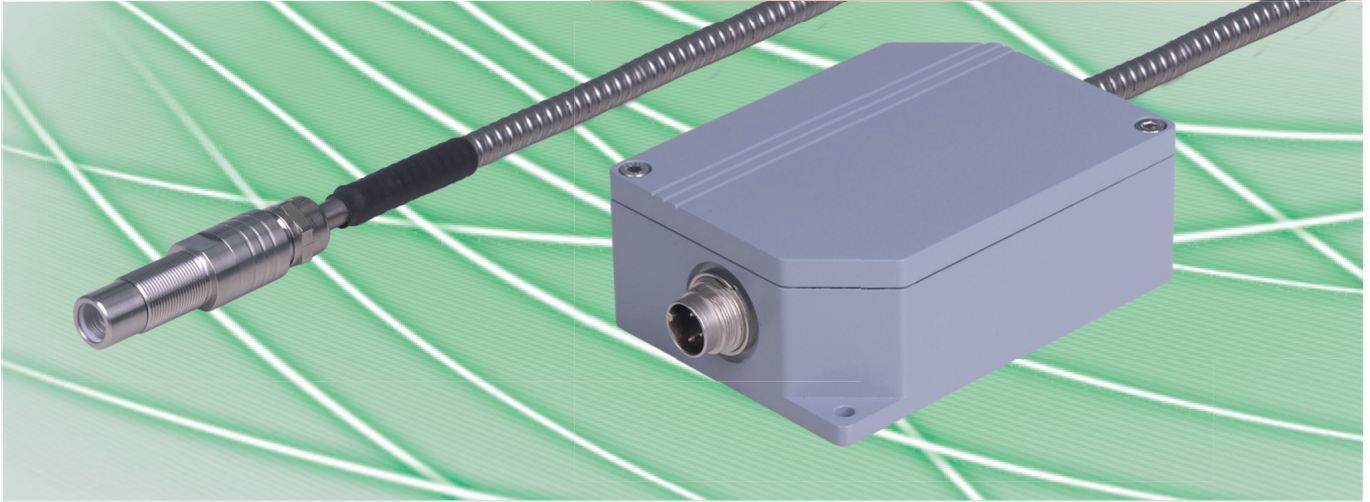


# PYROSPOT DSF 30NG and DSF 34NG

## Pyrometer with fibre cable for application in glass industry

### Overview

Digital pyrometers with USB or RS-485 interface



### Features

- For temperature measurements between 600 °C and 1800 °C
- Pyrometers specifically for glass industry
- Extremely robust aluminium housing
- Air purge unit with sighting tube for optical head
- Special mono fibre optics cable (length up to 30 m)
- Temperature linear standard output

### Description and applications

The digital pyrometers PYROSPOT DSF 30NG and DSF 34NG are specifically designed for application in glass industry. Temperature measurement from 600 °C to 1800 °C in glass tank, working end, forehearth and feeder is easily realisable.

The solid construction in robust aluminium housing with special mono fibre optics cable (up to 30 m) allows usage even under rough environmental conditions and ambient temperatures of up to 250 °C.

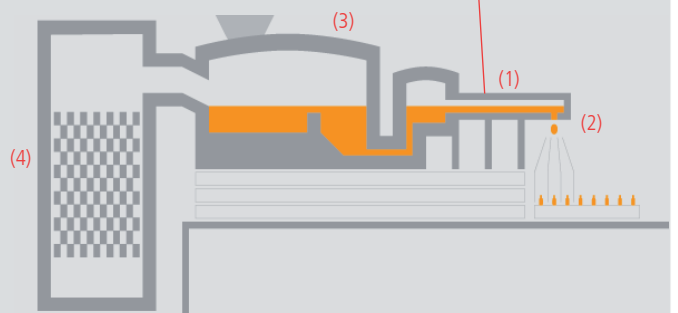
Several air purge units with inconel tubes of different lengths are available for the special optical head and can be mounted together. The lens can be easily cleaned or replaced.

