

### Introduction

The Regesta-PRO ER MR router family imports the most advanced protocols from corporate IP networks to Smart Grids. Especially designed to supply multiple connectivity solutions in remote and unattended locations that require a high level of industrial ruggedness due to their characteristics.

It incorporates Teldat advanced internetworking software (CIT), enabling coverage of state-of-the-art security of encrypted communications, management and access control. The combination of advanced networking protocols and management tools make it ideal for mass deployment.

### Product Highlights

- ▶ Multiple WAN (xDSL, 2G/3G/LTE, Ethernet)
- ▶ SCADA (Modbus, IEC-101/102, gateway IEC-104)
- ▶ Multi-range power supply (100-240 VAC & 40-75 VDC)
- ▶ Extended temperature range (-10 to 60°C).
- ▶ According to electrical security & EMC regulations
- ▶ DMVPNs, VLANs and QoS for critical services
- ▶ Dual-SIM (Double module optional) for redundancy

### Interfaces

Up to 2 x 2G/3G/LTE	Yes (Depends on the model)
Up to 6 x Fast-Ethernet 10/100 Mbps	Per license (2, 4 or 6 ports)
Up to 3 x asynchronous serial ports	Yes (RS-232 + RS-485 according to model)
Mechanical reset button	Yes (factory configuration upload)
Up to 1 ADSL2+, RJ11 H port	Yes (According to model)
ON/OFF button	Yes
2 SMA antenna connectors	Yes
2 SIM Trays	Yes

### Regesta-PRO ER MR

### Competitive Advange

Maximum HW & communications reliability	Use of access technologies (2 simultaneous WWAN, ADSL + LTE, ADSL + Ethernet) with backup mechanisms and real time trap and SNMP alarm generation.
Rugged hardware design	Hardware design to be adapted to unattended facilities, with an extended temperature range (-10 to 60 °C), electrical and electromagnetic immunity.
Multi-range power supply	A single item of equipment for deployment on networks with different power supplies.
Corporate networking software	It provides the latest IP network technologies available, providing safe, quality and user-friendly multi-service mass deployment.

# Scenarios

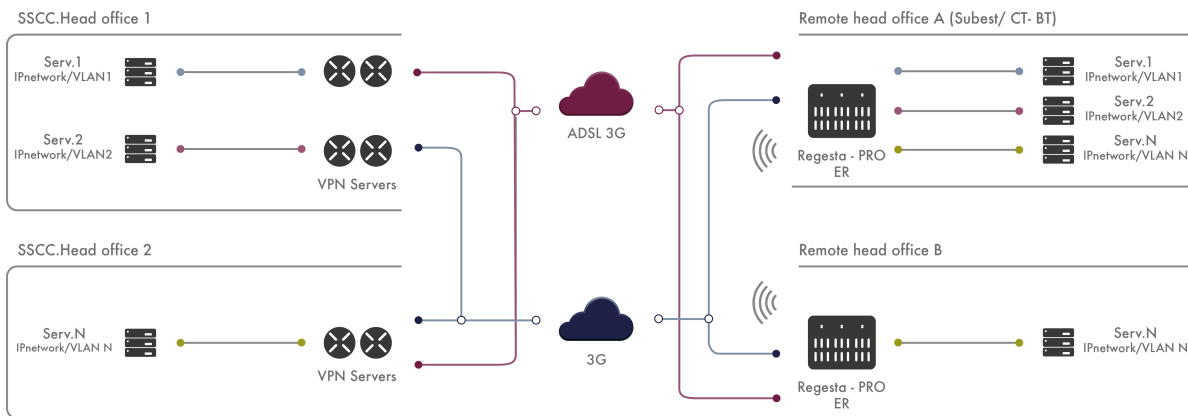


Figure: Figure 1:  
Multi-  
network/multiservice  
backup scenario

## Key Features

**Up to 6 FE 10/100 VLAN, 802.1X duplex ports** Automatically detectable 10/100 Mbps speed. It allows for configurations of 2, 4 or 6 active ports. 2 or 4 port models can be increased to the maximum 6 ports at a later date with a software license.

