Non-Contact Temperature Measurement

DIGITAL – 2–COLOR - PYROMETER

Temperature range 700 to 2500°C (1292 – 4532°F)

Temperature control during production process

compact unit
- **with light beam aiming device**
- **focusable optic**
- **RS 232 or RS 485 interface**
- **limit output min. intensity (open collector)**

Series QKTRD 4085-1

figure approx. M 1:1

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

leaflet QKTRD 4085-1

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Digital 2-Color-Pyrometer Series QKTRD 4085-1

60 years experiences and digital technology makes it possible!

A pyrometer – as small as a cigarette-box – but powerful like a big one.

- light beam aiming device with LED
- focusable optic
- emissivity slope adjustable at the unit
- analog-and digital output
- switch-off limit output (open collector)
- software IR-LOG

Through the serial interface additional parameter functions are possible:
analog output: 0 – 20 / 4 – 20 mA switchable
zoom range within measuring range
emissivity slope
average: arithmetical or sliding
maximum value storage: storage modes and erase functions par ex. automatically with the next measuring object

Examples of applications:
steel, iron, non-ferrous metal, wires, ceramics, glass feeder, glass tub, glass arching, hardening, rolling, laser, induction heating, brazing, forging, welding, transforming, vacuum furnace

unit type	target marking
QKTRD 4085-1	light beam aiming device LED green

Temperature measuring range
- linear -

No.	temperature range
1	700 - 1600°C (1292 – 2912°F) D=50
2	800 - 2000°C (1472 – 3632°F) D=85
3	850 - 2500°C (1562 – 4532°F) D=85

special measuring ranges
on request

Technical datas:

Spectral response	0,85 – 1,1 µm
Response time	<1 ms with dyn. adaption
Accuracy	0,5 % ± 1°C
Reproducibility	1 ‰
Emissivity slope	0,800 – 1,200
Operating temperature	0 - 50°C (32 – 122°F)
Storage temperature	- 10°C - + 70°C (14 – 158°F)
Temperature-sensitivity	0,01 % / °C
Humidity tolerance	35 - 85 % RF
Analog output temp.linear	0 – 20 mA or 4 – 20 mA
Switch-off limit	5 – 80%
Limit output (open coll.)	24 V 100 mA
Interface	RS 232 ± 50 V isolated or RS 485 ± 70 V isolated
Operating voltage	DC 24 V ± 10 %
Current input	< 100 mA
Unit connection	8-pole plug connector
Dimensions H / W / D	65 x 30 x 80 mm (2,56 x 1,18 x 3,15 inch)
Weight	0,15 kg (0,33 lbs)
Protection class	IP 65

Objectives: For optimum accomodation to the measuring application an objective with focusing is available.
Adjusting range 100 mm to infinite, distance ratio: D = 85

Calculation of target size: $\frac{\text{focusing distance M mm}}{D = 85}$ par ex. $\frac{M = 100 \text{ mm}}{D = 85} = 1{,}18\ Ø$

electrical assembly		mechanical assembly
AED 1012 electronic process unit	PC-Box (USB – connection set)	execution in cooling case
AED 1012-C PID controller	USB-RS232 – 8-pol connector	blowing devices
AED 1012-C Program controller	USB-RS485 – 8-pol connector	mirror 90°
power supply 100-270VAC - 24 VDC	connection cable 8-pole	mounting parts

Connection diagram KTRD 4000

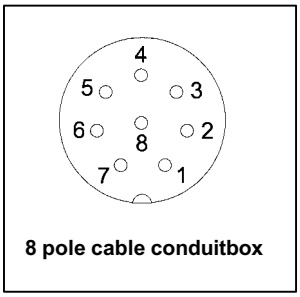
cable socket straight

cable socket 90°

8-pole plug-connector – cable with free ends

female 8-pole PIN	color	function
1	white	⊥ 24VDC / ⊥ - output 0-20mA / 4-20mA ** storage reset or aiming device (button), limit value
2	brown	+ 24 VDC
3	green	+ output 0-20mA
4	yellow	external controlling input selective for storage reset or aiming device (button)
5	grey	limit value (open collector) resp. min. intensity
6	pink	RS 232 TXD (from PC 9-pole SUB-D PIN 2)
7	blue	RS 232 RXD (from PC 9-pole SUB-D PIN 3)
8	red	RS 232 GND (from PC 9-pole SUB-D PIN 5)
housing	black (screen)	PE (earth)
		** ⊥ central ground

contact arrangement
(**view on solder termination**)

