SENECA

Z-TWS4 Multi-Function Cpu Iec

SENECA Z-TWS4 Multi Function Cpu Iec Instructions

Contents

SENECA

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Product Information

TELECONTROL AND REMOTE ASSISTANCE VPN IIoT PLAFORM

LET'S is SENECA's VPN – IIoT platform that cuts maintenance costs for applications of automation and management of machines and plants, offering a connectivity service integrated on 3 levels: remote access to data, programmable control, network monitoring. Based on the Server VPN BOX module, LET'S enables "Always ON" connections (Remote Control / Single LAN mode) for supervision installations or "ON Demand" connections (Remote Assistance / Poin-to-Point mode) to third-party machines and devices and for maintenance services or data collection. Communication from a Pc or mobile device is done via desktop software or VPN Client APP Communicator. The industrial VPN – IoT gateways of the LET'S platform, extend serial networks over Ethernet in addition to supporting complex architectures and safety critical applications. Z-PASS2-RT with built-in 4G LTE modem, also performs functions as a router, DynDNS Server and redundant communication device. SSD (Surprise Smart Display) is a multipurpose device that includes functions such as gateway, datalogger, alarm management, Wi-Fi router, logic unit, and remote assistance/ telecontrol also in the cloud. One of the main innovations of the platform consists in concentrating remote access functions with programmable automation thanks to SENECA controllers IEC 61131-3 based. For energy management applications, LET'S controllers also support IEC 60870-5-101, IEC 60870-5- 104, IEC 61850 protocols.

- **MULTIFUNCTION CLIENTS**

LET’S Client devices perform gateway, datalogger, alarm management, LAN/Wi-Fi /4G router with DynDNS and Nat 1:1 support functions, control, remote assistance, telecontrol

-  **REMOTE ALARM MANAGEMENT**

LET’S devices report Web Serverconfigurable alarms with association to built-in I/O’s or Modbus tags and sending SMS/Email/ notifications with http(s), MQTT(s) protocols or control logic.

-  **IN-HOUSE SERVER**

Server connectivity module (HW or Virtual machine) compatible with the client devices of LET’S in Point-to-Point and Single LAN modes. VPN BOX 2 offers advanced technologies and standards of security validated by penetration tests.

-  **OPC UA**

OPC UA is a standard for cross-client communications based on the principle of client/server via an independent platform. Gateways and LET’S controllers operate as OPC UA servers offering interoperability, scalability, security, centralized data management.

-  **THIRD-PARTY PLC SUPPORT**

LET’S devices are compatible with the most popular ones by supporting numerous fields including Siemens’ S7 protocol for IoT communications.

-  **MQTT**

LET’S devices open up to the IoT world thanks to support for MQTT (Message Queue Telemetry Transport)

protocols, which is ideal for real-time data transmission and for M2M connections. Parameterization of the MQTT client is done via Web Server.

- **CONTROL LOGIC AND SOFTPLC**

  LET'S gateways/routers perform functions as a microcontroller thanks to a set of built-in if-then-else instructions. Remote controllers are instead true IEC 61131-3 Straton based.

- **EXTENDED CONNECTIVITY**

  Provided with Fast Ethernet and serial ports, LET'S products support fieldbus and IT networks. Wireless models also feature 4G LTE routers with built-in GPS/GNSS and/or Wi-Fi 802.11 b/g/n 2.4 GHz module.

- **REMOTE ACCESS**

  Remote access clients to machines and facilities interact with VPN BOX 2 server with which it is possible to implement Point-to-Point and Single LAN connections to the field or create virtual networks.

