

# PYROSPOT DSR 10NF/DSR 10NFV

## Pyrometers for combustors

### Overview

#### Digital special pyrometers with RS-485 interface



### Features

- For temperature measurements between 600 °C and 2500 °C
- Display and keys for parameterization
- Measuring distance adjustment up to 4 m
- Aiming: aiming light, through-lens sighting or camer module
- Short response times from 5 ms
- Temperature linear output 0/4 to 20 mA

### Description and applications

The digital pyrometers PYROSPOT DSR 10NF/DSR 10NFV are specifically designed for industry applications. The devices can be particularly used for measuring the temperature of lighting flames with variable soot parts.

The solid compact housing and the standard protection window for the optics enables the use under rough environmental conditions. These pyrometers are suitable for the exact measurement of fast process with the very short response time ( $t_{95}$ ) of only 5 ms. The vario optic has a protective glass made of quartz glass and enables the adjustment of the measurement distance up to 4 m.

For an easy and accurate alignment the instrument is equipped with a LED or laser aiming light or trough-lens-sighting. With the optional color video module (PYROSPOT DSR 10NFV) the alignment of the pyrometers to the target can be monitored visually and the entire process can be recorded and documented.

The switchable standard linear temperature output of 0/4 to 20 mA enables a simple integration into existing measurement and control systems.



The DSR 10NF/DSR 10NFV are equipped with galvanically isolated RS-485 interface which allows parameterizing and software evaluation even in bus systems. The black body temperature with emissivity calculation, the colour temperature and the optical thickness are readable.

All parameters are adjustable via push-buttons and display directly at the device or by using the convenient software PYROSOFT Spot

Typical pyrometer application areas:

- Measurement of lighting flames
- Carbon dust and oil combustion system
- Waste bunkers
- Combustors





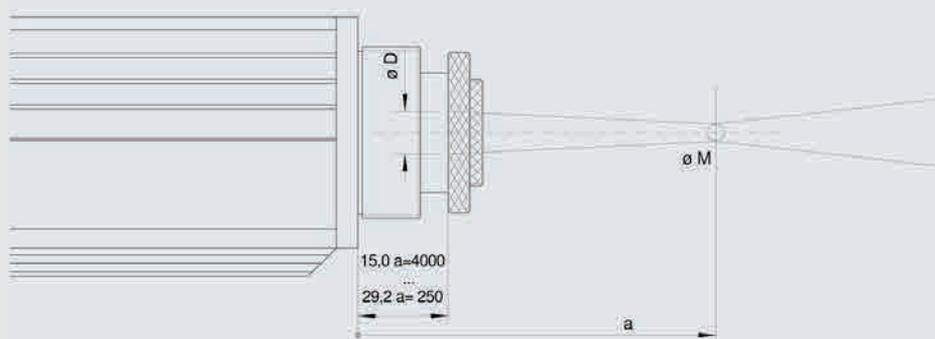
# PYROSPOT DSR 10NF/DSR 10NFV

## Pyrometers for combustors

### Vario optics

Measuring distance a [mm]	250	300	350	500	800	4000	Aperture diameter $\varnothing$ D [mm]	Order number		
Optics pullout [mm]	29.2	25.5	23.5	20.3	18.0	15.0	at	LED aiming light	Laser aiming light	
Device	Measuring field diameter M [mm]						a = 250 mm	a = 4000 mm	Through-lens sighting	Color module
600 °C to 1400 °C	2.5	3.0	3.5	5.0	8.0	40.0	8.0	6.5	5102001242 5102021242	5102011242 5102031242
700 °C to 1800 °C	1.2	1.5	1.7	2.5	4.0	20.0	8.0	6.5	5102001243 5102021243	5102011243 5102031243
800 °C to 2500 °C	0.8	1.0	1.2	1.7	2.7	13.3	8.0	6.5	5102001244 5102021244	5102011244 5102031244

