

Miniature infrared sensor for non-contact temperature measurement

- Plug & Play – automatic sensor head detection
- Miniature sensor head for installations at tight spaces
- Failsafe functions for internal temperature and sensor cable break
- All-digital communication (sensor head → electronic box)
- Industrial rugged head cable (PUR): Silicone and Halogen free, resistant against oil, bases, and acids
- Analog output (0/4...20 mA, 0...5/10 V or thermocouple type J, K, R or S)
- User friendly configuration by keys at the electronic box or software



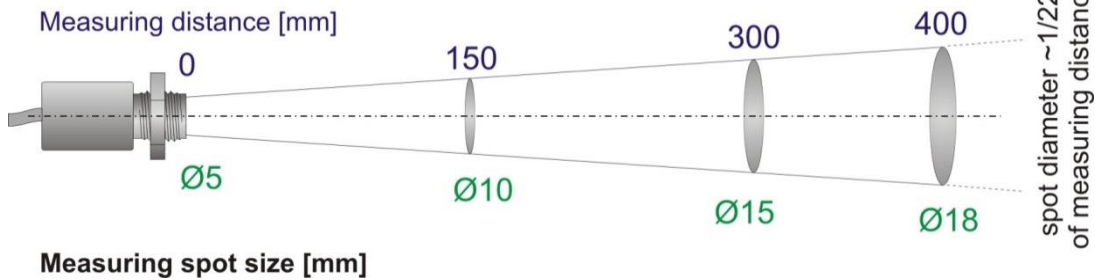
The IN720 is a digital pyrometer for non-contact temperature measurement of non-metallic or coated objects.

The device has a sensor head optic with a distance ratio of 22:1.

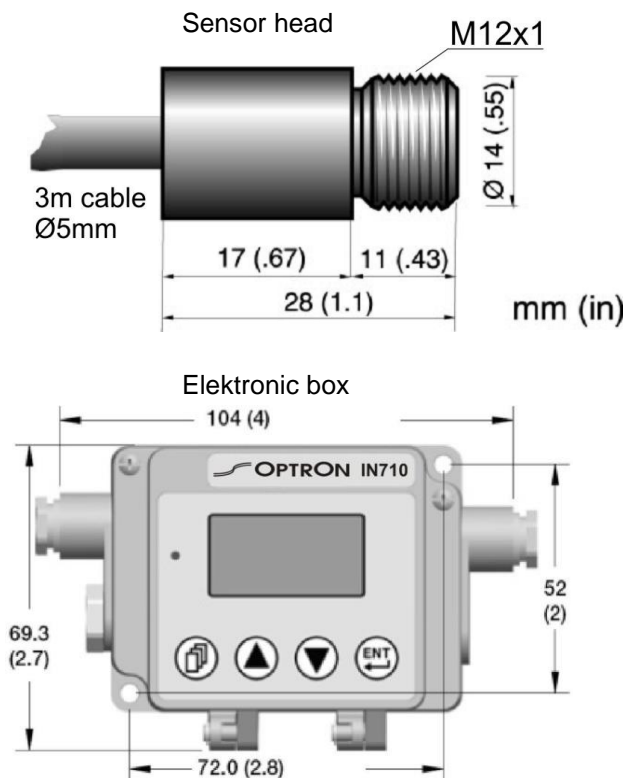
Sensor heads can be replaced by customers without losing accuracy.

The devices are equipped with a display which shows the actual temperature as well as all configurations. All available parameters can be set by the keys or software.

Distance ratio 22:1



Dimensions:



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Technical data

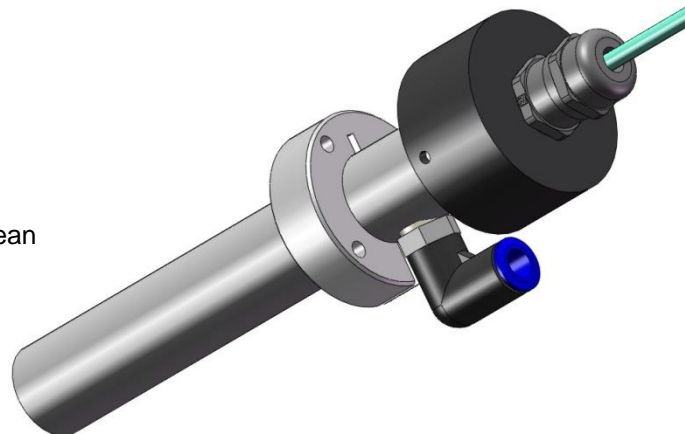
Temperature range	0 ... 1000°C (sub range scalable)
Spectral range:	8 ... 14 µm
Optics/distance ratio	22:1
Power supply	8 ... 32 V DC, max. 6 W
Output:	Out 1: 0 ... 5/10V DC, object or sensor head temperature Out 2: 0/4 ... 20 mA or 0 ... 5/10 V DC, object or sensor head temperature Alarm: Solid-state relay (potential-free, max. 48 V / 300 mA)
Inputs:	Emissivity setting (analog 0-5 V DC) Background radiation compensation (analog 0 – 5 V DC) Trigger / hold or laser switching (digital high / low)
Interface:	USB 2.0 (connector type mini B)
Emissivity ε:	10 ... 110% adjustable
Transmission:	10 ... 100% adjustable
Signal processing:	Peak & valley hold, intelligent averaging (flicker) Dwell time adjustable up to 998 s
Response time t_{90} :	130 ms
Resolution:	1/10°C
Measuring uncertainty sensor head: ($\epsilon = 1$, $T_{Amb} = 23^\circ\text{C} \pm 5^\circ\text{C}$)	$\pm 1\%$ of reading or $\pm 1^\circ\text{C}^*$ $\pm 2^\circ\text{C}$ for object temperatures $< 20^\circ\text{C}$
Repeatability sensor head:	$\pm 0,5\%$ of reading or $\pm 0,5^\circ\text{C}^*$
Measuring uncertainty electronic box:	$\pm 1^\circ\text{C}$ (mA/V output)
Valid ambient temperature electronic box:	-10 ... +65°C (storage temperature: -20 ... +85°C)
Valid ambient temperature sensor head:	IN710: -10 ... +120°C (storage temperature: -20 ... +120°C) IN715: -10 ... +180°C (with air cooling +200°C) (storage temperature: -20 ... +180°C)
Relative humidity:	10 ... 95% rH, non condensing
Protection class:	IP65 (electronic box and sensor head) (NEMA-4) / IEC 60529
Weight:	approx. 500 g
Dimensions in mm:	Electronic box: 104x69,3x31,5 (L x B x H), Sensor head: $\varnothing 14\text{mm} \times 28$, thread M12x1
Housing:	die cast zinc (electronic box), stainless steel (sensor head)
Cable:	3m PUR (polyurethane), halogen- and silicone free
EMC:	IEC 61326-1:2006 (max. cable length 3m)
Vibration sensor head:	11 ... 200 Hz, 3 g > 25 Hz in operation, 3 axis / IEC 60068-2-6
Schock sensor head:	50 g, 11 ms, in operation, 3 axis / IEC 60068-2-27

* - The larger value is valid. The sensor head must be in constant ambient temperature for at least 15 minutes.

Accessories

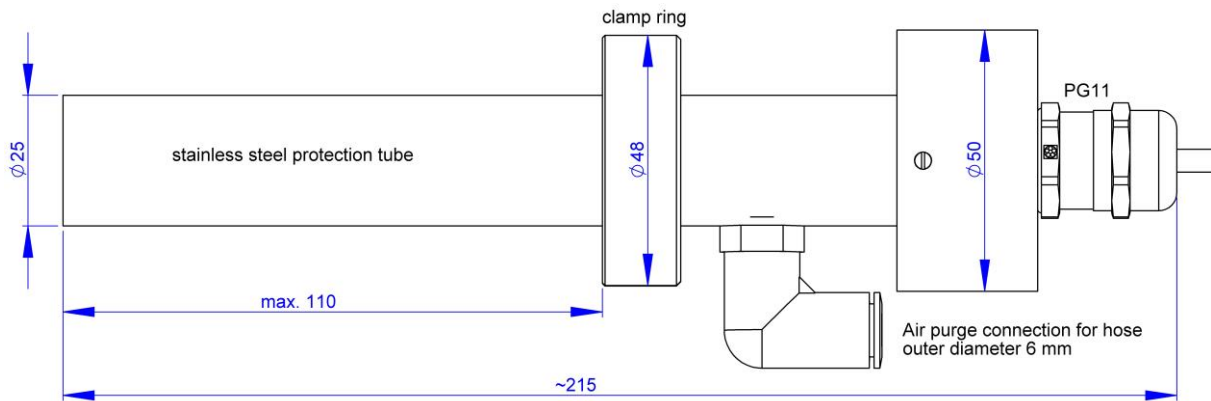
Protection armature

- Robust protection armature
- Easy to mount and adjust by clamping (optional)
- Air purge connection to keep the optics clean (hose outer diameter 8mm)