**Multi-range power supply (100-240VAC and 40VDC-75VDC)** 40V-75 VDC and 110V-220 VAC power supply, both ranges supported by a single model for easy deployment and maintenance.

**2G/3G/4G (backup with Dual-SIM and/or Dual-module)** Up to two 2G/3G/4G embedded interfaces with a double SIM tray for automatic backup of communications. Advanced Teldat system for proactive monitoring and automatic recovery

**Electrical environment security certificates** Certificates to guarantee security and operation of equipment in electrical environments: EMC, Isolation, Immunity, Electrical, Climatic and Mechanical.

**Extended temperature range (-10 to 60°C).** Regesta-PRO ER includes casing with high thermal dissipation capacity, wall mount and DIN track, guaranteeing operation between -10 and 60 °C with up to 95% humidity.

**Security: 802.1X, ACLs, Firewall and DMVPNs (IPSec)** Regesta-PRO ER includes state-of-the-art security systems: ACLs, Firewall, 802.1X, IPSec with hardware coding, DMVPNs, etc. This allows for safe and scalable deployments on easy-to-manage Smart Grid networks.

**Serial ports with SCADA protocol support** It can also be equipped with serial interfaces upon request (up to a total of 3 serial ports) with SCADA protocols, making the equipment extremely versatile for connection to meters, RTUs and other control devices.

**Advanced services (routing, management, QoS)** Regesta-PRO ER includes a software stack with advanced functions required on advanced IP networks like QoS, Policy routing, DMVPN, VLAN and VRF that provide maximum versatility for shared services.

**IEC-101 to IEC-104 Serial-IP and Gateway Encapsulation** Data from serial port can be encapsulated on IP network in transparent manner. The "IEC-101 a IEC-104 gateway" function also allows RTUs based on IEC-101 to be maintained and central management sw to migrate to IEC-104.

**Console port for out of band management** The console port facilitates troubleshooting and installation at remote points of the deployment.

## HARDWARE TECHNICAL FEATURES

### ADSL/VDSL interface (optional, licensable)

ADSL/ADSL2+/VDSL2 compatible on analog lines (RJ11 connector)  
ADSL: Ansi, g.dmt, g.dmt.bis, g.dmt.bis-plus, g.lite. Annexes A, M and L  
VDSL: G.993.2. Profiles: 8a, 8b, 8c, 8d, 12a, 12b, 17a

### Up to 3 Serial Interfaces (DB9 connector)

Asynchronous up to 115200 bps  
RS-232 and RS-485 options  
RTS/CTS and SCADA flow control (Modbus, IEC-101/102, gateway IEC-104)

### Dimensions and Weight

Length x Width x Height: 186 x 203 x 47 mm (without protection)  
Approximate weight: 680 gr.  
Format: DIN track and wall mounting

### Ethernet interfaces

6-port Ethernet switch (RJ45 connector)  
802.3i (10BaseT), 802.3u (100BaseT)  
Duplex support, speed link auto-negotiation IEEE 802.3u, VLAN and 802.1X

### WWAN interface (optional)

Built-in hardware module with EDGE/UMTS/HSPA+ or LTE technology  
2 external antennas with SMA connector  
Internal Dual SIM trays

### Environmental specifications

Temperature: -10 to 60° C  
Relative humidity: 5 to 95%  
Atmospheric pressure: 700 to 1060 mbars

## SOFTWARE TECHNICAL FEATURES

### ADSL/VDSL compatibility and functions

Multiplexed VC and LLC with IP, PPPoE, PPPoA, Bridge, MLPPP support  
UBR, UBR+, VBR-nrt, VBR-rt, CBR with traffic shaping  
Up to 31 PVCs and OAM support

