

# Non-Contact Temperature Measurement

**DIGITAL – INFRARED – 2 – COLOR – PYROMETER**

**Temperature range 300 to 1700°C (572 - 3092°F)**

**Temperature control during production process**

**compact units – Infrared – measuring transducer and electronic process unit in one case with light beam aiming device, fiber optic, serial interface  
2- and 1- color temperature**

**Series QKTRD 1475**



Infrared – pyrometer can also assist you to monitor your heating processes, ensuring a uniform standard of quality for your products.

leaflet QKTRD 1475

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-Optoelektronik-

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# Infrared-Digital-Pyrometer Series QKTRD 1475

Mainly for **fast warming processes** the **contactless temperature measurement** is suitable.

The **series QKTRD 1475** are **digital-2-color-pyrometer** with fiber optic and optic system in compact structure likewise suitable for industry, research and laboratory.

2-color-pyrometer afford on the basis of it's measuring principle contrary to part radiation pyrometer a few substantial advantages. They show also still under critical conditions the true temperature, i.e. by absorption of smoke within the measuring path, mist of viewing glasses at ovens, by small parts which don't illuminate the measuring field.

With the integrated light beam aiming device (green LED) an adjusting of the pyrometer to the measuring object is very easy.

The temperature linear analog output signal 0/4 up to 20 mA is available for measuring- and controlling purposes. The simultaneous using of the serial interface with the software IR-LOG enables the data detection, graphical representation and the parameter settings of the pyrometer.

## Examples for applications:

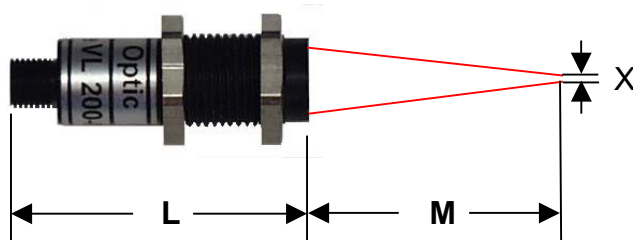
steel, iron, non-ferrous metal, tempering, hardening, induction heating, laser, forging, transforming, vacuum furnace, pre-heating, rolling

Technical datas:	
Unit types	<b>QKTRD 1475</b>
Target marking	light beam aiming device green LED
Temp. measuring ranges:	MR1: 300-1000°C 572-1832°F    MR2: 350-1300°C 662-2372°F    MR3: 400-1400°C 752-2552°F    MR4: 500-1700°C 932-3092°F
Response time (t90)	<1 ms with dynamical adaption
Spectral range	1,4 - 1,75 µm und 1,6 - 1,75µm
Measuring uncertainty	0,5% of meas.value in °C ± 1°C (ε = 1, T <sub>amb.</sub> = 23°C, T <sub>95</sub> = 1s)
Reproducibility	0,1% of meas.value in °C ± 1°C (ε = 1, T <sub>amb.</sub> = 23°C, T <sub>95</sub> = 1s)
Emission ratio	0,8 – 1,2 adjustable at the unit or through interface
Emission factor ε	100 - 10 % through interface
Analog output	0 - 20 mA or 4 - 20 mA , load max. 500R
Part measuring ranges:	free adjustable within the measuring range
Resolution	< 0,1% analog output, < 0,1°C at interface
1 limit output (open coll.) "min. intensity"	24 V DC / max. 100 mA
Max.reading memory	max.memory, erasing after time, external contact, by software, double memory
Interface	RS 232 isolated ± 50 V or RS 485 isolated 2500VRMS options: PROFIBUS, PROFINET, Ethernet, EtherCAT, USB 2.0
Software IR-LOG	data recording, graph.representation, setting of pyrometer parameters
adjustable parameter with Software IR-LOG	emissionfactor,switching output,analog output, part meas.range, °C/°F, max.memory, average value, light beam aiming device switchable
Fiber optic	length 1800mm, bend radius min. 40 mm, (other length on request)
Objectives	for accommodation to the measuring application an extensive selection of objectives are available
Working temperature	pyrometer 0-50°C (32-122°F), fiber optic, optic system up to 150°C(302°F)
Stock temperature	- 10°C - + 70°C (14-158°F)
Temperature sensitivity	0,05 % / °C
Humidity tolerance	35 - 85 % RF (non condensing)
Operating voltage	24 V DC ± 10 % or 18 V AC ± 10 % < 160 mA
Unit connection	12-pole plug-connector
Dimensions: H / W / D	54 x 54 x 147 mm (2,13 x 2,13 x 5,79 inch) ALU-case
Weight	0,6 kg (1,32 lbs)
Protection grade	IP 65
Option	built in digital display

mechanical assembly	electrical assembly		
Execution in cooling case	AED 1012	electr.process unit	digital display (built in-execution)
Blowing device	AED 1012-C	PID controller	connection cable 12-pole
Mirror 90°	AED 1012-PC	Program controller	line scanner SC 1000 / SC 1012
Mounting parts	power supply 100-270VAC - 24 VDC		PC-Box (USB – connection set)

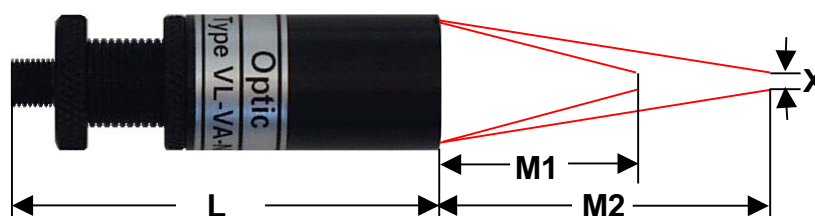
## objective for fiber optic pyrometer

**fix-focus  
M12x1**



optic type	M / mm	L / mm	target size X Ø / mm	
VL 50-M12	50	38	fiber 0,2mm	0,7mm
			fiber 0,4mm	1,4mm
			fiber 0,6mm	2,0mm
VL 100-M12	100	40	fiber 0,2mm	1,0mm
			fiber 0,4mm	2,0mm
			fiber 0,6mm	3,0mm
VL 150-M12	150	38	fiber 0,2mm	1,4mm
			fiber 0,4mm	2,7mm
			fiber 0,6mm	4,0mm
VL 200-M12	200	38	fiber 0,2mm	2,0mm
			fiber 0,4mm	4,0mm
			fiber 0,6mm	6,0mm

**vario-focus  
Ø 18mm**



target size X:  $\frac{\text{focusing distance M mm}}{\text{distance ratio D}}$  par ex.  $\frac{M = 150\text{mm}}{D = 75} = 2,00 \text{ mm } \varnothing$

optic type	M1 / mm	M2 / mm	L / mm	distance ratio D	
VL-VA-N	65	160	46 - 56	fiber 0,2mm	138
				fiber 0,4mm	69
				fiber 0,6mm	46
VL-VA-T	100	5000	46 - 56	fiber 0,2mm	150
				fiber 0,4mm	75
				fiber 0,6mm	50

