

## AXIS F2180-TE Thermal Sensor

Discreet thermal sensor for temperature monitoring

This thermal sensor unit can be used to remotely monitor temperatures and trigger temperature-based events. Based on Axis modular camera concept, it can be placed up to 30 m away from the main unit, and only the small sensor is externally visible. It's designed for use with AXIS F91 Mk II main units, and when used with AXIS F9114-R Mk II, up to four sensor units can be used simultaneously, both thermal and visual. There's also a variety of accessories available for wall and recessed mounting. Furthermore, this sensor unit is available with 95° or 57° horizontal field of view.

- > [57° or 95° horizontal field of view](#)
- > [Trigger temperature-based alerts](#)
- > [Temperature deviation detection](#)
- > [Configurable polygonal detection areas](#)
- > [For installation in machinery, vehicles, and tight spaces](#)



# AXIS F2180-TE Thermal Sensor

## Camera

### Image sensor

Uncooled VOx microbolometer 160x120 pixels  
Pixel size 12 µm  
Spectral range: 8–14 µm

### Lens

Athermalized  
Horizontal field of view: 95° or 57°  
Minimum focus distance: 0.12 m (0.4 ft) with 95°HFoV  
or 0.3 m (1.0 ft) with 57° HFoV

### Sensitivity

NETD < 50 mK @25C, F1.1

## Thermometry

### Object temperature range

-10 °C to 450 °C (14 °F to 842 °F)

### Temperature accuracy

10 °C to 140 °C (50 °F to 284 °F): ±5 °C (±9 °F)  
accuracy<sup>1</sup>  
140 °C to 450 °C (284 °F to 842 °F): ±10% accuracy<sup>1</sup>

### Detection range

We recommend the size of a monitored object to cover  
at least 10x10 pixels in 160x120.

### General

Spot temperature meter  
Up to 4 polygonal temperature detection areas

## Approvals

### Product markings

UL/cUL, CE, FCC, KC, VCCI, RCM

### Supply chain

TAA compliant

## EMC

CISPR 35, CISPR 32 Class A, ECE R10 rev.06, EN 55035,  
EN 55032 Class A, EN 61000-6-1, EN 61000-6-2  
Australia/New Zealand: RCM AS/NZS CISPR 32 Class A  
Canada: ICES(A)/NMB(A)  
Japan: VCCI Class A  
Korea: KS C 9835, KS C 9832 Class A  
USA: FCC Part 15 Subpart B Class A  
Railway: IEC 62236-4

## Safety

CAN/CSA C22.2 No. 62368-1 ed. 3,  
RCM AS/NZS 62368.1:2022, IEC/EN/UL 62368-1 ed. 3,  
UL recognized component, UN ECE R118

## Environment

IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-14,  
IEC 60068-2-27, IEC 60068-2-64, IEC 60068-2-78,  
IEC 60721-3-5 Class 5M3 (Vibration, Shock),  
IEC/EN 60529 IP66/IP67, ISO 20653 IP6K9K

## Cybersecurity

### Documentation

*AXIS OS Hardening Guide*  
*Axis Vulnerability Management Policy*  
*Axis Security Development Model*  
AXIS OS Software Bill of Material (SBOM)  
To download documents, go to [axis.com/support/cybersecurity/resources](https://axis.com/support/cybersecurity/resources)  
To read more about Axis cybersecurity support, go to  
[axis.com/cybersecurity](https://axis.com/cybersecurity)

## General

### Casing

IP66<sup>2</sup>-, IP67<sup>2</sup>-, and IP6K9K<sup>2</sup>-rated  
Aluminum casing  
Color: black NCS S 9000-N

### Power

Max 1.6 W

### Connectors

SMA connector

### Operating conditions

Temperature monitoring: -10 °C to 60 °C (14 °F to  
140 °F)  
Humidity: 10–100% RH (condensing)

1. Based on an ambient temperature of 25 °C (77 °F).  
2. In combination with a cable that has the same IP-rating

## Storage conditions

Temperature: -40 °C to 65 °C (-40 °F to 149 °F)  
Humidity: 5–95% RH (non-condensing)

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## Dimensions

For the overall product dimensions, see the dimension drawing in this datasheet.

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## Weight

47 g (0.1 lb)

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## Box content

Sensor, installation guide

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## Required hardware

AXIS F91 Mk II Main Unit  
AXIS TU6004-E Cable, AXIS TU6005 Plenum Cable, or  
AXIS TU6007-E Cable

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## System tools

AXIS Site Designer, AXIS Device Manager, product selector, accessory selector, lens calculator  
Available at [axis.com](http://axis.com)

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## Languages

English, German, French, Spanish, Italian, Russian, Simplified Chinese, Japanese, Korean, Portuguese, Polish, Traditional Chinese, Dutch, Czech, Swedish, Finnish, Turkish, Thai, Vietnamese

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## Warranty

5-year warranty, see [axis.com/warranty](http://axis.com/warranty)

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## Export control

This product is subject to export control regulations, and you should always comply with all applicable national and international export or re-export control regulations.

