INDUSTRIAL GATEWAYS
VPN ROUTERS
SERIAL DEVICE SERVERS

100% Made & Designed in Italy



SENECA New Standard for Industrial Communication

SENECA

www.seneca.it

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EXTEND YOUR ETHERNET / SERIAL NETWORK

The new SENECA **router / gateway** family includes **industrial** devices designed to expand communication networks and allows the transfer of process data between the different levels of IT and industrial communication architectures. **Z-KEY** (bridge, gateway, serial device server) ensures the transmission of signals between ModBUS RTU / TCP-IP protocol in different ways, increasing the number of connectable nodes and the distances. The device can also extend the serial network working as Remote Virtual COM with transparent communication protocol.

Z-PASS1 and **Z-PASS2** are multifunction devices (bridge, gateway, router, serial device server). They hold up to a maximum of 32 client for "Remote Control – Single LAN" and "Remote Assistance Point-To-Point" connection with **VPN Box** module box and without any expensive fixed IP SIM cards. In addition, **Z-PASS2** also works as VPN / Tunnel communicator, 3G+ / Ethernet router and redundant communication system, as well as IEC 61131 embedded logic controller in Straton version **Z-PASS2-S**.



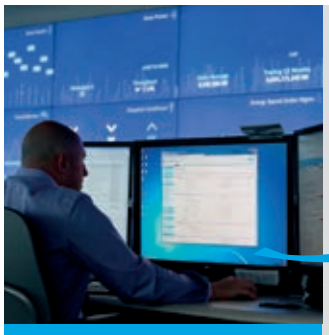
SENECA GATEWAY / ROUTER FUNCTION MODES

	FUNCTION MODES	FEATURES / CONNECTION	Z-KEY	Z-PASS1	Z-PASS2	Z-PASS2-S
1	ModBUS Bridge	Management up to 8 (Z-KEY) / 32 (Z-PASS) client TCP-IP	x	x	x	*
2	ModBUS Gateway "shared"	Management up to 8 (Z-KEY) / 32 (Z-PASS) client TCP-IP	x	x	x	*
3	ModBUS Gateway with ModBUS RTU Slave ports	1 / 2 Master ports and 1 / 2 Slave ports Communication interface between RS485 (Modbus RTU) and Ethernet (Modbus TCP-IP)	x	x	x	*
4	Modbus request optimization	Multiple requests management on serial line	-	x	x	*
5	Remote / Virtual COM Port	Transparent to serial communication protocols Physical network extension between PC and devices	x	x	x	
6	Tunnel Point to Point TCP/UDP	Transparent communication to the protocol on IP network (i.e. signals repetition with PLC/Master Modbus coupling, cable replacement physical network extension)		x	x	*
7	Tunnel Point to Multipoint UDP	Serial network extension by LAN/3G+ and P2MP / UDP tunnel (i.e. cable replacement, LAN/3G+ extension)		x	x	*
8	3G / Ethernet industrial Router	(3G+, HSUPA) / Ethernet Remote Management Secure communication by VPN Transparent to IP comunication protocols			x	x
9	Modem 3G / 3G +	Modem UMTS, HSDPA, EDGE, GPRS, GSM			x	x
10	Network Redundancy	Critical applications			x	*
11	Open VPN Standard (Client)	Security / Network crytography Unnecessary IP fixed SIM card or open ports Mandatory Server OpenVPN standard		x	x	x
12	VPN / Remote Control Single LAN (local IP accessi)	Simultaneous access on different sites Unnecessary SIM card with fixed IP or open ports All nodes connected to the same LAN with different IP addresses Mandatory VPN Box		x	x	x
13	VPN / Remote Assistance Point to Point (local IP address)	Point-To-Point connection, also with the same addresses Unnecessary IP fixed SIM card or open ports One site per time connection, mandatory VPN Box		x	x	x
14	PLC IEC 61131	Control Logic				x

(*) TCP-IP serial port programmable with embedded StratON PLC, ModBUS TCP-IP/RTU, IEC 60870, IEC 61850, custom protocols

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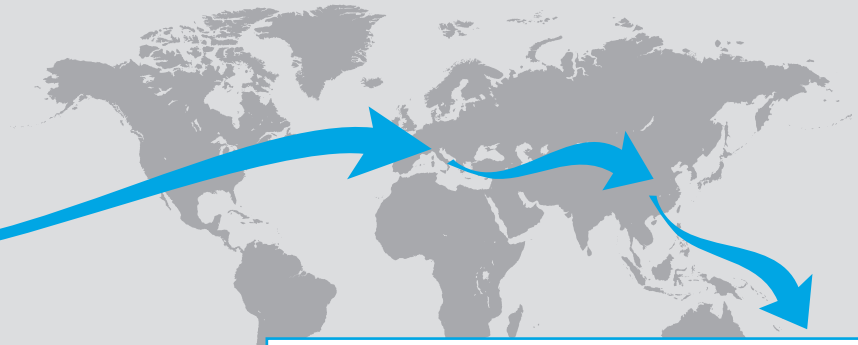
REMOTE MANAGEMENT, MAINTENANCE AND DIAGNOSTICS



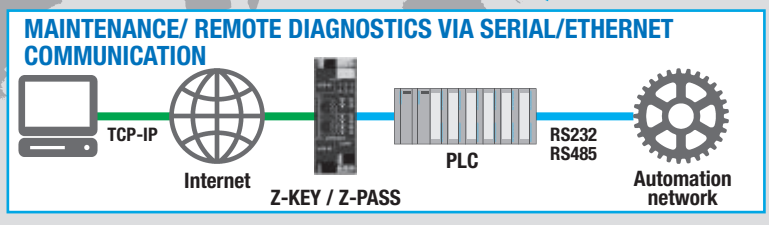
FROM EVERYWHERE...

