

Non-contact temperature measurement of thin-film plastic materials from 35 °C to 600 °C



Features:

- Miniaturized infrared thermometer with a spectral range of 3.43 μm for precise temperature measurements of thin-film plastic materials like PE, PP, PS
- Two-piece design with easy accessible programming keys and LCD backlit display
- Built-in USB interface for simple sensor setup via mobile phone or PC
- Selectable analog outputs: 0/4 – 20 mA, 0 – 5 V, 0 – 10 V, thermocouple type K
- Optional EtherNet/IP, Profinet, Ethernet TCP/IP / Modbus TCP, Modbus RTU, RS485, RS232 interface or relay outputs (2 x optically isolated)
- Easy and flexible exchange of sensing heads

General specifications		Measurement specifications	
Environmental rating	IP 65 (NEMA-4)	Measuring Temperature range (scalable via programming keys or software / App)	35 °C ... 600 °C
Operating temperature range ¹⁾	-20 °C ... 85 °C (sensing head) -20 °C ... 85 °C (electronics)	Spectral range	3.43 μm
Storage temperature	-40 °C ... 85 °C (sensing head) -40 °C ... 85 °C (electronics)	Optical resolution (90% energy)	15:1
Operating air humidity range	10–95 %, non condensing	Measurement uncertainty ^{2), 3), 4), 7), 9)}	± 2.5 °C or ± 1 %
Vibration (sensor)	IEC 60068-2-6 (sinus shaped) IEC 60068-2-64 (broadband noise)	Repeatability ^{4), 5), 6), 7)}	± 0.25 K
Shock (sensor)	IEC 60068-2-27 (25G and 50G)	Temperature resolution (display)	0.1 K
Weight	200 g (sensing head incl. massive housing) / 420 g (electronics)	NETD (typically) ^{4), 5), 6), 7)}	90 mK
Electrical Specifications		Response time (90% energy)	15 ms
Output / analog (2x)	0 / 4 – 20 mA, 0 – 5 / 10 V, thermocouple K, alarm	Emissivity / Gain (adjustable via programming keys or software / App)	0.05 – 1.100
Output / alarm	24 V / 50 mA (open collector)	Transmissivity / Gain (adjustable via programming keys or software / App)	0.05 – 1.100
Relay outputs (optional)	2 x 60 V DC / 42 V AC _{RMS} ; 0.4 A; optically isolated	Signal processing (parameter adjustable via programming keys or software / App)	Peak hold, valley hold, average; extended hold functions with threshold and hysteresis
Digital Interfaces	built-in USB-interface, Optional: EtherNet/IP, Profinet, Ethernet TCP/IP / Modbus TCP, Modbus RTU, RS485, RS232 or relay outputs (2 x optically isolated)	Software / App	Optris CompactPlus Connect / IRmobile App
Output impedances	mA max. 500 Ω mV min. 100 k Ω load impedance	¹⁾ The LCD display capacity may be limited at ambient temperatures below 0 °C ²⁾ whichever is greater ³⁾ Response time = 1 s (90%) ⁴⁾ $\epsilon = 1.000$ ⁵⁾ $T_{obj} = 100$ °C ⁶⁾ Response time = 100 ms (90%) ⁷⁾ at ambient temp. (23 \pm 5) °C ⁹⁾ specifications are valid for temperatures above 50 °C	
I/O Pins (3x)	flexible programming as in- or output: external emissivity adjustment, ambient temperature compensation, uncommitted value, trigger (reset of holdfunctions), alarm output (open collector 24 V / 50 mA)		
Cable length	3 m (standard), 8 m, 15 m		
Power supply	8 - 30 V DC / 1.2W		

