

# PYROSPOT DSR 10N/DSR 10NV

## Pyrometers for industry and research

### Overview

Digital ratio pyrometers with RS-485 interface



### Features

- For temperature measurements between 600 °C and 3000 °C
- Display and keyboard for emissivity ratio adjustment
- Widely independent from emissivity
- Aiming: aiming light, through-lens sighting or camera module
- Short response times from 5 ms
- Temperature linear output 0/4 to 20 mA

### Description and applications

The digital pyrometers PYROSPOT DSR 10N/DSR 10NV are specifically designed for industry and research applications. They utilize the 2-colour system which has the advantage of measurement widely independent from the emissivity.

The solid construction in form of a compact housing with a protection window for optics allows usage even under rough environmental conditions. With a short response time of only 5 ms (t95) these pyrometers are also suitable for fast measuring processes. The vario optics with quartz glass protection window realise measuring field diameters from 1.2 mm.

The integrated LED or laser aiming light or, the alternative through-lens sighting, enables an exact focus on the measurement object. With the optional color video module (PYROSPOT DSR 10NV) the alignment of the pyrometers to the target can be monitored visually and the entire process can be recorded and documented.

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

The ratio correction K and the emissivity (in single channel mode) 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 software PYROSOFT Spot.

Typical pyrometer application areas:

- Steel industry
- Kiln engineering
- Hardening
- Welding
- Metal industry





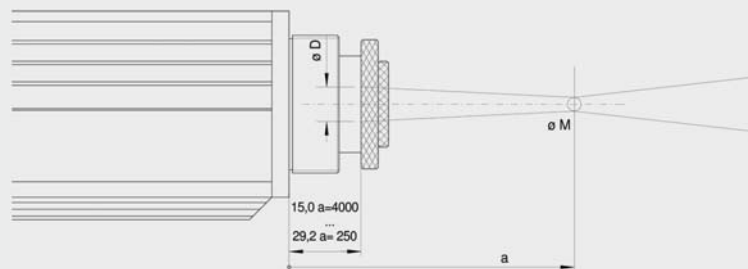
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### Vario optics

Measuring distance a [mm]	250	300	350	500	800	4000	Aperture diameter $\varnothing$ D [mm]	Part number		
Optics pullout [mm]	29.2	25.5	23.5	20.3	18.0	15.0	at	LED	Laser	
Temperature range	Measuring field diameter M [mm]						a = 250 mm	a = 4000 mm	Through-lens sighting	Video module
500 °C to 1200 °C	5.0	6.0	7.0	10.0	16.0	80.0	8.0	6.5	5102001201	5102011201
600 °C to 1400 °C	2.5	3.0	3.5	5.0	8.0	40.0	8.0	6.5	5102021201	5102031201
700 °C to 1800 °C	1.2	1.5	1.7	2.5	4.0	20.0	8.0	6.5	5102001202	5102011202
800 °C to 2500 °C	1.2	1.5	1.7	2.5	4.0	20.0	8.0	6.5	5102021202	5102031202
900 °C to 3000 °C	1.2	1.5	1.7	2.5	4.0	20.0	8.0	6.5	5102001203	5102011203
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### 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)
Color norm	PAL (B), 50 Hz (optional color norm NTSC (M), 60 Hz)
Resolution	1/3 inch video chip 628 $\times$ 586 pixels (NTSC option: 510 $\times$ 496 pixels)
Exposure control	automatic
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, measurement temperature, emissivity
Optional image displays	Via software: serial number, device name or user-defined text (16 characters), date, time, temperature unit °C/°F, 12/24 hours display

### Pyrometer with TFT monitor



The video image can be displayed via the additionally available TFT monitor.

### Detailed view of video image



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Electrical, mechanical and optical accessories <sup>1</sup>		Order number		
Connection cable, 12 pin, angulate 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 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	3310A24015		
	with quartz window	3310A34021		
	with sapphire window (scratch-proof)	3310A34051		
Mounting angle	for cooling jacket	3310A23036		
DHP 1040	handheld programming device for parameterizing	3310A17010		
TFT monitor	TFT-monitor industrial	3.5" with 2 m cable <sup>2</sup>	3310A16110	3310A16120
Adapter	Video/USB	3310A14030		

<sup>1</sup> More accessories available. <sup>2</sup> Cable lengths 5 m and 10 m also available.

### 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.

Through-lens sighting or aiming light push-button

Push-buttons for ratio correction/emissivity adjustment



Plug connector and interface