

**Piros S Ratio-  
pyrometer Q series**  
600 °C up to 2500 °C



Temperature measurement of metals regardless of emissivity

Piros pyrometers are non-contact measuring thermometers with analog outputs. Due to their measuring principle the ratio pyrometers of the Q series allow temperature measurement regardless of emissivity.

For temperature measurement of metals we offer the stationary design OKS Q in various versions with measurement ranges between 600 °C and 2.500 °C.

The sensors have been designed for control and monitoring tasks in many varied industries:

- steel works and rolling mills
- forging works
- furnace construction
- welding
- casting

We recommend the use of our questionnaire for application analysis so that the user does not necessarily need to cope with the theory of radiation measurement.

The following criteria are relevant for the selection of the correct sensor:

- size and material of the object
- minimum/maximum object temperature
- distance from sensor to the desired measuring area
- ambient temperature

### Highlights at a glance

Stainless steel housing with M40 thread  
Plug connection with S10 plug (M18)

Temperature range:

- 600 °C up to 1400 °C for metal
- 700 °C up to 1800 °C for metal
- 800 °C up to 2500 °C for metal

Electrical connection:

- 24 V DC
- 0/4 - 20 mA output signal
- RS 485 interface (galvanically isolated) for parameterization and measuring data transmission with PC software

Technical data:

- spectral range of 0,7 - 1,1 µm
- response times from 5 ms
- measuring areas from 1,5 mm diameter
- only 10% covering of the measuring spot necessary (OKS L Q18.194 S10)
- measuring failure 0,5%
- emissivity and ratio correction adjustable
- MODBUS RTU
- Laser pilot light
- maximum value memory
- fiber optic cable versions up to 250 °C ambient temperature

An extensive accessories programme rounds off the product range and permits the adaptation to different applications.

### Software

The integrated RS 485 interface allows via software the display and adaption of the following parameters:

- temperature display °C / °F
- measuring range settings
- emissivity
- ratio correction
- maximum value memory
- setting time (95% time)
- 0/4-20 mA analog output

Settings can be carried out using a laptop / PC with the aid of a software and a RS 485 interface adapter. The software runs under Windows. The user guidance system is multi-lingual and largely self-explanatory. Besides parameterization, the software also offers the opportunity to evaluate and keep records of the measurement data.



# Piros Pyrometer

## Type overview Q series

Pyrometer of the OKS Q series for temperature measurement of metals are available in different versions. The ratio pyrometers allow accurate measurements even on metal objects with changing surface properties and different emissivity. The pyrometer OKS L Q18.194 S10 enables precise temperature measurement even if the measuring spot is covered by 10%. It is especially suitable for objects with varying position, e.g. pouring cast steel.

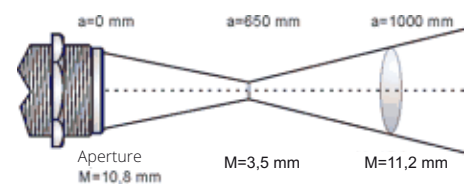


All devices are equipped with a plug connection. Separate connection cables are available in different lengths.

### Advantages of the Q series

- temperature measurement independent of emissivity
- short response times
- high accuracy
- BUS solution with up to 32 devices
- spectral range 0,7 - 1,1  $\mu\text{m}$

Different optics ensure the optimal adjustment of the measuring spot to the object size. The table below shows the size of the measuring spot in relation to the object distance.



Example: OKS 3 Q25.194 S10

### Type overview

#### OKS 2 (focus point at „a“ = 290 mm measuring distance)

		measuring distance „a“ [mm]	0	100	200	<b>290</b>	400	500	600
art.-no.	type	measuring range	measuring point diameter „M“ [mm]						
6924A	OKS 2 Q14.194 S10	600 °C up to 1400 °C	11,8	9,8	7,8	<b>6,0</b>	13	19	25
6924D	OKS 2 Q18.194 S10	700 °C up to 1800 °C	11,8	8,8	5,7	<b>3,0</b>	8,6	14	19
6924G	OKS 2 Q25.194 S10	800 °C up to 2500 °C	11,8	8,2	4,7	<b>1,5</b>	6,5	11,1	15,7

#### OKS 3 (focus point at „a“ = 650 mm measuring distance)

		measuring distance „a“ [mm]	0	200	400	<b>650</b>	800	1000	1500
art.-no.	type	measuring range	measuring point diameter „M“ [mm]						
6924B	OKS 3 Q14.194 S10	600 °C up to 1400 °C	10,8	11,5	12,2	<b>13</b>	18,5	26	44
6924E	OKS 3 Q18.194 S10	700 °C up to 1800 °C	10,8	9,2	8,2	<b>6,5</b>	10,5	16	29
6924H	OKS 3 Q25.194 S10	800 °C up to 2500 °C	10,8	8,6	6,3	<b>3,5</b>	6,8	11,2	22

#### OKS 4 (focus point at „a“ = 1500 mm measuring distance)

		measuring distance „a“ [mm]	0	500	750	1000	1250	<b>1500</b>	2000
art.-no.	type	measuring range	measuring point diameter „M“ [mm]						
6924C	OKS 4 Q14.194 S10	600 °C up to 1400 °C	10,4	17	20	24	27	<b>30</b>	43
6924F	OKS 4 Q18.194 S10	700 °C up to 1800 °C	10,4	11,9	12,7	13,5	14,2	<b>15</b>	24
6924I	OKS 4 Q25.194 S10	800 °C up to 2500 °C	10,4	9,4	8,9	8,5	8,0	<b>7,5</b>	13,5

#### OKS L (ratio pyrometer with fiber optic cable)

		measuring distance „a“ [mm]	0	100	300	800	1000	2000	3000	4000
art.-no.	type	measuring range	measuring point diameter „M“ [mm] *)							
6920Z	OKS L Q18.194 S10	700 °C up to 1800 °C	5,0	6,5	10,4	22,2	27,5	55,0	83,0	111,0

\*) 10% covering is sufficient for a precise measurement

## Piros S Pyrometer Q series



### Piros OKS accessories

accessory description	type	art.-no.
connection cable 2 m *)	ST S10/12-2	9847H
connection cable 5 m *)	ST S10/12-5	9847D
interface converter RS 485 to USB	SIC 485 UD	9861E
mounting bracket adjustable	DAK 305	6913E
mounting bracket fixed	DAK 304	6913D
air purge unit	DAK 303	6913C
cooling jacket with air purge	DAK 302	6913B
cable protection cape	DAK 329	6913X
protection tube 100 mm lengths	DAK 319	6913L
protection tube 300 mm lengths	DAK 320	6913M
vaccum flange	DAK 322	6913O

\*) Further cable lengths on request

Furthermore we offer suitable protective cable hoses for the Pyrometer with cooling jacket. Accessories for ratio pyrometer OKS L Q18 on request.

### Proven applications for Proxitron Pyrometer are for example:

- temperature monitoring at presses
- object temperature in furnaces
- preheating
- hardening
- soldering
- rolling
- furnace construction
- research and development
- monitoring of swaying cast steel



Other Pyrometer versions are available for special applications. Please let us know your requirements. We will be pleased to advise you!