

Z-PC Line

DATA ACQUISITION AND AUTOMATION SYSTEMS



The screenshot displays the SENECA Z-PC Line software interface. The top section features a graph with two data series (red and black) plotted against time from 09:47:45 to 09:49:30. The y-axis ranges from -3 to -9. A table on the right lists channel values: MS_CHAN 0,04; MS_CHAN 0,13; MS_CHAN 0,13. Below the graph, a row of hardware modules is shown, including USB #1, USB #2, Z-TWS4, ZC-24DI, Z-10-D-IN, Z-D-IN, Z-D-IO, Z-10-D-OUT, Z-D-OUT, Z-8AI, Z-8TC, Z-4RTD, Z-SG, Z203, Z-3AO, and Z-LINK. The bottom section shows a detailed graph with multiple colored lines (red, green, blue) and a data recorder table.

Nome	Descrizione	Unità di misura	IS Ing.	FS Tec.	IS Tec.
M1_CHAN1_FLOAT		0	10000	0	
M1_CHAN3_FLOAT		0	10000	0	
M1_CHAN5_FLOAT		0	10000	0	
M1_CHAN7_FLOAT		0	10000	0	
M1_CHAN9_FLOAT		0	10000	0	
M1_CHAN11_FLOAT		0	10000	0	
M1_CHAN13_FLOAT		0	10000	0	
M2_CHAN1_FLOAT		0	10000	0	
M2_CHAN2_FLOAT		0	10000	0	

- REMOTE I/O MODULES
- MULTIFUNCTION CONTROLLERS
- SOFTWARE
- DATA RECORDER

Z-PC-Line

Data Acquisition and Automation Systems

HIGH MODULAR SYSTEM

Z-PC Line is a modular system able to manage from simple to complex DAQ, automation and remote control applications (up to thousands I/O's).

Z-PC Line includes a widest variety of I/O's with: digital input, high-speed counters, digital outputs and relay mosfet, analog input (mA, V Ohm, mV), strain gauges, RTDs, thermocouples. It also guarantees the highest concentration data and 3-wasy galvanic isolation. For instance, up to 24 digital or 8 analog signals. The backplane (bus & power wiring) for DIN rail is modular and available with 1, 2, 4, 8 slots. The modules are Hot-swapping, without power failure and communication.

The flexibility and modularity of the **Z-PC Line** makes it a distributed system for multi-field applications: data acquisition, building automation, monitoring, remote control of energy, consumption, production control, marine automation, commissioning and laboratory testing, environmental, water etc.



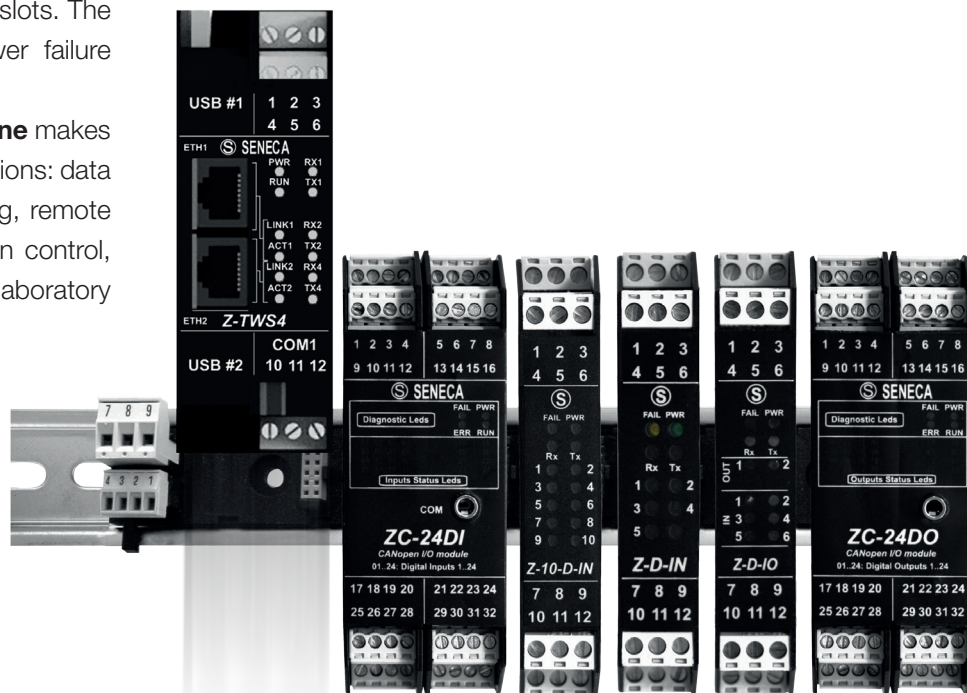
WIDE EXPANDABLE SYSTEM

More than 160 article codes including I/O modules, communication interfaces, HMI's, power meters, software accessories



UNIVERSAL APPLICATION

DAQ
Distributed Automation
Telemetry
Remote I/O system stand alone / with SENECA controllers / with thirdy parts devices



CONFIGURATION MODES

1 Simple configuration for end user



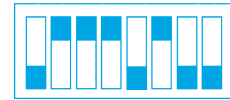
EASY Setup available for Windows PC provides an user friendly interface for: operating parameters and communication setting and changing, single modules automatic configuration, real-time test configuration and fast replication of the settings for multiple installations.

2 Configuration dedicated to system integrators



Z-NET is an IEC 61131 configuration software for OEMs, system integrators and expert users. Enables the creation and export data to PLC and SCADA, the communication parameters settings, complete configuration of CPU modules and single I/O devices. Z-NET integrates also specific libraries for automation.

