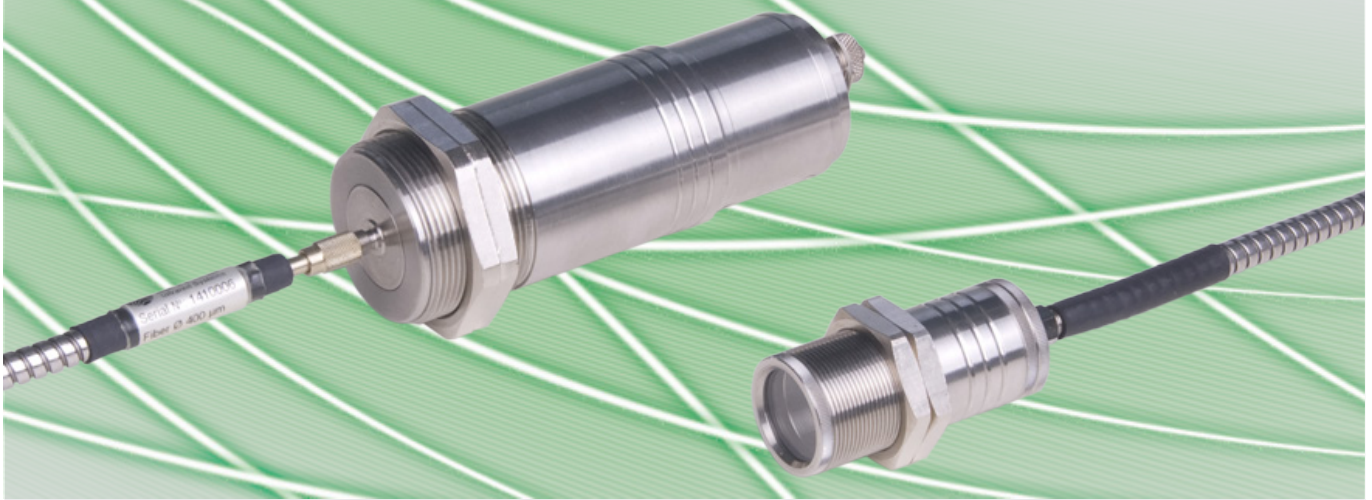


PYROSPOT DGEF 44N

Pyrometer with fibre cable for industrial application

Overview

Digital pyrometers with RS-485 interface



Features

- For temperature measurements between 100 °C and 1200 °C
- Spectral range 2.0 µm to 2.6 µm
- RS-485 interface
- Very fast response times from 5 ms
- Robust stainless steel housing
- Several fixed and vario optics available

Description and applications

The digital pyrometers PYROSPOT DGEF 44N are specifically designed for industrial purpose. The devices are suitable for temperature measurement from 100 °C on many different surfaces for example metals, ceramics or graphite.

The solid body in stainless steel housing with fibre cable and protection window for optics allows usage even under rough environmental conditions.

With a fast response time of only 5 ms (t_{95}) these Pyrometers are also suitable for fast measuring processes.

The different optics realize spot sizes from 1.3 mm diameter. Several Laser rejection filters are applicable.

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

The DGEF 44N are equipped with a galvanically isolated RS-485 interface, which allows parameterizing and software evaluation even in bus systems.

The integrated LED or laser aiming light enables to focus the measuring object exactly. The size of the LED aiming light is identical to the measuring field.

Via an optional interface module (RS-485 to USB) parameters like emissivity, sub range, response time and storage can be easily adjusted by using the convenient parameterizing and evaluation software PYROSOFT Spot. The parameters can also be adjusted via RS-485 interface with the optional available handheld programming device DHP 1040.

Typical application areas:

- Steel industry
- Furnace industry
- Soldering applications
- Ceramic industry
- Metal industry

