



The Flex Remote Unit is synonymous with versatility for the most varied monitoring and remote control needs. Its multiple interfacing capabilities concentrate SNMP, MODBUS RTU/TCP protocols, as well as analog and digital inputs and outputs (I/O) in a single product, making it the ideal solution for various applications in telemetry and remote control systems.

All this flexibility is combined with operational reliability. An important concept integrated into the equipment is the ability to redundancy the communication and input power to ensure its continuous operation.

The remote unit has an internal GSM 3G or 4G LTE dual-chip modem which, together with the ETHERNET connection, offers the user three remote communication channels, making it possible to configure priorities between them. The equipment also has redundant AC and DC input power operating in parallel, which guarantees no shutdown in case of failure of one of them.

Flex incorporates important functions such as "SCRIPT" for task automation, the "ROUTER" function (IP Tunneling) and the possibility of creating virtual ports with information received through the SNMP protocol from third-party equipment. These functionalities were possible due to the development of the equipment with a powerful ARM Cortex A8 processor and embedded Linux system.

Another advantage provided by the product is its simple configuration and installation. These procedures can be carried out intuitively via HTTP and SSH, via USB or Ethernet connections for local mode, as well as remotely via configured means of communication.

1. FEATURES

SNMP MANAGEMENT

- ✦ Manage, monitor and control any device with the embedded SNMP protocol;
- ✦ Compatible with any SNMP management software.

TCP / IP TUNNELING

- ✦ Function that enables access to the page of other equipment (specific IP) through the remote unit, transforming it into a 3G or 4G LTE router.

SCRIPT / AUTOMATION OF REMOTE CONTROLS

- ✦ Execution of remote commands depending on operating condition and/or occurrence of alarms (automation);
- ✦ Execution of remote controls at scheduled times.

VIRTUAL DOORS

- ✦ Important function to add characteristics and adjustments to information provided by MIB files of other equipment, being able to establish alarm zones, decimal corrections, among others, for each OID.

PROTECTION AND SECURITY

- ✦ Embedded "OpenVPN" client for encryption and compression of transmitted data;
- ✦ Web access control by user and password.

COMMUNICATION REDUNDANCY

- ✦ Dual chip integrated 3G or 4G LTE modem;
- ✦ TCP/IP Ethernet 10/100;
- ✦ Possibility of using both communications (Ethernet + simcard1 + simcard2).

SERIAL PORT

- ✦ Availability of RS-232 serial port for interfacing with other equipment;
- ✦ Possibility of integration with MODBUS protocol and others (upon requests).

GENERAL

- ✦ Remote firmware update;
- ✦ Internal memory for storing logger and data logger information;
- ✦ Low energy consumption;
- ✦ Optional battery module with high autonomy;
- ✦ High RF immunity;
- ✦ Local and Remote configuration via HTTP and SSH;
- ✦ Programming of alarm levels and independent pre-alarm for each door;
- ✦ Local Record of System Alarms.

2. TECHNICAL SPECIFICATIONS

INPUT AND OUTPUT	
Analog Inputs (Metering) / Connector / Impedance	08 (0-24 [Vcc] Adjustable or 4-20 [mA]) / Bornes / > 100[kΩ]
Digital Inputs (Status) / Connector / Impedance	08 (0-24 [Vcc] – selection PULL-UP / DOWN) / Bornes / > 20[kΩ]
Remote Controls (Commands) / Connector / Impedance	08 (CM/NO relays up to 60 [W] per port) / Bornes / < 10[Ω]
COMMUNICATION PORTS	
TCP/IP Ethernet 10/100 Port / Connector	01 / RJ45
Serial Port (Serial e MODBUS) / Connector	01 / DB9
USB Ports / Connector	01 / USB device
PROCESSING, MEMORY AND RESOLUTION	
Processor	CPU 32 bits ARM CORTEX-A8 600 [MHz] – 1200[MIPS]
Memory	256 [MB] DDR2 SDRAM and 512[MB] FLASH memory
Resolution of A/D Converters	12 bits
Remote firmware update	Yes
GENERAL FEATURES	
External Size (W x H x D)	48,26[cm] x 4,45[cm] x 16,00[cm]
Weight [kg]	2,20
Consumption [W]	< 20 [W]
Power Supply	90 to 240 Vca and 12 [V] or - 48[Vcc] and 12[Vcc]
Operating Temperature	0 to 65 [°C]
Maximum Humidity	80% uncondensed
FUNCTIONALITIES OF THE EMBARKED SYSTEM	
✦ Linux Operating System - Kernel 4.4.41	
✦ Embedded OpenVPN Client – 128-Bit SSL Encryption and Compression	
✦ Local and Remote Configuration via HTTP and SSH	
✦ Embedded FTP Client	
✦ Programming of alarm levels and independent pre-alarm for each door	
✦ Local Record of system alarms	
✦ Datalogger with configurable and independent sampling rate	

2.1. MODEM GSM

FLEX-FX-ETH	FLEX-FX-3G	FLEX-FX-4G
NO MODEM	MODEM UMTS / HSPA+ 850/900/1900/2100 [MHz]	MODEM 4G LTE CAT1

3. FRONT AND BACK PANEL

FRONT PANEL

BACK PANEL

