

DT-44G / DT-44GH Pyrometer Series

Self-Contained, Non-Contact Infrared Temperature Sensors



- High speed, accuracy and repeatability
- Rugged stainless steel housing with fixed focus optics
- RS485 and 4-20 mA linear output
- Optional Integrated Green LED or Red Laser aiming accessory
- Temperature ranges from 100°C to 2500°C
- Integrated USB interface for sensor parameter settings

The innovative Process Sensors Models DT-44G and high speed DT-44GH with digital technology are rugged and designed for simplicity of installation.

The pyrometer's RS485 or 4-20mA linear output signal can be easily integrated into an existing bus system or instrumentation for recording and process control.

The stainless steel housing and rugged stainless steel cooling jacket with air purge ensures reliable operation in harsh environments.

The DT-44G offers a response speed of 30 ms and the high speed version, Model DT-44GH, 10 ms.

The 44 Pyrometer Series sensors are ideal instruments for system integrators, machine builders (OEM,) and engineering companies.

Prominent applications:

- Glass
- Solar Cell Production
- Ceramic industry
- Semiconductor

The integrated green LED aiming light facilitates accurate focusing and target alignment. The projected size of the LED is identical to the measuring spot and is visible on hot targets.

Equipped with USB interface, adjustment of all sensor parameters can be accessed via a PC, such as emissivity, response time, temperature sub range, peak picker, etc., with optional software and connecting cable.

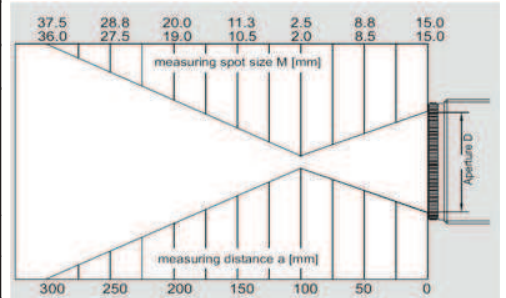
PSC Spot Software is provided for IR sensor adjustments and real time temperature analysis.

TECHNICAL SPECIFICATIONS FOR DT-44G / DT-44GH

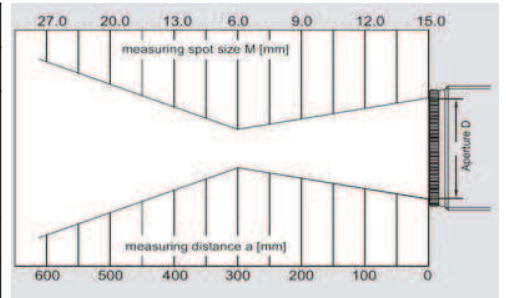
| TYPE | DT-44G | DT-44G | DT-44GH | DT-44G | DT-44GH |
|--|--|---------------|---------------|---------------|---------|
| Technical Data | | | | | |
| Temperature range | 100 to 1300°C | 200 to 1400°C | 200 to 1400°C | 500 to 2500°C | |
| Sub temperature range | adjustable within overall temperature range, minimum span 51°C | | | | |
| Spectral range | 5.14µm | | | | |
| Optics (refer to table) | several fixed optics (type V, VI, VII and VIII), aperture diameter 0.64" (16mm) | | | | |
| Distance to Spot Ratio | >50:1 | | | | |
| Measurement uncertainty | 0.6% of meas. value or 1°C (Tamb = 23°C, e = 1, t95 = 1s) | | | | |
| Reproducibility | 0.3% of meas. value (Tamb = 23°C, e = 1, t95 = 1s) | | | | |
| Response time (t95) | 30ms, adjustable up to 100s | | 10ms | 30ms | 10ms |
| Emissivity | adjustable, 0.20 to 1.00 | | | | |
| Peak Picker | maximum value storage, adjustable via interface | | | | |
| Output | 4...20mA, linear, max. burden: 700Ω at 24V | | | | |
| Interface | galvanically isolated RS485 interface, half duplex, max. 115kBd | | | | |
| Software | PSC Spot for Windows® | | | | |
| Method of Aiming | Laser aiming (accessory) or integrated green LED (starting temps > 200°C) | | | | |
| Parameters | adjustable via interface and software (emissivity, response time, temperature unit °C or °F, storage, sub range) | | | | |
| Power Supply | 24V DC +/- 25% | | | | |
| Power consumption | max 1.5W | | | | |
| Operating temperature | 0°C to 70°C | | | | |
| Storage temperature | -20°C to 70°C | | | | |
| Weight | approx. 14 oz. | | | | |
| Dimensions | thread M40 X 1.5, length 125mm | | | | |
| Housing | stainless steel with plug connector | | | | |
| Safety class | IP 65 (DIN 40 050) | | | | |
| CE-Symbol | according to EU regulations (EN 50 011) | | | | |
| Scope of delivery | DT-44X, manual, inspection sheets, PSC Spot for Windows® (cable sold separately) | | | | |
| Accessories, mechanical, electrical and optical | | | | | |
| Connecting cable 12-pin | Length: 2m, 5m, 10m, 15m, 20m, 25m, 30m / 6.5', 16', 33', 49', 65', 82', 98' | | | | |
| USB-correcting cable | Length 1.8m, screened | | | | |
| Interface | RS485 or USB | | | | |
| Power supply | 24V DC/0.6A | | | | |
| Mounting bracket | fixed or adjustable | | | | |
| Air purge unit | stainless steel, air pressure 0.5 to 1.5 cfm, oil free | | | | |
| Water cooling jacket | with integrated air purge and mounting angle | | | | |
| Vacuum flange | KF 16 with CaF2 window | | | | |
| Laser aiming light | adapter (battery operated) | | | | |