Possibility to modify and develop new software, debug, firmware update

...



Plants always reachable as they were on your desktop



- **Maintenance always on**
- **Data always available**
- **No technician required on site**
- **Reliability**
- **Savings**

APPLICATION AREAS

BUILDING AUTOMATION



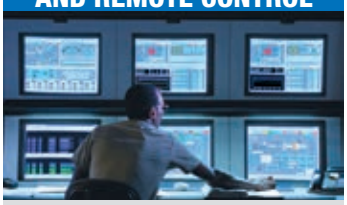
- Datalogging, telemetry and alarm management
- HVAC system control
- Energy efficiency system control
- Infrastructure monitoring

ENVIRONMENT/ WATER TREATMENT



- Water and environmental parameters monitoring via Ethernet, WLAN
- Data and alarms transmission

REMOTE MAINTENANCE AND REMOTE CONTROL



- Water and environmental parameters monitoring via Ethernet, WLAN
- Data and alarms transmission

INTEGRATION WITH IT SYSTEMS



- Remote access to enterprise networks
- Secure mobile access
- Modem , VPN and tunnel support
- Certificate-based authentication

TRAFFIC AND TRANSPORT



- Environmental parameters measurement in order to manage the road network
- Infrastructure and road network traffic monitoring (Tunnels, Traffic lights, underpasses crossroads)
- Parking lots and train stations video surveillance

ENERGY



- Loads and high voltage switches remote control
- Measurement and monitoring of transfomer substations
- Reading of remote consumptions and remote meters
- Monitoring and networking of small energy production's plants

VIDEO SURVEILLANCE & SECURITY



- Transferring pictures and video from IP security cameras
- Video surveillance systems monitoring
- Secure connections with video surveillance systems

OIL & GAS

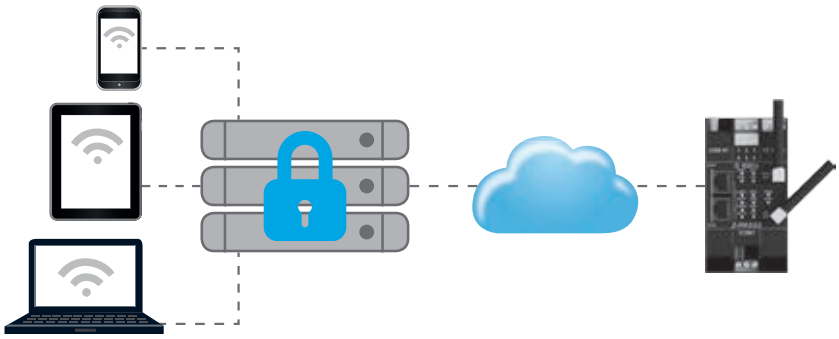


- Routing and redundancy of communication for applications in critical plants
- Information synchronization of mining and manufacturing plants
- Platforms, pipelines and tanks monitoring

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VPN & TUNNELLING

VPN (Virtual Private Network) is a technology to create secure connections between two or more remote nodes (PC, devices, networks etc.) exploiting a public and shared transmission system (i.e. Internet).
VPN Tunnelling is a geographical extension of a Private Network which connects distributed nodes on a Wide Area through a virtual tunnel (secure and encrypted) supported by Internet.