3 Basic configuration through Dip Switch

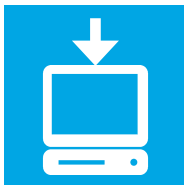


Address and baud rate settings available on each module



SYSTEM INTEGRATOR TOOLS

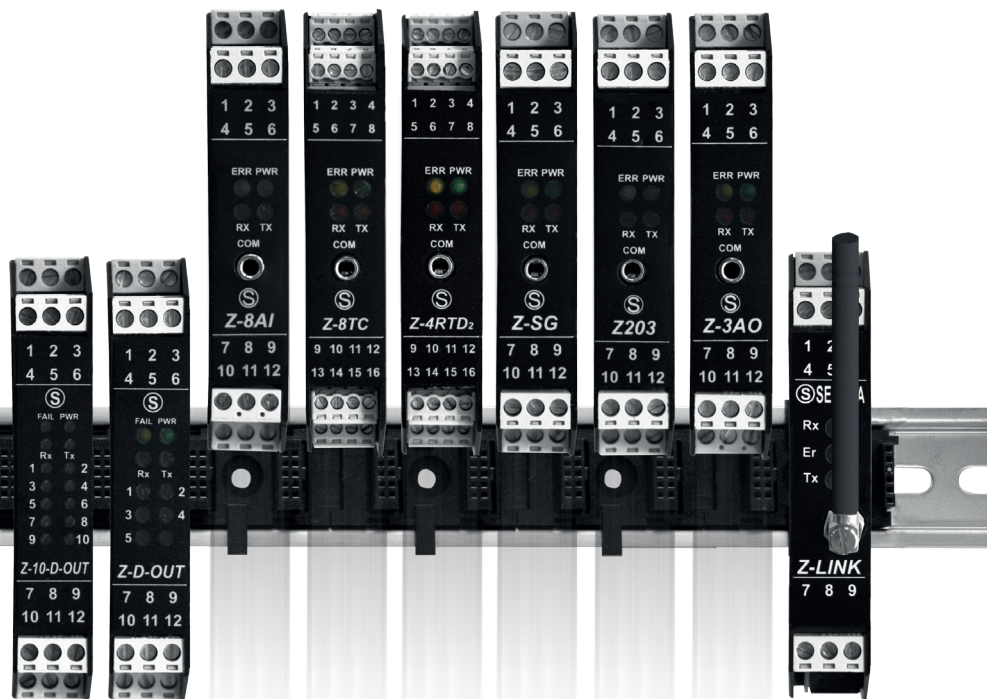
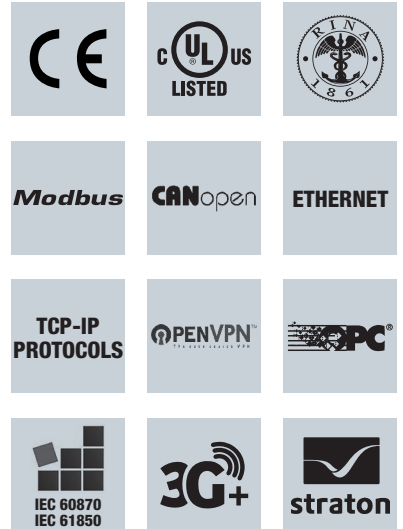
- Automation, data transmission, telecontrol functions ready-to-use
- IEC 61131 programming toolkit
- Advanced technical support



DATA ACQUISITION TOOLS

- DATA RECORDER (DAQ software)
- Web Editor
- Microsoft Visual Studio™ Libraries
- OPC technologies
- NI LabView™ drivers

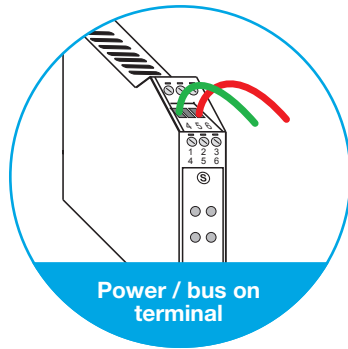
STANDARDS & APPROVALS



Z-PC-Line

Data Acquisition and Automation Systems

RELIABLE INDUSTRIAL DESIGN



Power / bus on terminal

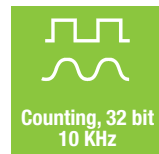
MULTIFUNCTION CONTROLLERS

- IEC 61131 Controllers
- Built-in I/O / Modem / Router
- Web Server, Datalogger, Gateway
- Multiple Ethernet / Serial / USB ports
- Up to 1.000 I/O management

DIGITAL I/O's



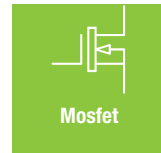
Reed, PNP, NPN, Proximity, Contact



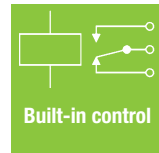
Counting, 32 bit 10 KHz



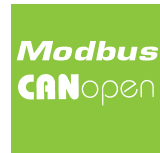
Relays SPST



Mosfet



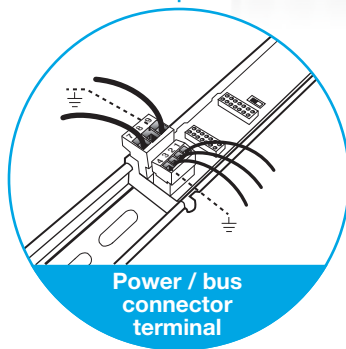
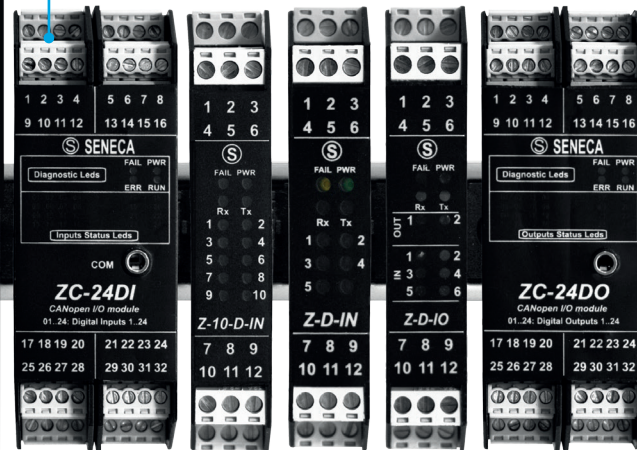
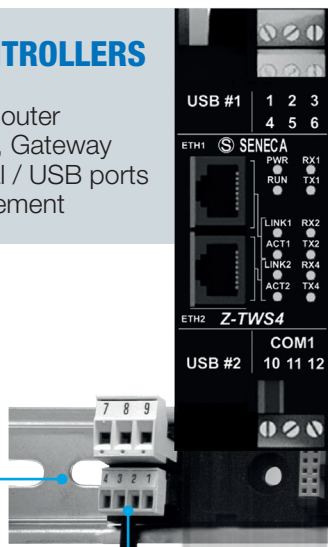
Built-in control



