

PYROSPOT DSRF 44N

Ratio Pyrometers with Fibre Cable for Industrial Applications



- **Digital ratio pyrometer for 700 °C to 1800 °C**
- **Short response time 5 ms**
- **RS485 interface**
- **Applicable up to 250 °C ambient temperature**
- **Special optics**

The digital ratio pyrometers PYROSPOT DSRF 44N are especially designed for industrial temperature measurement from 700 °C. They utilize the 2-color system which has the advantage of measurement widely independent from the emissivity.

The solid body with fibre optics cable allows usage even under rough environmental conditions.

With a fast response time of only 5 ms (t95) these pyrometers are also suitable for fast measuring processes.

The special optics for the fibre cable enables reliable temperature measurement even the measuring spot is not filled completely (up to 10 %).

The pyrometers can be aimed at any time at the measuring object with the integrated laser aiming light even when the measurement is running.

The temperature linear standard output signal of 0/4 to 20 mA allows easy implementation in existing measuring and controlling systems.

The device is equipped with integrated, galvanically isolated RS485 interface, which allows parameterizing and software evaluation even in bus systems.

All parameters are adjustable via interface. By using the comfortable parameterizing and evaluation software PYROSOFT Spot the parameters can be easily adjusted to the application.

Typical application areas:

- Steel industry
- Kiln engineering
- Soldering installations
- Ceramic industry
- Metal industry

Technical Data and Accessories

Technical Data	
Type	DSRF 44N
Temperature range	700 °C to 1800 °C
Sub temperature range	adjustable within temperature range, minimum span 50 °C
Spectral range	0.7 µm to 1.1 µm
Optics	ROH F44
Distance ratio	40 : 1
Measurement uncertainty	0.5 % of meas. value ($T_U = 23\text{ °C}$, $\varepsilon = 1$, $t_{95} = 1\text{ s}$)
Reproducibility	0.2 % of meas. value ($T_U = 23\text{ °C}$, $\varepsilon = 1$, $t_{95} = 1\text{ s}$)
NETD ¹	0.1 °C ($T_U = 23\text{ °C}$, $\varepsilon = 1$, $t_{95} = 1\text{ s}$)
Response time (t95)	5 ms, adjustable up to 10 s
Ratio correction K	adjustable, 0.800 to 1.200
Emissivity	adjustable, 0.050 to 1.000
Storage	minimum-/maximum value storage
Output	0/4 to 20 mA, temperature linear, switchable, max. burden: 700 Ω (24 V)
Interface	RS485, half duplex, galvanically isolated, max. 115 kB
Aiming	laser aiming light
Software	PYROSOFT Spot for Windows®
Parameters	ratio correction, emissivity, response time, temperature unit °C or °F, storage, sub temperature range, baud rate, address, measurement mode (1- or 2-channel)
Power supply	24 V DC ± 25 %
Power consumption	max. 1.5 W
Operating temperature	0 °C to 70 °C (pyrometer), 0 °C to 250 °C (fibre cable and optical head)
Storage temperature	-20 °C to 70 °C
Weight	approx. 450 g (without fibre cable and optical head)
Dimensions	Screw head M40 x 1.5, length 125 mm
Housing	Stainless steel
Safety class	IP 65 (DIN 40 050)
CE symbol	according to EU regulations (EN 50 011)
Scope of delivery	PYROSPOT DSRF 44N, manual, inspection sheet, Software PYROSOFT Spot for Windows® (without connecting cable, fibre cable and optical head, please order separately)

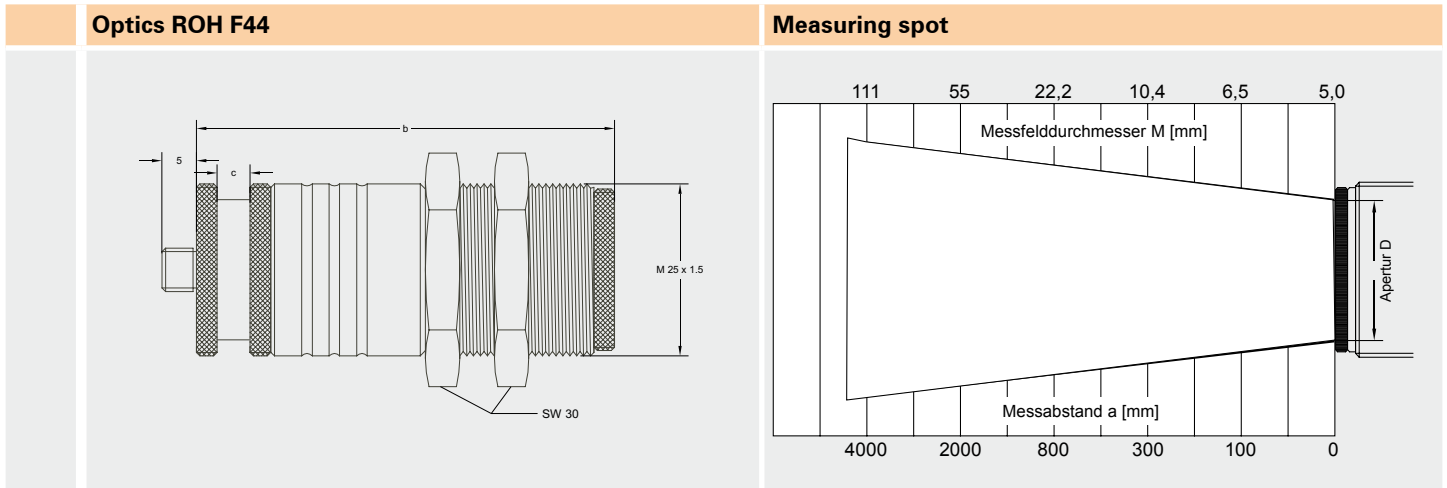
¹ Noise equivalent temperature difference.