The temperature linear standard output signal (DSF 30NG: 4 to 20 mA, DSF 34 NG: 0/4 to 20 mA) allows easy implementation in existing measurement and control systems.

The device is equipped with a galvanically isolated interface (DSF 30NG: USB, DSF 34NG: RS-485). Due to direct PC connection, parameters like sub range and response time can be easily adjusted by using the convenient parameterizing and evaluation software PYROSOFT Spot.

Typical application areas:

- Glass temperature measurement:
  - in forehearth (1)
  - in feeder (2)
  - in glass tank (3)
- Temperature measurement of brickworks:
  - tank side walls (3)
  - in regenerator (4)
  - tank roof (3)



# PYROSPOT DSF 30NG and DSF 34NG

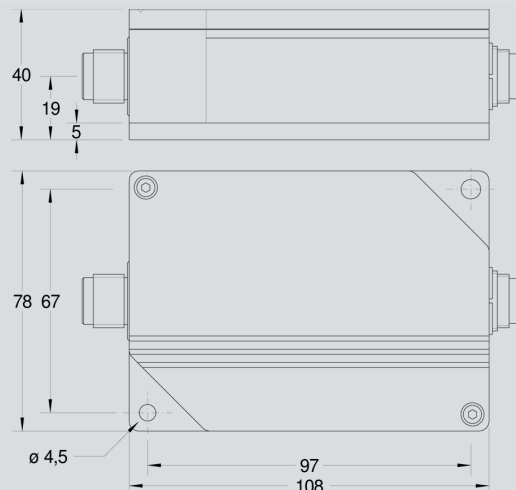
## Pyrometer with fibre cable for application in glass industry

### Technical data

| Type (Order number)                    | DSF 30NG (4300040301)                                                                                                                                           | DSF 34NG (4340040201)                                                    |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Temperature range                      | 600 °C to 1800 °C                                                                                                                                               | 600 °C to 1800 °C                                                        |
| Sub temperature range of analog output | adjustable within temperature range, minimum span 50 °C                                                                                                         |                                                                          |
| Spectral range                         | 0.8 µm to 1.1 µm                                                                                                                                                | 0.8 µm to 1.1 µm                                                         |
| Optics                                 | FOH-G, aperture diameter D = 11 mm                                                                                                                              |                                                                          |
| Distance ratio                         | > 100 : 1                                                                                                                                                       |                                                                          |
| Measurement uncertainty <sup>1</sup>   | 0.3 % of measured value in °C + 1 K                                                                                                                             |                                                                          |
| Reproducibility <sup>1</sup>           | 0.1 % of measured value in °C + 0.5 K                                                                                                                           |                                                                          |
| NETD <sup>1,2</sup>                    | 0.1 K                                                                                                                                                           |                                                                          |
| Response time t <sub>95</sub>          | 200 ms, adjustable from 10 ms up to 100 s                                                                                                                       |                                                                          |
| Emissivity                             | 0.05 to 1.00, adjustable in the device                                                                                                                          |                                                                          |
| Test signal                            | 12 mA, switchable at the device                                                                                                                                 | 10/12 mA, according to adjustment 0/4 to 20 mA, switchable at the device |
| Output                                 | 4 to 20 mA, temperature linear, max. burden 700 Ω at 24 V                                                                                                       | 0/4 to 20 mA <sup>3</sup> , temperature linear, max. burden 500 Ω        |
| Interface                              | USB (galvanically isolated)                                                                                                                                     | RS-485 (galvanically isolated), half duplex, Modbus RTU                  |
| Aiming                                 | none                                                                                                                                                            |                                                                          |
| Software                               | PYROSOFT Spot for Windows®, optional: PYROSOFT Spot Pro                                                                                                         |                                                                          |
| Parameters                             | emissivity adjustable at the device, readout via software, response time, sub temperature range adjustable via interface and software                           |                                                                          |
| Power supply                           | 24 V DC ± 25 %                                                                                                                                                  |                                                                          |
| Power consumption                      | max. 0.6 W                                                                                                                                                      | max. 1.5 W                                                               |
| Operating temperature                  | 0 °C to 70 °C (pyrometer), up to 250 °C (fibre cable and optical head)                                                                                          |                                                                          |
| Storage temperature                    | -20 °C to 70 °C                                                                                                                                                 |                                                                          |
| Weight                                 | appr. 500 g (without fibre cable and optical head)                                                                                                              |                                                                          |
| Dimensions                             | appr. 110 mm × 70 mm × 30 mm                                                                                                                                    |                                                                          |
| Housing                                | aluminium housing                                                                                                                                               |                                                                          |
| Safety class                           | IP 65 (according to DIN 40 050 and EN 60529)                                                                                                                    |                                                                          |
| CE symbol                              | according to EU regulations (EN 50 011)                                                                                                                         |                                                                          |
| Scope of delivery                      | PYROSPOT DSF 30NG or DSF 34NG, manual, inspection sheet, PYROSOFT Spot for Windows® (without connecting cable, fibre cable and optics, please order separately) |                                                                          |