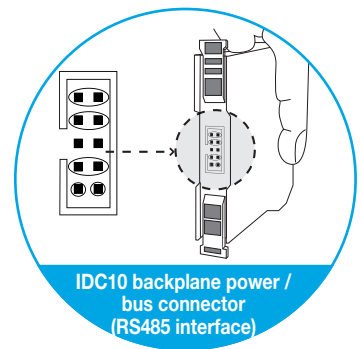
Modbus CANopen



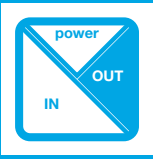
Installation / removal from 35 mm guide (DIN 46277)



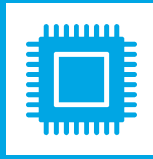
Power / bus connector terminal



IDC10 backplane power / bus connector (RS485 interface)



Multi-ways
1,5 kVac isolation



EEPROM configuration
parameters, retention
time 40 years



Hot
swapping

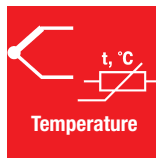


Vac/dc switching
on the same
hardware

ANALOG I/O's



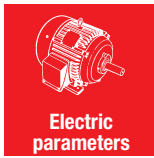
mA, mV, V, Ω



Temperature



Strain
gauge



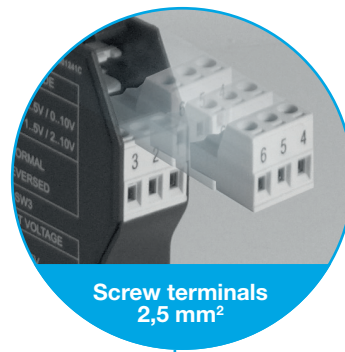
Electric
parameters



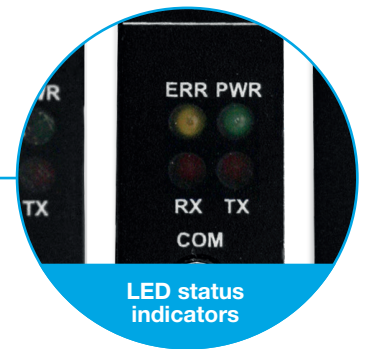
PID
regulation



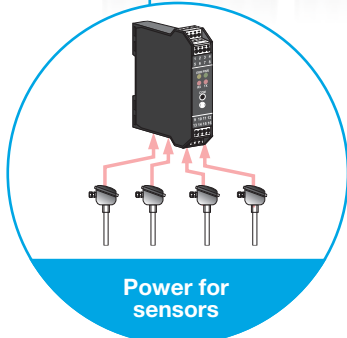
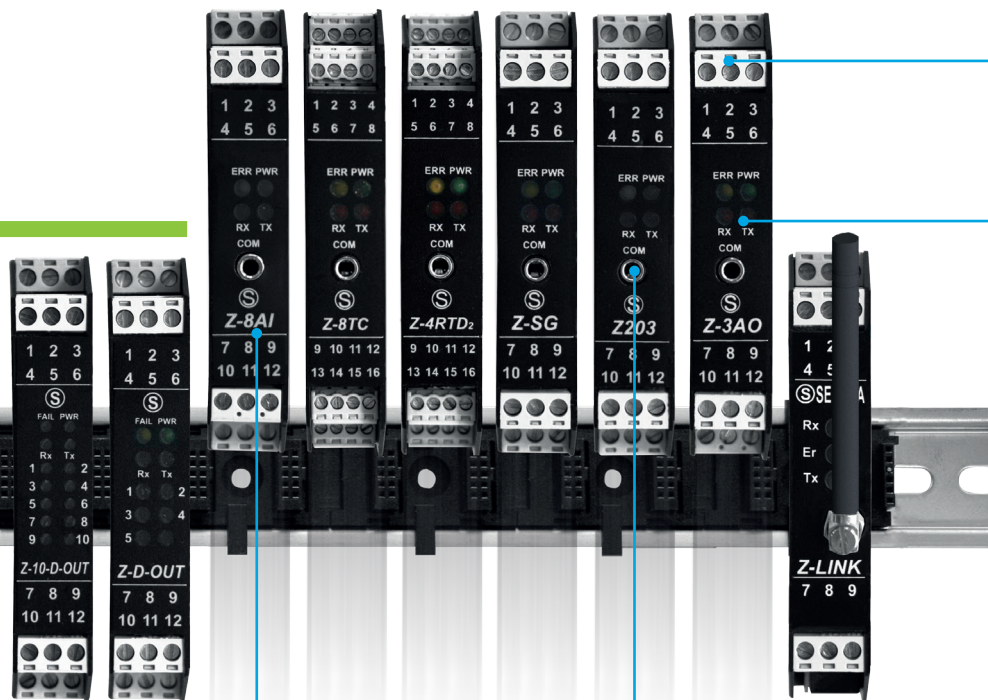
Resolution up to
16 bit