- **DATA LOGGING**

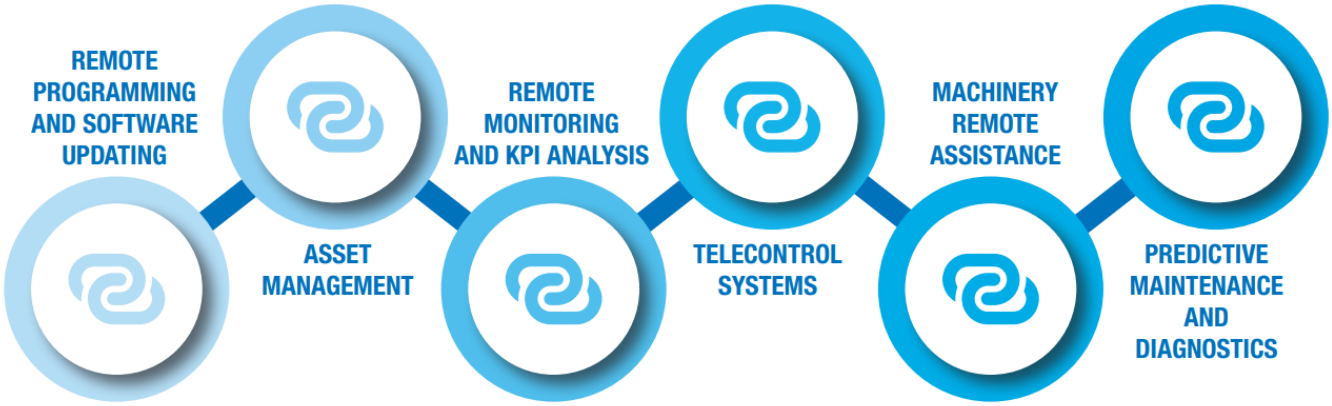
  LET'S clients also operate as a DAQ system real-time multivariable capable of handling up to 1000 log files / 100,000 samples and transferring them via USB stick, FTP server, email, httppost, MQTT.