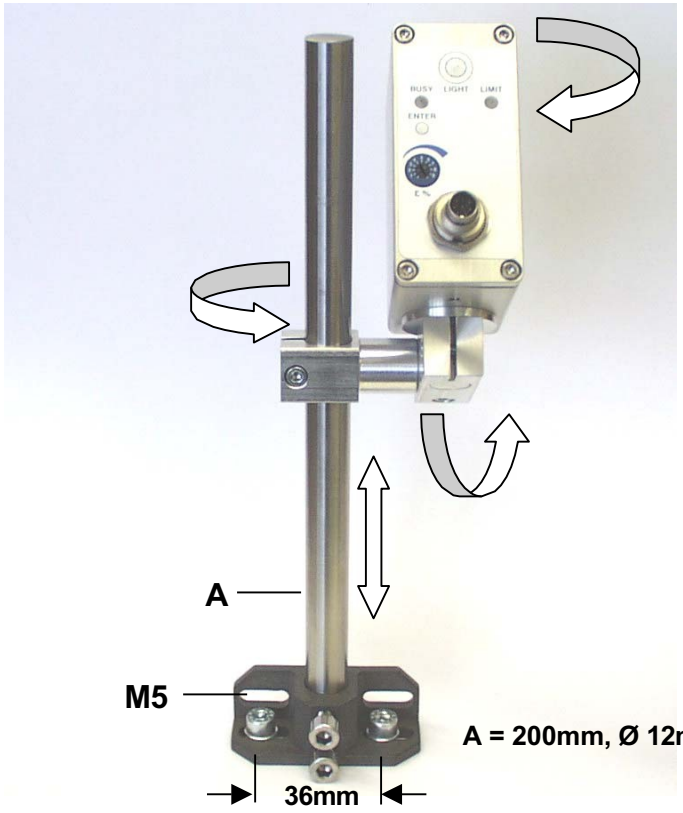


8 pole cable conduitbox

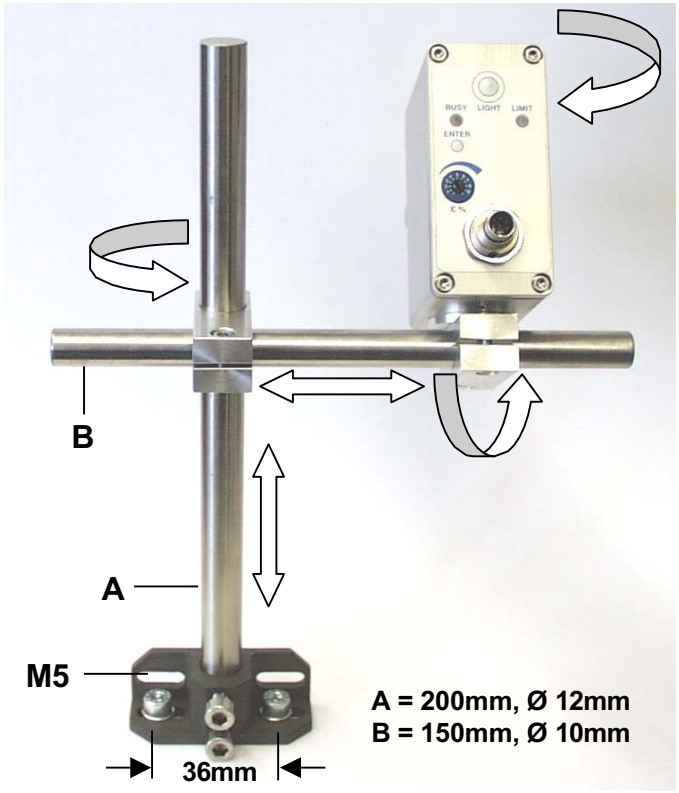
8-pole plug-connector – 15-pole SUB-D (AE 10XX)

