

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.

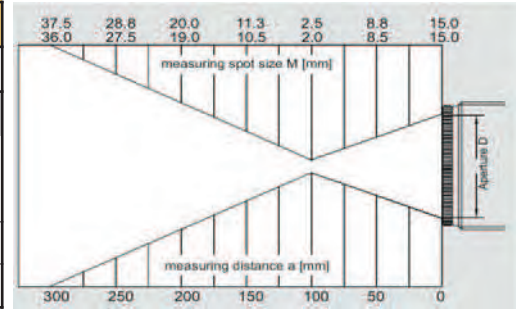
PSC Spot Software is provided for IR sensor adjustments and real time temperature analysis.

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

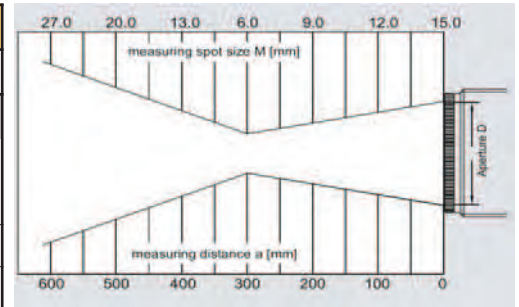
TYPE	DT-44G	DT-44G	DT-44GH	DT-44G	DT-44GH
Technical Data					
Temperature range	100 to 1300°C	200 to 1400°C	200 to 1400°C	500 to 2500°C	
Sub temperature range	adjustable within overall temperature range, minimum span 51°C				
Spectral range	5.14µm				
Optics (refer to table)	several fixed optics (type V, VI, VII and VIII), aperature 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

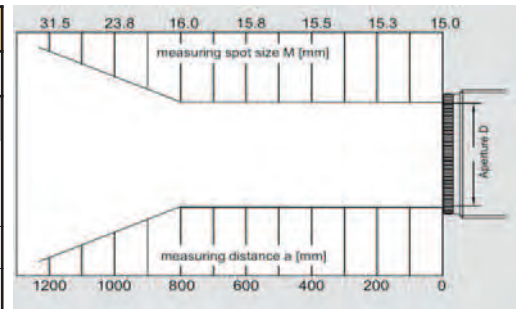
Optics V (focussed at a = 100mm measuring distance)							
Measuring distance a in mm	0	50	100	150	200	250	300
Measuring field diameter M in mm							
DT 40G (100°C to 1300°C)	15	8.8	2.5	11.3	20.0	28.8	37.5
DT 40G (200°C to 1400°C)	15	8.8	2.5	11.3	20.0	28.8	37.5
DT 40G (500°C to 2500°C)	15	8.8	2.5	11.3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



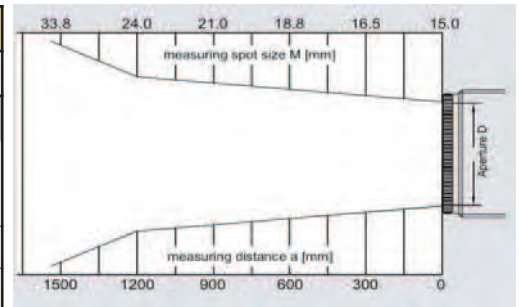
Optics VI (focussed at a = 300mm measuring distance)							
Measuring distance a in mm	0	100	200	300	400	500	600
Measuring field diameter M in mm							
DT 40G (100°C to 1300°C)	15	12.0	9.0	6.0	13.0	20.0	27.0
DT 40G (200°C to 1400°C)	15	12.0	9.0	6.0	13.0	20.0	27.0
DT 40G (500°C to 2500°C)	15	12.0	9.0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