Screw terminals
2,5 mm²



LED status
indicators



Power for
sensors



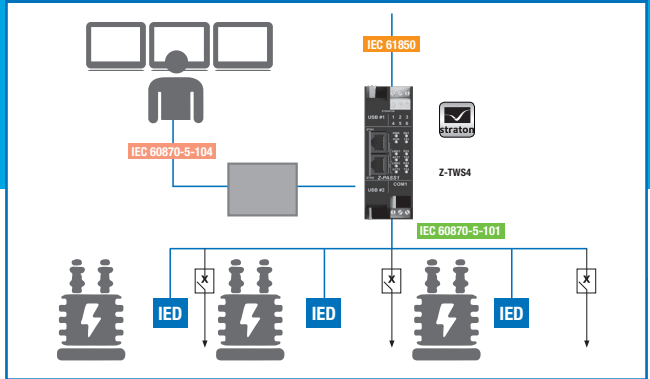
3.5 mm front jack
RS232 (COM)

Z-PC-Line

Data Acquisition and Automation Systems

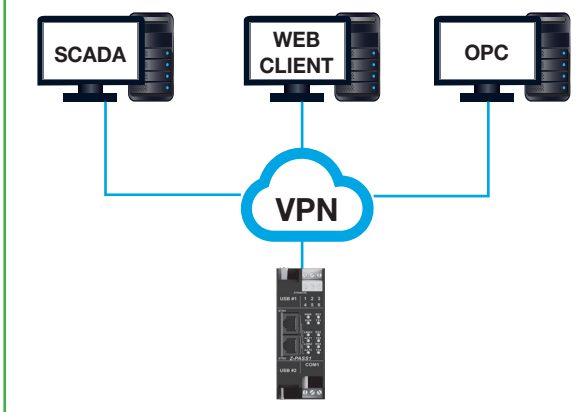
OPEN, WIDE CONNECTIVITY SYSTEM

ENERGY MANAGEMENT



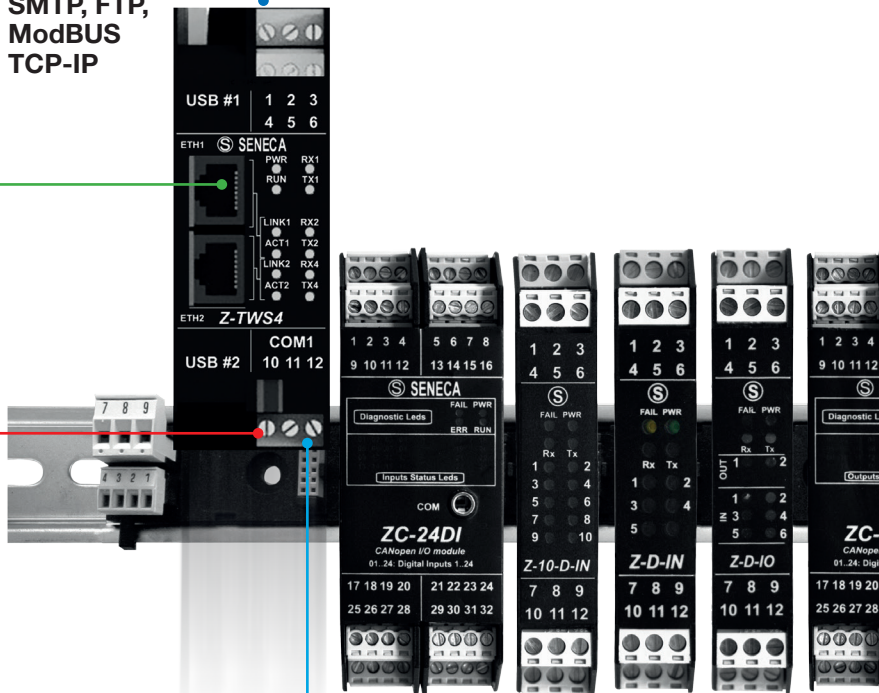
Energy management protocols: IEC 60870-101/104, IEC 61850

SUPERVISION AND REMOTE ACCESS

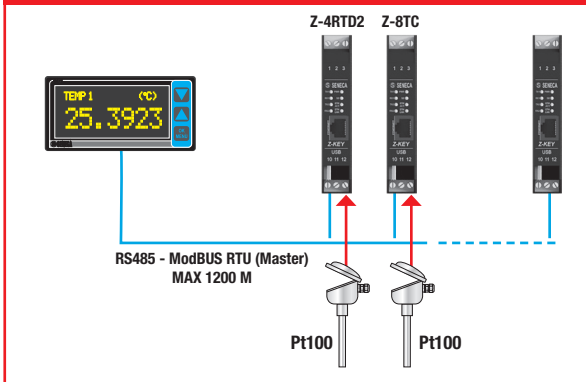


ETHERNET IT protocols: PPP, HTTP, SMTP, FTP, ModBUS TCP-IP

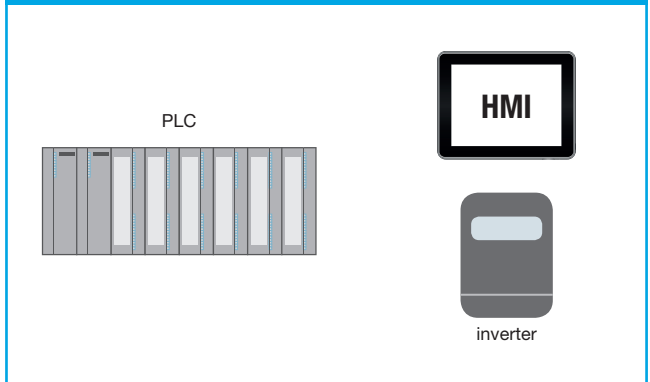
RS232 / RS485



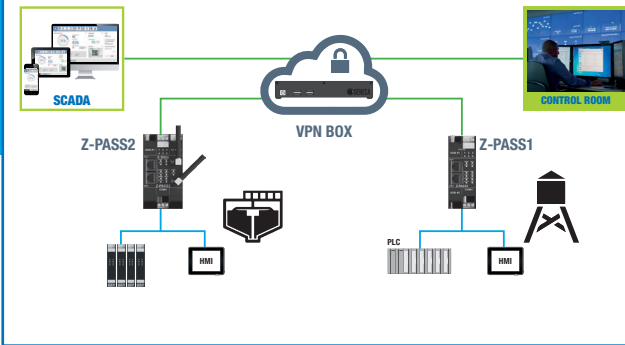
MODBUS DISPLAYING



CONNECTION TO REMOTE PLC / third party devices



LETS REMOTE ASSISTANCE / TELECONTROL VPN / IOT SOLUTIONS



MAIN COMMUNICATION TECHNOLOGIES

ModBUS RTU

ModBUS RTU I/O modules provide cost-effective solution for a wide range of valuable industrial DAQ and control system.