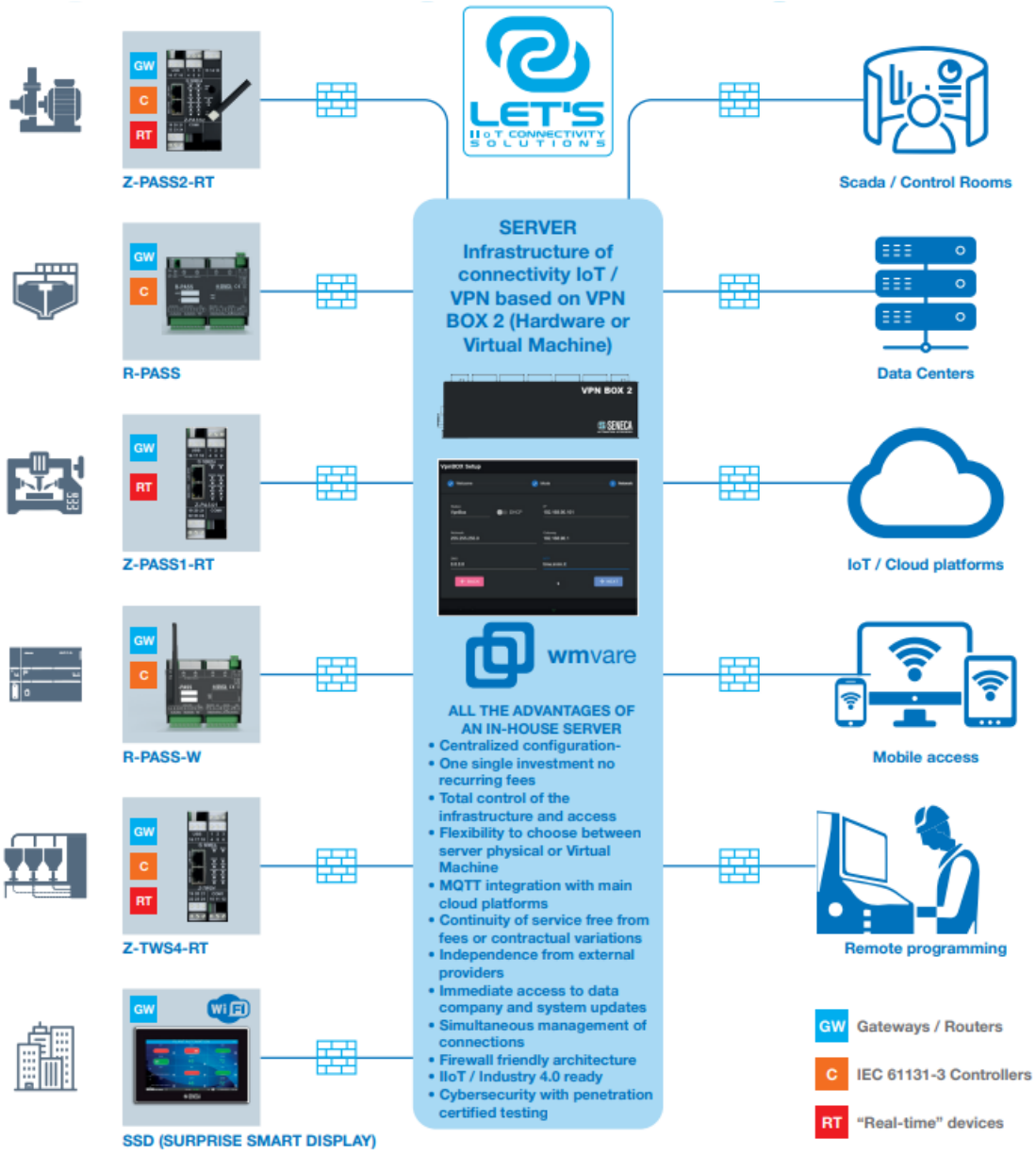
- **CYBERSECURITY**

  LET'S platform ensures advanced requirements from cybersecurity, from 2-factor authentication factors to automated certificate management TLS for HTTPS and is certified through penetration testing.

- **UNLIMITED CONNECTIVITY WITHOUT FEES**

A single initial investment gives you total control of the infrastructure, choice of physical server or VM, continuity of service without fees, independence from providers, and instant access to data.