Accessories, mechanical, electrical and optical ¹	
Connecting cable 12-pin	length 5 m, 10 m, 15 m, 20 m, 25 m or 30 m
Interface modul	RS485 to USB
Fibre cable	length 2 m, 3 m, 6 m, 10 m, 15 m, or 22 m, stainless steel clad
Power supply	24 V DC, 1 A
Mounting angle	adjustable, for ROH F
Air purge unit	stainless steel, air pressure 0.1 to 0.5 bar, oil free

¹ Other accessories on request.

Optics Types ROH F44

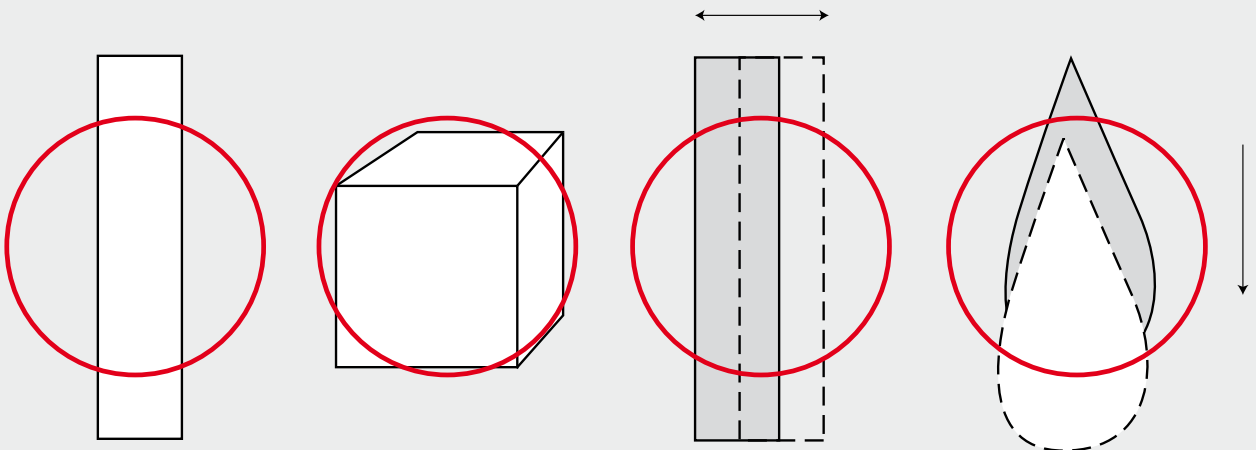
Optics ROH F44								
Measuring distance a in mm	0	100	300	800	1000	2000	3000	4000
Measuring spot size M in mm								
DSRF 44N (700 °C to 1800 °C)	5	6.5	10.4	22.2	27.5	55	83	111



Features

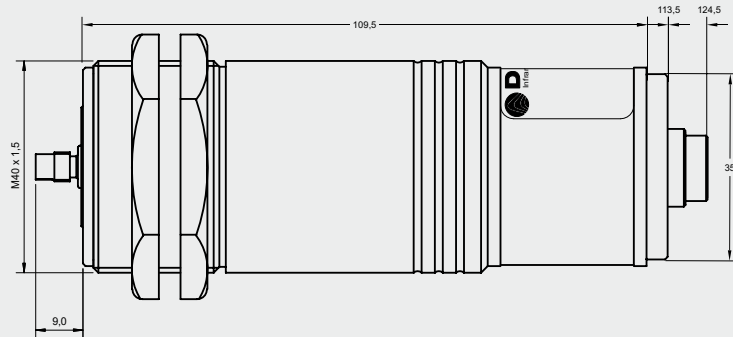
An accurate temperature acquisition is also guaranteed for:

- not completely filled measuring spots
- moving measurement objects



Dimensions and Accessories

Dimensions Pyrometer



Accessories

Mounting angle, adjustable, for series 44 or ROH



Mounting angle, adjustable, for ROH



Mirror 90° for ROH



Air purge unit for ROH (optional with protection tube)



Digital display



Power supply



Technical details are subject to change without notice. September 2011.