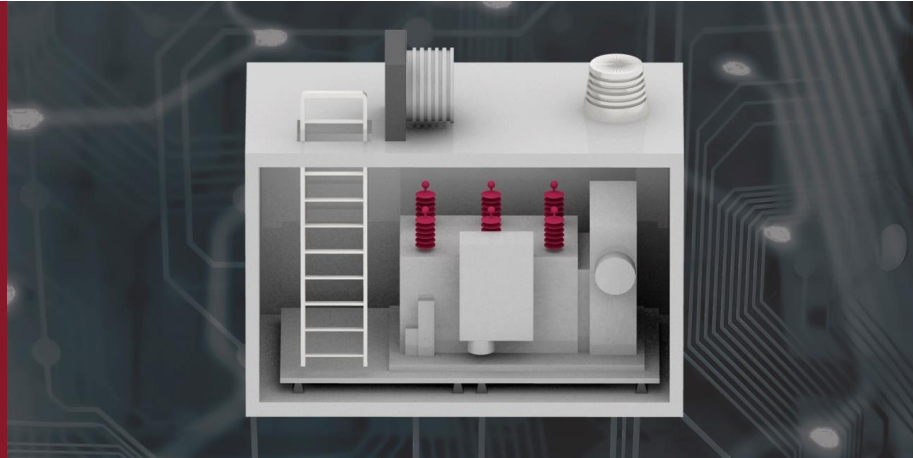




SIP-2

Versatile Router



A router designed to operate as a WAN router & a serial to IP encapsulation device



- ✓ 1 or 2 Fast Ethernet ports
- ✓ 1 or 2 serial ports
- ✓ Cellular 2G, 3G or 4G interface
- ✓ 2 Digital I/O managed via SNMP

Main Key Features

- 2G, 3G & 4G transmission technologies
- Full routing / switching capabilities
- Easy integration of Non-IP serial devices into a secure IP network
- Transport of different serial protocols (IEC 60870-5-101/102/103, DNP3.0, PROCOM, DLMS, etc.)
- 104-101 Gateway

Main applications

- Remote access to local networks or to Ethernet devices
- Serial to IP encapsulation on wired interface
- Serial to IP encapsulation on GPRS network
- Back-up and Alternative Control links
- On-line connection to a surveillance video camera with Ethernet output
- Connections in remote locations (wind farms, etc.)
- Access to IEC 60870-5-104 remotes



Equipment interfaces

- 1 or 2 Fast Ethernet ports type 10/100Base-Tx with RJ-45 connector.
- 1 wireless WAN interface GSM/GPRS (2G), UMTS/HSDPA (3G) or LTE (4G), with 1 or 2 external SIM card slots.
- 1 RS-232 (DB9) or RJ-45 service console (DCE).
- 1 asynchronous serial port (COM) with female RJ-45 connector (DCE) configurable by software for RS-232 or RS-485 interface (2w or 4w).
- 1 additional asynchronous serial port (COM) with female RJ-45 connector (DCE) configurable by software for RS-232 interface.
- 2 digital Inputs/Outputs (female DB9 connector) galvanically isolated, which can be managed via SNMP.

Main facilities

Automatic port speed detection. Static routing information (configured by the user). Dynamic routing information (RIP & OSPF routing protocols). VRRP redundancy protocol. NAT and PAT rules. IPSec tunnels with DMVPN (Dynamic Multipoint VPN) support. NHRP (Next Hop Resolution Protocol). IPIP (IP over IP) and GRE tunnels. VLANs management per port. The Fast Ethernet ports can have different IP addresses. Filtering. Stateful IP firewall. QoS per origin and/or destination IP address. QoS per type of traffic (DSCP or TOS) and service (protocol and port).

Management system

Local and remote management through a console (115200 bit/s) or a built-in web server (HTTP/HTTPS), SSH and Telnet server.

Additional services

- SNMP v1, v2c, v3. NAT, DHCP, NTP/SNTP & TACACS+. TLS 1.2
- 104-101 Gateway.