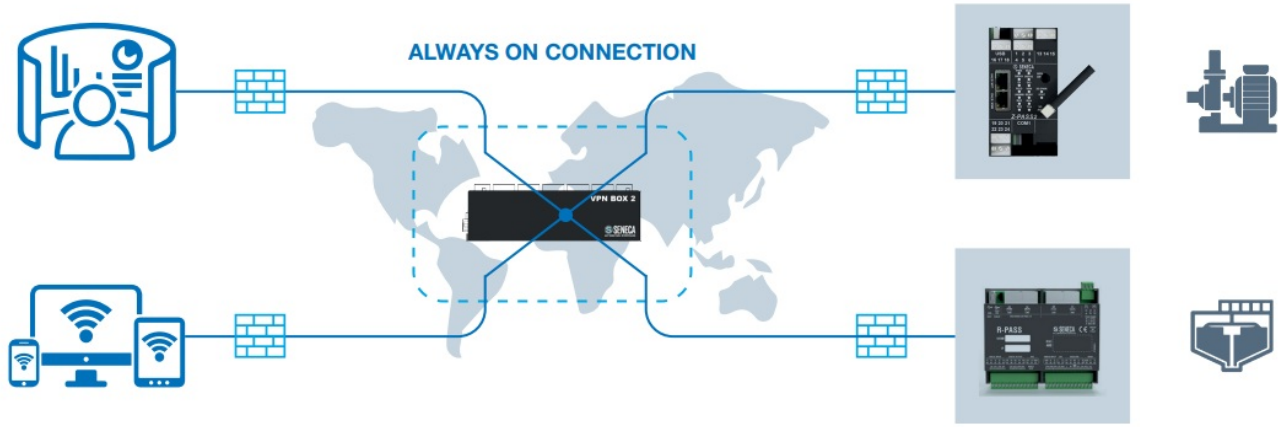




SIMULTANEOUS OPERATING MODES

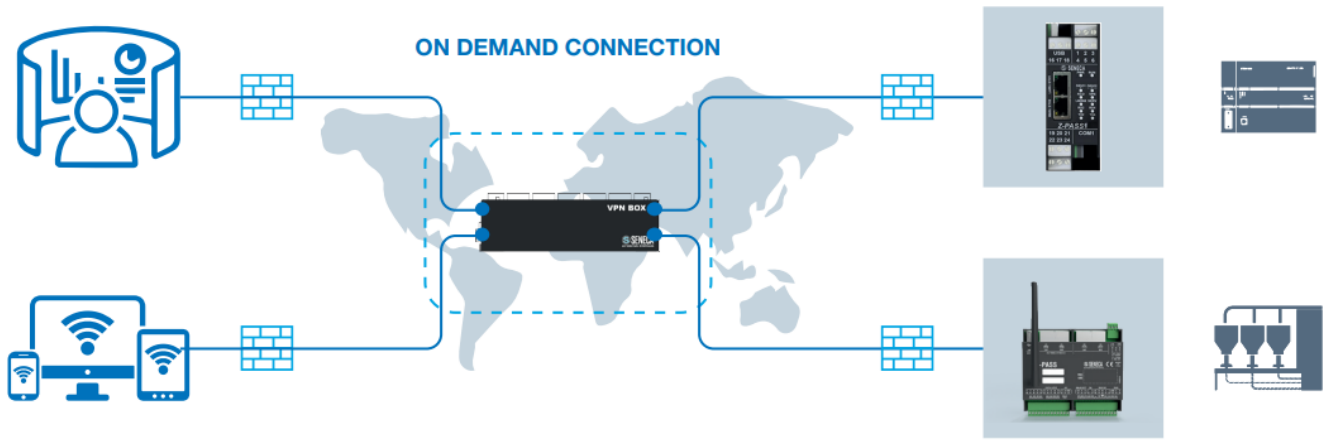
SINGLE LAN – TELECONTROL

Remote Control / Single LAN mode (always on connection) VPN BOX functions as a network server that is assigned a static, public IP. Communication is simultaneous and always on between all remote sites and the server, as well as with the different subnets that are part of the overall system. This type of connection is ideal for realtime monitoring and implementation of a single supervisory system.



POINT-TO-POINT – REMOTE ASSISTANCE

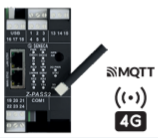
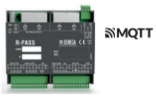
In the Teleassistance / Point-To-Point mode (on demand connection) VPN BOX runs as a concentrator and establishes a point-to-point communication between Pc (or mobile device) and machine/plant. It also requires the assignment of a static, public IP or possibly a DynDNS. Ideal for remote maintenance and diagnostics applications, this type of connection allows for the coexistence of multiple types of users/installations with different access profiles.



	Single LAN / Telecontrol	Point-To-PoinT / Remote Assistance
Typical applications	Monitoring, maintenance, supervision, data acquisition, local automation, alarm management	Maintenance, diagnostics, plant startup, real-time customer support
Connection type	Always ON . Simultaneous and always on on all remote sites. Connection between different networks (e.g. 192.168.30.x, 192.168.40.x...) via VPN	ON Demand. P2P Pc user/mobile device and device/machine connection. On Demand and not simultaneous for different sites.
Communication between VPN subnets	Yes, facilities visible/accessible from all VPN clients	No, different plants with different users
Subnetwork access	Via local addresses	Via local addresses
Multi-user management	No	Yes
Network configurations	Differentiated across sites to avoid network conflicts	Same across sites (e.g. 192.168.20.x)
SIM supported	All	All
Benefits	- Remote access to different LANs - Ability to query devices as if you were in the field (local) - Integration of heterogeneous networks	- Lower logistics and maintenance costs - Re-mote machine control - Multilevel and pers single plant user profiling

PLATFORM

VPN CLIENTS – IIoT GATEWAYS / ROUTERS

VPN CLIENTS - IIoT GATEWAYS / ROUTERS	Z-PASS1-RT	Z-PASS2-RT	R-PASS	R-PASS-W	SSD
					
Version	ModBUS / Ethernet (Real-Time)	ModBUS / Ethernet / 4G-LTE (Real-Time)	ModBUS / Ethernet	Wi-Fi	ModBUS / Ethernet / Wi-Fi
Embedded I/O	6DI/DO, 2AI	6DI/DO, 2AI	4DI, 4DO, 2AI	4DI, 4DO, 2AI	2DIDO
HMI	Web App	Web App	Web App	Web App	Web App
Nr. max VPN Clients	500	500	500	500	500
Protocols	ModBUS TCP server, ModBUS RTU master/ slave, FTP/SFTP server, HTTP/HTTPS server, MQTT, OPC UA, http post				
Security Protocols	OpenVPN, SSL, HTTPS Server, MQTT over SSL/TLS, TLS 1..2 o superiore				
ModBUS / Shared Memory / Transparent Gateway	✓	✓	✓	✓	✓
Serial Device Server	✓	✓	-	-	-
Datalagger	✓	✓	✓	✓	✓
Alarm Management	✓	✓	✓	✓	✓
Serial Sniffer	✓	✓	✓	✓	✓
(Nat1:1) Static / LAN Router	✓	✓	-	-	-
Wi-Fi Router / AP	-	-	-	✓	✓
4G/LTE Router	-	✓	-	-	-
Remote Assistance / Telecontrol VPN	✓	✓	✓	✓	✓
Microcontroller if-then-else	✓	✓	✓	✓	✓
LAN/WAN Switch	✓	✓	✓	✓	✓

