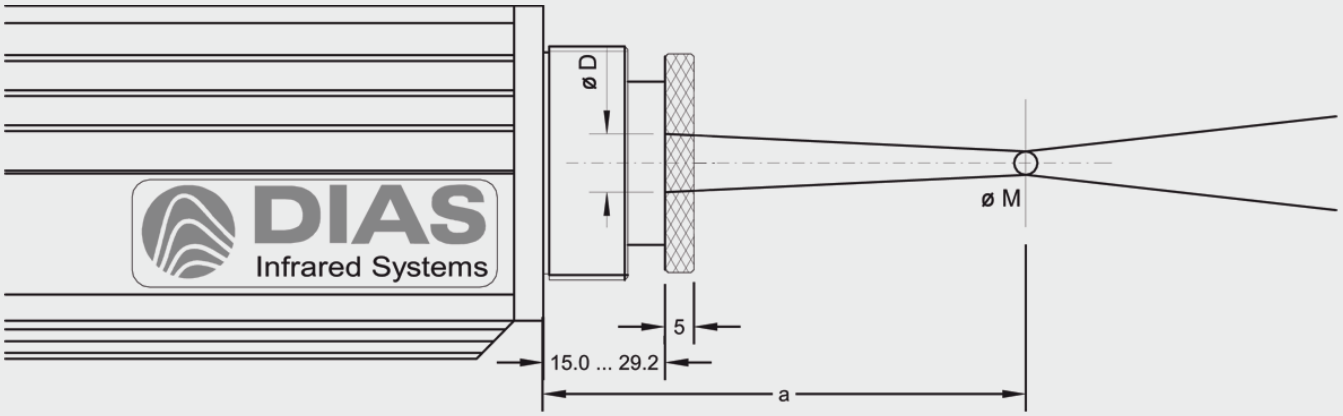


# PYROSPOT DT 10G

## Pyrometer for application in glass industry

| Vario optics | | | | | Order number | |
|---|---|---|---|---|---|---|
| Optics variant | Temperature range | Meas. field diameter M [mm] | Meas. distance a [mm] | Aperture D [mm] | Laser aiming light | Through-lens sighting |
| I | 150 °C to 1400 °C | 1.1 to 1.4 | 120 to 140 | 11.6 | 4108511201 | 4108521201 |
| | 500 °C to 2500 °C | | | | 4108511203 | 4108521203 |
| II | 150 °C to 1400 °C | 1.7 to 3.3 | 210 to 320 | 11.6 | 4108512201 | 4108522201 |
| | 500 °C to 2500 °C | | | | 4108512203 | 4108522203 |
| III | 150 °C to 1400 °C | 2.8 to 10.0 | 340 to 900 | 11.6 | 4108513201 | 4108523201 |
| | 500 °C to 2500 °C | | | | 4108513203 | 4108523203 |

### Dimensional drawing vario optics




### Detailed view: display

The digital display shows current temperature value and emissivity setting.


### Detailed view: back side

The emissivity can be adjusted by using the two keys on the back side of the device. The value settings will be stored automatically.

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## Pyrometer for application in glass industry

| Electrical, mechanical and optical accessories[1] | | Order number |
|---|---|---|
| Connection cable, 12 pin, angulate plug | length 2 m<br>length 5 m<br>length 10 m<br>length 15 m<br>length 20 m<br>length 25 m<br>length 30 m | 3310A11131<br>3310A11132<br>3310A11133<br>3310A11134<br>3310A11135<br>3310A11136<br>3310A11137 |
| Interface module | RS-485 to USB | 3310A14020 |
| Power supply PSU 15 | 24 V DC, 0.6 A | 3310A12010 |
| Mounting angle | adjustable | 3310A21020 |
| Air purge adaptor | stainless steel, purge air 0.1 to 0,5 bar, oil-free | 3310A22020 |
| Window slide | without window | 3310A21210 |
| Vacuum flange | KF 16<br>with Zinc sulfide window<br>with Calcium fluoride | 3310A24015<br>3310A34061<br>3310A34031 |
| Mounting angle | for cooling jacket | 3310A23036 |
| DHP 1040 | handheld programming device for parameterizing | 3310A17010 |

[1] More accessories available.

### Selected accessories

**Mounting angle, adjustable**

Order number: 3310A21020

**Ball and socket mounting**

Order number: 3310A21025

**Cooling jacket**

Order number: 3310A23031

**Cooling plate**

Order number: 3310A23020

**Air purge unit for cooling jacket**

Order number: 3310A22020

**Mirror**

Order number: 3310A24110



We are certified for many years according to ISO 9001

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