Optic types V, VI, VII and VIII

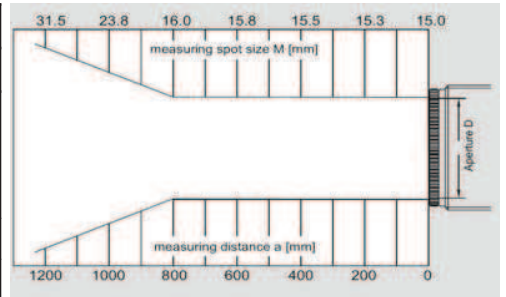
| Optics V (focussed at a = 100mm measuring distance) | | | | | | | |
|---|----|-----|------------|------|------|------|------|
| Measuring distance a in mm | 0 | 50 | 100 | 150 | 200 | 250 | 300 |
| Measuring field diameter M in mm | | | | | | | |
| DT 40G (100°C to 1300°C) | 15 | 8.8 | 2.5 | 11.3 | 20.0 | 28.8 | 37.5 |
| DT 40G (200°C to 1400°C) | 15 | 8.8 | 2.5 | 11.3 | 20.0 | 28.8 | 37.5 |
| DT 40G (500°C to 2500°C) | 15 | 8.8 | 2.5 | 11.3 | 20.0 | 28.8 | 37.5 |



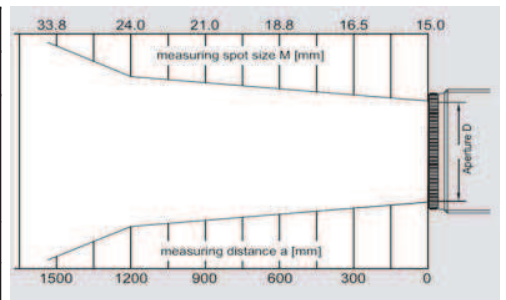
| Optics VI (focussed at a = 300mm measuring distance) | | | | | | | |
|--|----|------|-----|------------|------|------|------|
| Measuring distance a in mm | 0 | 100 | 200 | 300 | 400 | 500 | 600 |
| Measuring field diameter M in mm | | | | | | | |
| DT 40G (100°C to 1300°C) | 15 | 12.0 | 9.0 | 6.0 | 13.0 | 20.0 | 27.0 |
| DT 40G (200°C to 1400°C) | 15 | 12.0 | 9.0 | 6.0 | 13.0 | 20.0 | 27.0 |
| DT 40G (500°C to 2500°C) | 15 | 12.0 | 9.0 | 6.0 | 13.0 | 20.0 | 27.0 |