VPN CLIENTS - IIoT MULTIFUNCTION CONTROLLERS					
	Z-PASS2-RT-S	Z-TWS4-RT	R-PASS-S	R-PASS-W-S	S6001-RTU
					
Fast Ethernet Ports	2	2	2 (4)	2 (4)	1
Serial ports	3	3	3	3	3
USB ports	1	1	2	2	1
Built-in I/O	6DI/DO, 2 AI	1DI, 2DO, 1DIDO	4DI, 4DO, 2AI	4DI, 4DO, 2AI	15+2DI, 4AI, 8DO, 3AO
Modem / Router	4G/LTE	External (option)	External (option)	External (option)	4G/LTE
Programming environment	Z-NET4	Z-NET4	Web Server, EASY SETUP 2	Web Server, EASY SETUP 2	Z-NET4
Max no. variables / tags	1000	1000	1000	1000	100
Program size	2048kB	2048kB	2048kB	2048kB	2048kB
Diagnostics	Web Server	Web Server	Web Server	Web Server	Web Server
Protocols	ModBUS RTU/TCP-IP/ASCII, ModBUS TCP-IP, S7 Protocol, M-BUS, (S)FTP Server, HTTP(s) Server, SMTP(s) Client, SNMP, SAMBA, OPC UA/DA Client / Server, MQTT(s), http(s) post				
Protocols Security	OpenVPN, SSL, HTTPS Server, MQTT over SSL/TLS, TLS 1..2 or hgiher				
Protocols Energy (opt.)	IEC 60870-101 Slave, IEC 60870-104 Master / Slave, IEC 61850 Client / Server				
SoftPLC IEC 61131-3	✓	✓	✓	✓	✓
Energy Controller	✓	✓	✓	✓	✓
Datalogger	✓	✓	✓	✓	✓
Gateway	✓	✓	✓	✓	✓
LAN Router	✓	✓	✓	✓	✓
Wi-Fi Router	-	-	-	✓	-
4G/LTE Router	✓	-	-	-	✓
Telecontrol/Remote Assistance unit	✓	x (with ext. modem/router)	x (with ext. modem/router)	x (with ext. modem/router)	✓
LAN/WAN Switch	-	-	-	-	✓

SERVER INFRASTRUCTURE

- Hardware appliance or virtual machine
- Firewall friendly
- Simultaneous LAN / P2P management
- Automatic firmware update and backup-
- LTS, 2FA, OpenVPN compliance
- Flexible license management
- Full Log Management
- IP VPN mapping via NAT
- Layer 2 P2P Support
- LAN Access Firewall
- Supported protocols:
- VPN,TCP-IP, UDP, MQTT
- Supported products: R-PASS,
- R-PASS-S, SSD, Z-PASS1-RT,
- Z-PASS2-RT, Z-TWS4-RT,
- Z-PASS1, Z-PASS2, ZTWS4

MULTILEVEL CYBERSECURITY

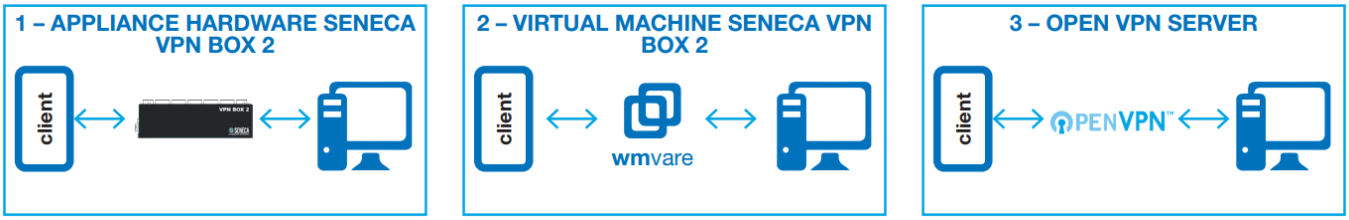
- Remote access lock mechanical with digital input
- LAN/WAN separation
- 2-factor authentication (Google Authenticator)
- Advanced permission management (supervisor, users, groups)
- Data encryption algorithm Encryption (OpenVPN AES 256bits CBC + AUTH SHA 256bits or user selectable)
- Security Protocols: OpenVPN, SSL, HTTPS Server, MQTT Over TLS/SSL
- Automated management TLS certificates for Https
- Penetration testing certificate OASWAP, NITS 800 115, Risk Analysis, IEC 62443