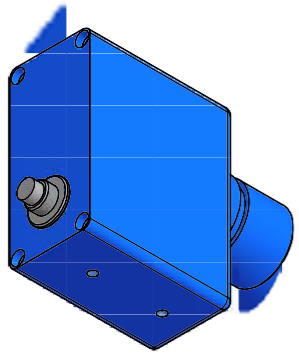
female 8-pole PIN	color	function	15-pole male Sub-D PIN
1	white	⊥ 24VDC / ⊥ - output 0-20mA / 4-20mA ** storage reset or aiming device (button), limit value	connection to PIN 13 4
2	brown	+ 24 VDC	1
3	green	+ output 0-20mA	8
4	yellow	external controlling input selective for storage reset or aiming device (button)	12
5	grey	limit value (open collector) resp. min. intensity	2
6	pink	RS 232 TXD (from PC 9-pole SUB-D PIN 2)	9
7	blue	RS 232 RXD (from PC 9-pole SUB-D PIN 3)	10
8	red	RS 232 GND (from PC 9-pole SUB-D PIN 5)	11
housing	black (screen)	PE (earth)	15
			connection to PIN 4 13
		** ⊥ central ground	

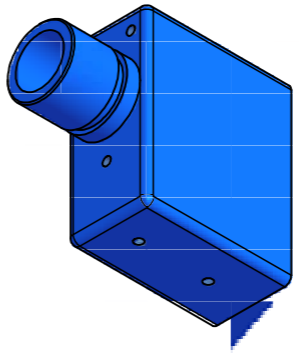
mounting stud standard for KTRD 4000-series

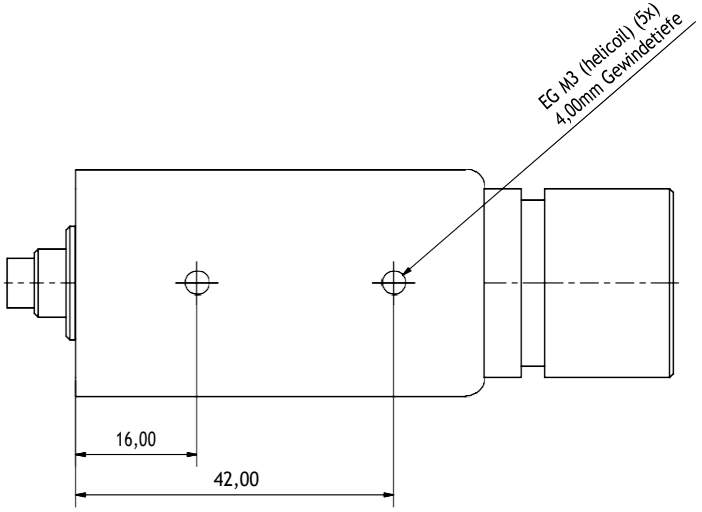


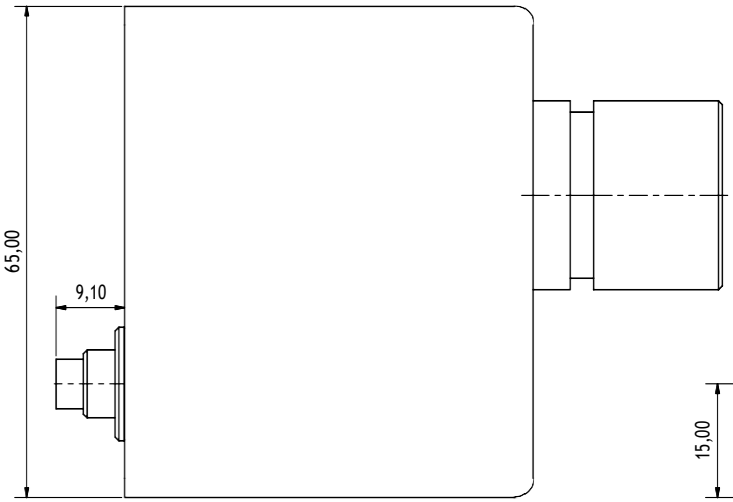
mounting stud universal for KTRD 4000-series