<sup>1</sup> T<sub>0</sub> = 23 °C, ε = 1, t<sub>95</sub> = 1 s. <sup>2</sup> Noise equivalent temperature difference. <sup>3</sup> Switchable via software.

### Dimensional drawing



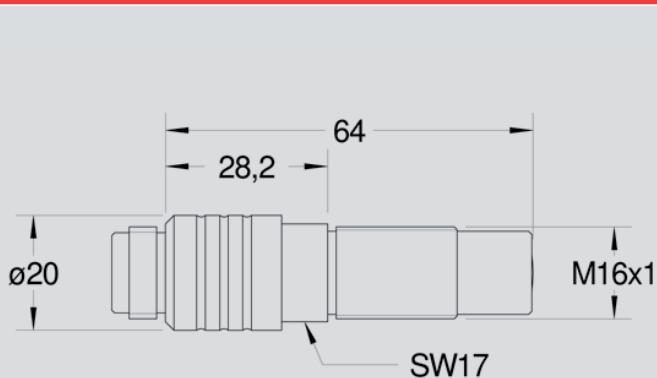
# PYROSPOT DSF 30NG and DSF 34NG

## Pyrometer with fibre cable for application in glass industry

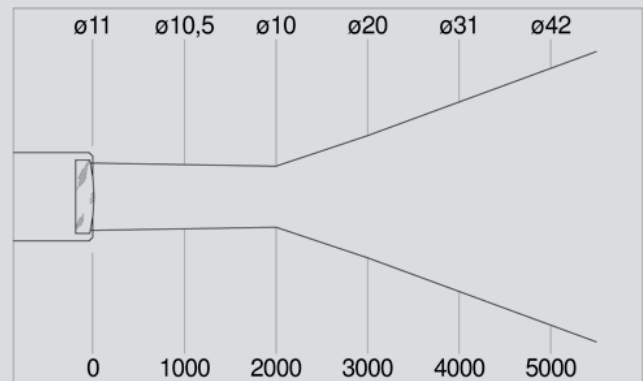
### Optics type FOH-G (Order number 3310A50090)

| Measuring distance a [mm]    | 0                               | 500  | 1000 | 2000 | 3000 | 4000 | 5000 |
|------------------------------|---------------------------------|------|------|------|------|------|------|
|                              | Measuring field diameter M [mm] |      |      |      |      |      |      |
| DSF 30NG (600 °C to 1800 °C) | 11.0                            | 10.7 | 10.5 | 10.0 | 20.0 | 31.0 | 42.0 |
| DSF 34NG (600 °C to 1800 °C) | 11.0                            | 10.7 | 10.5 | 10.0 | 20.0 | 31.0 | 42.0 |

