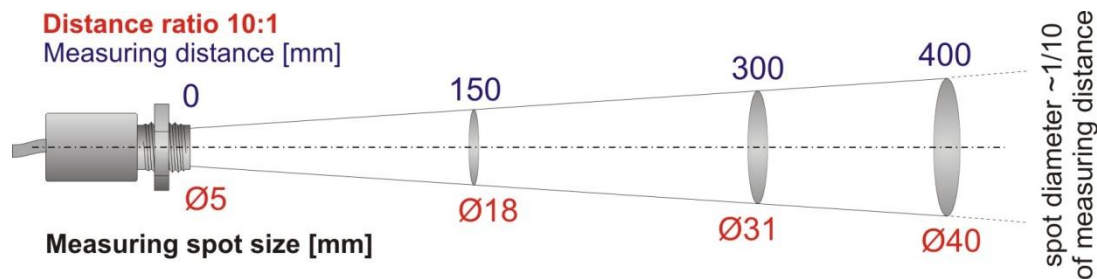


Miniature infrared sensor for non-contact temperature measurement

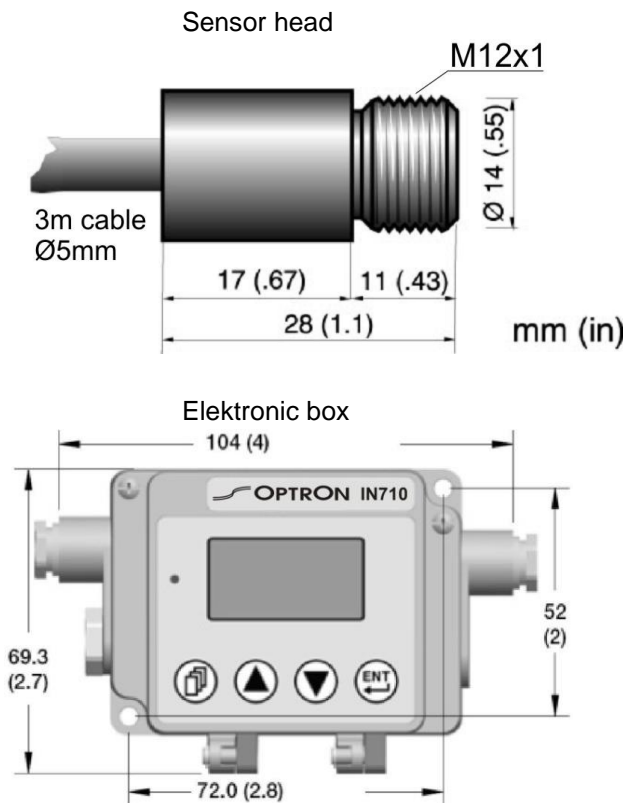
- Plug & Play – automatic sensor head detection
- Miniature sensor head for installations at tight spaces
- Failsafe functions for internal temperature and sensor cable break
- All-digital communication (sensor head → electronic box)
- Industrial rugged head cable (PUR): Silicone and Halogen free, resistant 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 IN710 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 10:1. 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.



**Dimensions:**



## Miniature infrared sensor for non-contact temperature measurement

### Technical data

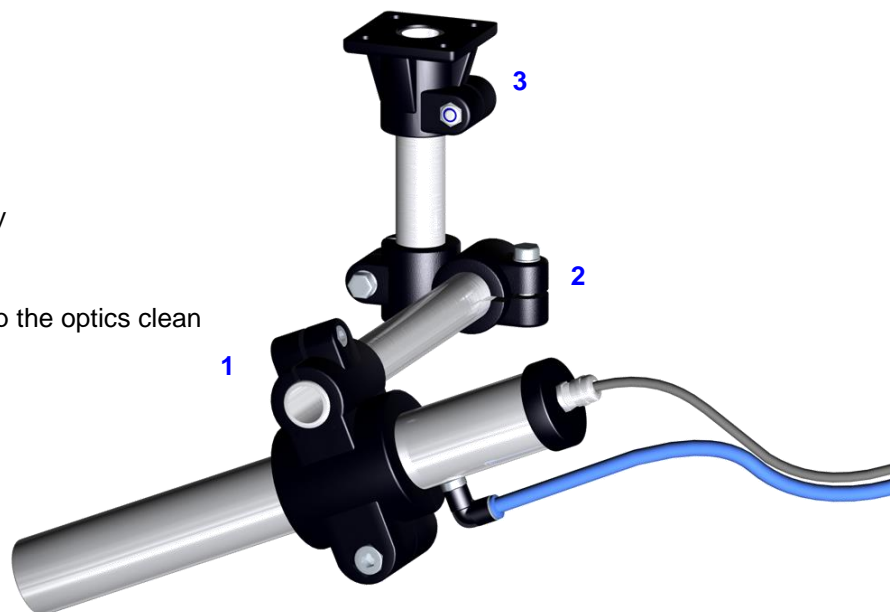
Temperature range	-40 ... 600°C (sub range scalable)
Spectral range:	8 ... 14 µm
Optics/distance ratio	10:1
Power supply	8 ... 32 V DC, max. 6 W
Output:	Out 1: 0 ... 5/10V DC, object or sensor head temperature Out 2: 0/4 ... 20 mA or 0 ... 5/10 V DC, object or sensor head temperature Alarm: Solid-state 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

