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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.

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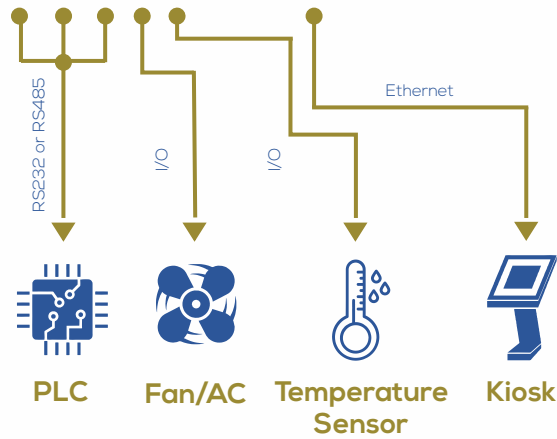
1. Main Antenna
2. GPS Antenna
3. (Div) Antenna
4. Reset
5. SIM Card Tray
6. GPI Port
7. GPO Port
8. RS232 or RS485
9. LAN
10. Power

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

SUPPORT

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Applications Overview

Celluler Tower

Remote PC

TX RX GND GPI GPO

1 2 3 4 5

LAN

DC 5-36V

RS232 or RS485

I/O

I/O

Ethernet

PLC

Fan/AC

Temperature Sensor

Kiosk

SUPPORT

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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

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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