VPN BOX

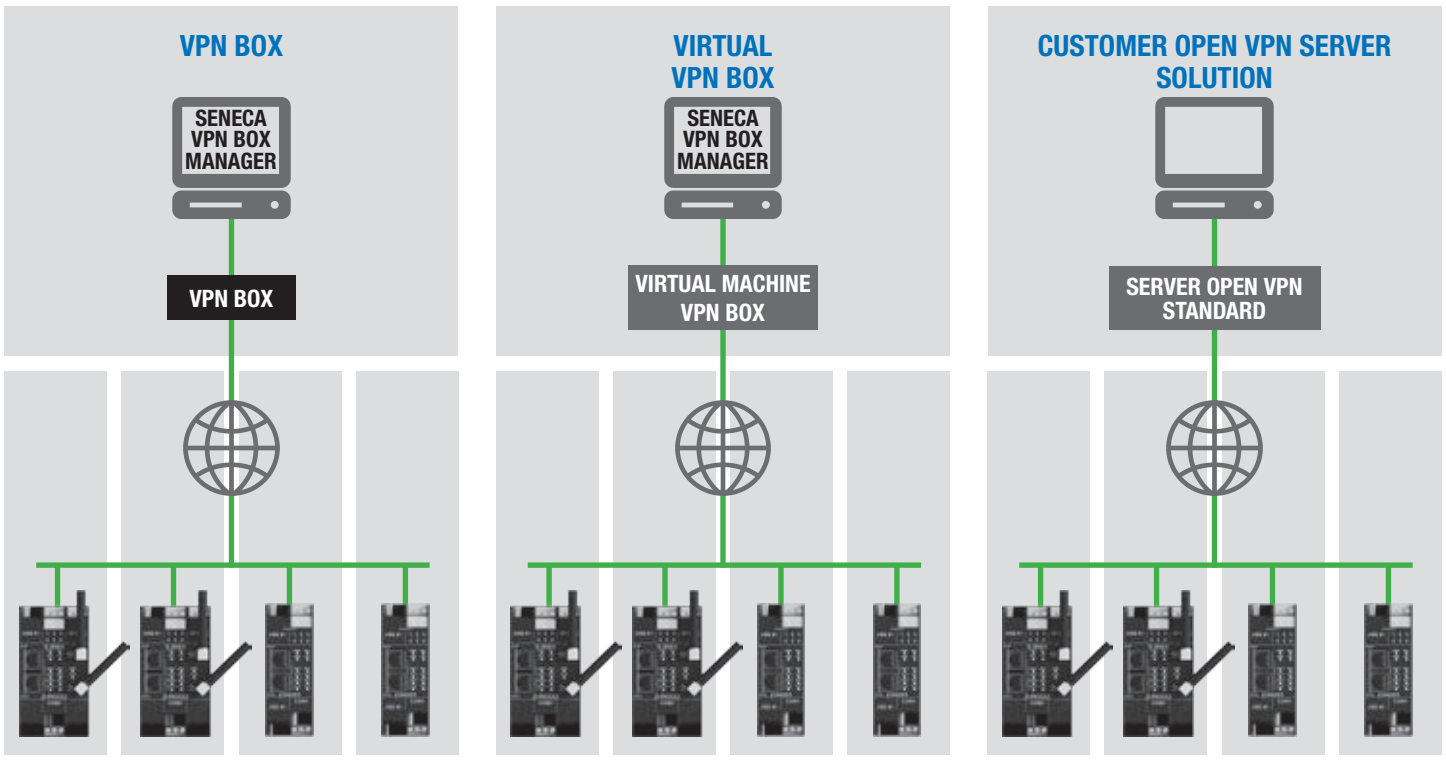
Server Connectivity Module for remote control & remote assistance



FEATURES

- Max 496 supported devices (Point-To-Point)
- Installable Server on customer network with static IP or DynDNS
- Automated and centralized configuration
- Configuration savable and restorable on file
- Remote access management: Point-to-Point remote assistance, Single LAN Remote Control
- Remote access Security via SSL / VPN
- Available as Device / Appliance HW or Software / Virtual Machine

VPN CONFIGURATIONS



Plug&Play solution guaranteed, optimized and supported in all of the functionality

Guaranteed and supported solution on client side. User needs to install and setup Seneca VPN appliance on his own or third part server.

Client VPN (Z-PASS1/2) has to be installed. Telecontrol and Remote Assistance not supported

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VPN BOX APPLICATIONS

SINGLE LAN – REMOTE CONTROL

HIGHLIGHTS

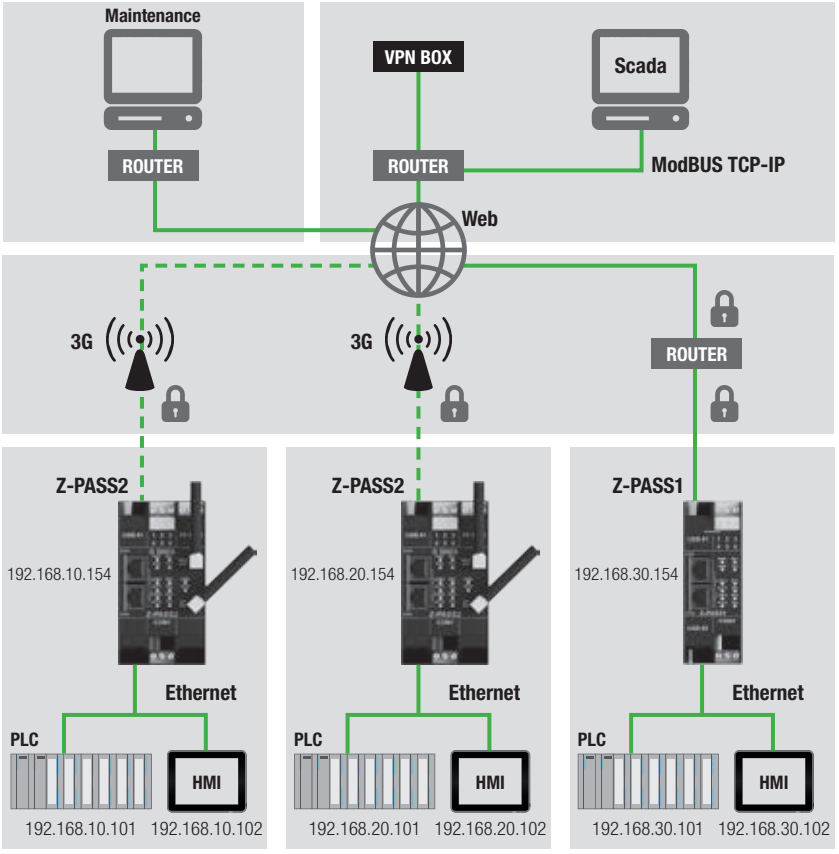
- Different Networks connection through VPN (Single LAN)
- Alway-on connections
- Transparent nodes to all VPN users
- Access to remote subnetworks (connected to Z-PASS) through local IP
- Installations on different subnetworks (i.e. 192.168.30.x, 192.168.40.x…)
- Real time alarm monitoring on Scada