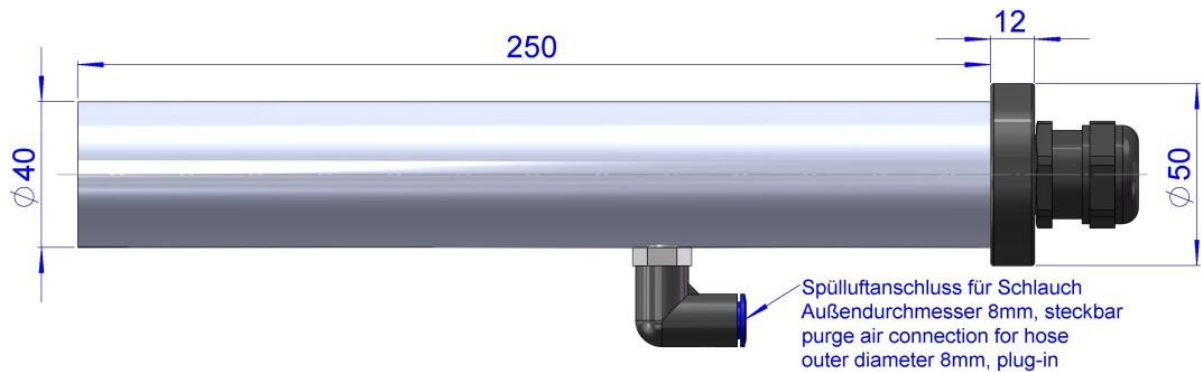
- Robust protection armature
- Easy to mount and adjust by clamping elements (optional)
- Air purge connection to keep the optics clean (hose outer diameter 8mm)