CANopen - CANopen modules can be integrated with third parts configurators and master controllers / network managers, even on board existing machines and installations.

Ethernet / ModBUS TCP-IP - Mixed I/O Modules ModBUS RTU / ModBUS TCP-IP are high performance modules with 16-bit ADC, acquisition speed configurable from 1 to 300 ms.

VPN / IoT - VPN (Virtual Private Network) is a technology to create secure connections between two or more remote nodes (exploiting a public and shared transmission system (i.e. Internet). A VPN provides a secure connection between a user and a M2M / IoT (Internet of Things) device.

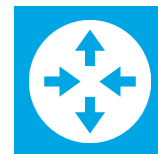
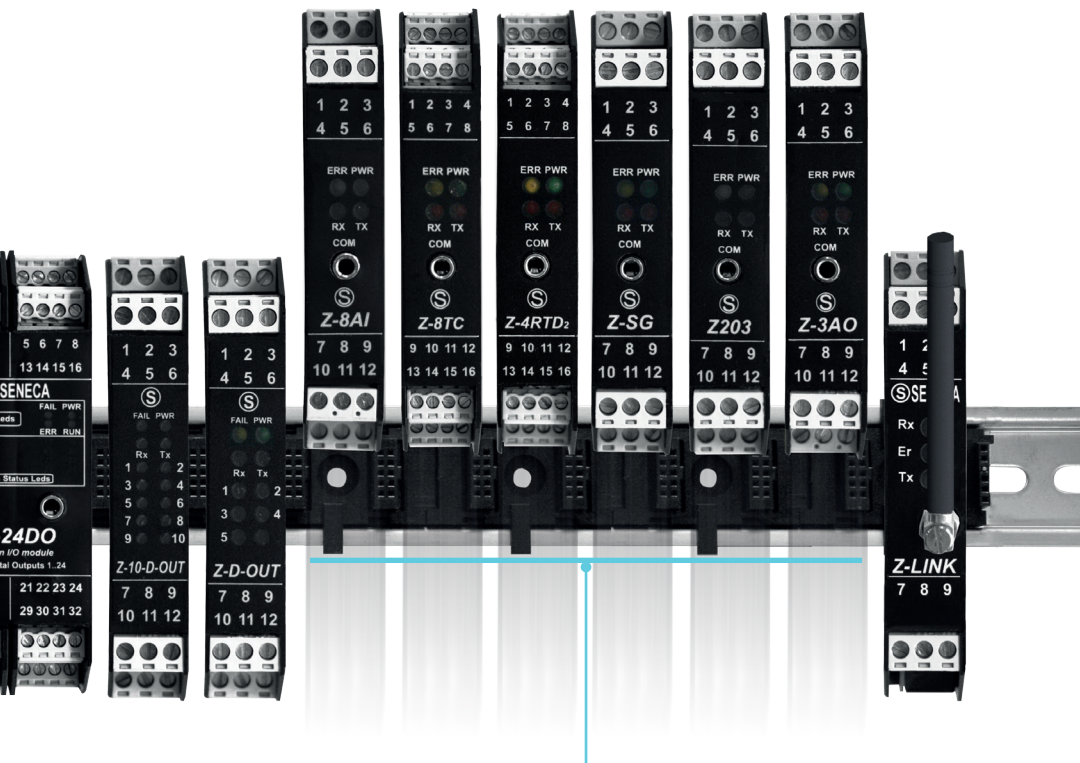
IEC 61131 - Standard for programmable controllers

IEC 60870-101/104 - Telecontrol transmission protocols in electrical engineering and power system automation

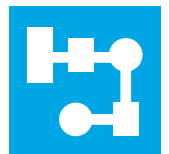
IEC 61850 - Configuration standard for electrical substation - Intelligent Electronic Devices.

OPC - OLE for Process Control, communication standard for different software packages to access data from a process control device.