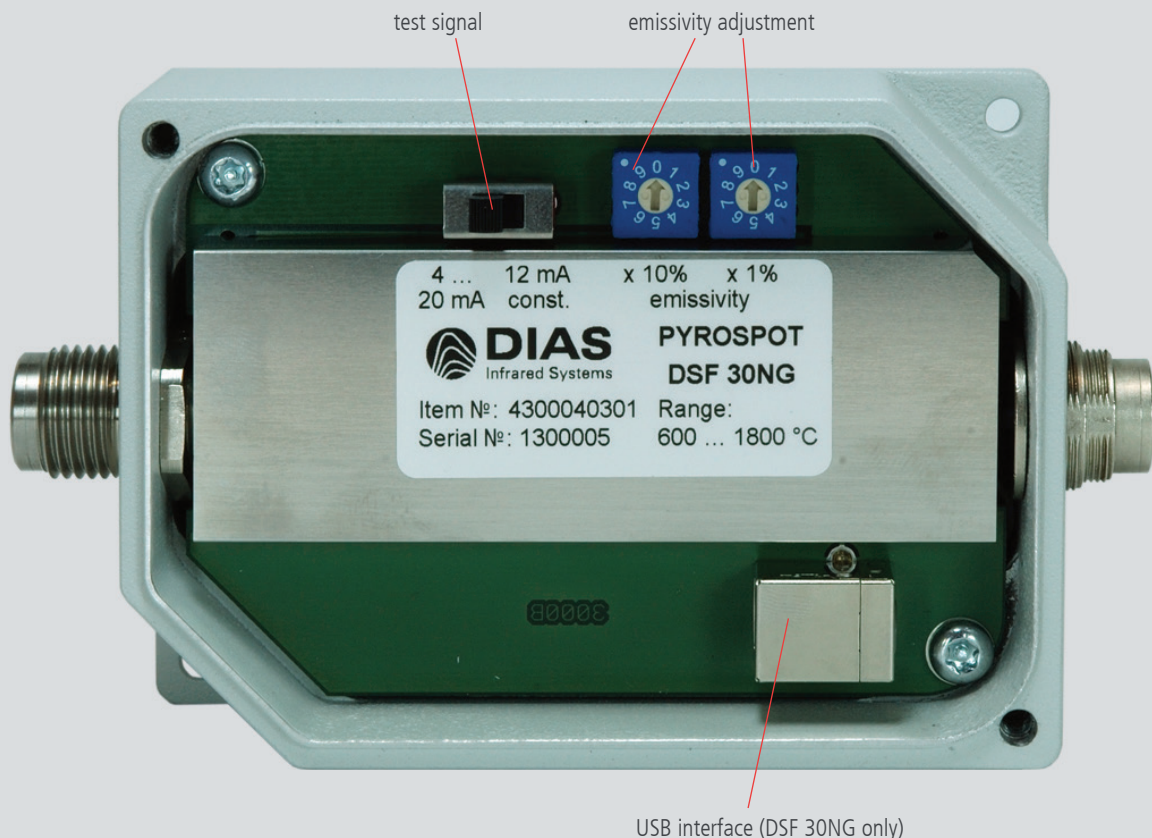
### Dimensional drawing FOH-G



### Measuring field optics FOH-G



### Inside view pyrometer



PYROSPOT DSF 30NG

# PYROSPOT DSF 30NG and DSF 34NG

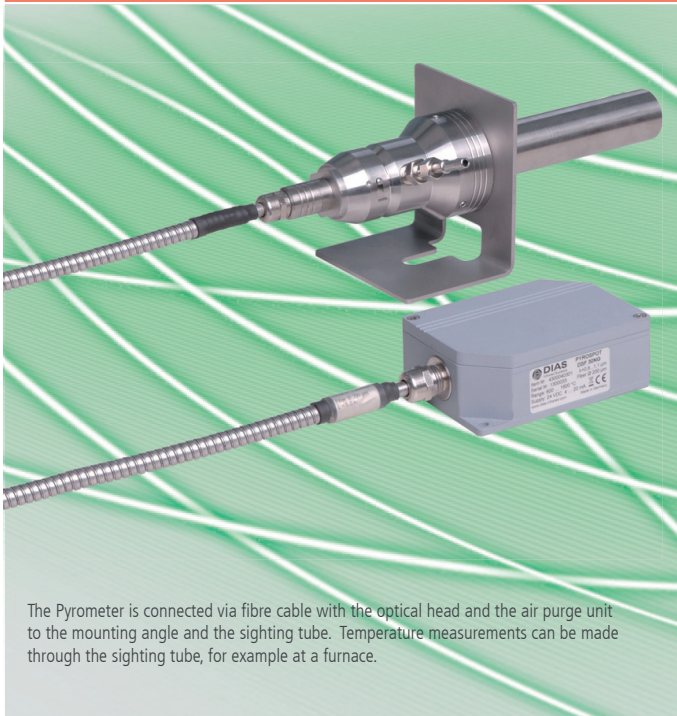
## Pyrometer with fibre cable for application in glass industry

| Accessories¹                                                  |                                                             |                                              | Order number          |            |
|---------------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------|-----------------------|------------|
| Connection cable,<br>3 pin<br>(DSF 30NG)                      | Connection cable,<br>12 pin,<br>straight plug<br>(DSF 34NG) | length 2 m                                   | 3310A15311            | 3310A11111 |
|                                                               |                                                             | length 5 m                                   | 3310A15312            | 3310A11112 |
|                                                               |                                                             | length 10 m                                  | 3310A15313            | 3310A11113 |
|                                                               |                                                             | length 15 m                                  | 3310A15314            | 3310A11114 |
|                                                               |                                                             | length 20 m                                  | 3310A15315            | 3310A11115 |
|                                                               |                                                             | length 25 m                                  | 3310A15316            | 3310A11116 |
|                                                               |                                                             | length 30 m                                  | 3310A15317            | 3310A11117 |
| Fibre cable,<br>stainless steel cable coating,<br>twist proof |                                                             | length 5 m                                   | 3310A42104            |            |
|                                                               |                                                             | length 6 m                                   | 3310A42109            |            |
|                                                               |                                                             | length 7,5 m                                 | 3310A42105            |            |