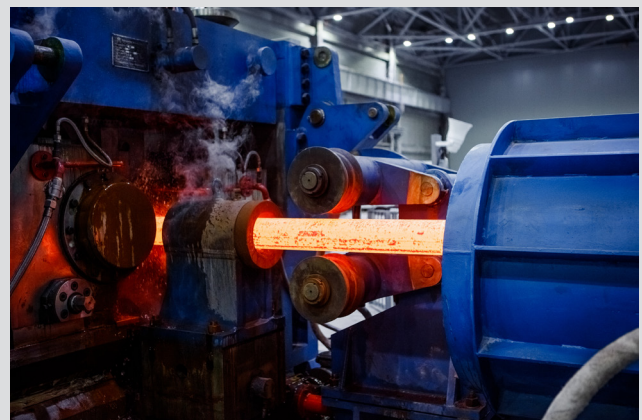


Image source: Shutterstock.de/Picture Industry

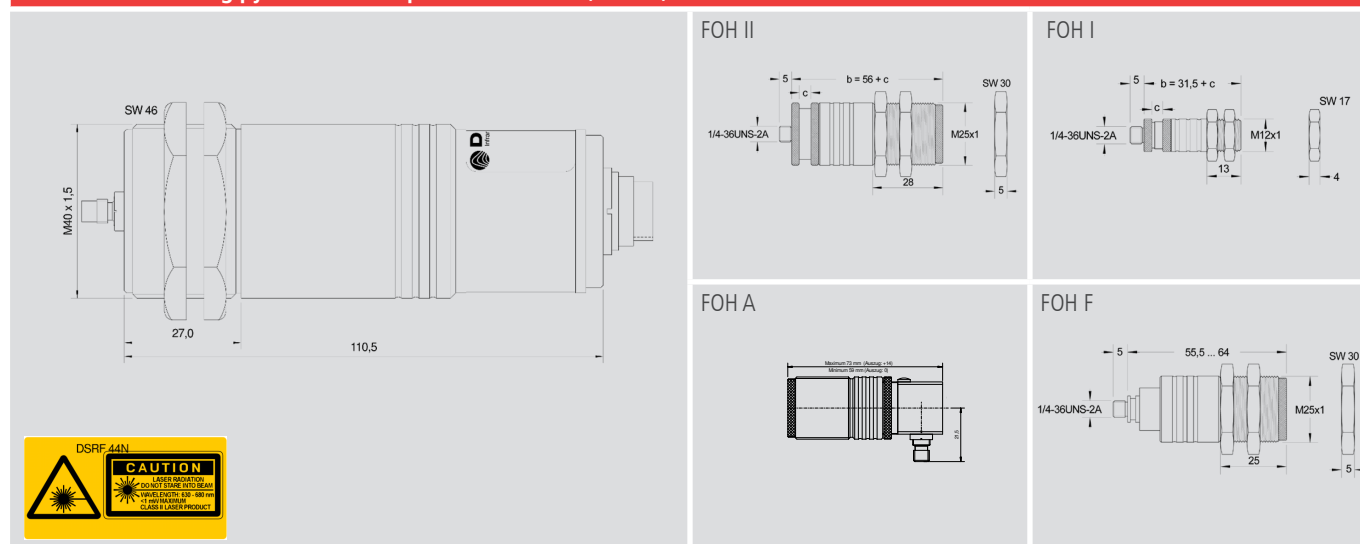
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Technical data				
Type	DGEF 44N			
Temperature ranges	120 °C to 800 °C (Display range 100 °C to 800 °C)		150 °C to 1200 °C	
Part number	4441000206 (LED)	4441010206 (Laser)	4441000207 (LED)	4441010207 (Laser)
Sub temperature range of analog output	adjustable within temperature range, minimum span 50 °C			
Spectral range	2.0 µm to 2.6 µm			
Optics	several optical heads (vario optics FOH I-100, FOH II-65 and FOH II-250, FOH A-150 and FOH A-225, fixed optics FOH F)			
Measurement uncertainty ¹	0.5 % of measured value in °C + 2 K			
Reproducibility ¹	0.3 % of measured value in °C + 1 K			
NETD ^{1,2}	0.5 K			
Response time (t ₉₅)	5 ms, adjustable up to 100 s, adjustable via RS-485 interface			
Emissivity	0.05 to 1.00, adjustable via RS-485 interface			
Storage	minimum and maximum value storage, adjustable via RS-485 interface			
Output	0/4 to 20 mA, switchable via software, temperature linear, max. burden: 500 Ω			
Interface	RS-485 (galvanically isolated), half duplex, baudrate up to 115 kBaud, data protocol Modbus RTU			
Aiming	integrated LED or laser aiming light			
Software	PYROSOFT Spot for Windows®, optional: PYROSOFT Spot Pro			
Parameters	emissivity, response time, storage, sub temperature range, adjustable via RS-485 interface and software			
Power supply	24 V DC ± 25 %, residual ripple 500 mV			
Power consumption	max. 1.5 W			
Operating temperature	0 °C to 45 °C (pyrometer), 0 °C to 250 °C (optical head), 0 °C to 125 °C (fibre optics cable)			
Storage temperature	-20 °C to 70 °C			
Weight	appr. 0.5 kg			
Dimensions	thread M40 × 1.5, length 125 mm			
Housing	stainless steel housing with plug connector			
Safety class	IP 65 (according to DIN EN 40050)			
CE symbol	according to EU regulations			
Scope of delivery	PYROSPOT DGEF 44N, manual, mounting screw nuts, inspection sheet, PYROSOFT Spot for Windows® (without connecting cable, fibre cable and optics, please order separately)			

¹ Specifications for black body radiator, T_{ambient} = 23 °C, ε = 1, t₉₅ = 1 s. ² Noise equivalent temperature difference.