3G+ - 3G+, HSPA family protocols, high speed mobile broadband network standard



**GATEWAY /
ROUTERS /
MODEM**



**SERIAL / USB
CONVERTERS**

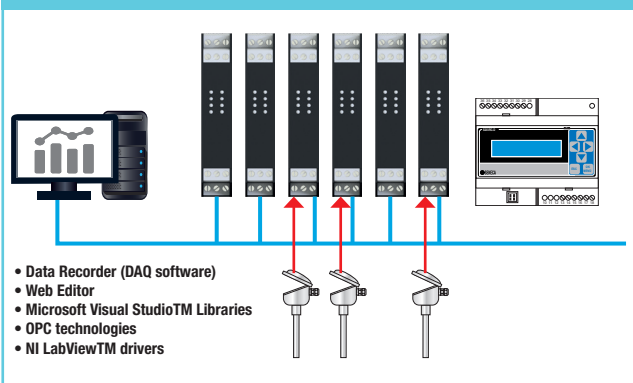


**WIRELESS
MODEM**

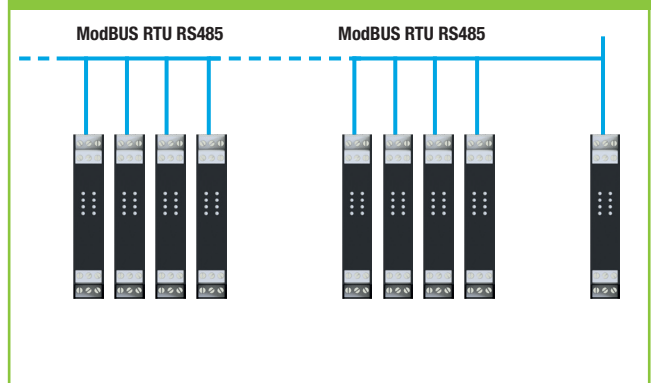


**FIBER OPTICS
MODULES**

DAQ SYSTEMS









DISTRIBUTED SYSTEMS





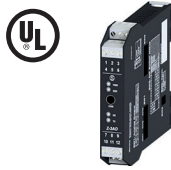


Z-PC Line - Remote I/O Modules

MODBUS RTU DIGITAL I/O MODULES








	Z-D-IN	Z-D-OUT	Z-10-D-IN	Z-10-D-OUT	Z-D-IO
					
	5-CH Digital Input Module/ RS485 Modbus RTU	5-CH Digital Output Module/ RS485 Modbus RTU	10-CH Digital Input Module/ RS485 Modbus RTU	10-CH Digital Output Module/ RS485 Modbus RTU	Multifunction Module, 6 Digital Input and 2 Digital Output/RS485
GENERAL DATA					
Power supply	10..40 Vdc / 19..28 Vac / 50-60 Hz	10..40 Vdc / 19..28 Vac / 50-60 Hz	10..40 Vdc / 19..28 Vac / 50-60 Hz	10..40 Vdc, 19..28 Vac 50..60Hz	10..40 Vdc, 19..28 Vac 50..60Hz
Power Consumption	2,5 W	2,5 W	3,5 W	2,5 W	2 W
Isolation	1.500 Vac (3 way)	1.500 Vac(3 way)	1.500 Vac (3 way)	1.500 Vac (3 way)	1500 Vac (input//other circuits) 3750 Vac (output//other circuits)
Power Transducers	Max 20 mA	-	-	-	-
LED Status indicartors	Power supply - Error Data transmission Data reaception Input status	Power supply - Error Data transmission Data reception Output status	Power supply - Error Data transmission Data reception Input status	Power supply - Error Data transmission Data reception Output status Diagnostic	Power supply - Error Data transmission Data reception Intut status Output status
Protection Degree	IP20	IP20	IP20	IP20	IP20
THERMOMECHANICAL FEATURES					
Operating Temperature	-10..+65°C	-10..+65°C	-10..+65°C	-10..+65°C	-10..+65°C
Housing	Nylon 6 with 30% glass-fiber, V0 self-extinguished class	Nylon 6 with 30% glass-fiber, V0 self-extinguished class	Nylon 6 with 30% glass-fiber, V0 self-extinguished class	Nylon 6 with 30% glass-fiber, V0 self-extinguished class	Nylon 6 with 30% glass-fiber, V0 self-extinguished class
Connections	Removable terminals block, plug in connectors, max wire size 2.5 mm ²	Removable terminals block, plug in connectors, max wire size 2.5 mm ²	Removable terminals block, plug in connectors, max wire size 2.5 mm ²	Removable terminals block, plug in connectors, max wire size 2.5 mm ²	Removable terminals block, plug in connectors, max wire size 2.5 mm ²
Mounting	35 mm mounting rail (DIN 46277)	35 mm mounting rail (DIN 46277)	35 mm mounting rail (DIN 46277)	35 mm mounting rail (DIN 46277)	35 mm mounting rail (DIN 46277)
COMMUNICATION, PROCESSING, MEMORY					
Interfaces	2 wires RS485	2 wires RS485	2 wires RS485	2 wires RS485	2 wire RS485
Speed	Up to 115.200 bps	Up to 115.200 bps	Up to 115.200 bps	Up to 115.200 bps	Up to 115.200 bps
Protocol	ModBUS RTU slave	ModBUS RTU slave	ModBUS RTU slave	ModBUS RTU slave	ModBUS RTU slave
Communication Time	< 10 ms (@ 38400 baud)	< 10 ms (@ 38400 baud)	< 10 ms (@ 38400 baud)	< 10 ms (@ 38400 baud)	< 10 ms (@ 38400 baud)
Data Memory	EEPROM for the configuration parameters, retention time 10 years	EEPROM for the configuration parameters, retention time 10 years	EEPROM for the configuration parameters, retention time 10 years Counters saved on FeRAM	EEPROM for the configuration parameters, retention time 10 years	EEPROM
SIGNALS, MEASUREMENT, CONFIGURATIONS, NORMS					
Channels	5	5	10	10	6 input, 2 output
Type	Opto-isolated for REED, PROXIMITY PNP, NPN, contact, etc. N.5 counters at 16 bit frequency max 100 Hz N.1 counters at 32 bit, frequency max 10 KHz Bounce Filter 5..250 ms	N.5 SPST NO relay output with common terminal SPST N/O relay 5 A 250 Vac with resistive load, 2 A with inductive load Max total current on common terminal: 12 A	Input protected by fast transient suppressors TVS 600 W/ms N.8 counters at 16 bit, frequency max 100 Hz N.2 counters at 32bit, frequency max 10 Hz Measurement of the load supply voltage	MOSFET output protected against short circuit with common terminal 6 - 40 Vdc power supply, current carrying capacity 0.5 A, resistive load or inductive load Safe time: 33ms..2184s Measurement of the load supply voltage	OUTPUT N.2 SPST NO relay output with common termina, 5 A 250 Vac, contact NA / NC INPUT N.6 opto-isolated channels with common type Reed, proximity, PNP, NPN, contact, etc, internal/external power supply input, min pulse width 20 ms
Measurement & Diagnostic	Overflow indication for each totalizer	Diagnostic on/off, overload, short-circuit Fail-safe programmable functions 10..2.000 s	Frequency measurement for 10 KHz input Period, frequency and Ton, Toff measurement for 100 Hz input Forward or backward counting Overflow indication for each total counter	Diagnostic on/off, overload, short-circuit Fail-safe programmable functions 10..2.000 s	
Programming	Z-NET4 (IEC 61131software) EASY SETUP (plug&play software) DIP switches	Z-NET4 (IEC 61131software) EASY SETUP (plug&play software) DIP switches	Z-NET4 (IEC 61131software) EASY SETUP (plug&play software) DIP switches	Z-NET4 (IEC 61131software) EASY SETUP (plug&play software) DIP switches	Z-NET4 (IEC 61131software) DIP switches Internal Logic IEC1131.2 type 1 for motor, valves and alarms command
Norms & Approvals	CE, EN 50081-2; EN 55011; EN 50082-2; EN 61000-2-2/4; EN 50140/141; EN 61010-1	CE, EN 50081-2; EN 55011; EN 50082-2; EN 61000-2-2/4; EN 50140/141; EN 61010-1	UL-UR, CE, EN 50081-2; EN 55011; EN 50082-2; EN 61000-2-2/4; EN 50140/141; EN 61010-1	UL-UR, CE, EN 50081-2; EN 55011; EN 50082-2; EN 61000-2-2/4; EN 50140/141; EN 61010-1	CE, EN61000-6-4/2002; EN61000-6-2/2002; EN61010-1
ORDER CODES					
Code	Z-D-IN	Z-D-OUT	Z-10-D-IN	Z-10-D-OUT	Z-D-IO


