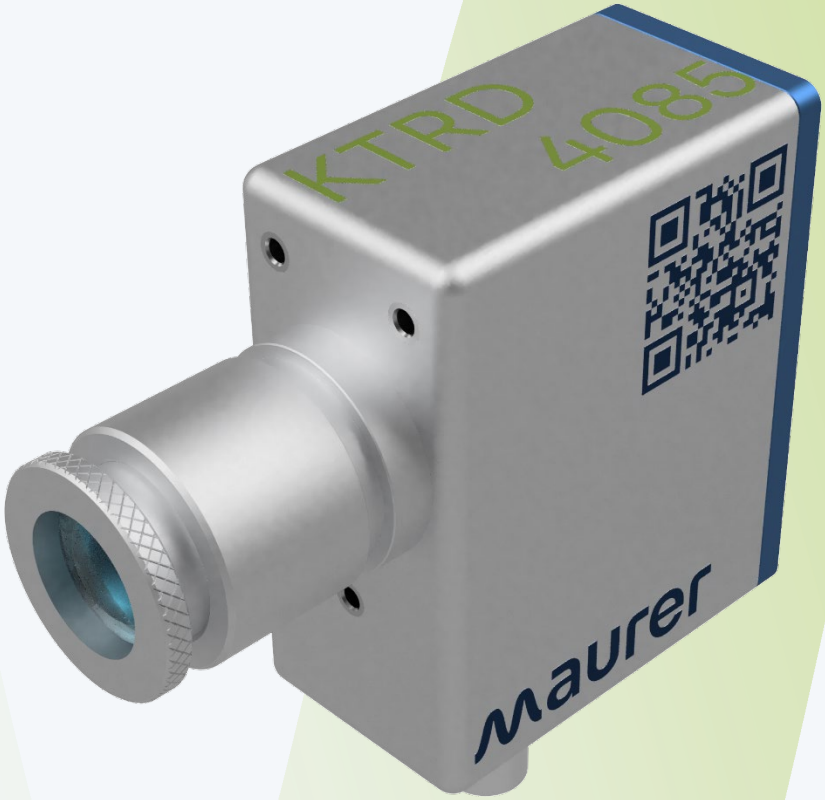
Technical Datasheet

# KTRD 4085




## Maximum Performance
## Minimum Space

- Compact device
- Up to 3000 °C
- 100–5000 mm focus
- Glass & steel

maurer optoelectronics

GRUBATEC MESS- UND REGELTECHNIK

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# Compact Pyrometer

**For decades, MAURER has been delivering precise, reliable and adaptable infrared measurement technology. The KTRD 40xx series are compact MAURER pyrometers in a miniature housing for temperatures from 100 to 3000 °C. The continuously adjustable vario optics, from 100 to 5000 mm measuring distance, and three selectable spectral ranges make for quick integration into existing systems.**

Steel | Iron | Non-ferrous metals | Wire | Glass feeders | Glass melting tanks | Glass furnace crowns | Ceramics | Rolling | Induction | Hardening | Soldering | Forging | Welding | Forming | Vacuum furnaces

## Big on performance, small in size

- Extremely compact housing (30 x 65 x 80 mm) for minimal space requirements
- Vario optics continuously adjustable from 100 to 5000 mm measuring distance
- Three spectral ranges selectable for different materials and temperature windows
- Fully compatible with the accessories and software of the universal device series

**Models** KTRD 4065 | KTRD 4075 | **KTRD 4085**

## Compact technology with full performance

- Spectral range: 0.85 - 1.1 µm
- Short response time of 1 ms
- Emissivity of 100 - 10 %, adjustable directly on the device or via interface
- LED target light, precisely matching actual measurement spot in size & position
- With vario optics, adjustable from 100 - 5000 mm, for exact focusing on the measurement point
- Usable with digital and analog output
- 1 switching output (open collector)
- Operating voltage 24 V DC
- Free software (IR-LOG) for parameterization, data recording and archiving

## Typical Application

In a glassworks, the KTRD 4085 continuously monitors the temperature of the glass melting tank: the plant operator keeps an eye on the melting process and can intervene in the furnace control immediately if it deviates from the target range.