ADVANTAGES

- Direct call device as if you were in a local plant
- Remote and simultaneous monitoring on different plants
- Multiprotocol network integration
- Application working for all kind of SIM Cards

SENECA SOLUTION

Z-PASS1, Z-PASS2, VPN BOX



POINT-TO-POINT– REMOTE ASSISTANCE

HIGHLIGHTS

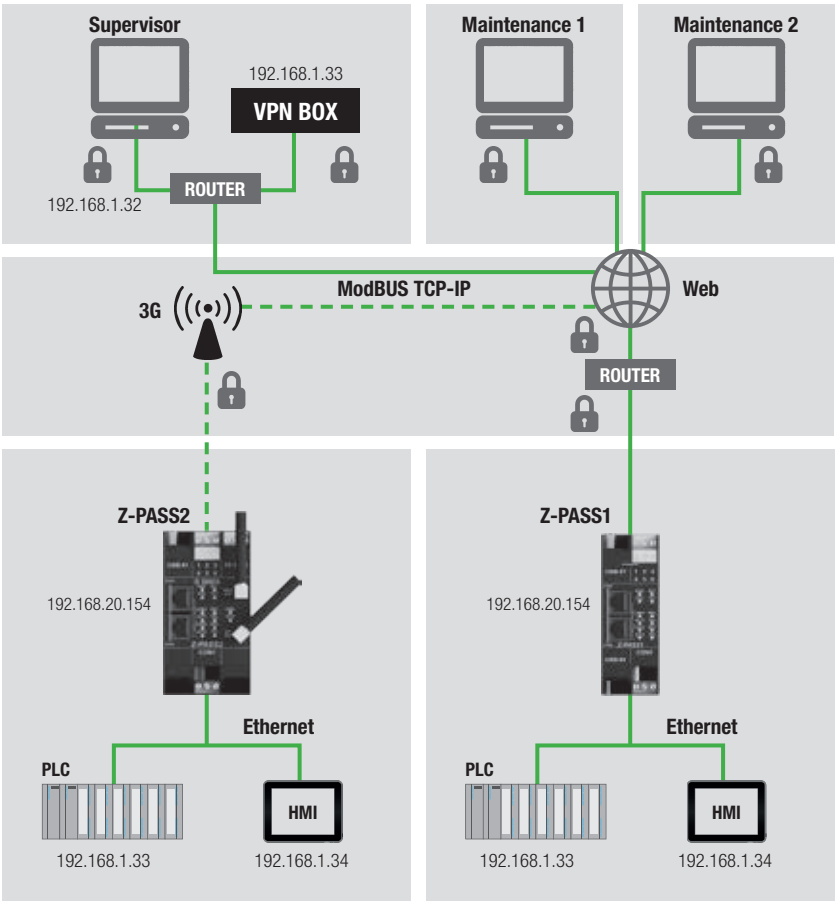
- Point-to-Point connection, PC-device / machine
- On-demand connection
- Multi-User management
- Access to remote subnetworks (connected to Z-PASS) through local IP
- Nodes on equal subnetworks (i.e. 192.168.20.x)
- Alarm monitoring kit based on I/O module connected at Z-PASS

ADVANTAGES

- Reduction logistics and maintenance costs
- Remote control of machines
- Fast remote maintenance
- Personnel safety assured
- Application working for all kind of SIM Cards