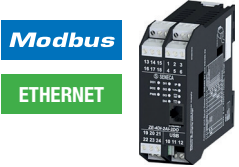

MODBUS RTU ANALOG I/O MODULES

	Z-DAQ-PID	Z-4AI	Z-8AI	Z-3AO
				
	Universal analog I/O module with pid control / RS485	4-CH analog input module / RS485 MODBUS RTU	8-CH analog input module / RS485 MODBUS RTU	3-CH analog output module / RS485 MODBUS RTU
GENERAL DATA				
Power Supply	10..40 Vdc / 19..28 Vac / 50-60 Hz	10..40 Vdc / 19..28 Vac / 50-60 Hz	10..40 Vdc / 19..28 Vac / 50-60 Hz	10..40 Vdc / 19..28 Vac / 50-60 Hz
Power Consumption	2,5 W	2,5 W	3,5 W	3,2 W
Isolation	1.500 Vac (3 way)	1.500 Vac (3 way)	1.500 Vac (3 way)	1.500 Vac (3 way)
Power Transducers	Min 18 Vdc, 20 mA	20 Vdc, 40 mA (up to 4 sensors)	Up to 8 sensors	-
LED Status indicators	Power supply Error Data transmission Data reception	Power supply Error Data transmission Data reception	Power supply Error Data transmission Data reception	Power supply Error Data transmission Data reception
Protection Degree	IP20	IP20	IP20	IP20
THERMOMECHANICAL FEATURES				
Operating Temperature	-10..+65°C	-10..+65°C	-10..+65°C	-10..+65°C
Dimension	17.5 x 100 x 112 mm	17.5 x 100 x 112 mm	17.5 x 100 x 112 mm	17.5 x 100 x 112 mm
Weight	About 140 g	About 140 g	About 140 g	About 140 g
Housing	Nylon 6 with 30% glass-fiber, V0 self-extinguished class	Nylon 6 with 30% glass-fiber, V0 self-extinguished class	Nylon 6 with 30% glass-fiber, V0 self-extinguished class	Nylon 6 with 30% glass-fiber, V0 self-extinguished class
Connections	Removable terminals block, plug in connectors, max wire size 2.5 mm2	Removable terminals block, plug in connectors, max wire size 2.5 mm2	Removable terminals block, plug in connectors, max wire size 2.5 mm2	Removable terminals block, plug in connectors, max wire size 2.5 mm2
Mounting	35 mm mounting rail (DIN 46277)	35 mm mounting rail (DIN 46277)	35 mm mounting rail (DIN 46277)	35 mm mounting rail (DIN 46277)
COMMUNICATION, PROCESSING, MEMORY				
Interfaces	2 wires RS485 RS232 (DB9 Jack stereo 3.5 mm)	2 wires RS485 RS232 (DB9 Jack stereo 3.5 mm)	2 wires RS485 RS232 (DB9 Jack stereo 3.5 mm)	2 wires RS485 RS232 (DB9 Jack stereo 3.5 mm)
Speed	Up to 115.200 bps	Up to 115.200 bps	Up to 115.200 bps	Up to 115.200 bps
Protocol	ModBUS RTU slave	ModBUS RTU slave	ModBUS RTU slave	ModBUS RTU slave
Communication Time	< 10 ms (@ 38400 baud)	< 10 ms (@ 38400 baud)	< 10 ms (@ 38400 baud)	< 20 ms (@ 38400 baud)
Distance	up to 1.200 m	up to 1.200 m	up to 1.200 m	up to 1.200 m
Connectivity	Max 32 nodes	Max 32 nodes	Max 32 nodes	Max 32 nodes
Data Memory	EEPROM for the configuration parameters, retention time 10 years	EEPROM for the configuration parameters, retention time 10 years	EEPROM for the configuration parameters, retention time 10 years	EEPROM for the configuration parameters, retention time 10 years
SIGNALS, MEASUREMENT, CONFIGURATIONS, NORMS				
Channels	1,2 input, 1 output	4	8	3 (active)
Type	<ul style="list-style-type: none"> INPUT mV: -10..+80mV Voltage: 0..10V Current: 0/4..20mA Potentiometer: 1KΩ..100KΩ Thermocouple: J,K,R,S,T,B,E,N RTD: PT100,PT500,PT1000,NI100 OUTPUT Voltage: 0..10V Current: 0..20mA, 4..20mA 	Bipolar Voltage: ± 10 Vdc or ± 2 Vdc, impedance 100 K Ω DC Bipolar Current ± 20 mA, impedance 100 Ω	Programmable bipolar input voltage ($\pm 2,5$ Vdc, ± 10 Vdc, impedance >100 k Ω) or current (± 20 mA)	Nr.3 programmable output voltage (± 10 V, 0/2..10 V, driven impedance >600 Ω) or current (0/4..20mA, driven impedance <600 Ω)
Resolution	14 bit + sign 14 bit	16 bit	16 bit	13 bit
Accuracy	0.1%	0,10%	0.1%	0.1%
Thermal Drift	0,01%/°C	0,01%/°C	0,01%/°C	0,01%/°C
Programming	Z-NET4 (IEC 61131 software) EASY SETUP (plug&play software) DIP switches	Z-NET4 (IEC 61131 software) EASY SETUP (plug&play software) DIP switches	Z-NET4 (IEC 61131 software) EASY SETUP (plug&play software) DIP switches	Z-NET4 (IEC 61131 software) EASY SETUP (plug&play software) DIP switches
Norms & Approvals	CE, EN 61000-6-4, EN 61000-6-2, EN 61010-1	CE, EN50081-2, EN 55011, EN 50082-2, EN 61000-2-2/4, EN 50140/141, EN 61010-1	UL-UR, CE, EN50081-2, EN 55011, EN 50082-2, EN 61000-2-2/4, EN 50140/141, EN 61010-1, EN 60742	UL-UR, CE, EN50081-2, EN 55011, EN 50082-2, EN 61000-2-2/4, EN 50140/141, EN 61010-1, EN 60742
ORDER CODES				
Code	Z-DAQ-PID	Z-4AI	Z-8AI	Z-3AO