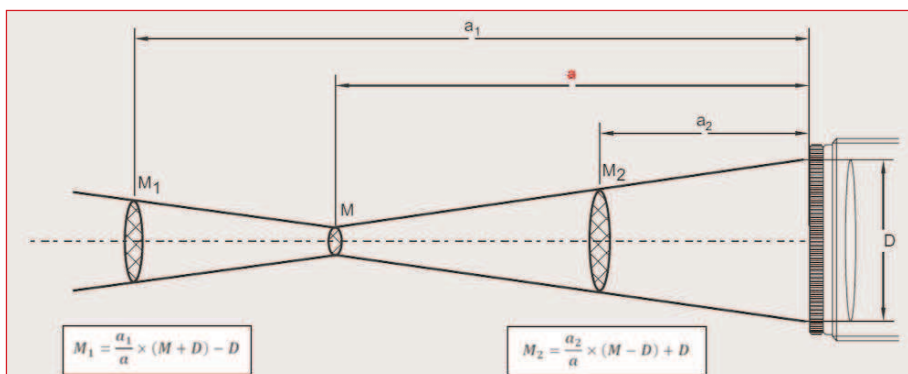
| Optics VII (focussed at a = 800mm measuring distance) | | | | | | | |
|---|----|------|------|------|-------------|------|------|
| Measuring distance a in mm | 0 | 200 | 400 | 600 | 800 | 1000 | 1200 |
| Measuring field diameter M in mm | | | | | | | |
| DT 40G (100°C to 1300°C) | 15 | 15.3 | 15.5 | 15.8 | 16.0 | 23.8 | 31.5 |
| DT 40G (200°C to 1400°C) | 15 | 15.3 | 15.5 | 15.8 | 16.0 | 23.8 | 31.5 |
| DT 40G (500°C to 2500°C) | 15 | 15.3 | 15.5 | 15.8 | 16.0 | 23.8 | 31.5 |



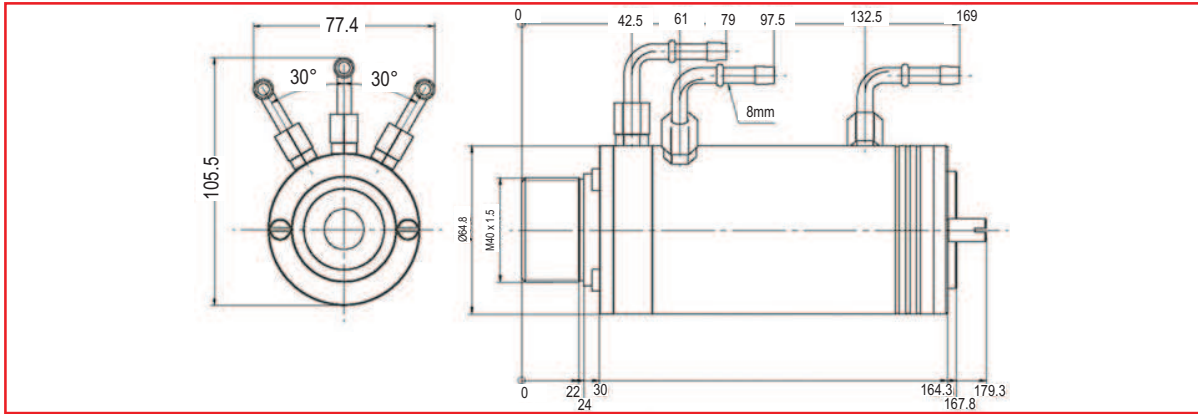
| Optics VIII (focussed at a = 1200mm measuring distance) | | | | | | | |
|---|----|------|------|------|------|-------------|------|
| Measuring distance a in mm | 0 | 100 | 300 | 600 | 900 | 1200 | 1500 |
| Measuring field diameter M in mm | | | | | | | |
| DT 40G (100°C to 1300°C) | 15 | 15.0 | 16.5 | 18.8 | 21.0 | 24.0 | 33.8 |
| DT 40G (200°C to 1400°C) | 15 | 15.0 | 16.5 | 18.8 | 21.0 | 24.0 | 33.8 |
| DT 40G (500°C to 2500°C) | 15 | 15.0 | 16.5 | 18.8 | 21.0 | 24.0 | 33.8 |



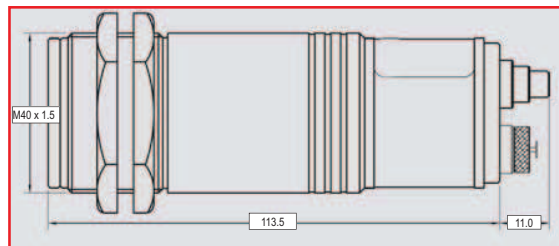
Field of view (for) calculations



Cooling Jacket & Air Purge (Dimensions in mm)



Pyrometer



Accessories

Adjustable mounting bracket
PN#3310A21011



Digital Display
PN#TIC500



Cooling jacket with air purge
PN#3310A23010



Power supply 24 VDC (din rail)
PN#950-004



Air purge unit
PN#3310A22010



Window Slide