SETTINGS / PROGRAMMING

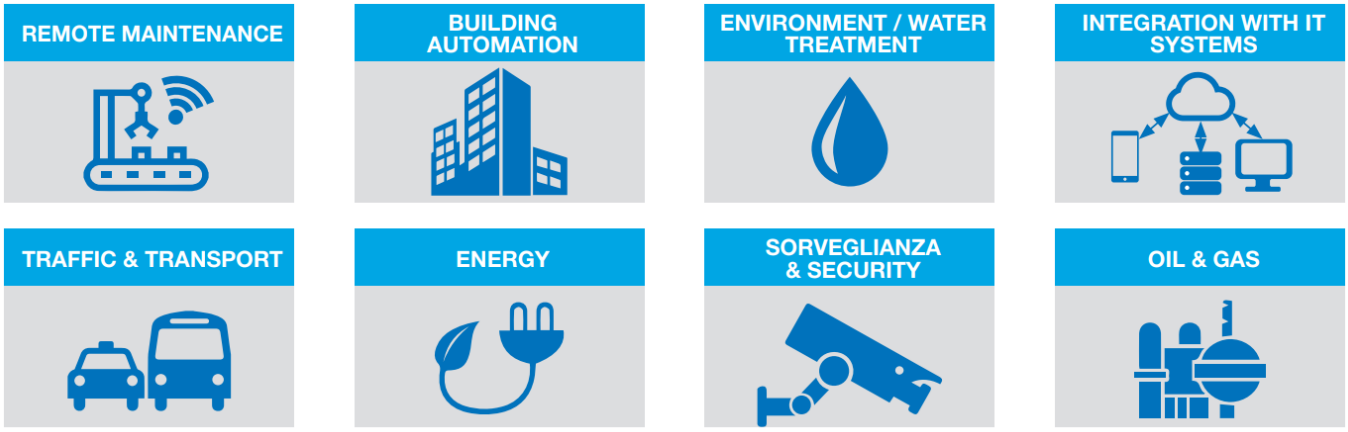
- LET'S management suite includes several configuration, interface, and programming environments for complete management of a remote monitoring project
- Web Server (Network configuration, client, RTC, firmware update)
- VPN Client Communicator (P2P/ SINGLE LAN connections, login with credentials, automatic certificate installation)
- OPEN VPN CONNECT (Open VPN client configuration, client authentication, TUN, TAP interface support)
- STRATON (IEC 61131 SoftPLC automation logics, R/W functions from Plc Siemens with S7 Protocol)

VPN SCENARIOS

LET'S supports 3 main connection architectures depending on the type of selected Server infrastructure



APPLICATION AREAS



ORDER CODES

CODE DESCRIPTION

- VPN CONNECTIVITY SERVER
- VPN-BOX-2 PC Box – VPN Server for simulteneous connections and low latency Poin-To-Point / Single LAN

- VPN-BOX-2-D Test service on VPN-BOX-2 Point-to-Point valid for 30 days max 2 devices
- VPN-BOX-2-VM VPN-BOX-2 Virtual Machine
- VPN-BOX-2-VM-D VPN-BOX-2 Point-to-Point / Single LAN Virtual Machine max 2 devices
- VPN-CC-2 VPN Client Communicator, remote access software VPN-BOX-2

