



## GAIN REAL-TIME DATA AND **MAKE INFORMED DECISIONS**

Organisations need to continually make informed decisions and gain funding or community support for road infrastructure, traffic and pedestrian management and, increasingly, electric vehicle charging options.

But finding real-time, flexible, cost-effective smart city solutions that address data protection and privacy has been challenging, until now.



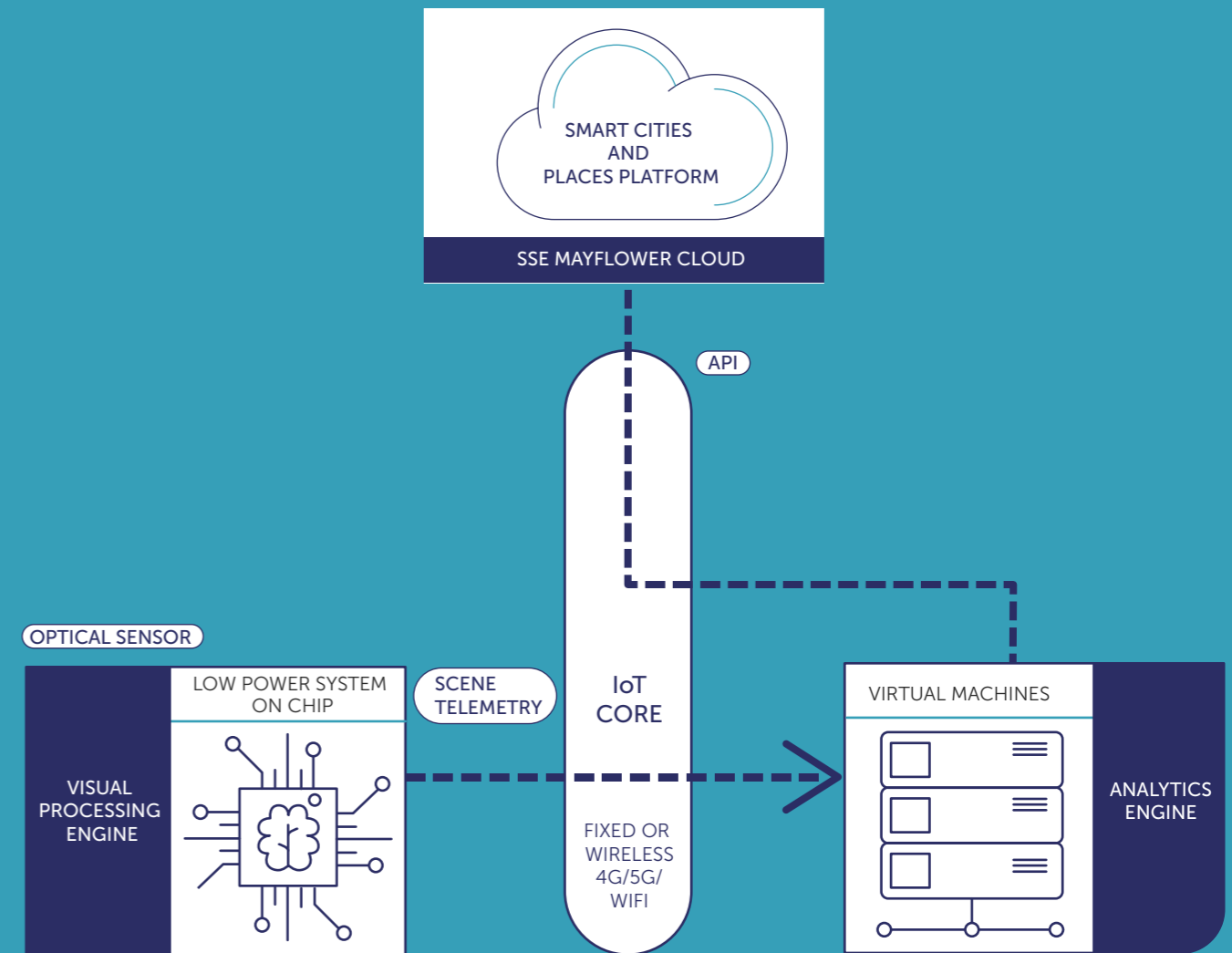
# SENTINEL OPTICAL SENSOR

We've developed a smart city solution in partnership with Intel and AAEON Technology that is truly flexible, lightweight and easy to deploy: Sentinel optical sensor (Sentinel).

