

Non-Contact Temperature Measurement

DIGITAL – INFRARED – PYROMETER

Temperature range 100 to 1200°C (212 – 2192°F)

Temperature control during production process

compact unit – with light beam aiming device

- focusable optic
- RS 232 or RS 485 interface
- limit output (open collector)

Series KTRD 4065-1



figure approx. M 1:1

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

leaflet KTRD 4065-1

<http://www.maurer-ir.de>

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Digital Infrared-Pyrometer Series KTRD 4065-1

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 adjustable at the unit
- analog- and digital output
- 1 adjustable 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: 100,00 – 10,00 %

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, rolling, induction heating, soldering, welding, transforming, vacuum furnace

unit type	target marking
KTRD 4065-1	light beam aiming device LED green

Temperature measuring range

- linear -

No.	temperature range short:
1	100 - 300°C (212 – 572°F) D=50
2	150 - 400°C (302 – 752°F) D=50
3	200 - 600°C (392 – 1112°F) D=85
4	250 - 800°C (482 – 1472°F) D=85

No.	temperature range long:
5	100 - 500°C (212 – 932°F) D=50
6	150 - 800°C (302 – 1472°F) D=85
7	200-1200°C (392 – 2192°F) D=85

special measuring ranges
on request

Technical datas:

Spectral response	2,1 µm
Response time	1 - 5 ms
Accuracy	0,5 % ± 1°C
Reproducibility	1 ‰
Emissivity	100 - 10 %
Operating temperature	0 - 60°C (32 – 140°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
1 Limit output (open coll.)	24 V 100 mA
Digital output	RS 232 ± 50 V isolated or RS 485 ± 70 V isolated
Operating voltage	DC 24 V ± 10 %
Supply current	< 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: $\frac{\text{focusing distance } M \text{ mm}}{D = 85}$ par ex. $\frac{M = 100 \text{ mm}}{D = 85} = 1,18 \text{ } \varnothing$

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

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Connection diagram KTRD 4000

8-pole plug-connector – cable with free ends



cable socket straight

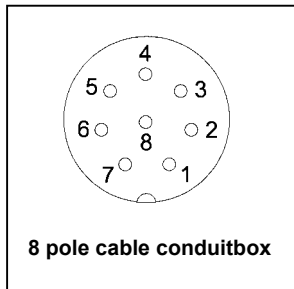


cable socket 90°

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

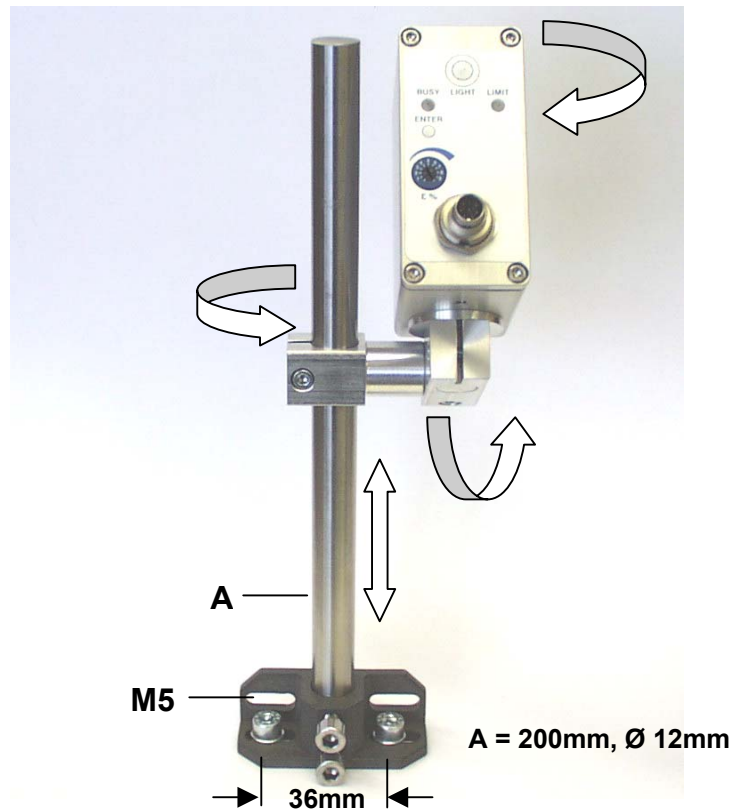
8-pole plug-connector – 15-pole SUB-D (AE 10XX)

contact arrangement
(view on solder termination)

