

SIP-5

Communication node for Secondary Substations



The **SIP-5** is a **node** that can operate as a **WAN router** and as a **serial to IP encapsulation device**

The **SIP-5** supports **2G**, **3G** and **4G** transmission technologies.

The **SIP-5** has full routing/switching capabilities.

The **SIP-5** allows easy integration of non-IP serial devices into a secure IP network.

The **SIP-5** can support different transport serial protocols.

The SIP-5 incorporates a **dual cellular interface**, which makes it possible to increase the availability of the service since it provides access to more than one operator.

The SIP-5 has **serial-to-IP encapsulation** capabilities, which allows to create a point-to-point connection between two serial devices over a TCP/IP network.

The SIP-5 supports the **SNMPv1**, **SNMPv2c** and **SNMPv3** management protocols, as well as other protocols and services such as **NAT**, **DHCP**, **DNS**, **NTP/SNTP**, **TACACS+** and **RADIUS**.

The SIP-5 has **two digital inputs**, galvanically isolated, which can be managed via SNMP.



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 Fast Ethernet port type 10/100Base-Tx (RJ-45 female).
- ✓ 1 wireless 2G, 3G and 4G WAN interface with 2 external slots for Nano Sim (4FF) cards.
- ✓ 1 RS-232 (micro USB) service console.
- ✓ 1 asynchronous serial port (COM), DB9 female (DCE), configurable by software for RS-232 or RS-485 interface.
- ✓ 1 additional asynchronous serial port (COM), DB9 female (DCE), configurable by software for RS-232, RS-485 or RS-422 interface.
- ✓ 2 digital inputs (2x2 contact socket), 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). **RRRP** redundancy protocol. **NAT** 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. Filtering. Stateful IP firewall. Autotest. **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 access via **console** or built-in **web server** (HTTP/HTTPS), **Telnet** and **SSH** connection.

Additional Services

- SNMP v1, v2c and v3 agent.
- DHCP server.
- NTP/SNTP server and client.
- TACACS+ client.
- RADIUS client.
- FTP/FTPs server.
- DNS client.
- DHCP Relay.
- DNS Relay.

Technical Information

WAN interface LATAM version - Cat1

- LTE: FDD 700/850/900/1700/1800/1900/2100/2600 MHz and TDD 2300 MHz.
LTE data up to 10 Mbit/s (downlink) and 5 Mbit/s (uplink). Cat. 1.
- UMTS/HSPA+: 850/900/1700/1900/2100 MHz.
HSPA+ data up to 42 Mbit/s (downlink) and 5.76 Mbit/s (uplink).
- GSM/GPRS/EDGE: 850/900/1800/1900 MHz.

WAN interface Europe version - Cat1

- LTE: 700/800/900/1800/2100/2600 MHz.
LTE data up to 10 Mbit/s (downlink) and 5 Mbit/s (uplink). Cat. 1.
- UMTS/HSPA+: 900/2100 MHz.
HSPA+ data up to 42 Mbit/s (downlink) and 5.76 Mbit/s (uplink).
- GSM/GPRS/EDGE: 900/1800 MHz.

WAN interface LATAM version - Cat4

- LTE: FDD 700/850/900/1700/1800/1900/2100/2600 MHz and TDD 2300 MHz.
LTE data up to 150 Mbit/s (downlink) and 50 Mbit/s (uplink). Cat. 4.
- UMTS/HSPA+: 850/900/1700/1900/2100 MHz.
HSPA+ data up to 42 Mbit/s (downlink) and 5.76 Mbit/s (uplink).
- GSM/GPRS/EDGE: 850/900/1800/1900 MHz.

WAN interface Europe version - Cat4

- LTE: FDD 700/800/900/1800/2100/2600 MHz and TDD 2300/2500/2600 MHz.
LTE data up to 150 Mbit/s (downlink) and 50 Mbit/s (uplink). Cat. 4.
- UMTS/HSPA+: 900/2100 MHz.
HSPA+ data up to 42 Mbit/s (downlink) and 5.76 Mbit/s (uplink).
- GSM/GPRS/EDGE: 900/1800 MHz.

Encapsulation protocols

- ✓ IEC 60870-5 101/102/103. DLMS, GESTEL, MODBUS, DNP 3.0, SAP20, PROCOME, Pid1, Twc

Asynchronous data port characteristics (DCE)

- ✓ Data bits: 5, 6, 7 or 8
- ✓ Stop bits: 1 or 2
- ✓ Parity: odd, even or none
- ✓ Speed: from 600 bit/s to 115200 bit/s
- ✓ Flow control: none, hardware or software
- ✓ Interface: V.24/V.28 ITU-T (EIA RS-232C) or RS-485 (2w or 4w)

Mounting

Carril DIN (EN 50022, BS 5548, DIN 46277-3) or wall mount.
Dimensions: Height: 150 mm; Width: 40 mm; Depth: 177 mm
Weight: 600 g

Power supply

Isolated DC (10.5 - 68 Vdc) or Universal (36-360 Vdc, 60-265 Vac)

Temperature range From -20° C to +70° C

Material Varnishing AL 6060 T5 alloy & Fireproof (UL 94 V0) plastic

EMI immunity & environment compliance

IEC 61850-3
IEC 61000-6-5

