

Introduction

The Regesta Smart PRO router family brings today's most advanced corporate IP network protocols to the world of smart grids. These routers have been specially designed to provide a range of connectivity solutions in remote and unattended locations where the characteristics of the site demand a high level of industrial-grade ruggedness.

It takes full advantage of Teldat's advanced internetworking software (CIT) to provide the latest in communications security with encryption, authentication management and access control. The combination of advanced networking protocols and management tools make it deal for large-scale deployments.

Product Highlights

- ▶ Multiple WAN (SFP, 2G/3G/LTE, Ethernet)
- ▶ SCADA (Modbus, IEC-101/102, IEC-104 gateway)
- ▶ Multiple power supply options (DC, AC, Multirange)
- ▶ Complies with electrical security & EMC regulation
- ▶ DMVPNs, VLANs and QoS for critical services
- ▶ Dual-SIM redundancy
- ▶ Compatible with Teldat SDWAN solution

Interfaces

Regesta Smart PRO

One 2G/3G/LTE module	Yes
Up to 6 x 10/100/1000 Mbps Giga Ethernet	Yes (2 or 6 ports option)
Up to 3 x asynchronous serial ports	Yes (RS-232 + RS-485 depending on model)
Mechanical reset button	Yes (return to factory default)
SFP interface	Yes (Combo RJ45 / SFP)
LEDs	Power, SFP, SIM, serial, etc.
2 x SMA antenna connectors	Yes
2 x SIM Trays	Yes

Competitive Advantage

Reliable communications and hardware	Multiple access technologies employed (WWAN, SFP + LTE, SFP+Ethernet) with real-time backup mechanisms, SNMP trap notifications and alerts.
Rugged hardware design	Adaptable hardware design for unattended installations, with extended temperature range (-25 to 70 °C) and electrical/electromagnetic immunity.
Multiple power supply options	The best option for each scenario: DC (12-72 VDC), AC (110-240 VAC) and Multi-Range (48-72 VDC, 100-240 VAC) for networks with diverse power supplies
Corporate networking software	The latest IP network technologies for smart grid communications bringing security, quality and ease of use to large-scale multi-service deployments.

Scenarios

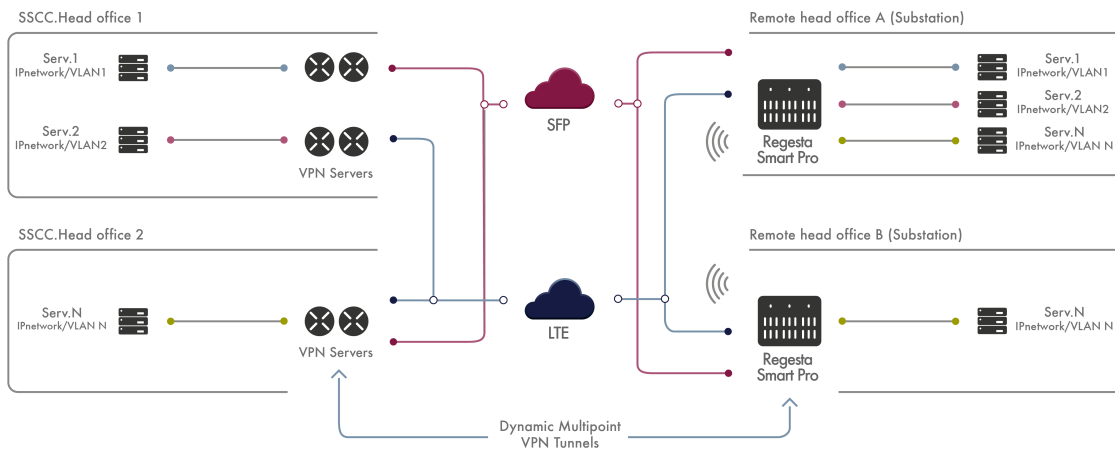


Figure: Multi-network/multiservice backup scenario

Key Features

Up to 6 10/100/1000 GE ports with VLAN, 802.1X, duplex Regesta Smart Pro routers feature dual Gigabit ethernet ports, one of them acting as a combo for a WAN interface. Models with an additional 4 ports Gigabit Ethernet switch are also available.

