

Digital MAURER Pyrometer

KTRD 2300

Measuring range 50 to 1200 °C

UNIVERSAL DEVICE



Performance, precision and reliability - you can count on MAURER pyrometers. Benefit from maximum adaptability by choosing the right optics, accessories and the appropriate interface. Thus our pyrometer fits perfectly into existing systems.

The most important **features** and **characteristics** at a glance:

- Spectral range: 2,3 μm
- Short response time from < 0,5 ms to 5 ms
- Emissivity from 100 – 10 %, adjustable directly at the pyrometer or via interface
- Available with either **light beam aiming device (LED / Laser)**
- **Green target light (LED)** that is exactly identical to the actual measuring spot in position and size
- **With Vario-optic** for exact focusing on the measuring spot
- Use with **digital and analogue output**
- **1 limit output** (open collector)
- Operating voltage 24 V DC
- **Free Software** (IR-LOG) for parameter setting, data recording and storage

Measuring Ranges

1. 50 – 400 °C
 2. 70 – 550 °C
 3. 100 – 700 °C
 4. 150 – 1200 °C
- Special measuring ranges upon request -

Scope of Applications

Processing of steel, iron, non-ferrous metal, wires and ceramics; rolling, soldering, welding, transforming, induction heating; vacuum furnace etc.



Technical Data

Device type	KTRD 2300-1	KTRD 2300-2
Target marking	Light beam aiming device with LED (green) or laser	viewfinder
Response time	Measuring range 1+2: 5ms	Measuring range 3+4: < 0,5ms
Spectral range	2,3 μ m	
Measurement uncertainty	0,5 % \pm 1 $^{\circ}$ C (ϵ = 1, T_u = 23 $^{\circ}$ C, T_{95} = 1 s)	
Temperature dependence	0,05 % / $^{\circ}$ C	
Reproducibility	0,1 % \pm 1 $^{\circ}$ C (ϵ = 1, T_u = 23 $^{\circ}$ C, T_{95} = 1 s)	
Emissivity	100 – 10 %, adjustable directly at the pyrometer or via interface	
Resolution	< 0,1 % at the analogue output	< 0,1 $^{\circ}$ C at the interface
Operating / Storage temperature	0 – 50 $^{\circ}$ C, Optics 150 $^{\circ}$ C / -10 – 70 $^{\circ}$ C	32 – 140 $^{\circ}$ F, Optics 302 $^{\circ}$ F / 14 – 158 $^{\circ}$ F
Permissible humidity	35 – 85 % RH (non-condensing)	
Analogue output	0 – 20 mA / 4 – 20 mA (Load max. 500 Ω)	
Subranges	freely adjustable within measuring range	
1 limit output (open collector)	24 V 100 mA	
Interface	RS 232 \pm 50 V isolated <u>or</u> RS 485 \pm 70 V isolated Optional: PROFIBUS, PROFINET, Ethernet, EtherCAT, USB 2.0	
Maximum value memory	Maximum memory, peak value memory double, adjustable time and threshold value, erasing after time, external contact, by software, after every measuring object	
Supply voltage	24 V DC \pm 10 %	
Power consumption	< 100 mA	
Device connection	12-pol. plug connector	
Dimensions (LxHxW) / Weight	54 x 54 x 147mm / 0,6 kg	
IP Code	IP65	

Configurations

- Built-in digital display on the backside of the pyrometer
- Extensive selection of objectives, suitable for your application

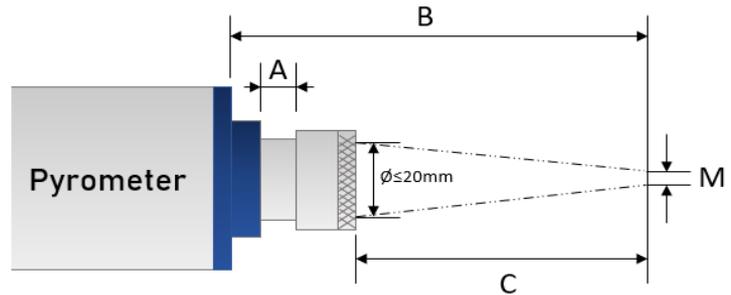
Main Equipment

Electronic Equipment		Mechanical Equipment	
Connection cables	Power Supply 100-270 VAC – 24 VDC	Objectives	Mirror 90 $^{\circ}$ for beam deflection
Electronic process units	PC-Box (USB-connection set)	Mounting parts	Blowing device
(Line-) Scanners		Cooling case	

Optics for MAURER Pyrometer

KTRD 2300

OVERVIEW



Measuring range

- | | | |
|----|-----------------------------|---------------------|
| 1. | Measuring aperture = 1,0 mm | Spot size = M x 1 |
| 2. | Measuring aperture = 0,7 mm | Spot size = M x 0,7 |
| 3. | Measuring aperture = 0,5 mm | Spot size = M x 0,5 |
| 4. | Measuring aperture = 0,3 mm | Spot size = M x 0,3 |