Technical Information

Mounting	<ul style="list-style-type: none"> ➢ DIN rail mounting or wall mount. ➢ Dimensions: Height: 150 mm; Width: 40 mm; Depth: 177 mm. ➢ Weight: 600 g.
EMI immunity & environment compliance	IEC 61850-3. IEEE 1613 IEC 61000-6-5.

Power supply	<ul style="list-style-type: none"> ➢ 48V_{DC} (19-75V_{DC}) isolated, 12V_{DC} (10.5-15V_{DC}) isolated ➢ 12-24 V_{DC} (10.8-26.4V_{DC}) isolated or Universal (88-300V_{DC}, 88-265V_{AC}). ➢ Max. power consumption at 48V_{DC}: 3.5 W.
Temperature	From -40°C to +70°C, and relative humidity not greater than 95% in accordance with IEC 721-3-3 class 3K5 (climatogram 3K5).
Material	Varnishing (RAL 9006) AL 6060 T5 alloy & Fireproof (UL 94 V0) plastic.
WAN interface characteristics	
GSM/GPRS (2G)	Quad band: 850/900/1800/1900MHz. <ul style="list-style-type: none"> ➢ Class 4 (2W, 33dBm) for GSM 850/900 ➢ Class 1 (1W, 30dBm) for GSM 1800/1900 Quad band GPRS class 10.
UMTS/HSPA (3G)	Quad band GSM/GPRS/EDGE: 850/900/1800/1900MHz. <ul style="list-style-type: none"> ➢ Class 4 (2W, 33dBm) for GSM 850/900 ➢ Class 1 (1W, 30dBm) for GSM 1800/1900 ➢ Class E2 (0.5W, 27dBm) for EDGE 850/900 ➢ Class E2 (0.4W, 26dBm) for EDGE 1800/1900 Quad band GPRS and EDGE class 33. Tri-band UMTS/HSPA: 850/900/2100MHz. <ul style="list-style-type: none"> ➢ Class 3 (0.25W, 24dBm) for UMTS HSPA+ data up to 7.2 Mbit/s (downlink) and 5.76 Mbit/s (uplink).
LTE (4G)	Europe (LE910 EU V2) version LTE: 800/900/1800/2100/2600 MHz. <ul style="list-style-type: none"> • Class 3 (0.2 W, 23dBm) for LTE <ul style="list-style-type: none"> ➢ LTE data up to 150 Mbit/s (downlink) and 50 Mbit/s (uplink). Cat.4. ➢ UMTS/HSPA+: 900/ 2100 MHz. <ul style="list-style-type: none"> • Class 3 (0.25 W, 24dBm) for UMTS ➢ HSPA+ data up to 42 Mbit/s (downlink) and 5.76 Mbit/s (uplink). ➢ GSM/GPRS/EDGE: 900/1800 MHz. <ul style="list-style-type: none"> • Class 4 (2 W, 33 dBm) for GSM 900 • Class 1 (1 W, 30 dBm) for GSM 1800 America (PLS62-W) version <ul style="list-style-type: none"> ➢ LTE: 700/800/850/900/1700-2100 (AWS)/ 1800/1900/2100/2600 MHz. <ul style="list-style-type: none"> • Class 3 (0.2 W, 23dBm) for LTE ➢ LTE data up to 10.2 Mbit/s (downlink) and 5.2 Mbit/s (uplink). Cat.1. ➢ UMTS/HSPA+: 800/850/900/1700-2100 (AWS)/ 1800/1900/2100 MHz. <ul style="list-style-type: none"> • Class 3 (0.25 W, 24dBm) for UMTS ➢ HSPA+ data up to 7.2 Mbit/s (downlink) and 5.76 Mbit/s (uplink). ➢ GSM/GPRS/EDGE: 850/900/1800/1900 MHz. <ul style="list-style-type: none"> • Class 4 (2 W, 33 dBm) for GSM 850/900 • Class 1 (1 W, 30 dBm) for GSM 1800/1900
Encapsulation protocols	<ul style="list-style-type: none"> ➢ IEC 60870-5 101/102/103 (the first two with the variants to support link addresses of 1 or 2 bytes). ➢ DLMS, GESTEL, MODBUS, DNP 3.0, SAP20, PROCOME, Pid1, Twc.