|                                                               |                                                             | length 10 m                                  | 3310A42106            |            |
|                                                               |                                                             | length 15 m                                  | 3310A42107            |            |
|                                                               |                                                             | length 20 m                                  | 3310A42108            |            |
| Optical head                                                  |                                                             | FOH-G                                        | 3310A50090            |            |
| Screw cap with lens                                           |                                                             | for FOH-G (spare part)                       | 3310A21530            |            |
| Power supply PSU 15                                           |                                                             | 24 V DC/0,6 A                                | 3310A12010            |            |
| Air purge unit for FOH-G                                      |                                                             | including mounting angle                     | 3310A22529            |            |
| Sighting tubes for air purge unit                             |                                                             | inconel tube, 140 mm                         | 3310A25010            |            |
|                                                               |                                                             | inconel tube, 600 mm                         | 3310A25020            |            |
|                                                               |                                                             | ceramics tube, 300 mm, opened end            | 3310A25050            |            |
|                                                               |                                                             | ceramics tube, 600 mm, opened end/closed end | 3310A25060/3310A25070 |            |
| ¹ More accessories available.                                 |                                                             |                                              |                       |            |

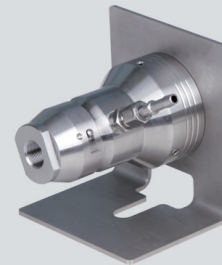
<sup>1</sup> More accessories available.

### Air purge unit and mounting angle

#### Example



#### Air purge unit with mounting angle



#### Air purge unit with mounting angle and sighting tube