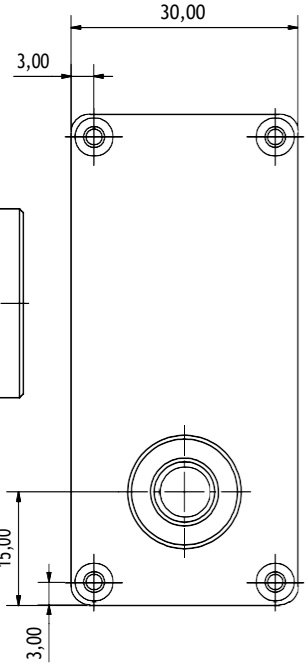


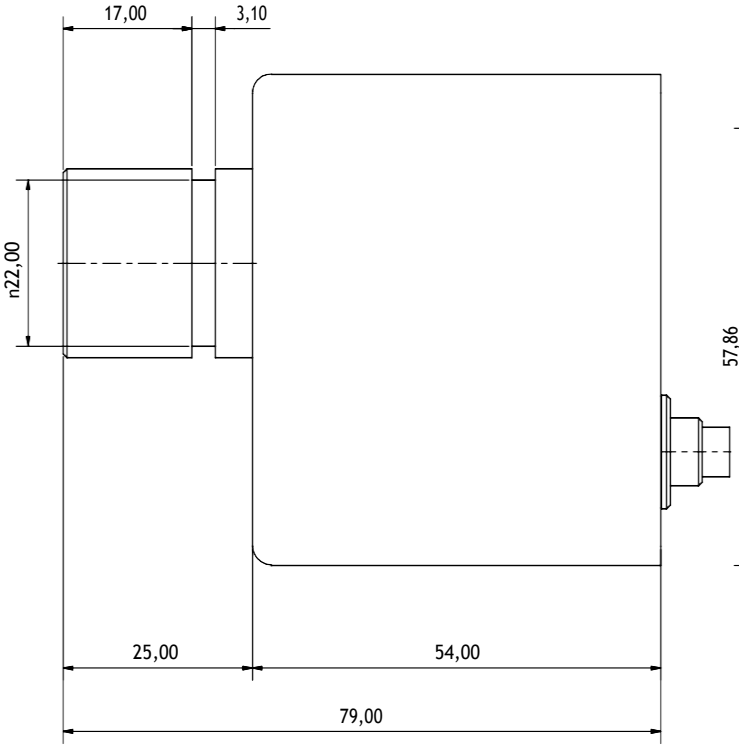


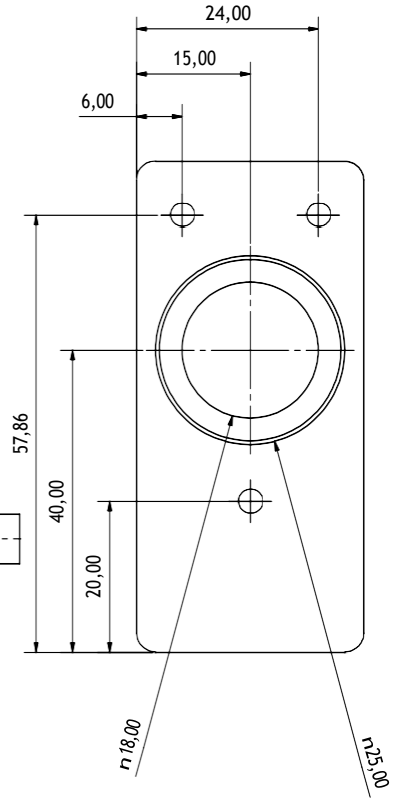


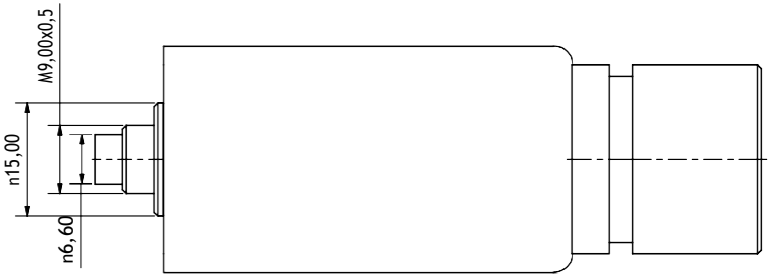












KTR 4000	Tol. +/-0,1mm		AlCuMgPb
	Date / Name		
gezeichnet	02.01.2008 CME		Gehäuse KTR 4000
geprüft	02.01.2008 CME		
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Status / Änderung / Datum / Name			1