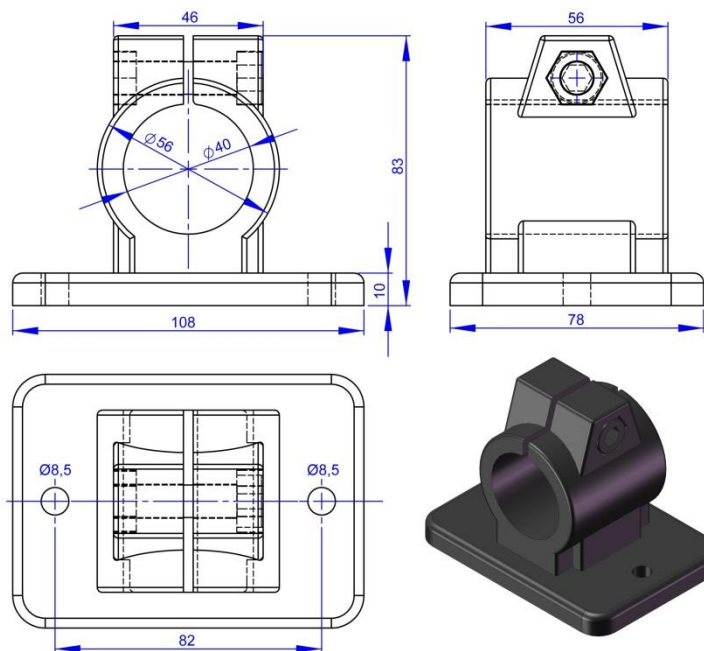
# IN710 / IN715

Miniature infrared sensor for non-contact temperature measurement

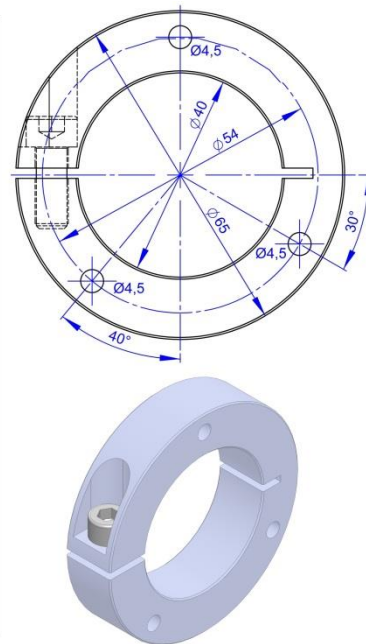
## Dimensions:



## Flange clamping element for protection armature



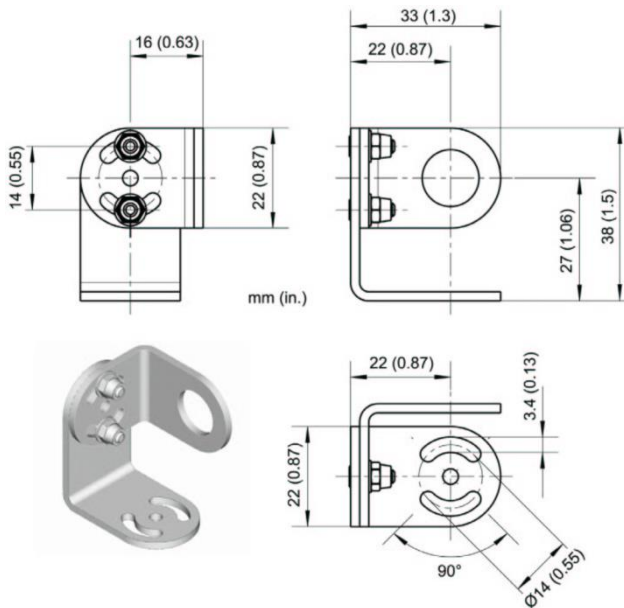
## Clamp ring for protection armature, stainless steel



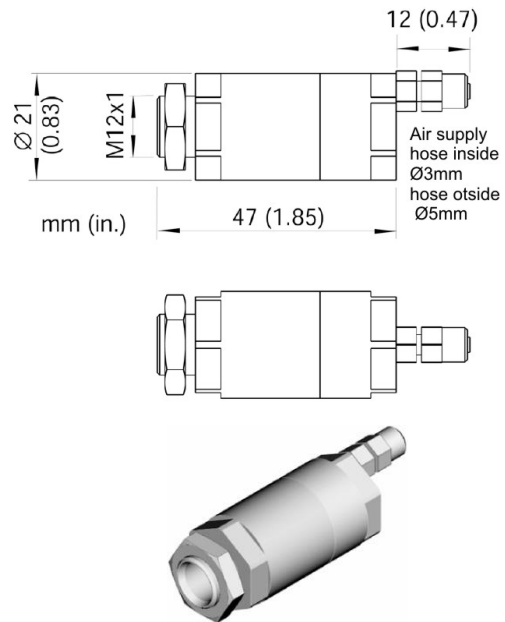
Dimensions in mm

## Miniature infrared sensor for non-contact temperature measurement

For assembly, without protection armature:  
**Adjustable mounting angle**



## Air purge (for IN710 only)



### Pyrometer type IN710

with electronic box and miniature sensor head, measuring range -40 ... 600°C (sub range scalable), 10:1 optics, 3m sensor head cable; ambient temperature -10 ... +120°C

### Item No.

**121710**

### Pyrometer type IN715

with electronic box and miniature sensor head, measuring range -40 ... 600°C (sub range scalable), 10:1 optics, 3m sensor head cable; ambient temperature -10 ... +180°C

**121915**

Protection armature, stainless steel

**121711**

Cross clamping element (no.1) [Ø40 to Ø30 mm], for protection armature

**1310510**

Cross clamping element (no.2) [Ø30 to Ø30 mm], for protection armature

**1310520**

Mounting clamping element (no.3) [Ø30 mm], for protection armature

**1310530**

Mounting pipe, (Ø30 mm), 1m

**1310540**

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

**1310550**

Flange clamping element, for sidewise assembly of the armature

**1310560**

Adjustable mounting angle

**3834380**

Air purge (for IN710 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**