Dimensional drawing pyrometer and optical heads FOH I, FOH II, FOH A and FOH F



PYROSPOT DGEF 44N

Pyrometer with fibre cable for industrial application

Optical heads FOH I, FOH II, FOH A and FOH F

Vario optics type	FOH II-65	FOH II-250	FOH I-100	FOH A-150	FOH A-225
Measuring distance a [mm]	65 ... 300	250 ... 2500	100 ... 1000	150 ... 230	225 ... 2500
Measuring temperature range	Target size M [mm]				
(100) 120 °C to 800 °C	1.3 ... 5.0	3.0 ... 31.0	1.8 ... 18.0	2.0 ... 3.0	3.0 ... 31.0
150 °C to 1200 °C	1.3 ... 5.0	3.0 ... 31.0	1.8 ... 18.0	2.0 ... 3.0	3.0 ... 31.0
Part number	3310A50020	3310A50025	3310A50010	3310A52020	3310A52025

Fixed optics type FOH F	F-65	F-100	F-200	F-300	F-400	F-600	F-800	F-1000	F-1500
Measuring distance a [mm]	65	100	200	300	400	600	800	1000	1500
Temperature range	Measuring field diameter M [mm]								
(100) 120 °C to 800 °C	1.3	2.0	3.6	3.7	5.0	7.2	9.2	12.0	18.0
150 °C to 1200 °C	1.3	2.0	3.6	3.7	5.0	7.2	9.2	12.0	18.0
part number	3310A51006	3310A51010	3310A51020	3310A51030	3310A51040	3310A51060	3310A51080	3310A51100	3310A51150

Fibre cable, stainless steel Ø 400 µm – part numbers				Fibre cable, stainless steel Ø 400 µm – part numbers			
Temperature range	length	straight	90° curve	Temperature range	length	straight	90° curve
120 °C to 800 °C	1.5 m	3310A44001	3310A44011	150 °C to 1200 °C	1.5 m	3310A44001	3310A44011
	2.0 m	3310A44002	3310A44012		2.0 m	3310A44002	3310A44012
	2.5 m	3310A44003	3310A44013		2.5 m	3310A44003	3310A44013
					5.0 m	3310A44004	3310A44014

More lengths on request! Variants available with vacuum lead-through or special quartz and sapphire rod optics.

Fibre cable (400 µm), optical heads FOH F, FOH II, FOH I



Fibre cable 90° curve, optical head FOH A, 90° angled



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Electrical, mechanical and optical accessories ¹			Order number	
Connecting cable, straight plug, 12-pin	Connecting cable, angulate plug, with aiming light button	length 2 m length 5 m length 10 m length 15 m length 20 m length 25 m length 30 m	3310A11111 3310A11112 3310A11113 3310A11114 3310A11115 3310A11116 3310A11117	3310A11151 3310A11152 3310A11153 3310A11154 3310A11155 3310A11156 3310A11157
Interface module		RS-485 to USB	3310A14020	
Power supply PSU 15		24 V DC, 0.6 A	3310A12010	
Mounting angle		fixed, for FOH I fixed, for FOH II adjustable, for FOH II	3310A21014 3310A21522 3310A21523	
Air purge unit for FOH II		stainless steel, purge air 0.1 to 0.5 bar, oilfree	3310A22520	
Ball and socket mounting		for FOH II	3310A21521	
Sighting tube		100 mm for air purge unit FOH II 300 mm for air purge unit FOH II	3310A22530 3310A22535	
DHP 1040		mobile handheld programming device for pyrometer parameterizing	3310A17010	

¹ More accessories available.

Selected accessories – pictures

Mounting angle, adjustable	Mounting angle, adjustable for FOH II	Mirror 90° for FOH II
Order number: 3310A21011 	Order number: 3310A21520 	Order number: 3310A31020 
Air purge unit for FOH II	Handheld programming device DHP 1040	Digital display DD 200/210
Order number: 3310A22520 	Order number: 3310A17010 	Order number: 3310A13020/3310A13025 