SENECA SOLUTION

Z-PASS1, Z-PASS2, VPN BOX



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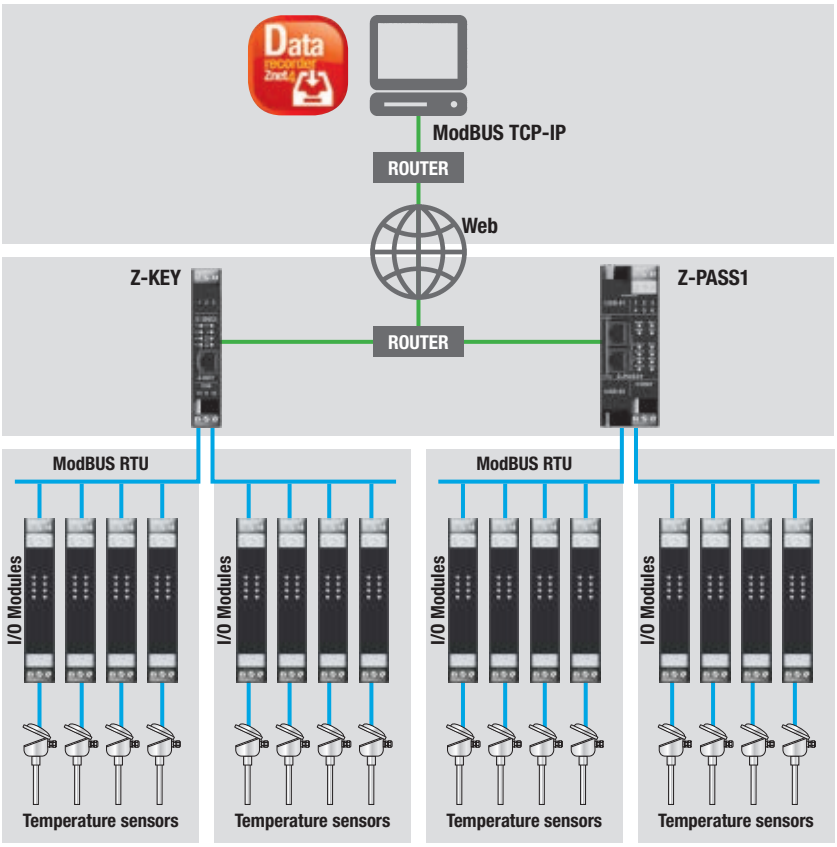
NETWORKING APPLICATIONS

MODBUS BRIDGE / DATA ACQUISITION

HIGHLIGHTS
- Typical applications: protocol conversion, data acquisition with DATA RECORDER software
- Configuration by Web Server also remotely
- Max 8 / 32 simultaneous clients

ADVANTAGES
- Measurement acquisition with DATA RECORDER software
- Functional testing & automated report
- Oven / HVAC independent control
- Dimension inspection and material quality engineering

SENECA SOLUTION
Z-KEY
Z-PASS1
Z-PASS2 (*)

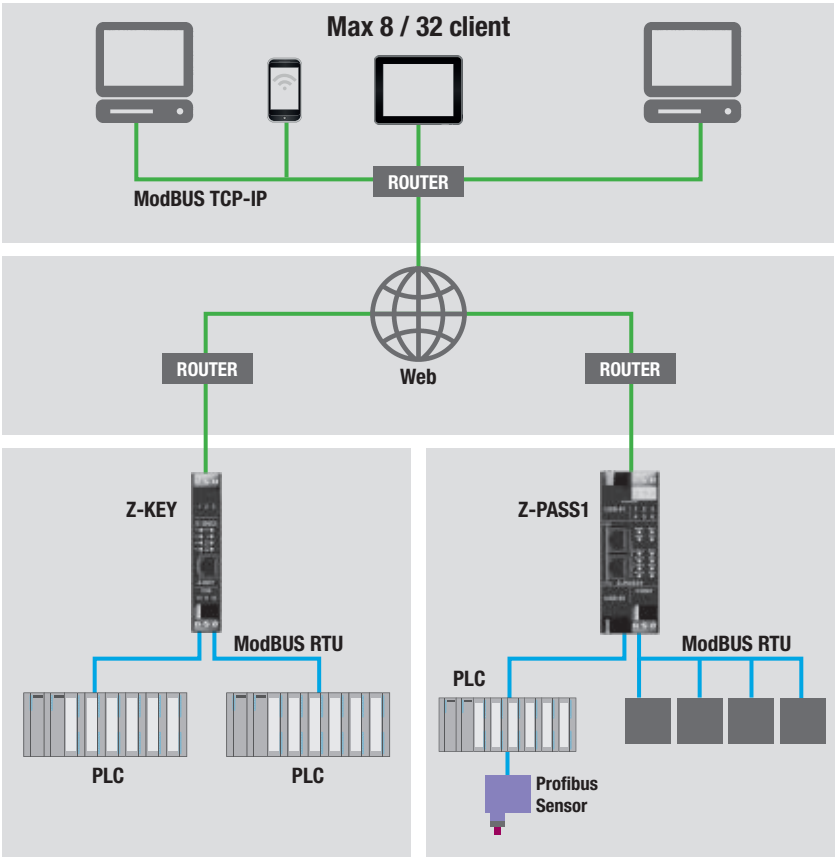


GATEWAY WITH MODBUS RTU SLAVE PORT

HIGHLIGHTS
- Typical applications: remote access via Ethenet at ModBUS RTU Master PLC without Ethernet port
- Confguration by Web Server also remotely
- Max 8 / 32 simultaneous clients
- Tag configuration through Web Server, Macro Excel
- Fail-safe mode configuration

ADVANTAGES
- Increasing devices connectivity
- Revamping and performance optimization of existing infrastructures
- Exploiting existing IP infrastructure

SENECA SOLUTION
Z-KEY
Z-PASS1
Z-PASS2 (*)