## Measurement ranges

❶ 600 - 1200 °C ❷ 650 - 1300 °C
❸ 700 - 1400 °C ❹ 750 - 1500 °C
❺ 800 - 1700 °C ❻ 900 - 2000 °C
❼ 600 - 1600 °C ❽ 700 - 2000 °C
❾ 850 - 2500 °C ❿ 900 - 3000 °C

**Special ranges on request**



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# Technical Data

| Device types | KTRD 4085-1 | KTRD 4085-2 |
|---|---|---|
| **Measurement spot marking** | **LED target light** | **Viewfinder** |
| **Response time** | 1 ms | |
| **Spectral range** | 0,85 - 1,1 µm | |
| **Measurement uncertainty** | 0,5 % ± 1 °C (ε = 1, Tu = 23 °C, T95 = 1 s) | |
| **Temperature dependance** | 0,01 % / °C | |
| **Reproducibility** | 0,1 % | |
| **Emissivity** | 100 - 10 %<br>adjustable on the device or via interface | |
| **Resolution** | < 0.1 % at the analog output<br>< 0.1 °C at the interface | |
| **Analog output** | 0 - 20 mA or 4 - 20 mA (max. load 500 Ω)<br>adjustable via interface or software | |
| **Switching output** | 24 V / 100 mA (open coll.) | |
| **Interface** | RS 232 ± 50 V isolated | |
| **Device connector** | 8-pin connector | |
| **Operating temperature** | 0 - 60 °C | |
| **Storage temperature** | -10 °C - 70 °C | |
| **Permissible humidity** | 35 - 85 % RH (no condensation) | |
| **Supply voltage** | 24 V DC ± 10 % | |
| **Power consumption** | < 100 mA | |
| **Dimensions (WxHxD) / Weight** | 30 x 65 x 80 mm / 0.19 kg | |
| **IP code** | IP65 | |
| **Others** | Max. memory, dual memory, adjustable time and threshold value, reset after time, external contact, via software, on new measured object | |




## Additional options

- Interfaces: RS 485 ± 70 V isolated (7-pin connector)
- High-speed version: KTRD 4085-HS
- Version with fiber optic cable: KTRD 4485
- Special optics and measuring ranges available on request

## Electrical add-ons

- Evaluation unit AED 1012
- PC box (USB connection set)
- Various connection cables

## Mechanical add-ons

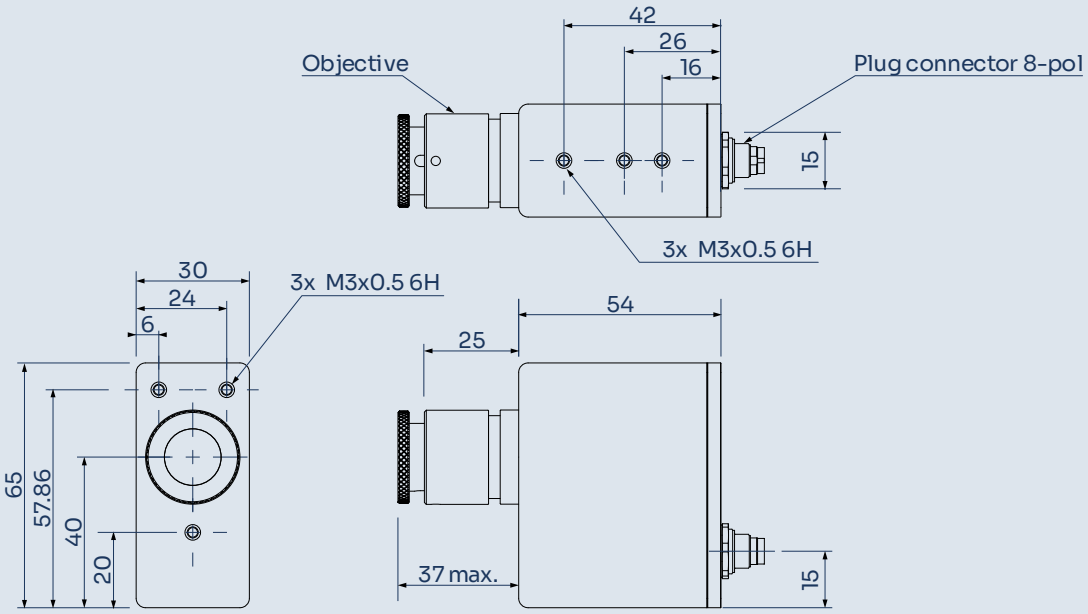
- Mounting bracket
- 90° beam deflector
- Air-purge attachment
- Cooling plate