Sentinel is designed to work as a standalone device mounted to existing urban assets e.g. lighting columns or buildings. It works by sending anonymised telemetry of traffic in its field of view. The data is aggregated to obtain counts, traffic densities, patterns, and occupancy of urban spaces.

Using cutting-edge AI technologies, data protection and privacy is addressed by using edge processing and only transmitting meta data using MQTT protocols, instead of transmitting pictures or videos.

This data can then be presented standalone through a cloud-based portal or integrated with our Mayflower Insite Smart Cities and Places platform, enabling you to combine, correlate, and compare near-real-time and historical data from a wide array of devices through one single platform view of customisable dashboards.



## CLOUD PLATFORM



### HOW SENTINEL OPTICAL SENSORS WORK

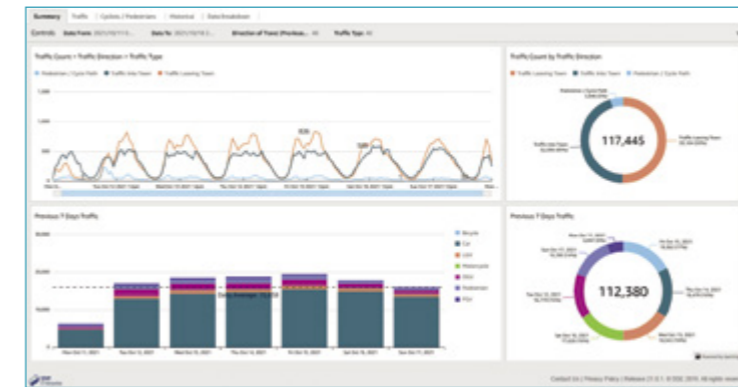
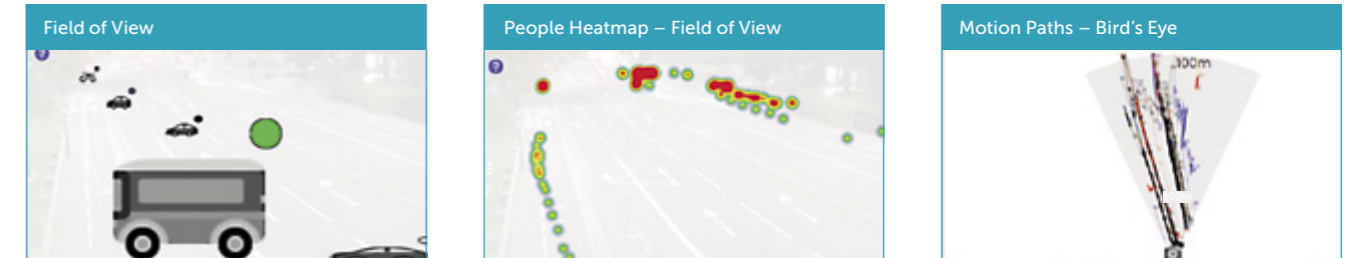
- Sentinel sensors will be installed at critical junctions, shared use, lanes, pavements, pedestrian zones – anywhere you need to monitor movement.
- The Sentinel sensors count and classify objects such as vehicles, bicycles, and people to assess traffic flow, motion paths, vehicle classification, velocity and pedestrian footfall.
- The data captured by Sentinel remains anonymous by using 'edge data' processing.
- A continuous and secure feed of telemetry data is processed near real-time and made available to you via a cloud platform.
- The cloud platform's API enables you to populate bespoke dashboards and operate alerts and triggers for other platforms you may use.
- All of this data can be combined with other sensors you might have within the Mayflower Insite Smart Cities and Places Platform to give a 'one window' view of your data.



## SENTINEL TELEMETRY DATA

Key data points captured by Sentinel include traffic flows and pedestrian 'flow paths'. These paths represent the direction of travel for detected objects. This feature enables you to define flows of interest, for example the number of pedestrians arriving at the high street and entering the library.

Or you might discover otherwise unknown popular routes of travel, for example shortcuts that might be better served with adequate cycle lanes or pavements.



### SENTINEL CAPABILITIES

- ✓ Vehicle and pedestrian type classification
- ✓ Crowd density
- ✓ Pedestrian behaviour analytics
- ✓ Flow path counts, journey times and average speeds
- ✓ Automatic linking of paths across multiple sensors
- ✓ Real-time API
- ✓ Customisable dashboards
- ✓ And many more.