(*) SIM with Dynamic or Fixed IP, Private or Public

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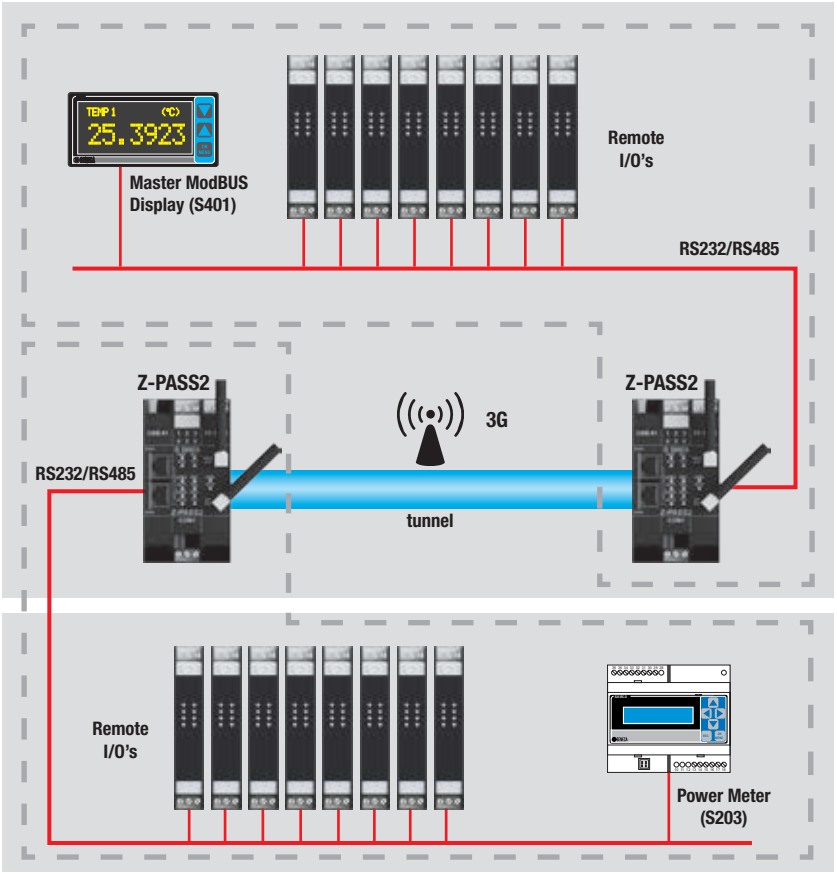
NETWORKING APPLICATIONS

SERIAL TUNNEL POINT-TO-POINT

HIGHLIGHTS
- P2P UDP / TCP tunnel transparent to serial protocol on IP network
- Serial communication extension between 2 devices through LAN/3G
- Web Server configuration
- Fixes IP SIM card / Private APN

ADVANTAGES
- Signal repetition with PLC Master coupling, cable replacement
- Measurement parameters monitoring
- Real-time cost analysis
- Integration with I/O modules, energy meters, ModBUS devices

SENECA SOLUTION
Z-PASS1/2

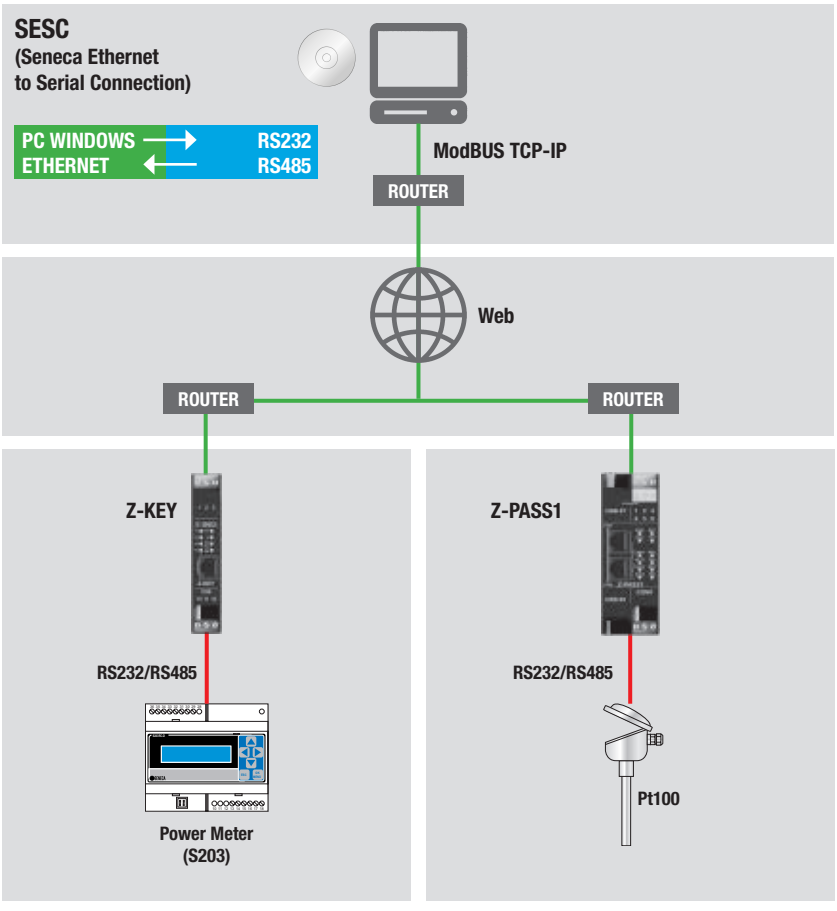


SERIAL DEVICE SERVER – VIRTUAL COM

HIGHLIGHTS
- Appliance software and/or device not supporting TCP-IP
- Remote configuration by Web Server
- Transparency to serial communication protocol
- SENECA driver availability