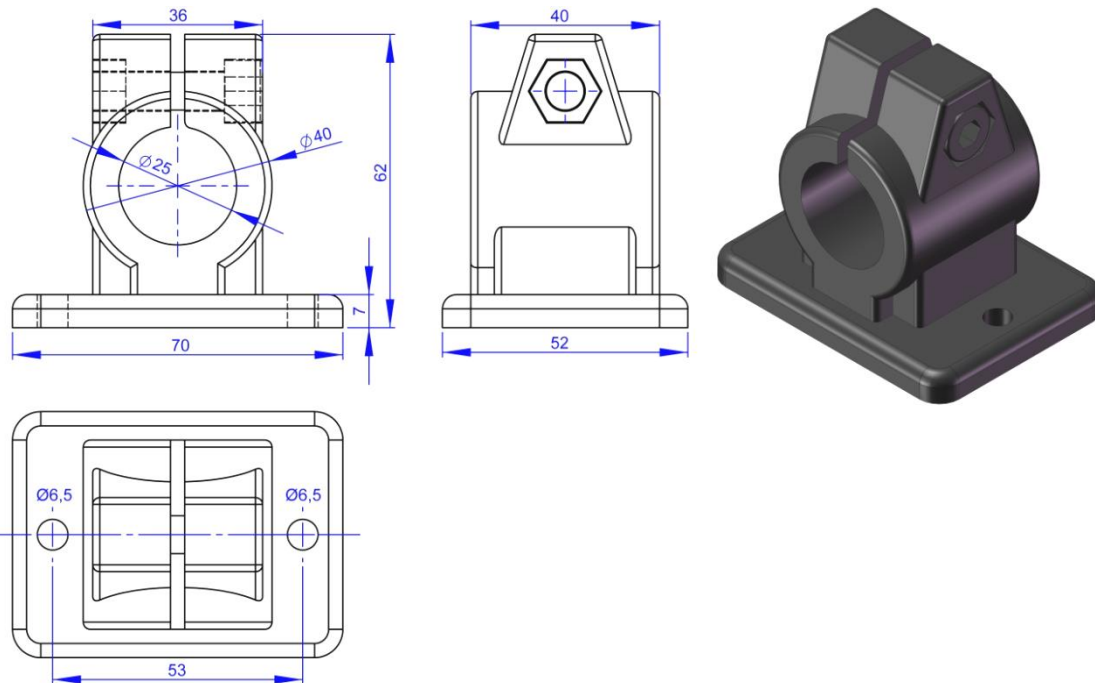


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Dimensions:

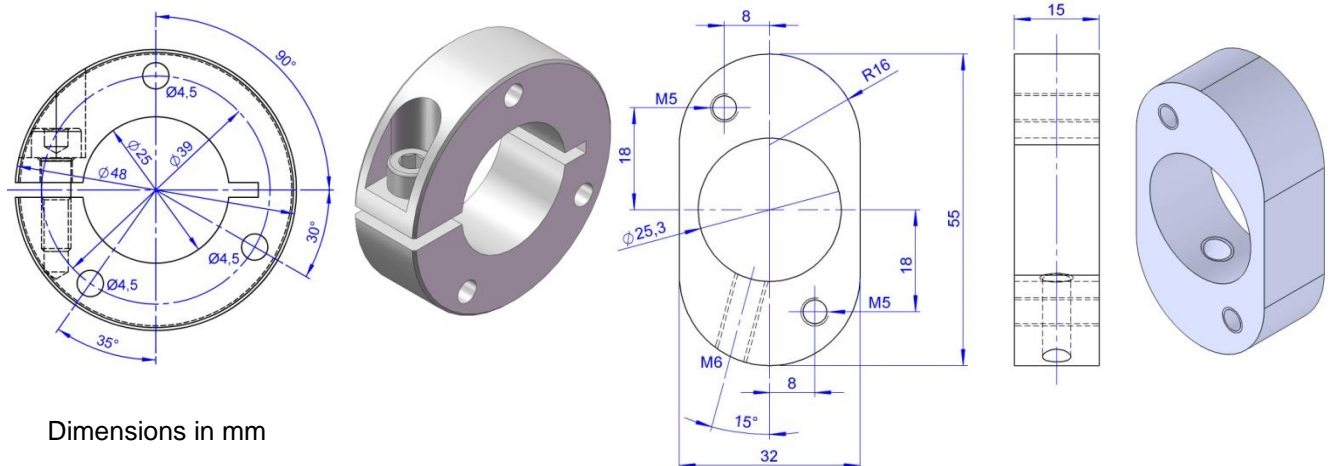


Flange clamping element for protection armature



Clamp ring for protection armature, stainless steel

Clamp ring for protection armature, aluminium

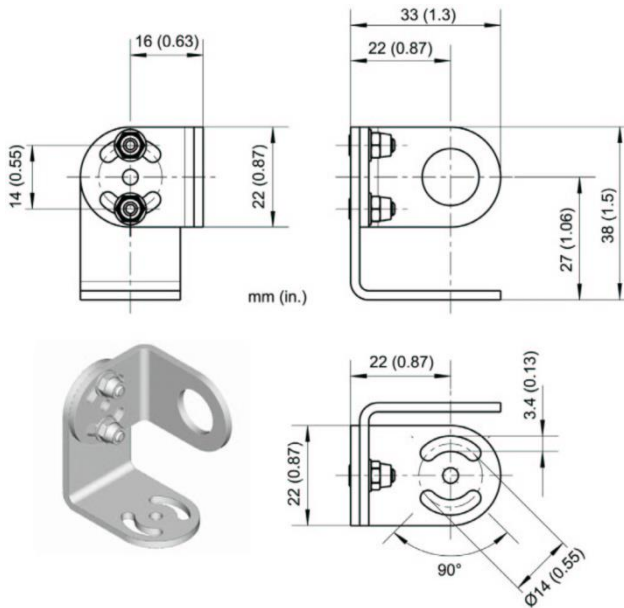


Dimensions in mm

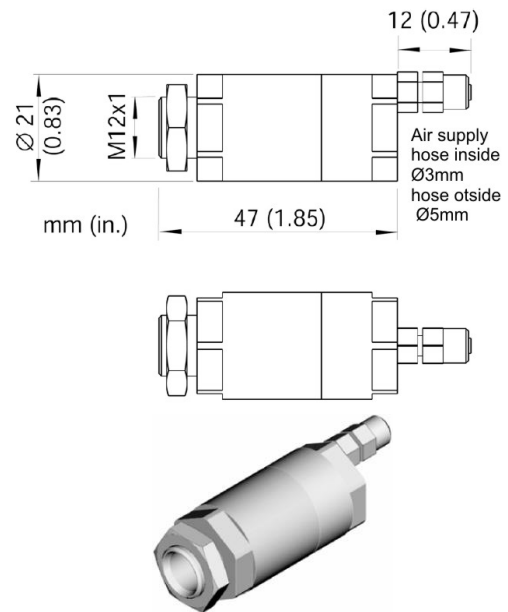
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For assembly without protection armature:

Adjustable mounting angle



Air purge (for IN720 only)



Pyrometer type IN720

with electronic box and miniature sensor head, measuring range 0 ... 1000°C (sub range scalable), 22:1 optics, 3m sensor head cable; ambient temperature -10 ... +120°C

Item No.

121720

Pyrometer type IN725

with electronic box and miniature sensor head, measuring range 0 ... 1000°C (sub range scalable), 22:1 optics, 3m sensor head cable; ambient temperature -10 ... +180°C

121925

Protection armature, stainless steel

121727

Flange clamping element, for sidewise assembly of the armature

3835090

Clamp ring, stainless steel, for assembly of the armature on IR fields, boilers, etc.

3834390

Clamp ring, aluminium, for assembly of the armature on IR fields, boilers, etc.

3834395

Adjustable mounting angle

3834380

Air purge (for IN720 only)

3835330

Laser pilot light for measuring spot alignment (mounted instead of the sensor head first, adjusted and then removed from the mounting angle), battery powered (3x 1.5 V button cell)

121702

Power supply 230V AC / 24V DC; 0,3A

E110028

Data connection cable, 3m, to connect the sensor box with the power controller or PLC

121822

Additional meter data cable

121823