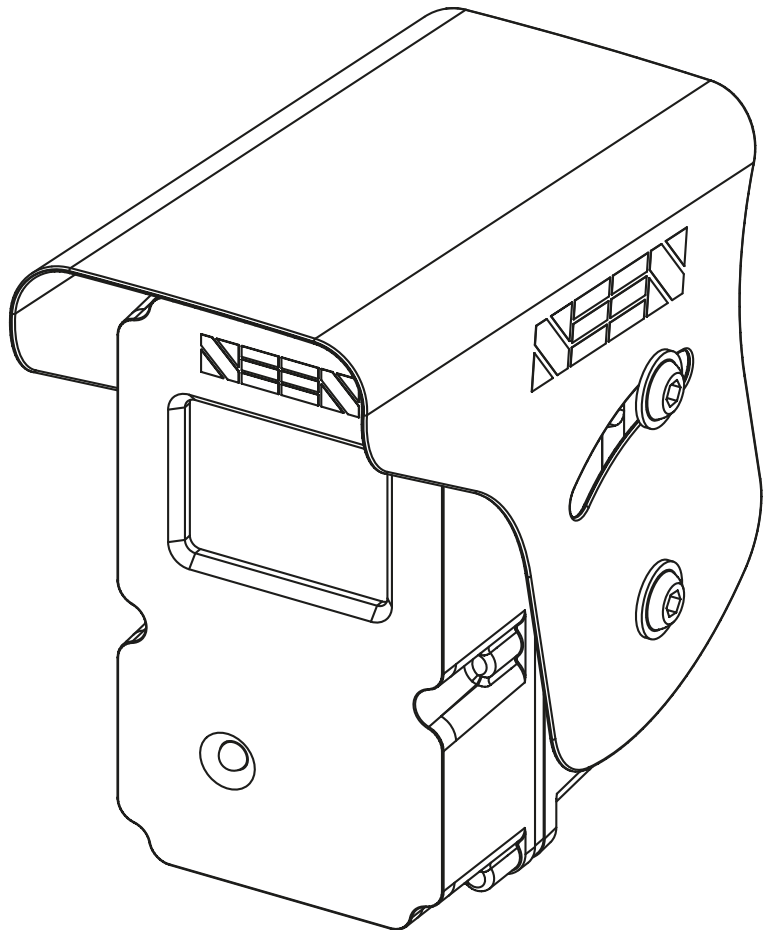




INSTALLATION GUIDE

SEEN IRIS-i camera



This guide is intended for anyone installing SEEN IRIS-i cameras on SEEN IRIS-860 sensors. For information on how to create a SEEN Insight account and activate camera subscriptions, refer to the SEEN Insight User Guide.

Important

Install and test the IRIS 860 sensor before installing the IRIS-i camera.

Maximum 80V DC power supply.

Voltages exceeding 80V may result in damage to the camera and will not be covered by the warranty.

This installation and set-up guide has been prepared with all due care and attention, however, Seen Safety Limited cannot be held responsible for any errors or omissions in this guide or any consequences thereof.

In the box

- IRIS-i camera
- 300mm M12 connector cable
- Weather shield
- Mounting bracket
- Antenna + 600mm cable
- Antenna mounting bracket
- 4 x M6 x 12mm hex head screw
- 2 x M6 x 16mm hex head screw
- 2 x M6 Nylock nut

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Before You Start

- **Fully install and test the IRIS 860 sensor before attaching the IRIS-i camera.**
- Read these instructions in full before starting.
- IRIS-i cameras do not record sound.
- Cameras must be activated in SEEN Insight before they can upload data.

Note. Detection events are recorded and saved in the camera memory even if the IRIS-i is not connected to the network. These detections will be uploaded once the device connects to the network. See page 6.



IRIS 860 sensor and IRIS-i camera

Overview

The IRIS-i camera is designed to be attached to an IRIS 860 sensor. Detection information is automatically uploaded by IRIS-i to the SEEN Insight. insight.seensafety.com

When powered, IRIS-i cameras automatically connect to the mobile data network via an embedded roaming SIM.

IRIS-i cameras upload the following information about each detection event:

- A still image
- The time, date, duration, and closest distance
- Trace path through the detection zone
- Video (for optional upload).