### IP protocol (2)

Multicast: IGMP (v1,v2, v3), PIM-SM, MSDP, MLD, MLDv2  
IPSLA service probes (delay, package loss, jitter)  
High availability: VRRP, TVRP (HSRP compatible)

### Security (2)

Certificates: CSR, SCEP, X.509v3, PKIX, LDAP revocation  
Static and dynamic access lists and Stateful Firewall  
Detection of DoS and DDoS attacks

### Service quality

Classification, marking, BW management, BW prioritisation and limitation  
Up to 32 types 16 queues per interface  
Strict policies (PQ), Low latency (LLQ), according weight/types (WFQ, CBWFQ)

### Management

CLI configuration and storage in a plain text file  
Assignment of user and user profile licenses  
RADIUS and TACACS+ AAA support

### IP protocol

ARP, ARP Proxy, MTU discovery, NAT, ECMP, BFD  
RIP, OSPF, BGP, Policy based static and dynamic routing  
Virtual Router Forwarding (Multi-VRF)

### Security

IPSec support in transport and tunnel mode  
Pre-shared authentication, RSA, Certificates, MDS, SHA-1  
Encrypted: DES (56 bits), 3DES (168 bits), AES (128, 192 and 256 bits)

### IP services

DHCP, DNS, FTP, SFTP, SSH, Telnet server and client  
NTP, LDAP, Syslog, SCP client. TFTP server  
DHCP, dynDNS relay

### Specific WWAN functions

Automatic hand-over (passive and active probe-based detection)  
Advanced link monitoring (package, latency, jitter error)  
Dual SIM associated with the hand-over mechanism

### Management (2)

Netflow, RMON V5 and V9, SNMPv1, v2c and v3, Syslog support  
Manageable via SMS  
Remote Wireshark compatible traffic collection

## ADDITIONAL TECHNICAL FEATURES

### LEDs

Type RS232  
Default speed 9600 bps, maximum speed 115200 bps  
2 status/speed LEDs per Ethernet port

### Certifications (I)

Immunity (I): EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5  
EN 61000-4-6, EN 61000-4-8, EN 61000-4-10, EN 61000-4-12, EN 61000-4-13  
Immunity (II): EN 61000-4-18 Electrical: EN 61000-4-11 and EN 61000-4-29

### Certifications (I)

2 wireless status/coverage LEDs  
1 System LED (configurable)  
Isolation (EN 60255-5) for electrical resistance and impulses

### DB-9 connector with proprietary pinouts (including adapter)

Climatic: EN 60068-2-78, EN 60068-2-2, EN 60068-2-1, EN 60068-2-14  
Mechanical: EN 60870-2-2, EN 60068-2-6 EN 60068-2-27

# FLEXIBLE

## COMMUNICATIONS SOLUTIONS

### THAT GROW WITH YOU.

## Advanced Smart Grid Regesta-PRO ER MR Router

Industrial range router for remote communications in Smart Grid deployments



**Teldat is a leading provider in Enterprise Communications equipment and Services for the top corporate to mid-sized and SME markets.**

### About TELDAT



**ROUTERS | Wi-Fi | MANAGEMENT | TRANSPORT | SMART GRID | INDUSTRIAL | VoIP | CLOUD | SECURITY | NFV |**

Teldat Group is a leading technology holding that designs, manufactures and distributes advanced Internetworking platforms for corporate environments, providing new and cutting-edge communication solutions without ever losing sight of its customers real requirements. Teldat's solutions development is based on proprietary technology, which is in the Group's DNA. This allows Teldat to be a leading provider in Enterprise Communications equipment and Services for the top corporate to midsized markets, as well as the SME and SoHo markets.

From a geographical viewpoint, Teldat Group has a presence in all continents, with its corporate headquarters located in Spain, and operational affiliates in Europe (Germany, Austria, Portugal, Italy and France) and in LATAM (Mexico and Brazil), as well as two business development offices in USA and China.



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