## MAYFLOWER INSITE

We provide smart street lighting controls and services through our Mayflower Insite Central Management System. With almost half a million units across the UK and Ireland, Mayflower is a leading name in the smart lighting market.

Our IoT sensor data capture capabilities include data from other sensors you may have such as; air quality monitoring, water level gully sensors, road surface temperature sensors, mood lighting and weather stations.

Sentinel optical sensor (Sentinel) is our latest technology development and is available now.

## CONTACT US

Get in touch if you'd like to talk about how Sentinel can support you to make informed decisions. See our contact details on page 8.

# DATA SHEET OPTICAL SENSOR



## FEATURES/BENEFITS

- Open Platform
- Intel video accelerators
- Edge computing
- PTZ Camera

## TECHNICAL SPECIFICATIONS

System memory	SO-DIMM LPDDR4 8 GB
Storage	Onboard eMMC 64 GB mSATA via M.2 slot
Operating system	Windows/Linux
Cellular	LTE 4G (CAT4)
Wi-Fi	802.11 b/g/n/ac
Bluetooth	4.2
VPU	2xIntel Movidius Myriad X, MA2485
Power input	Male Connector
M12 Connector	RS-232
M12 Connector	SDI-12
Camera	Mini PTZ 5MP
Rated voltage	80-264VAC

## CERTIFICATIONS

EMC	IEC/EN 55024, IEC/EN 55032
Radio (4G, EMC)	EN 301 489-1-52
Radio (Wi-Fi, EMC)	EN 301 908-1
Radio (4G)t	EN 301 489-1-17
Radio (Wi-Fi)	EN 300 328
Electrical safety	IEC/EN62368-1, IEC 60950-22
FCC	Part15B
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
Enclosure IP	IEC 60529
Enclosure IK	IEC 60068-2-75
Camera	Mini PTZ 5MP
Temperature	IEC 68-2-30
Temperature	EN 61131-21 (94)
Cold/hot start	IEC 68-2-14
Humidity test	IEC 68-2-3
Elxon charge code	

**SUPPLY VOLTAGE**  
80-264VAC

**OPERATING SYSTEM**  
Windows  
Linux

**VIDEO ACCELERATORS**  
Intel Movidius

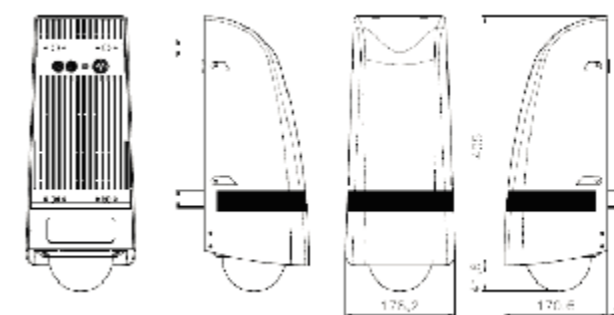
**RF INTERFACE**  
Cellular  
Wi-Fi/BT

**REGULATORY COMPLIANCE**  
UKCA/CE/RED  
RoSH/Reach

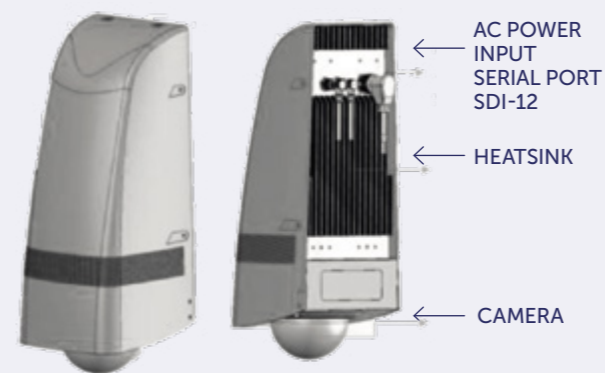
# DATA SHEET OPTICAL SENSOR

## DIMENSIONS

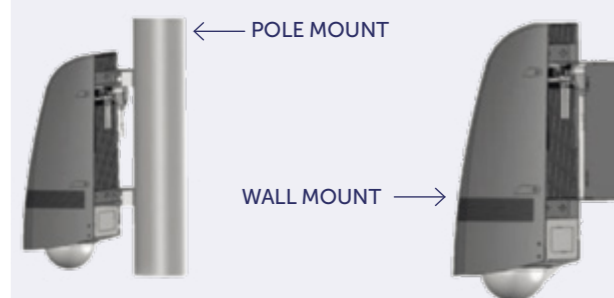
Dimensions	446x178x170mm
Weight-pole mount	3.5 kg
Weight-wall mount	4.5 kg
Mounting options	Wall/Pole