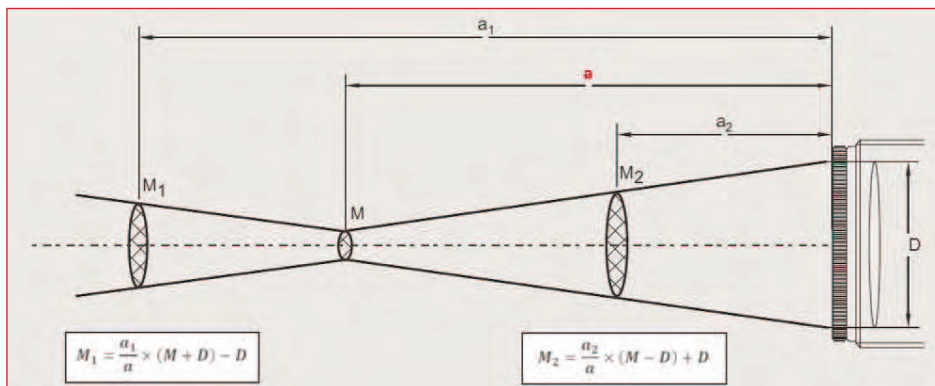
Optics VII (focussed at a = 800mm measuring distance)							
Measuring distance a in mm	0	200	400	600	800	1000	1200
Measuring field diameter M in mm							
DT 40G (100°C to 1300°C)	15	15.3	15.5	15.8	16.0	23.8	31.5
DT 40G (200°C to 1400°C)	15	15.3	15.5	15.8	16.0	23.8	31.5
DT 40G (500°C to 2500°C)	15	15.3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



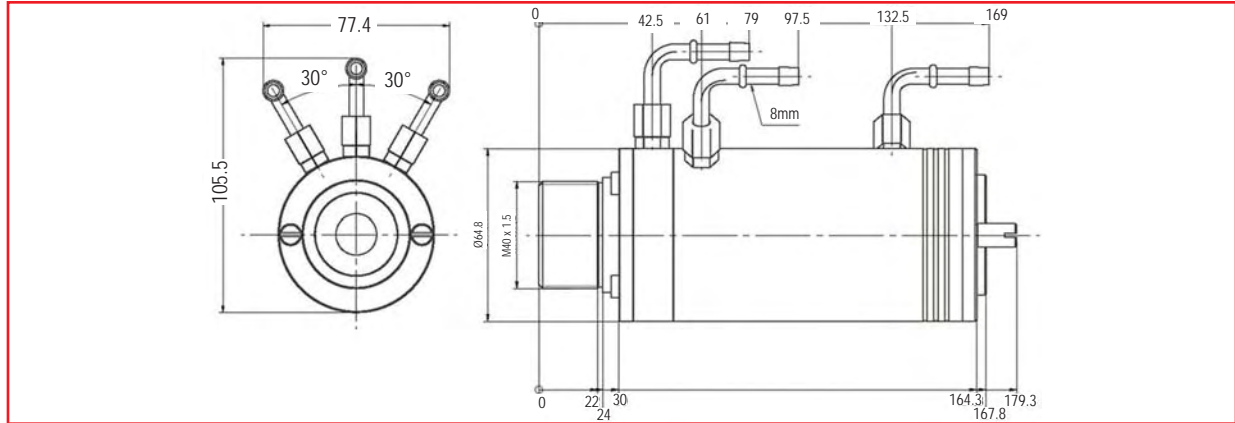
Optics VIII (focussed at a = 1200mm measuring distance)							
Measuring distance a in mm	0	100	300	600	900	1200	1500
Measuring field diameter M in mm							
DT 40G (100°C to 1300°C)	15	15.0	16.5	18.8	21.0	24.0	33.8
DT 40G (200°C to 1400°C)	15	15.0	16.5	18.8	21.0	24.0	33.8
DT 40G (500°C to 2500°C)	15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



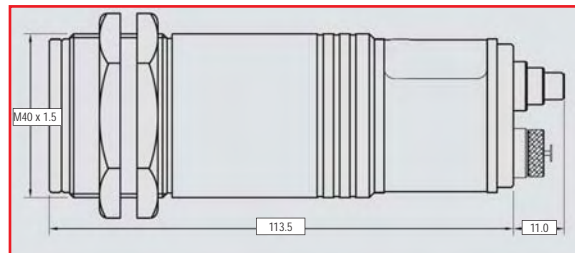
Field of view (for) calculations



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