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## Part numbers

Available at [axis.com/products/axis-f2180-te-thermal-sensor#part-numbers](http://axis.com/products/axis-f2180-te-thermal-sensor#part-numbers)

## Optional accessories

AXIS TF2001-E Dual Mount Bracket, AXIS TU6002 Right-angle SMA adaptor  
For more accessories, go to [axis.com/products/axis-f2180-te-thermal-sensor#compatible-products](http://axis.com/products/axis-f2180-te-thermal-sensor#compatible-products)

## Sustainability

### Substance control

PVC free, BFR/CFR free in accordance with JEDEC/ECA Standard JS709  
RoHS in accordance with EU RoHS Directive 2011/65/EU and 2015/863, and standard EN IEC 63000:2018  
REACH in accordance with (EC) No 1907/2006. For SCIP UUID, see [echa.europa.eu](http://echa.europa.eu)

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### Materials

Renewable carbon-based plastic content: 30% (carbon capture based)  
Screened for conflict minerals in accordance with OECD guidelines  
To read more about sustainability at Axis, go to [axis.com/about-axis/sustainability](http://axis.com/about-axis/sustainability)

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### Environmental responsibility

[axis.com/environmental-responsibility](http://axis.com/environmental-responsibility)  
Axis Communications is a signatory of the UN Global Compact, read more at [unglobalcompact.org](http://unglobalcompact.org)

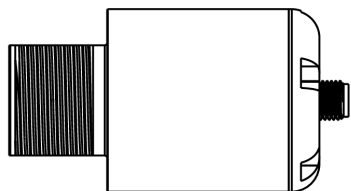
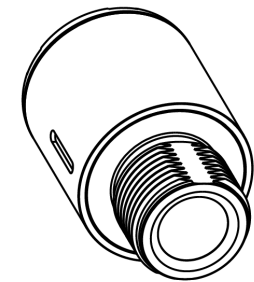
## Detect, Recognize, Identify (DRI)

AXIS F2180-TE (95° HFoV)		
	Definition	Distance
Detect	1.5 pixels	Human: 50 m (160 ft) Vehicle: 140 m (459 ft)
Recognize	6 pixels	Human: 12 m (39 ft) Vehicle: 35 m (110 ft)
Identify	12 pixels	Human: 6 m (20 ft) Vehicle: 19 m (62 ft)

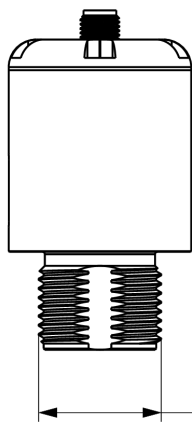
AXIS F2180-TE (57° HFoV)		
	Definition	Distance
Detect	1.5 pixels	Human: 80 m (260 ft) Vehicle: 220 m (722 ft)
Recognize	6 pixels	Human: 20 m (66 ft) Vehicle: 60 m (200 ft)
Identify	12 pixels	Human: 10 m (33 ft) Vehicle: 30 m (98 ft)

We used Johnson's criteria to calculate the theoretical values shown in the table. Human and vehicle sizes were assumed to be 1.8 x 0.5 m and 4.0 x 1.5 m, respectively.

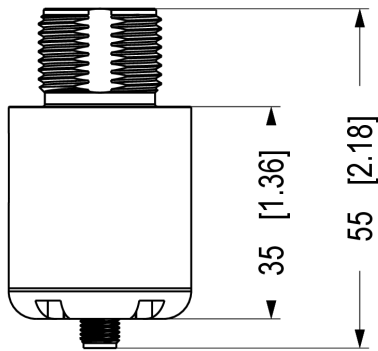
Thoroughly evaluate your scene using, for example, AXIS Site Designer. Consider factors like weather conditions when determining actual detection distances.



$\varnothing 30$  [1.17]

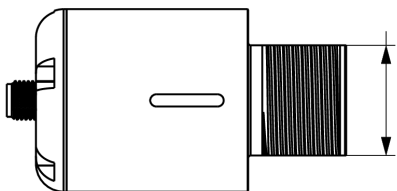


M20 [0.8]

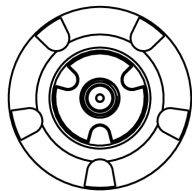


35 [1.36]

55 [2.18]



18 [0.71]



Dimensions in mm [inch]

Date	Version	Scale
2026 Jan-26	M1.3	1:1
Drawing Number	Size	Sheet
3500149	A4	1(1)



# AXIS F2180-TE Thermal Sensor

## Highlighted capabilities

### Thermometry

Thermal cameras detect objects using the infrared radiation (heat) emitted by all objects. Temperature-calibrated thermal cameras, called thermometric cameras, can measure absolute temperatures, while surveillance-optimized thermal cameras show relative temperatures. All types of thermal cameras have excellent object detection capabilities regardless of light conditions – even in total darkness.