IRIS 860 sensor and IRIS-i camera (back)

Requirements

- 3G / 4G mobile coverage.
- An installed IRIS 860 sensor with firmware 1.54 or higher, or if a cab box is used, an IRIS 860 sensor with firmware 1.60 or higher. The sensor firmware version can be checked in the IRIS 860 Sensor Setup App.
- A SEEN Insight account. This can be created for free at insight.seensafety.com
- SEEN Insight account data credit.

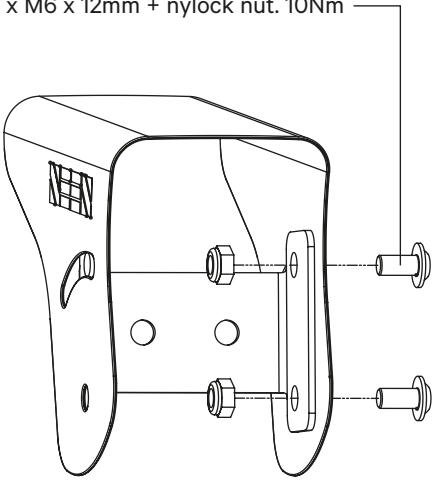
Installation

Fully install and test the IRIS 860 sensor *before* attaching the IRIS-i camera.

The IRIS-i camera can be attached to either side of an IRIS 860 sensor. Configure Step-1 according to which side of the sensor the camera will be mounted on.

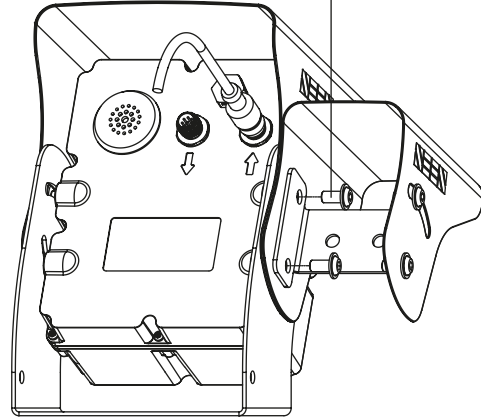
Step 1

2 x M6 x 12mm + nylock nut. 10Nm



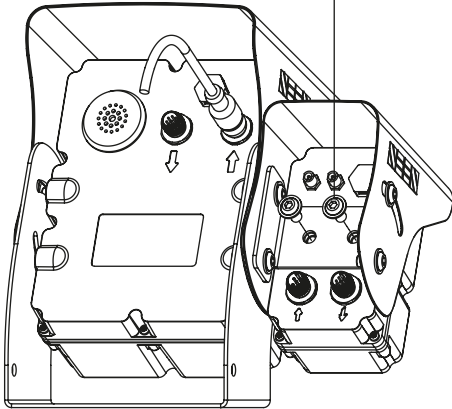
Step 2

Replace the two sensor bracket screws with the 2 M6 x 16mm screws supplied. 10Nm



Step 3

2 x M6 x 12mm. 10Nm
(M12 plug sockets at bottom)

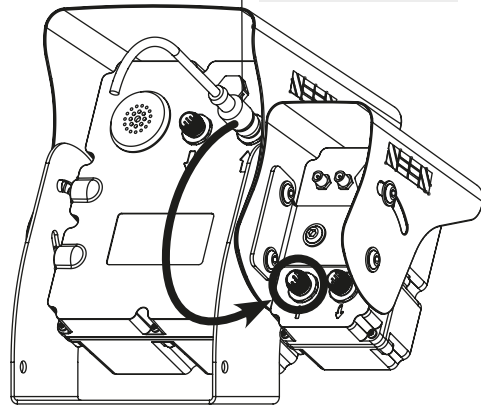


Step 4

Transfer sensor power cable to camera



Finger tight only.
Do not use tools.



Step 5

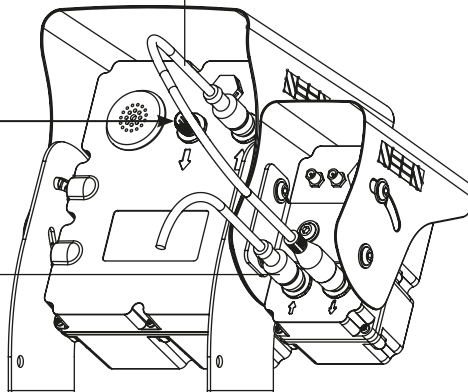
Connect sensor and camera using the 300mm M12 connector cable



Finger tight only.
Do not use tools.

Note the sensor accessory socket is not used to connect the camera, and remains free for other sensor accessories.