Multiple power supply options (DC, AC and MR) Three power supply options: DC (12-72 VDC), AC (110-240 VAC) and multirange power supply (48-72 VDC, 100-240 VAC) where both ranges are supported in a single model for easy deployment and maintenance.

2G/3G/4G (dual-SIM) Embedded 2G/3G/4G interface with a dual SIM card tray for automatic backups. Advanced Teldat system for proactive monitoring and automatic recovery from WWAN incidents.

Certified for use in electrical environments The routers are certified for use in electrical environments with EMC, isolation, immunity, electrical, climatic and mechanical certificates.

Extended temperature range (-25 to 70 °C) The Regesta Smart PRO housing is designed for optimal heat dissipation, can be mounted on a DIN rail or wall, and guarantees operation between -25 and 70 °C with up to 93% humidity.

Security: 802.1X, ACLs, firewall and DMVPNs (IPSec) The Regesta Smart PRO includes state-of-art security, including ACLs, firewall, 802.1X, IPSec with hardware encryption, DMVPNs, etc., thus allowing for safe and scalable deployments in easy-to-manage smart grid networks.

Serial ports with SCADA protocol support

It is able to incorporate serial interfaces (up to a total of 3 serial ports) with SCADA protocols, thus providing the versatility to connect to industrial meters, RTUs and other control devices.

Advanced services (routing, management, QoS) The Regesta Smart PRO includes a software stack with advanced functions requires by advanced IP networks, such as QoS, policy routing, DMVPNs, VLANs and VRF, providing maximum versatility for shared services.

IEC-101 to IEC-104 serial-IP and gateway encapsulation Data from the serial port can be transparently encapsulated with IP. The "IEC-101 to IEC-104 gateway" function also allows IEC-101 TRUs to be maintained and central management software to migrate to IEC-104.

Out-of-band management console port The console port facilitates troubleshooting and installation at remote points.

HARDWARE TECHNICAL FEATURES

SFP interface (optional)

Multimode SFP (LC connector)
Single mode SFP (LC connector)
Simplex SFP (LC connector)

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, IEC-104 gateway)

Dimensions and weight

L x W x H: 140 x 192 x 80 mm
Approximate weight: TBD
Format: DIN track and wall mounting

Ethernet interfaces

Up to 6 ports Ethernet switch (RJ45 connector)
802.3i (10 BaseT), 802.3u (100 BaseT), 802.3ab (1000 BaseT)
Supports duplex, IEEE 802.3u link speed auto-negotiation, VLAN and 802.1X

WWAN interface (optional)

Built-in hardware module with LTE technology
2 x external antennas with SMA connector
Dual SIM trays (internal)

Environmental specifications

Temperature: -25 to 70° C
Relative humidity: 5 to 93%
Atmospheric pressure: TBD

SOFTWARE TECHNICAL FEATURES

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
DES (56 bits), 3DES (168 bits), AES (128, 192 and 256 bits), IKEv1, IKEv2

IP services

Telnet, DHCP, DNS, FTP, SFTP and SSH 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 (packet, 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 and Zero Touch Provisioning with Cloud Net Manager
Wireshark-compatible remote traffic capture

IP protocol (2)

Multicast: IGMP (v1,v2, v3), PIM-SM, MSDP, MLD, MLDv2
IPSLA service probes (delay, packet 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
DoS and DDoS attack detection

Service quality

Classification, marking, bandwidth
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+ compatible AAA support

ADDITIONAL TECHNICAL FEATURES

LEDs

1 Power, 1 Switch, 2 LAN/WAN
2 wireless status/coverage, 1 SIM
1 SFP, 2 serial

Certifications (II)

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)

Isolation (EN 60255-5) for electrical resistance and impulses
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.

Regesta Smart PRO Router

Industrial-range router for remote smart-grid communications



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

About TELDAT



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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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