### Dimensional drawing vario optics



### Technical data video camera (DSR 10NV)

Video signal	Composite video signal approx. 1V <sub>ss</sub> at 75 $\Omega$ (galvanically isolated, video signal can be deactivated via software)
Video norm	PAL (B), 50 Hz (optional video norm NTSC (M), 60 Hz)
Resolution	1/3 inch video chip 628 $\times$ 586 pixels (NTSC option: 510 $\times$ 496 pixels)
Exposure control	Automatic or manual via software or device
Visible field	approx. 8 % $\times$ 6 % of adjusted measurement distance (NTSC option: 6.5 % $\times$ 5 %)
Date/Time	Real-time clock with minimum 3 days power reserve, adjustable via software
Durable image displays	Target mark in measurement spot size; ratio pyrometers: ratio mode: meas. temperature, K factor, intensity bar 1-channel mode: measurement temperature, emissivity
Optional displays	Via software: serial number, device name or user-defined text (16 characters), date, time, temperature unit °C/°F, 12/24 hours display
White balance	Automatic or manual via software or device

### Detailed view: Display

Depending on the selected operation mode, the main display is different. When in ratio mode, the device shows in addition to the emissivity the ratio correction (K) and the intensity.

Current measured temperature

K factor set (ratio correction)

emissivity set



intensity

status switching output

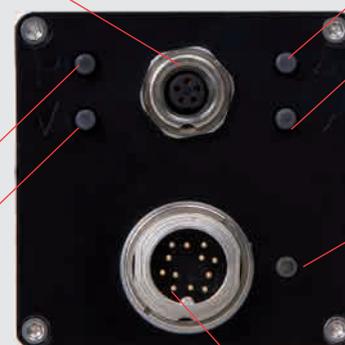
### Detailed view: Rear side

The parameters can be adjusted with the keys at the rear side of the device. The set value is taken over directly.

Through-lens sighting, aiming light or video connector

Keys for „Parameter Menu” and „Enter”

Keys for „Up” and „Down”



Status LED

Connector and interface

# PYROSPOT DSR 10NF/DSR 10NFV

## Pyrometers for combustors

Electrical, mechanical and optical accessories (more accessories on request)		Part number	
Connection cable, 12 pin, angled plug	Length 2 m	3310A11131	
	Length 5 m	3310A11132	
	Length 10 m	3310A11133	
	Length 15 m	3310A11134	
	Length 20 m	3310A11135	
	Length 25 m	3310A11136	
	Length 30 m	3310A11137	
Video connection cable	Length 2 m	3310A16521	
	Length 5 m	3310A16522	
	Length 10 m	3310A16523	
	Length 15 m	3310A16524	
	Length 20 m	3310A16525	
	Length 25 m	3310A16526	
	Length 30 m	3310A16527	
Interface adapter	RS-485 to USB	3310A14020	
Power supply PSU 15	24 V DC, 0.6 A	3310A12010	
Mounting angle	Adjustable	3310A21020	
Air purge unit	Stainless steel, purge air 0.1 to 0.5 bar, oil-free	3310A22020	
Window slide	without window	3310A21210	
Vacuum flange	KF 16	3310A24015	
	with quartz glass	3310A34021	
	with sapphire glass (scratch-proof)	3310A34051	
Cooling jacket	including air purge unit	3310A23031	
Mounting angle	for cooling jacket	3310A23036	
ATEX housing		3310A23100	
Handheld programming device DHP 1040	mobile device for pyrometer parameterization	3310A17010	
TFT display	TFT display industrial	3.5" with 2 m cable	3310A16110      3310A16120
Adapter	Video/USB	3310A14030	

### Selected accessories – images

#### Mounting angle, adjustable

Part number: 3310A21020



#### Ball and socket mounting

Part number: 3310A21025



#### Cooling jacket

Part number: 3310A23031



#### Cooling plate

Part number: 3310A23020



#### Air purge unit

Part number: 3310A22020



#### ATEX housing

Part number: 3310A23100