Special solution upon request

Legend

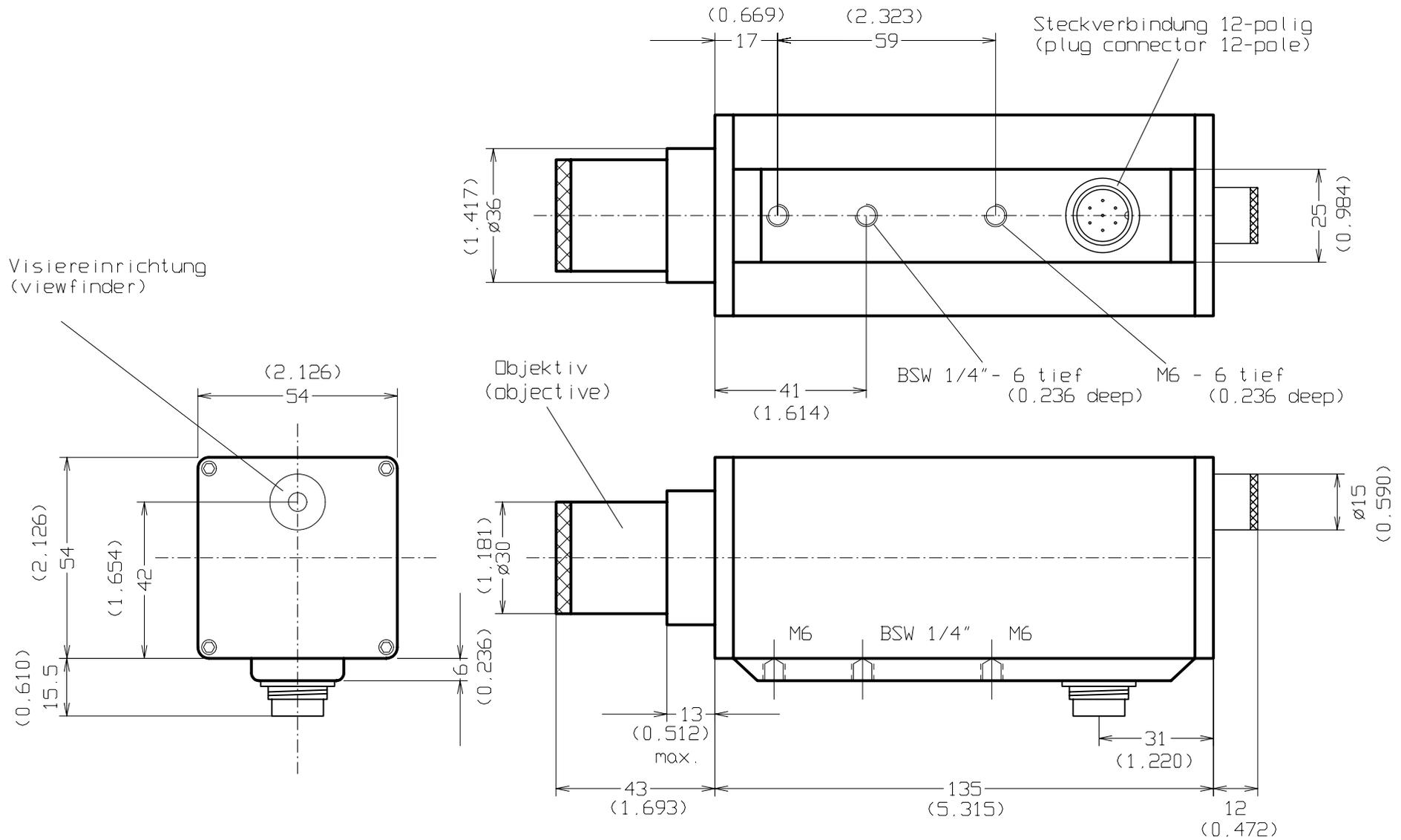
- | | |
|---|--|
| A | Optic extraction |
| B | Measuring distance from housing |
| C | Measuring distance from optic front edge |
| M | Measuring spot size |

Optics		IR 2050 N0D	
Lense	F 50, Ø 25,4 mm		
Measuring aperture	Ø 1,0 mm		
B	C	A	M
[mm]	[mm]	[mm]	[mm]
158,0	102,0	13,0	1,7
166,7	117,0	6,7	2,0
180,0	137,0	0,0	2,5

Optics		IR 2050 N1D	
Lense	F 50, Ø 25,4 mm		
Measuring aperture	Ø 1,0 mm		
B	C	A	M
[mm]	[mm]	[mm]	[mm]
190,0	146,6	13,0	2,7
200,0	159,2	10,6	2,9
220,0	182,6	7,2	3,0
240,0	205,6	4,2	3,5
260,0	227,1	2,7	4,0
280,0	247,8	2,0	4,5
300,0	269,8	0,0	5,0

Optics		IR 2050 N2D	
Lense	F 50, Ø 25,4 mm		
Measuring aperture	Ø 1,0 mm		
B	C	A	M
[mm]	[mm]	[mm]	[mm]
200	166,0	13,0	3,0
220	188,5	10,5	3,4
250	221,3	7,7	4,0
300	273,6	5,4	5,0
350	325,5	3,5	6,0
400	376,4	2,6	7,0
450	427,6	1,4	8,1
500	478,1	0,9	9,1
550	528,5	0,5	10,1
600	579,0	0,0	11,2

Optics		IR 2050 TD	
Lense	F 50, Ø 25,4 mm		
Measuring aperture	Ø 1,0 mm		
B	C	A	M
[mm]	[mm]	[mm]	[mm]
220	186,0	13,0	3,7
300	270,0	9,0	5,2
400	372,5	6,5	7,3
500	474,0	5,0	9,7
800	775,9	3,1	15,5
1000	977,0	2,0	20,0
2000	1978,0	1,0	42,0
3000	2978,4	0,6	63,0
5000	4978,8	0,2	107,0



(xxx) - Maße in Zoll
(dimensions inch)

				Maßstab 1:1	
				Fa. Dr. Maurer GmbH	
				STANDARDGEHÄUSE (standard case)	
				KTRD 1000-2 Stecker 90° (connector 90°)	
				Visiereinrichtung (viewfinder)	
				100207	
				Blatt	
				Bl.	
Zust	Änderung	Datum	Name		