ADVANTAGES
Reachability serial devices by Internet LAN

SENECA SOLUTION
Z-KEY
Z-PASS1
Z-PASS2 (*)



(*) SIM with Dynamic or Fixed IP, Private or Public

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INDUSTRIAL GATEWAYS - VPN ROUTERS - SERIAL DEVICE SERVERS

TECHNICAL DATA

	Z-KEY	Z-PASS1	Z-PASS2	Z-PASS2-S
				 straton
	Industrial Gateway / Serial Device Server	VPN Industrial Gateway - Serial Device Server	VPN Industrial Gateway - Serial Device Server - 3G/Ethernet Router	Straton Control Unit with VPN gateway and 3G/Ethernet router
GENERAL DATA				
Power Supply	11..40 Vdc; 19..28 Vac	11..40 Vdc; 19..28 Vac	11..40 Vdc; 19..28 Vac	11..40 Vdc; 19..28 Vac
Max Consumption	2 W @ 24 Vac (typical)	4 W @ 24Vac (typical), Max 6 W	4 W @ 24Vac (typical), Max 6 W	4 W @ 24Vac (typical), Max 6 W
Isolation	1,5 kVac	1500 Vac	1500 Vac	1500 Vac
LED status indicators	Power Supply; Rx-Tx serial communication; Ethernet link and traffic; Micro SD on	Power Supply; Rx-Tx serial communication Ethernet link and traffic	Power Supply; Rx-Tx serial communication Ethernet link and traffic; Modem status	Power Supply; Rx-Tx serial communication Ethernet link and traffic; Modem status; PLC working
Pollution Degree	2	2	2	2
Protection Degree	IP20	IP20	IP20	IP20
Operating Temperature	-20 °C..+50 °C	-20 °C..+55 °C	-20 °C..+55 °C	-20 °C..+55 °C
Dimension (wxhxd)	17,5 x 100 x 112 mm	100 x 35 x 112 mm	100 x 52,5 x 112 mm	100 x 52,5 x 112 mm
Case	PA6 black plastic glass reinforced	PA6 black plastic glass reinforced	PA6 black plastic glass reinforced	PA6 black plastic glass reinforced
Weight	170 g	340 g	450 g	450 g
Connection	Removable screw terminals 3 ways, step 5 mm	Removable screw terminals 3 ways, step 5 mm	Removable screw terminals 3 ways, step 5 mm	Removable screw terminals 3 ways, step 5 mm
Mounting	35 mm DIN rail guide IEC EN 60715	35 mm DIN rail guide IEC EN 60715	35 mm DIN rail guide IEC EN 60715	35 mm DIN rail guide IEC EN 60715
COMMUNICATION				
Ethernet ports	Nr 1 Fast Ethernet 10/100 Tx port, RJ45 front connector (up to 8 TCP-IP clients)	Nr 2 Fast Ethernet 10/100 Tx port, RJ45 front connector	Nr 2 Fast Ethernet 10/100 Tx port, RJ45 front connector	Nr 2 Fast Ethernet 10/100 Tx port, RJ45 front connector
Serial ports	Nr. 1 RS232/RS485 switchable port, max baud rate 115k on connector Nr. 1 RS485 port, baud rate max 115k on IDC connector	Nr. 1 RS232/RS485 switchable port, max baud rate 115k on connector Nr. 1 RS485 port, baud rate max 115k on IDC connector Nr. 1 RS485 port, max baud rate 115k on terminals	Nr. 1 RS232/RS485 switchable port, max baud rate 115k on connector Nr. 1 RS485 port, baud rate max 115k on IDC connector Nr. 1 RS485 port, max baud rate 115k on terminals	Nr. 1 RS232/RS485 switchable port, max baud rate 115k on connector Nr. 1 RS485 port, baud rate max 115k on IDC connector Nr. 1 RS485 port, max baud rate 115k on terminals
USB ports	Nr 1 microUSB port on side connector	Nr. 1 USB host port on side connector Nr. 1 USB otg port on microUSB side connector	Nr. 1 USB host port on side connector Nr. 1 USB otg port on microUSB side connector	Nr. 1 USB host port on side connector Nr. 1 USB otg port on microUSB side connector
Modem / Router	-	-	UMTS, HSDPA (dual band) ; EDGE, GPRS, GSM (quad band)	UMTS, HSDPA (dual band) ; EDGE, GPRS, GSM (quad band)
Supported protocols	ModBUS TCP-IP, ModBUS RTU	ModBUS TCP-IP, ModBUS RTU	ModBUS TCP-IP, ModBUS RTU	ModBUS TCP-IP, ModBUS RTU PPP, HTTP, FTP, SMTP, IEC 60870-101/104, IEC 61850, OPEN VPN
Function Modes	ModBUS Bridge, ModBUS Gateway, Virtual COM	ModBUS Bridge, ModBUS Gateway, Virtual COM, Serial Tunnelling, VPN, Remote Control - Single LAN, Remote Assistance - Point-To-Point	ModBUS Bridge, ModBUS Gateway, Virtual COM, Serial Tunnelling, 3G/Ethernet router/ modem HSDPA, HSUPA, VPN, Remote Control - Single LAN, Remote Assistance - Point-To-Point	ModBUS Bridge, ModBUS Gateway*, Serial Tunnelling*, 3G/Ethernet router/modem HSDPA, HSUPA*, VPN, Remote Control - Single LAN, Remote Assistance - Point-To-Point (*programmable functions)
CPU / MEMORY				
Processor	ARM 32 bit @ 120 MHz	ARM 32 bit @ 400 MHz	ARM 32 bit @ 400 MHz	ARM 32 bit @ 400 MHz
Flash Memory (data)		1 GB	1 GB	1 GB
RAM		64 MB	64 MB	64 MB / 64 kB
Micro SD card	Up to 32 GB	Up to 32 GB	Up to 32 GB	Up to 32 GB
SETTINGS				
Embedded Web Server	Yes	Yes	Yes	Yes
Firmware update	Locally via Micro SD Remotely by Web Server, Server FTP	Locally by USB pendrive Remotely by web page	Locally by USB pendrive Remotely by web page	Locally by USB pendrive Remotely by web page
Configuration tools	SDD (Seneca Discovery Device), SESC (Seneca Ethernet to Serial Connection), Template Excel, EASY Z-KEY	SENECA VPN BOX Manager, SDD (Seneca Discovery Device), SESC (Seneca Ethernet to Serial Connection), Template Excel	SENECA VPN BOX Manager, SDD (Seneca Discovery Device), SESC (Seneca Ethernet to Serial Connection), Template Excel	SENECA VPN BOX Manager, SDD (Seneca Discovery Device), SESC (Seneca Ethernet to Serial Connection), StratON, Z-NET4
NORMS				
Certification Marks	CE	CE	CE	CE
Norme	EN 61000-6-4, EN 61000-6-2, EN 61010-1	EN 61000-6-4, EN 61000-6-2, EN 61010-1	EN 61000-6-4, EN 61000-6-2, EN 61010-1, EN60950, EN301 511, EN301 489-1, EN301489-7	EN 61000-6-4, EN 61000-6-2, EN 61010-1, EN60950, EN301 511, EN301 489-1, EN301489-7