Power



Antenna Connection

1. The antenna should be mounted upright with minimal shading from metallic surfaces. (Before attaching the antenna check that the antenna cable is long enough to reach back to the camera.)
2. Connect the antenna cable to the **centre** antenna socket. **Finger tighten only**, do not use tools.

LED Indication

BLUE LED

A solid blue LED indicates that the IRIS-i is powered and is communicating with the IRIS 860 sensor.

GREEN LED

A solid green LED indicates that the IRIS-i is connected to the mobile data network.

FLASHING LED

A flashing LED (either blue or green) indicates that the IRIS-i camera cannot communicate with the IRIS 860 sensor.

Troubleshooting

IRIS-i LED is not blue

- Check the cables are correctly installed (refer to page 4) and the camera is receiving power from the machine.

IRIS-i LED does not turn green

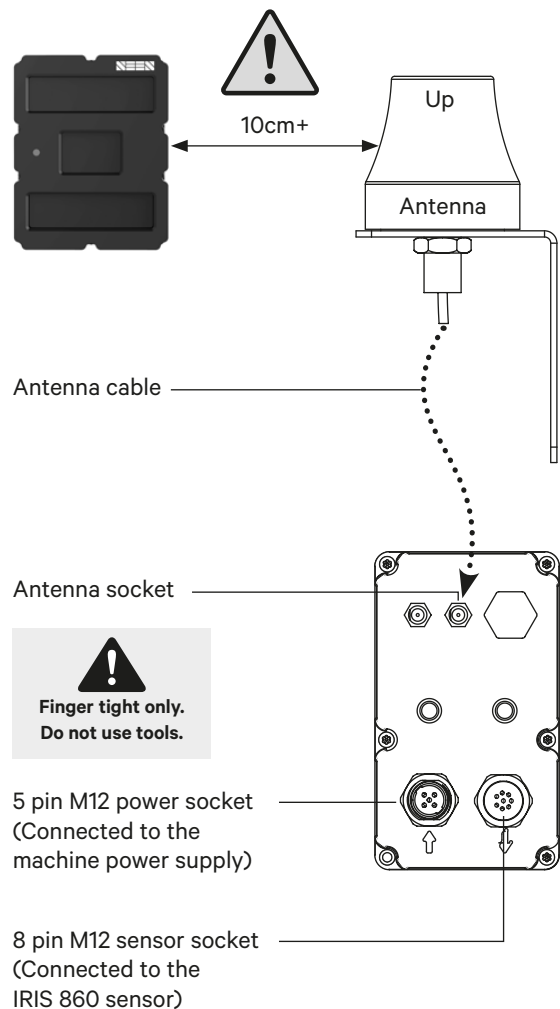
- Even in areas with strong mobile coverage the IRIS-i may take several minutes to first connect to the network. Connection is indicated by a green LED.
- In areas with weak mobile coverage, connection may take up to 15 minutes.
- If the LED does not turn green try moving the machine to an area with stronger mobile coverage.
- Check the antenna cable is correctly fastened.
- Try repositioning the antenna to get a clearer signal.
- Restart the IRIS-i. It must be powered off for more than 10 seconds to fully shut down.

IRIS-860 sensor LED is not green

- Check the sensor is correctly connected to the camera and that the camera is receiving sufficient power.

IMPORTANT

The antenna must be mounted at least 10cm away from the IRIS 860 sensor. **DO NOT** attach the antenna to either the sensor or camera bracket because it may interfere with the sensor operation.



Internal Memory

The IRIS-i camera's internal memory stores detection data until it is uploaded to SEEN Insight, or it is over-written by new data.

Detection event data

Information about each detection event (data and still-image) is automatically uploaded to the SEEN Insight platform when the camera is online. If the network connection is lost, the camera can store up to 1,000 detection event records. These will be uploaded when the camera next connects.

Detection event video clips

The camera can store approximately 12,000¹ past detection event videos before they start to be over-written. Detection event videos that are still in the camera's memory can be download from SEEN Insight on a pay-per-view basis. Once the camera's memory buffer is full, the oldest videos will start to be over-written by new detection event videos. Sound is not recorded.

Rolling video buffer

A 6 hour rolling video buffer is saved to the camera's memory. This video buffer is continuously over-written by new material when the camera is powered on. Sound is not recorded.

Emergency procedure

In the event of an emergency the camera should be removed from the machine and not powered on to ensure data is not over-written or lost. Contact support@seensafety.com

*The exact number will vary depending on the duration of each event.