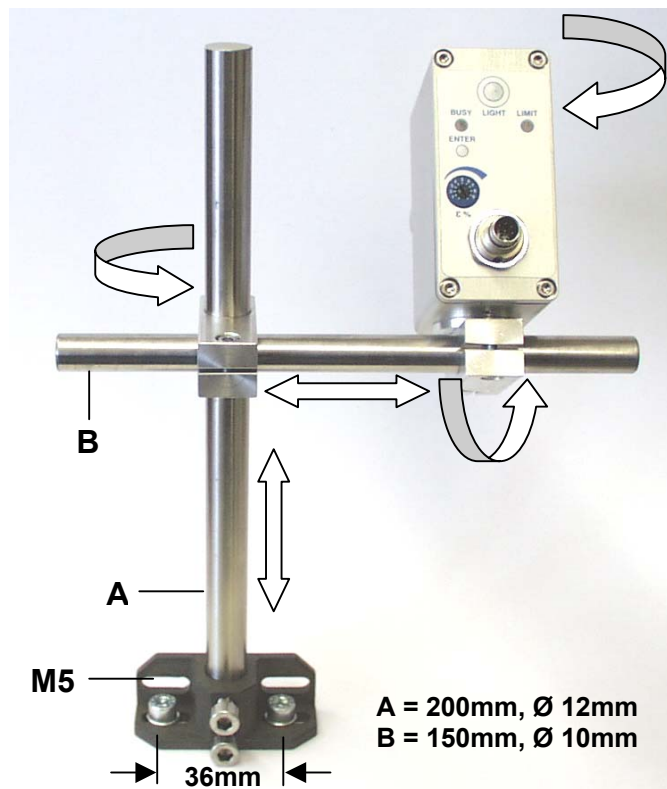


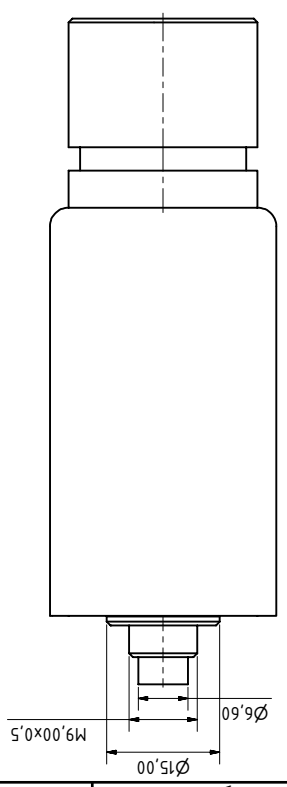
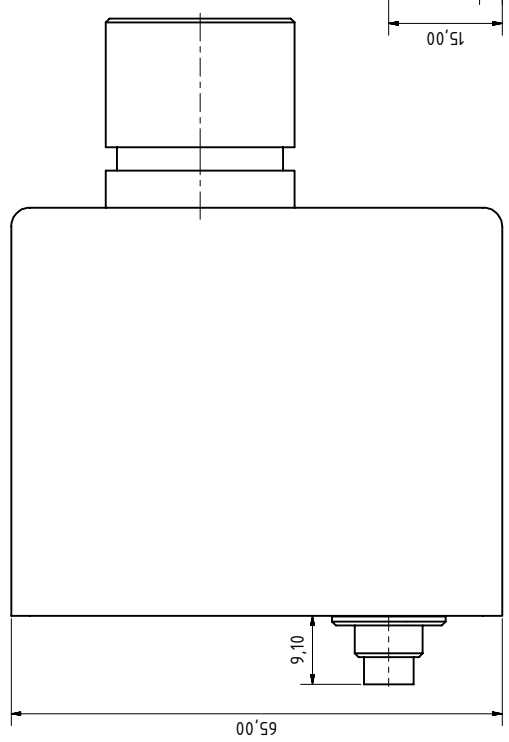
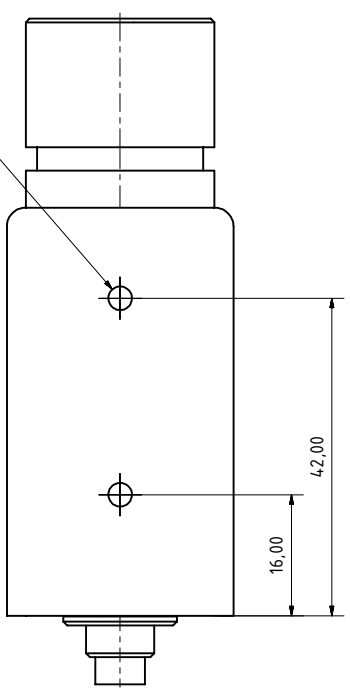
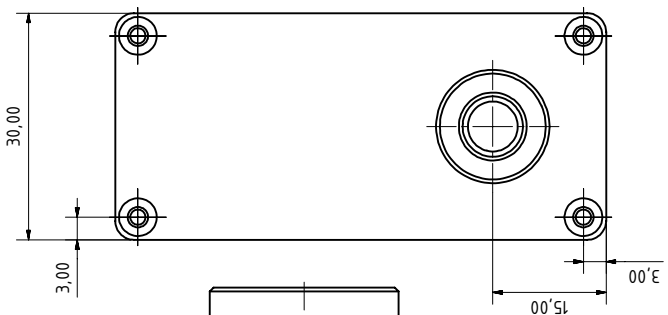
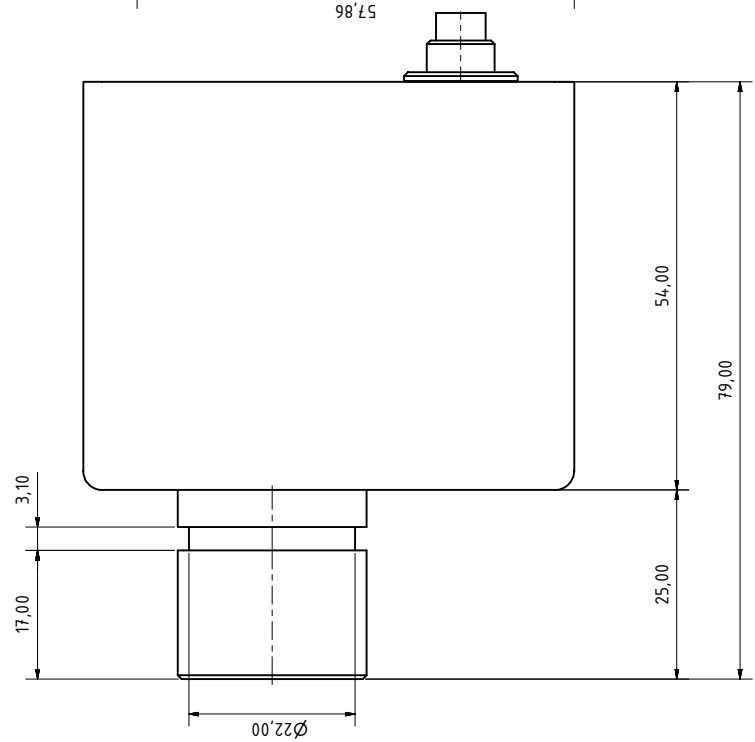
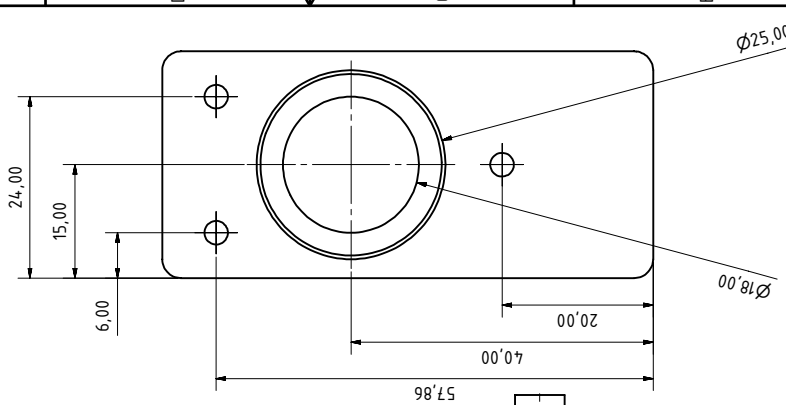
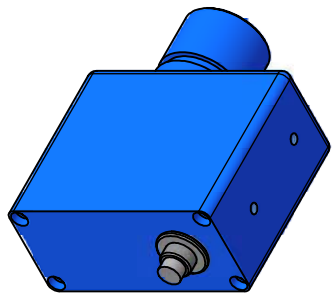
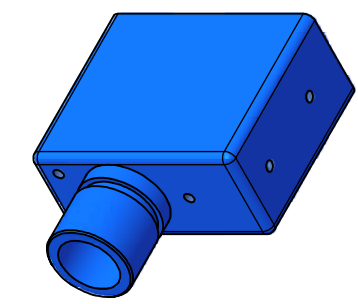
female 8-pole PIN	color	function	15-pole male Sub-D PIN
1	white	⊥ 24VDC / ⊥ - output 0-20mA / 4-20mA ** storage reset or aiming device (button), limit value	connection to PIN 13 4
2	brown	+ 24 VDC	1
3	green	+ output 0-20mA	8
4	yellow	external controlling input selective for storage reset or aiming device (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





Material: AlCuMgPb															
Tol.: +/-0,1mm															
Dr. Maurer KTR 4000	<table border="1"> <tr> <th>Material</th> <th>Abmessung</th> <th>Stückzahl</th> <th>Stand</th> <th>Benennung</th> <th>Datum</th> <th>Notiz</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	Material	Abmessung	Stückzahl	Stand	Benennung	Datum	Notiz							
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Name: Dr. Maurer Optoelektronik inf@maurer-tr.de															
Date: Version geschwebt: 03.01.2008 (ANE) gezeichnet: 03.01.2008 (ANE)															
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