ORDER CODES

Code	Description
GATEWAYS / ROUTERS / SERIAL DEVICE SERVERS	
Z-KEY-0	Industrial Gateway - Serial Device Server
Z-PASS1-0	VPN Industrial Gateway - Serial Device Server
Z-PASS2-A	VPN Industrial Gateway - Serial Device Server - 3G/Ethenet Router with RS485 serial interfaces
Z-PASS2-B	VPN Industrial Gateway - Serial Device Server - 3G/Ethenet Router with RS232/ RS485 serial interfaces
Z-PASS2-S-A	StratON Control Unit with VPN gateway and 3G/Ethernet router, RS485 serial interfaces
Z-PASS2-S-B	StratON Control Unit with VPN gateway and 3G/Ethernet router, RS232/RS485 serial interfaces
VPN SERVER	
VPN BOX	Connectivity VPN Server system for remote control and remote assistance applications (Z-PASS1/2)
VPN BOX MANAGER	VPN BOX configurator
VPN CLIENT COMMUNICATOR	VPN communication network setup tool

Code	Description
SOFTWARE	
EASY Z-KEY	IP address tool configurator (Z-KEY)
SDD	SENECA Discovery Device, IP scanner for Z-KEY, Z-PASS1/2
SESC	SENECA Ethernet to Serial Connection for Z-KEY, Z-PASS1/2
Template Excel	Variables tag toolkit (Z-KEY, Z-PASS1/2)
Z-NET4	Z-PC Line I/O system and controller configurator
ACCESSORI	
A-GSM	Dual band swing GSM external antenna, cable 3,2 m, SMA
A-GSM-QUAD	GSM quadband antenna
CS-DB9M-MEF-1012	Serial communication cable (DB9M / MEF 10-12) for Z-KEY
MSD	Micro SD memory card with adapter
Z-PC-DIN1-35	DIN rail bus system 1 slot 35 mm
Z-PC-DIN4-35	DIN rail bus system 4 slot 35 mm
Z-PC-DINAL1-35	DIN rail bus system head terminal + 1 slot 35 mm
Z-PC DINAL2-52.5	DIN rail bus system head terminal + 2 slots 52.5 mm
Z-PC-DINAL2-17.5	DIN rail bus system head terminal + 2 slots 17.5 m

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