

DATA SHEET



Infrared-Temperature measurement device DM301

Description



Technical Data

General parameters	
Protection	IP63
Ambient temperature	-20...+80 °C
Storage temperature	-20...+85 °C
Relative Humidity	10...95 %, non-condensing
Vibration	IEC 68-2-6: 3 G, 11 ... 200 Hz each axis
Shock	IEC 68-2-27: 50 G, 11 ms each axis
Weight	58 g
Electrical parameters	
Output / analog	0-5 V or 0-10 V scalable or alarm with adjustable voltage levels
Alarm output	0-30 V / 50mA (open collector)
3-stage alarm output	Adjustable thresholds and voltage levels for: no alarm, pre-alarm, alarm
Output / digital	Uni / bidirectional, 9.6 Kbaud, 0 * 3 V level / USB optional
Input (0-10 V)	Programmable function input for external emissivity adjustment / compensation of ambient temperature, triggered signal output or peak-hold function
LED – Function	Alarm Display, automatic target-help, self diagnostics and temperature display (over temp code)
Cable length	1 m
Power supply	5 – 30 V DC
Power consumption	4 mA (without LED) / 10 mA

Characteristic features

- Measuring range: -40...+350 °C (expandable to 1030 °C via optional USB-adaptor)
- Response time: 25 ms
- Ratio of distance / spot 15:1
- Green LED alarm indication, target-help, self diagnosis or temperature code indication
- Environmental temperature -20...+80 °C, without cooling
- Adjustable emissivity via 0-10 V DC input or via software
- 0-5 or 0-10 V Output freely scalable or alarm adjustable voltage levels
- Optional USB-adaptor and direct 9.6 kbps serial interface
- Power supply 5-30 V DC

Technical measuring parameters

Temperature range (Scalable via software)	-40...+1030 °C
Spectral range	8 - 14 µm
Optical resolution (90 % energy)	15:1
CF – conversion lens (Optional)	0,8 mm at 10 mm
System accuracy (at ambient temperature 23 ±5 °C)	±1,5 % or ±1,5 °C ¹⁾
Reproducibility (at ambient temperature 23±5 °C)	±0,75 % or ±0,75 °C ¹⁾
Temperature coefficient	±0,05 K/K or ±0,05 %/K ²⁾
NETD	0,1 K ²⁾
Response time	25 ms (from 999 s adjustable)
Emissivity / Gain (adjustable via 0 - 5V DC input or software)	0,100 – 1,100
Transmittance (adjustable by software)	0,100 – 1,100
Signal processing (parameter set via software)	Maximum, minimum hold, average; extended hold function with threshold and hysteresis

1) Object temperature > 0 °C; Whichever is the highest

2) For time constant of 100 ms and TObj 25 °C.

3) For environmental temperature <18 °C and >28 °C, whichever is the highest

Scope of delivery

Infrared-Temperature-Measurement device DM 301,
CD with User manual

For further information, please visit our website:
www.bb-sensors.com