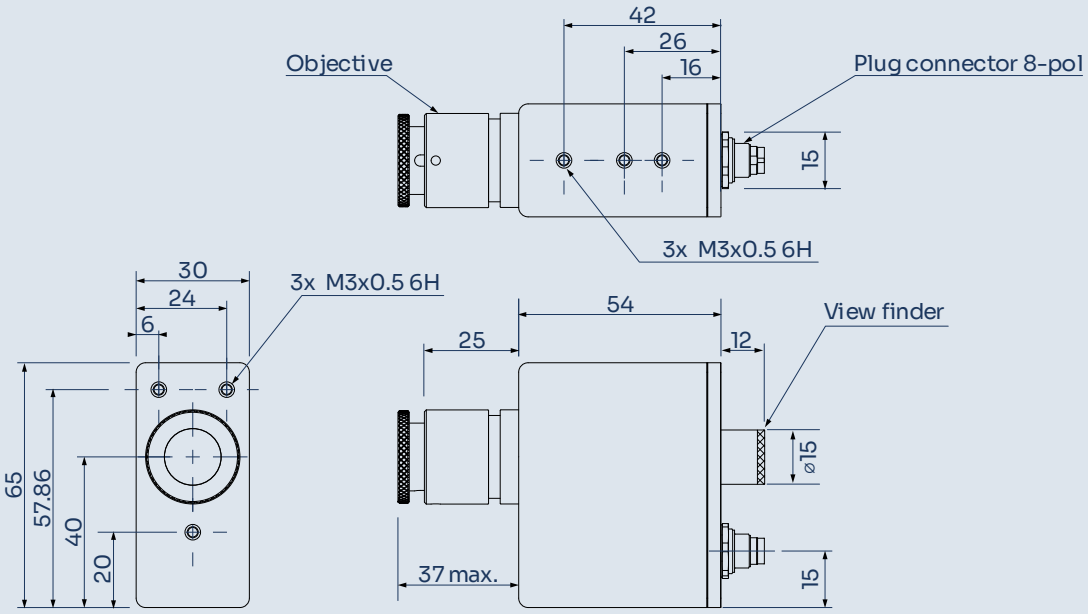
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# Drawings

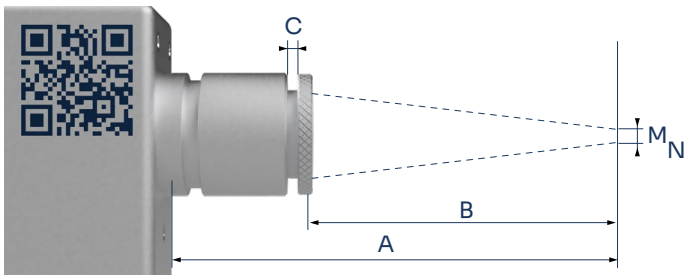
## KTRD4xx housing with target light




## KTRD4xx housing with viewfinder



# Optics




| Legend | |
|---|---|
| A | Optic extraction |
| B | Distance from housing |
| C | Distance from optics |
| Mn | Nominal spot size |

| Measurement ranges &Effective spot size | | |
|---|---|---|
| **1** | 600 - 1200 °C | Me = Mn x 8,5 |
| **2** | 650 - 1300 °C | Me = Mn x 8,5 |
| **3** | 700 - 1400 °C | Me = Mn x 8,5 |
| **4** | 750 - 1500 °C | Me = Mn x 8,5 |
| **5** | 800 - 1700 °C | Me = Mn x 8,5 |
| **6** | 900 - 2000 °C | Me = Mn x 8,5 |
| **7** | 600 - 1600 °C | Me = Mn x 8,5 |
| **8** | 700 - 2000 °C | Me = Mn x 8,5 |
| **9** | 850 - 2500 °C | Me = Mn x 8,5 |
| **10** | 900 - 3000 °C | Me = Mn x 8,5 |

**Optic: A25-15-8**

| A [mm] | B [mm] | C [mm] | Mn [mm] |
|---|---|---|---|
| 141 | 100 | 13 | 1 |
| 241 | 200 | 12,7 | 2 |
| 341 | 300 | 12,5 | 3 |
| 440 | 400 | 12,2 | 4 |
| 540 | 500 | 11,9 | 5 |
| 640 | 600 | 11,7 | 6 |
| 739 | 700 | 11,4 | 7 |
| 839 | 800 | 11,1 | 8 |
| 939 | 900 | 10,9 | 9 |
| 1039 | 1000 | 10,6 | 10 |
| 2036 | 2000 | 8 | 20 |
| 3033 | 3000 | 5,3 | 30 |
| 4031 | 4000 | 2,7 | 40 |
| 5028 | 5000 | 0 | 50 |



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