



intercel

go anywhere communication and data transfer

eSAM

Compact and Robust Cat M1 & NB-IoT Router for Industrial M2M and IoT Applications



MONITORING



TECHNOLOGY



COMMUNICATION



DATA



IOT



AUTOMATION



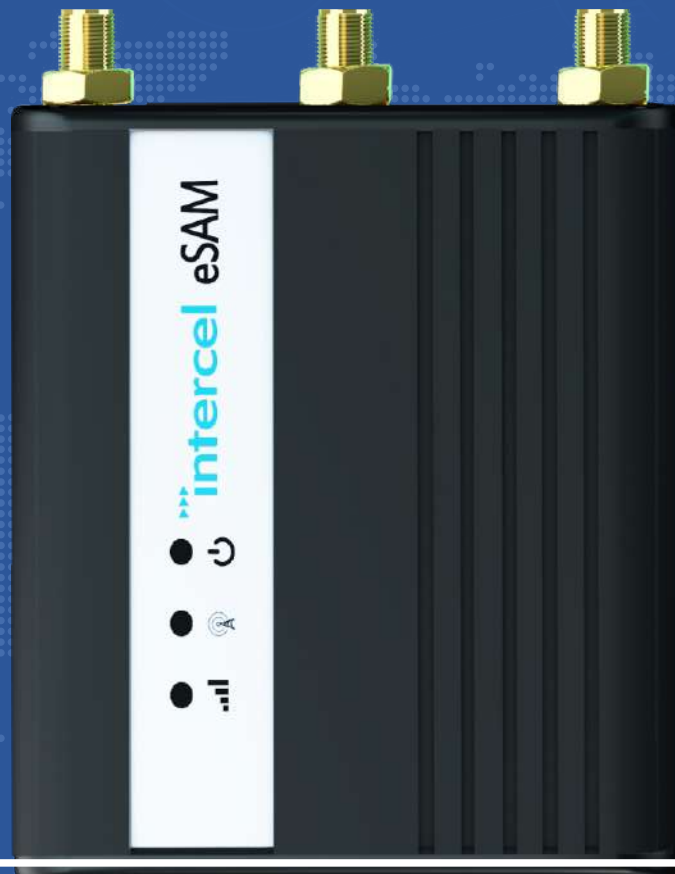
NETWORKING



METERING



CCTV



Overview

eSAM is a compact and robust 4G LTE router for industrial M2M/IoT applications. It has one LAN and one RS232 or RS485 port to provide real-time data connectivity even in harsh environment. eSAM provides a secure, reliable connection to industrial controllers, retail terminals and process automation equipment on third party sites or remote locations. This drop-in connectivity gives operators a way to reduce the cost of downtime and service calls and also increase revenue by bringing distributed sites online faster.

Quick Overview

Features

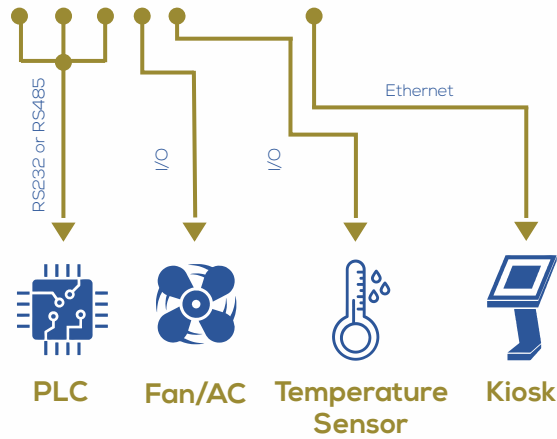
1. Main Antenna
2. GPS Antenna
3. (Div) Antenna
4. Reset
5. SIM Card Tray
6. GPI Port
7. GPO Port
8. RS232 or RS485
9. LAN
10. Power

Applications

-  Digital Signage
-  Security Monitoring Services
-  Smart Grid Assets
-  Building Automation
-  Kiosk
-  PLC
-  ScadaPhone
-  ClearSCADA
-  Traffic Lights
-  Remote Data Loggers
-  Flow Meter and Sensing Equipment



