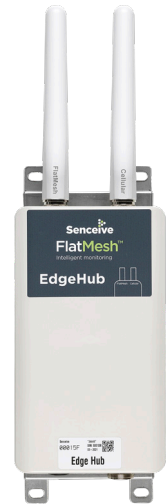




FlatMesh™



Product Data Sheet: FlatMesh EdgeHub

The EdgeHub is a robust IP67 edge computing gateway which enables operation of the FlatMesh 4G camera, and an increasing portfolio of other more complex sensors.

Complete with a 4G modem, a plethora of communications and power interfaces, and an on-board battery with optional PV panel, the unit connects to the closest 2G/3G/4G network out-of-the-box for off-site configuration during or after installation.

Key features

- Integrated Twelve Band **LTE**, Seven Band **UMTS/HSPA+** and Quad Band **GSM/GPRS/EDGE** Modem for worldwide use
- Integrated solar charging circuit connected to internal lithium-ion chargeable battery pack (no external battery pack)
- Designed for low power operation, and to supply the entire system with uninterrupted power and communications due to its on-board battery and either a PV panel or DC supply
- Fully operational, including FlatMesh and cellular radios, for up to 10 days on internal battery
- On-board industrial-grade flash memory card for data buffering and backup
- Incorporates bracket for mounting to pole or wall
- Waterproof connection to solar panel or other DC power supply
- All components waterproof to IP67
- Firmware is remotely upgradeable over the air reducing costly site visits
- Extended temperature battery as standard, allowing below zero charging down to -20°C



FlatMesh EdgeHub

Physical Specifications

Parameter	Value
Dimensions excluding antennas	218 x 68 x 126 mm
Dimensions including antennas	390 x 68 x 126 mm
Total Mass	1.2 kg (approx.)
Housing Material	Die cast aluminium body Polycarbonate lid rated to UL94 V-0 (f1)
Internal Protection Marking	IP66 & IP67
Mounting Options	Combination wall / pole mount bracket included Low profile pole clamp available as an option

Internal Battery (Standard)

Parameter	Value
Battery Type	Lithium Ion Phosphate, rechargeable
Nominal Voltage	14.4 V
Nominal Capacity	2700 mAh
Operating Temperature Range	-20°C to +60°C
Charging Temperature Range	-20°C to +45°C



FlatMesh EdgeHub

FlatMesh Radio Specifications

Parameter	Value
Communication Type	Proprietary FlatMesh v3 Mesh Networking Protocols IEEE 802.15.4 compliant
Frequency Band	2400 – 2485 MHz ISM Band
Maximum Transmit Power	6.72 dBm (with 2 dBi antenna gain) (EN 300 328 v2.2.2)
Maximum Antenna Gain	+ 5 dBi
Range	Up to 300 m depending on the environment Consult with Senceive for your application
RF Module	Senceive FM3Node

Cellular Radio Specifications

Parameter	Value
Frequency Bands for Quad Band GSM	850 / 900 / 1800 / 1900 MHz
Frequency Bands for Seven Bands UMTS (WCDMA/ FDD)	800 / 850 / 900 / 1700 / 2100 (AWS) / 1800 / 1900 and 2100 MHz (bands 1, 2, 4, 5, 8, 9, 19)
Frequency Bands for Twelve Bands FDD-LTE	700 / 800 / 850 / 900 / 1700 / 2100 (AWS) / 1800 / 1900 / 2100 / 2600 MHz (LTE bands 1,2, 3, 4, 5, 7, 8, 12, 18, 19, 20, 28)
Maximum Antenna Gain	Primary antenna - external omnidirectional, +3.5 dBi Diversity antenna - internal microstrip
Supported SIM Cards	Senceive supplied μ SIM
RF Module	Gemalto PLS62-W 2G/3G/4G FCCID QIPPLS62-W



FlatMesh EdgeHub

Power Input

Parameter	Value
Recommended Solar Panel Type	12 V 45 W
Target Voltage for MPPT	15.0 V
Maximum Input Voltage	30.0 V
Input Voltage for Charging	13.0 V – 30.0 V
Maximum Input Current	1.35 A
Maximum Input Power	30.0 W

Mains Power Adaptor (FP-AC40-x)

Parameter	Value
Dimensions	116.3 x 52.4 x 31.3 mm
Operating Temperature Range	0°C to +65°C
Input Voltage Range	90-264 VAC
Input Frequency	47-63 Hz
Input Power	0.1-40 W

Certifications

- CE, FCC, ISED
- Network Rail Acceptance PA05/04146



FlatMesh EdgeHub

Ordering Information and Accessories

Model	Description
FM3H-LTE	FlatMesh 3 LTE/EdgeHub
FP-SP45	45 W Solar Panel Pre-fitted with 2 metres of cable, includes pole mount kit
FP-EHD	EdgeHub Wakeup/Reset Dongle
FP-AC40-UK	40 W Power Adaptor with UK Power Plug
FP-AC40-EU	40 W Power Adaptor with European Power Plug
FP-AC40-US	40 W Power Adaptor with USA / Canada Power Plug
FP-AC40-ANZ	40 W Power Adaptor with Australia / New Zealand Power Plug
FP-AC40-309Y44	40 W Power Adaptor with IEC60309 Yellow Power Plug, IP44 rated
FP-AC40-309B44	40 W Power Adaptor with IEC60309 Blue Power Plug, IP44 rated
FP-SPC	Gateway/EdgeHub Power Connector To suit cable outside diameter 5.5 mm to 8.0 mm
FF-GW-PC	Pole Clamp for Gateway/EdgeHub Bolts directly into gateway enclosure for clamping to a pole
FF-GW-WB	Wall Bracket for EdgeHub Can be screwed directly to a flat surface or attached with straps to a pole or other structure
FC-GA	Gateway/EdgeHub Perspex Cover Clear plastic cover to protect gateway enclosure and antennas from frontal impact, includes masonry anchors
FA-3G-OMNI	Waterproof Omnidirectional antenna for 2G / 3G / 4G For use when the gateway location has poor cellular reception Includes 3 m cable and pole mount bracket