VPN CLIENT / IIoT GATEWAYS / ROUTERS

- R-PASS-0-2-0 IIoT Edge Gateway with 2 Ethernet Ports
- R-PASS-0-4-0 IIoT Edge Gateway with 4 Ethernet ports
- R-PASS-W-2-0 IIoT Edge Gateway with Wi-Fi and 2 Ethernet ports
- R-PASS-W-4-0 IIoT Edge Gateway with Wi-Fi and 4 Ethernet ports
- SSD-0-0-0-0 Advanced touchscreen HMI with built-in I/O
- SSD-0-0-0-I Advanced touchscreen HMI with IIoT and built-in I/O
- SSD-0-0-V-0 Advanced touchscreen HMI with VPN and built-in I/O
- SSD-0-0-V-I Advanced touchscreen HMI with IIoT, VPN and built-in I/O
- SSD-0-L-0-0 Advanced touchscreen HMI with integrated logic and built-in I/O
- SSD-0-L-0-I Advanced touchscreen HMI with integrated IIoT, logic and built-in I/O
- SSD-0-L-V-0 Advanced touchscreen HMI with integrated logic, VPN and built-in I/O
- SSD-0-L-V-I Advanced touchscreen HMI with integrated IIoT, logic, VPN and built-in I/O
- Z-PASS1-IO Industrial Gateway – Serial Device Server, built-in I/O
- Z-PASS1-RT Industrial Gateway – Serial Device Server, built-in I/O, Real Time
- Z-PASS2-RT-4G Gateway / Router 4G real-time, GPS and built-in I/O

CODE DESCRIPTION

VPN CLIENT / IIOT MULTIFUNCTION CONTROLLERS

- R-PASS-0-2-E IIoT Edge Controller with Energy Protocols and 2 Ethernet Ports
- R-PASS-0-2-S IIoT Edge Controller Straton with 2 Ethernet Ports
- R-PASS-0-4-E IIoT Edge Controller Straton with Energy protocols and 4 Ethernet ports
- R-PASS-0-4-S IIoT Edge Controller Straton with 4 Ethernet ports
- R-PASS-W-2-E IIoT Edge Controller Straton with Energy protocols, Wi-Fi and 2 Ethernet ports
- R-PASS-W-2-S IIoT Edge Controller Straton with Wi-Fi and 2 Ethernet ports
- R-PASS-W-4-E IIoT Edge Controller Straton with Energy, Wi-Fi and 4 Ethernet ports protocols
- R-PASS-W-4-S IIoT Edge Controller Straton with Wi-Fi and 4 Ethernet ports
- Z-PASS2-RT-4G-S Remote Controller 4G/LTE, GPS and built-in I/O
- Z-PASS2-RT-4G-E Remote Controller 4G/LTE, enegy prot., GPS and built-in I/O
- S6001-PC-4GWW Pump controller with built-in I/O, 4G WW LTE, Straton programming system and 7″ HMI
- S6001-RTU-4GWW All-in-one RTU with built-in I/O, 4G WW LTE modem, Straton
- S6001-RTU-E-4GWW All-in-one RTU with built-in I/O, 4G WW LTE modem, Straton, Energy protocols
- Z-TWS4-RT-S Multifunction IEC 61131-3 controller, built-in I/O, Straton workbench
- Z-TWS4-RT-E Multifunction IEC 61131-3 controller, built-in I/O, Energy prot.

PROGRAMMING TOOLS / ENVIRONMENTS

- EASY SETUP 2 SENECA programmable instruments configurator Suite
- STRATON-256-UPD STRATON IDE 256 Tags UPGRADE from V8 to V9
- STRATON-512-UPD STRATON IDE 512 Tags UPGRADE from V8 to V9
- STRATON-870-850 IEC 60870-5-101/104 Master / Slave + IEC 61850 Client / Server license
- STRATON-870M IEC 60870-5-101/104 Master license
- STRATON-870S IEC 60870-5-101/104 Slave license
- STRATON-870S-850 IEC 60870-5-101/104 Slave+IEC 61850 Client/Server license
- STRATON-D-USB Straton USB dongle
- STRATON-IDE256 Straton 256 tag environment with USB activation key
- STRATON-IDE512 Straton 512 tag environment with USB activation key
- STRATON-IDEUN Straton IDE unlimited tag – IEC 61131 development environment
- Z-NET4 Z-PC Line I/O Systems and Controllers Configurator

CONTACT AND INFORMATION

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Documents / Resources

	**SENECA Z-TWS4 Multi Function Cpu Iec** [pdf] Instructions Z-TWS4, Z-PASS2-RT, SSD, Z-TWS4 Multi Function Cpu Iec, Z-TWS4, Multi Function Cpu Iec, Function Cpu Iec, Cpu Iec, Iec

References

- **User Manual**