Applications Overview



Features and Benefits

- Powerful cellular connectivity supporting 4G LTE-Cat 4 up to 150 Mbps, 3G up to 42 Mbps
- Industrial designed rugged enclosure with IP30 rating, with Multiple mounting options
- Support SCADA Managed Protocols, Modbus, DNP3, DTU
- Advanced IP Passthrough
- AT commands & SMS over Ethernet
- Option to use LAN to WAN port connection
- Advanced firewall with MAC/IP filtering, Port Mapping, Black, White listing IP
- Embedded watchdog for auto recovery
- Serial and I/O for connecting diverse field assets
- Port Forwarding rules, traffic rules and custom rules
- Static and Dynamic IP allocation, DHCP Client
- Embedded GPS in the Module
- Supports DynDNS, DuckDNS, NoIP, DNS-O-Matic and others
- Supports IPSec, PPTP Server /Client and L2TP Server Client, GRE/IPIP, VPDN tunnelling for establishing secure connections
- OpenVPN with multiple clients with encryption certificates of Intercel OpenVPN Server
- Intercel Remote Management System (IRMS) for remote configuration and troubleshooting of the Intercel devices
- Firmware upgrade and configuration via Web, CLI and Intercel Remote Management System (IRMS)
- Wide range input voltages from 5 to 36 VDC

Model Description

| Model | Peak & Speed | Frequency Band |
|----------|---|--|
| eSAM-4Q | LTE Category 1 10Mbps Download 5Mbps Upload | 4G LTE: B1, B3, B5, B7, B28 3G WCDMA: B1, B5, |
| eSAM-4QX | LTE Category 4 150Mbps Download 50Mbps Upload | 4G LTE: B1, B2, B3, B4, B5, B7, B8, B28, B40 3G WCDMA: B1, B2, B5, B8 2G GSM: B2, B3, B5, B8 |
| eSAM-4S | LTE Category 6 300Mbps Download 50Mbps Upload | 4G LTE: B1, B3, B5, B7, B8, B18, B19, B20, B26, B28A, B28B, B38, B39, B40, B41 3G WCDMA: B1, B3, B5, B6, B8 |

Mounting Option



Holding Bridles

Holding bridles are sold separately



35mm Din-Rail Clip

Package Content

1. eSAM
2. Power Supply
3. GPS Antenna
4. Ethernet Cable
5. 3G/4G Antennas
6. 35mm Din-Rail Clip
7. 5 Way Terminal Block



Technical Specifications

CPU & Storage

- Powerful 580MHz CPU
- 1GB DDR2 SDRAM
- 128Mb flash memory

Ethernet Interface

- 1 x RJ45 LAN (10/100Mbps)
- IEEE Standards

I/O Port

- 1 x Input Interface via terminal block
- 1 x Output Interface via terminal block

LED Indication

- 1 x Input Interface via terminal block
- 1 x Output Interface via terminal block

Antenna Connectors

- 1 x SMA-K connector for GPS
- 2 x SMA-K connectors for 3G/4G

Mounting Options

- 35mm DIN rail mount
- Wall mount with holding bridles
- Desktop

Network & Routing

- Static, policy route
- Port Forwarding
- RIP (V1/v2)/OSPF/BGP route
- Dynamic DNS

Network Protocols

- TCP, UDP, IPv4, IPv6, ICMP, NTP, DNS, HTTP, HTTPS,
- DNP3, MQTT.
- FTP, SMTP, TLS, PPP, PPPoE, SSH, DHCP, Telnet, SMPP, SMNP.

Firewall & Filter

- IP Packet/Domain/Mac Filter
- NAT
- DMZ

VPN

- PPTP Server/Client
- L2TP Server/Client
- GRE/IPIP Tunnel
- OpenVPN
- OpenVPN Encryption

Device Management

- Local or remote web browser HTTP/HTTPS
- CLI/Telnet command line
- MQTT/WMMP based Cloud Platform
- Intercel Remote Management System (IRMS)
- SSH

Intercel Remote Management System (IRMS)

- View Online/Offline status of a device
- Remote terminal management and maintenance
- Check the status of internet data consumed at a specific date
- Device location via GPS
- Debug remotely
- Flow statistics and data analysis

Serial Port

- Support SCADA managed protocols, MODBUS, DTU and DNP3.
- 1 x RS232 interface (Rs485 or RS232 optional made to order only)
- Serial RS232 via terminal block with TX, RX and GND
- 15KV ESD protection

Power Supply & Consumption

- 1 x 4-pin Micro fit connector
- Wide range 5 - 36 VDC input voltage
- Power consumption:
Idle: 50mA@+24VDC
90mA@+12VDC
Communications: 240mA@+12VDC

Physical & Temperature

- Dimensions: 77.4 mm (L) x 64.2 mm (W) x 29.7 mm (D) without antenna connectors
- Operation temperature: -30 ~ +70 C
- Related humidity: <95% (non-condensing)

Warranty & Subscription

- Warranty: One year
- Intercel Remote Management System (IRMS)
- 30 days free subscription.



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