## WIRING

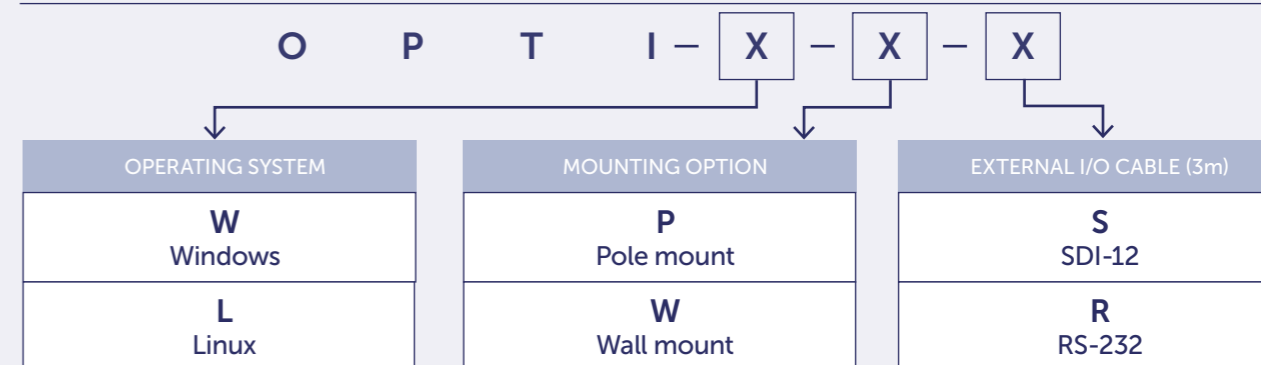


## MOUNTING



## ORDER INFORMATION

Generate your specific part number using the convention shown below. Use only the numbers that correspond to the sensor option required



# SENTINEL OPTICAL SENSOR

An open platform that has edge compute power to run video analytics at the edge device and send meta data to a cloud platform for analytics.

POWERED BY INTEL VIDEO ACCELERATORS AND PTZ CAMERA

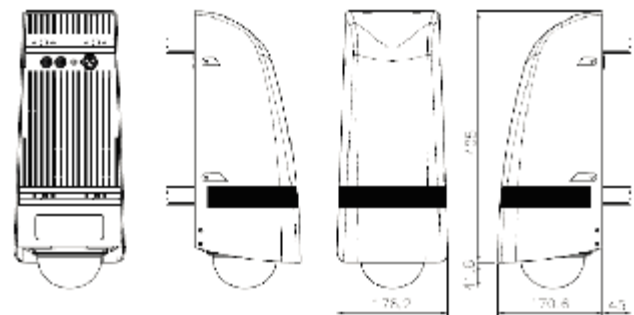


SYSTEM	
Processor	Intel Atom x7-E3950
System Memory	8GB (expandable)
Storage	64GB (expandable)
Operating System	Windows/Linux
Video accelerator	Intel Movidius x 2

WIRELESS CONNECTIVITY	
Cellular	LTE 4G (CAT4)
Wi-Fi	802.11 b/g/n/ac
Bluetooth	4.2

EXTERNAL INPUTS	
Power Input	80-264 VAC
M12 Connector	RS-232
M12 Connector	SDI-12

CAMERA	
Mini PTZ	5MP
Field of View	4:3



DIMENSIONS	
Dimensions	446x178x170mm
Weight-pole mount	3.5 kg
Weight-wall mount	4.5 kg
Mounting options	Wall/Pole

ENVIRONMENTAL	
Operating Temp	-20 to 50°C
Impact	IK08
IP	IP65

To find out more about the Sentinel Optical Sensor, get in touch today 0345 076 7664 || [info@mayflowercontrol.com](mailto:info@mayflowercontrol.com) || [sseenergysolutions.co.uk/mayflower-sentinel](http://sseenergysolutions.co.uk/mayflower-sentinel)

FOR A BETTER WORLD OF ENERGY

Mayflower Complete Lighting Control is a trading name of TESGL Limited and is a part of SSE Group.

SSE Energy Solutions is a trading name of SSE Digital Services Ltd. which is part of the SSE Group. The Registered Office of SSE Digital Services Ltd. is No. 1 Forbury Place, 43 Forbury Road, Reading, United Kingdom, RG1 3JH.

Registered in England & Wales No. 14621186

