Infra-red transmitter for measuring surface temperature AMiR 7843
Miniature probe head, transmitter box with display / operating controls, with analog output

- Surface temperature is measured over a wide range up to 600 / 1000 °C.
- The probe head, thanks to its small dimensions, can be installed in cramped and restricted conditions.
- Robust stainless-steel housing, protective class IP65
- The probe head is threaded for quick and easy installation.
- The sensor cable is suitable for industrial use and is resistant to oily, acidic, and alkaline environments.
- Transmitter box with display and operating controls
- Analog output 10 V / 20 mA, freely selectable and scalable.

! Infra-red sensor suitable for direct connection to ALMEMO® measuring instruments see Digital sensor FIAD43x with ALMEMO® D6 plug (see page 01.08)

Accessories MR7843 series   Order no.

Mounting bracket, rigid	ZR7842H	Focal point lens attachment (cannot be used together with air blower
Mounting bracket, adjustable	ZR7842JH	attachment or air-cooled housing) ZR7843CFL
Protective window (cannot be used together		10:1 optics Measuring spot diameter 1 mm at distance of 10 mm
with air blower attachment or air-cooled housing)	ZR7843PW	22:1 optics Measuring spot diameter 0.5 mm at distance of 10 mm.

Accessories for MR7843-12 / -32 / -42   Order no.

Air blower attachment	ZR7842LB	90° deflecting mirror
Air-cooled housing and T branch, including 0.8-meter		(only for air-cooled housing and air blower attachment) ZR7842US
air hose, insulation, and air blower attachment	ZR7842KL1	90° deflecting mirror with integrated air blower attachment
Same as above but with 2.8-meter air hose	ZR7842KL2	ZR7842US1

Options for MR7843-12 / -32 / -42   Order no.

Factory test certificate (only with delivery of new devices) OR7843KZ1 DAkkSDKD or factory calibration KI9xxx, temperature, for sensors (see chapter „Calibration certificates"). DAkkS calibration meets all the requirements regarding test resources laid down in DIN EN ISO/IEC 17025.

Standard delivery

Probe head (including mounting nut) with cable, PUR, mounted on transmitter box

Temperature range	Optical resolution	Ambient temperature, probe head	Order no. Probe head cable, 1 m	Order no. Probe head cable, 3 m*
-40 to 600°C	2:1	-10 to 120°C	**MR784312**	**MR784312L03**
-40 to 600°C	10:1	-10 to 120°C	**MR784332**	**MR784332L03**
0 to 1000°C	22:1	-10 to 120°C	**MR784342**	**MR784342L03**

* Available on request longer probe head cable, 8 / 15 / 30 meters

Options for MR7843-33 / -43   Order no.

Air blower attachment, only fitted at our factory	OR7843LB1	Factory test certificate (only with delivery of new devices) OR7843KZ1
90° deflecting mirror		DAkkS or factory calibration KI9xxx, temperature, for sensors (see
(only with air blower attachment OR7843LB1)	OR7843KZ1	chapter „Calibration certificates"). DAkkS calibration meets all the requirements regarding test resources laid down in DIN EN ISO/IEC 17025.

Standard delivery

Probe head (including mounting nut) with cable, fluoropolymer, with separate electronics Ø14 mm, approx. 52 mm long, with 0.5 m cable, mounted on transmitter box

Temperature range	Optical resolution	Ambient temperature, probe head	Order no. Probe head cable, 1 m	Order no. Probe head cable, 3 m*
-40 to 600°C	10:1	-10 to 180°C	**MR784333**	**MR784333L03**
0 to 1000°C	22:1	-10 to 180°C	**MR784343**	**MR784343L03**

* Available on request longer probe head cable 8 / 15 / 30 meters
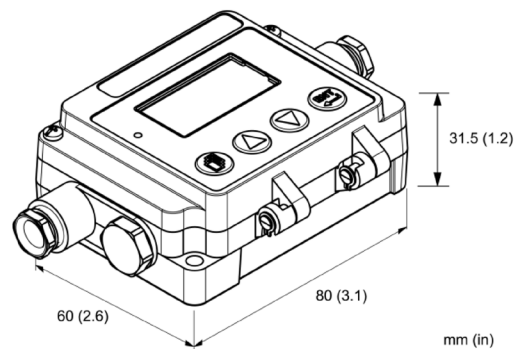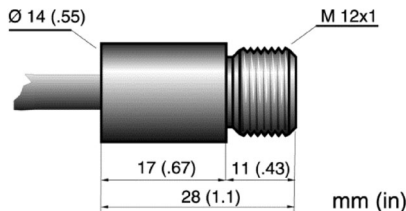
Infrared measuring technology

Technical data

Probe head

Temperature measuring range	depending on type -40 to +600 °C or 0 to +1000 °C
Spectral sensitivity	8 to 14 µm
Optical resolution (90 % energy)	depending on type 2:1 / 10:1 / 22:1, typical (21:1 guaranteed)
Response time (90%)	130 ms
Accuracy	±1 % of measured value or ±1 K (whichever value is higher) ±2 K for measured values <20 °C
Reproducibility	±0.5 % of measured value or ±0.5 K (whichever value is higher)
Nominal conditions	at ambient temperature +23 °C ±5 K, Emissivity factor 1.0 and calibration geometry
Temperature coefficient	±0.05 K / K or ±0.05 % of measured value / K (whichever value is higher)
Ambient temperature	depending on type -10 to +120 °C (with air cooling up to +200 °C) or -10 to +180 °C
Protective class	IP65 (NEMA-4) / IEC 60529
Relative humidity	10 to 95 % non-condensing
Housing	Stainless steel
Dimensions	L = 28 mm, Ø = 14 mm, Thread M12x1
Probe head cable	depending on type polyurethane (PUR) or fluoropolymer
Electronics:	integrated in the measuring head. For type MR784333x / 784343x: separate electronics.
Weight	50 g (with 1-meter cable)

Transmitter box

Output (selectable)	0 to 5 V / 0 to 10 V; 0 to 20 mA / 4 to 20 mA (Temperature range can be programmed in each case.) Thermocouple, type J, K, R, S Not electrically isolated from supply voltage
Temperature resolution	±0.1 K for temperature range < 500 °C
Accuracy	±1 K for output mA / V ±1.5 K for output, thermocouple
Temperature coefficient	±0.02 K / K for output mA / V, ±0.05 K / K for output, thermocouple
Emissivity	0.100 to 1.100
Transmittance	0.100 to 1.000
Signal processing	Saving of maximum / minimum / average value retention period up to 998 seconds
Alarm output	zero-potential contact (semiconductor relays) 48 V / 300 mA
Power supply	8 to 32 VDC, maximum 6 W
Ambient temperature	-10 to +65 °C
Protective class	IP65 (NEMA-4) / IEC 60529
Relative humidity	10 to 95 % non-condensing
Housing	Zinc die casting
Dimensions	80 x 60 x 31.5 mm (LxWxH)
Weight	370 g

Dimensions

Measuring field (90% energy)