Maintenance

IRIS-i cameras have no user-serviceable parts. Establish a regular procedure to check for window contamination. The window should be cleaned with clean water and a soft cloth to avoid scratching. Avoid all solvents, degreasers, petroleum or alcohol cleaning products.

The camera is rated IP67.

Do not use high pressure water jets to clean.

1 The exact number will vary depending on the duration of each event.

Warranty

IRIS-i cameras have been designed for reliable long-term use on industrial vehicles in indoor or outdoor applications. The camera is covered by a 1 year repair or replacement warranty on materials and workmanship. The warranty excludes general wear and tear, physical damage caused by direct impact to the camera, over-tightening or misalignment of the M12 connectors, damage to the camera window, damage caused by high-pressure water jets, damage caused by chemical cleaners (including alcohol, benzene, thinners, and degreasers), or damage caused by over-voltage to the power supply. IRIS-i cameras have no user serviceable parts. Opening the enclosure will void the warranty.

Specifications

Input power	DC12-80V. Electrical \approx 2.0A	Standards	FCC Part 15 PTCRB EN 301489 EMC emissions and immunity
Direction signal input	DC 3.5-100V electrical \approx 1mA	Ingress protection	IP67. Protected from dust ingress and water ingress at 1 metre submersion for 30 minutes. Avoid high pressure water jets
Power consumption	24W max with attached sensor plus sensor accessory	Enclosure	ASA injection moulded plastic
Camera field of view	70 degrees horizontal x 55 degrees vertical	Window	Hard coated PMMA with oleophobic and anti-reflective coatings.
Maintenance	Clean with water and a soft clean cloth. Avoid all solvents, degreasers, petroleum or alcohol cleaning products	Operating temperature	-20 to +60 degrees C ambient
Connectors	M12 5-pin (power supply) M12 8-pin (to sensor) Dual SMA antenna connectors (RF connector in centre)	Dimensions	110mm H x 64mm W x 66mm D
Weight	0.26kg		



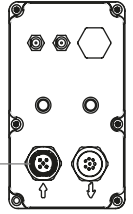
IRIS-i camera label



Example camera serial number
SCN0023A0001234

Power socket (M12 5-pin)

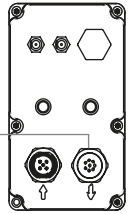
5 pin power socket



Pin	Name	Description	Direction	Max. input voltage	Min. input voltage	Input high voltage	Input low voltage	Output high voltage	Output low voltage	Conditions	Notes
1	Vin +	Supply positive	Input	92v	10.8v	-	-	-	-	-	24W maximum power draw
2	Vin -	Supply negative (ground)	-	-	-	-	-	-	-	-	System / chassis ground
3	System status	High when system operating	Output	-	-	-	-	5.5v max. 4.5v min.	-	2.7K Ohm load to ground	PNP output
4	Detection	High when target detected	Output	-	-	-	-	5.5V max 4.5V min.	-	2.7K Ohm load to ground	PNP output
5	Direction signal in	Input	Input	100v	0v	3.5v min.	1v max.	-	-	-	Input current is less than 1.0 mA

Sensor socket (M12 8-pin)

8 pin sensor socket



Pin	Name	Description	Direction	Max. input voltage	Min. input voltage	Input high voltage	Input low voltage	Output high voltage	Output low voltage	Conditions	Notes
1	Vout +	Supply output to IRIS 860 sensor	Output	-	-	-	-	16v	-	-	Limits IRIS 860 supply voltage to 16V
2	Vout -	Supply negative (ground)	-	-	-	-	-	-	-	-	System / chassis ground
3	Reserved										
4	Reserved										
5	Direction	Direction signal output to sensor	Output	-	-	-	-	16V max 6.8V min.	-	10K ohm load to ground	PNP output
6	Trigger in	Camera trigger input	Input	30V	0V	3.5V min.	0.7V max				High impedance external trigger input for the camera

Product specifications are subject to change without notice to improve reliability, function, design or otherwise.

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IMPORTANT. SEEN IRIS 860 sensors can provide collision warning assistance to the operator but do not replace the need for proper operator training and best practice safe operating procedure. While IRIS 860 sensors can alert the machine operator to a potential collision, the operator is always fully responsible for the safe operation of the equipment. IRIS 860 sensors do not comply with the regulatory standards required for devices which are intended to directly control vehicle or machine safety functions. Using the sensor accessory port to control a vehicle or machine function is entirely at your own risk. Detection can never be guaranteed.

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