Z-PC Line - Remote I/O Modules






MODBUS RTU PROCESS I/O MODULES

	Z-4RTD2	Z-4TC	Z-8TC	Z-8NTC	Z-SG
	 			 Coming Soon	
	4-CH RTD input module / RS485 MODBUS RTU	4-CH thermocouple /mV input module / RS485 MODBUS RTU	8-CH thermocouple/ mV input module / RS485 MODBUS RTU	CH-8 Resistance / NTC input module / RS485	Strain gauge input module / RS485 MODBUS RTU
GENERAL DATA					
Power Supply	10..40 Vdc, 19..28 Vac 50..60 Hz	10..40 Vdc, 19..28 Vac 50..60 Hz	10..40 Vdc; 19..28 Vac (50-60 Hz) bus powered	10..40 Vdc / 19..28 Vac	10..40 Vdc, 19..28 Vac 50..60 Hz
Power Consumption	0,7 W	0,7 W	0,6 W	TBD	2,5 W
Isolation	1.500 Vac (3 way)	1.500 Vac (3 way)	1.500 Vac (6 way)	1,5 kVac (a 3 vie)	1.500 Vac (3 way)
LED Status indicators	Power Supply Error Data Transmission Data Receiving	Power Supply Error Data Transmission Data Receiving	Power Supply Error RS485 Communication	Power Supply Error Data transmission Data receiving	Power Supply Error Data Transmission Data Receiving
Protection Degree	IP20	IP20	IP20	IP20	IP20
THERMOMECHANICAL FEATURES					
Operating Temperature	-10..+65 °C	-10..+65 °C	-10..+65 °C	-20..+70°C	-10..+65 °C
Housing	Nylon 6 with 30% glass-fiber, V0 self-extinguished class	Nylon 6 with 30% glass-fiber, V0 self-extinguished class	Nylon 6 with 30% glass-fiber, V0 self-extinguished class	Nylon 6 with 30% glass-fiber, V0 self-extinguished class	Nylon 6 with 30% glass-fiber, V0 self-extinguished class
Connections	Removable terminals block, plug in connectors, max wire size 2.5 mm ² Rear IDC10 connector for Z-PC backplane	Removable terminals block, plug in connectors, max wire size 2.5 mm ² Rear IDC10 connector for Z-PC backplane	Removable terminals block, plug in connectors, max wire size 2.5 mm ² Rear IDC10 connector for Z-PC backplane	Removable terminals with section of 2.5 mm ²	Removable terminals block, plug in connectors, max wire size 2.5 mm ² Rear IDC10 connector for Z-PC backplane
Mounting	35 mm mounting rail (DIN 46277)	35 mm mounting rail (DIN 46277)	35 mm mounting rail (DIN 46277)	35 mm mounting rail (DIN 46277)	35 mm mounting rail (DIN 46277)
COMMUNICATION, PROCESSING, MEMORY					
Interfaces	2 wires RS485	2 wires RS485	2 wires RS485	Nr.1 RS485 2 wires Nr.1 micro USB 2.0	2 wires RS485
Speed	Up to 115 kbps	Up to 115 kbps	Reading every 25 ms	Up to 115.200 bps	Up to 115 kbps
Protocol	ModBUS RTU slave	ModBUS RTU slave	ModBUS RTU slave	ModBUS RTU slave	ModBUS RTU slave
Communication Time	-	-	-	< 10 ms (@38.400 bps)	< 10 ms (@ 38400 baud)
Distance	Up to 1200 m	Up to 1200 m	Up to 1200 m	Up to 1.200 m	Up to 1200 m
Connectivity	Max 32 nodes	Max 32 nodes	Max 32 nodes	Max 32 nodes	Max 32 nodes
Data Memory	EEPROM for the configuration parameters, retention time 40 years	EEPROM for the configuration parameters, retention time 40 years	EEPROM for the configuration parameters, retention time 10 years	EEPROM for setting parameters, retention time 10 years	EEPROM for the configuration parameters, retention time 40 years
SIGNALS, MEASUREMENT, CONFIGURATIONS, NORMS					
Channel	4	4	8	8	1 input, 1 output
Type	clamps (ohmmeter 2,3,4 wire) Pt100: -200..+650°C (f.s. 330 Ω) Pt500: -200..+750°C (f.s. 1.800 Ω) Pt1000: -200..+210°C (f.s. 1.800 Ω) Ni100: -60..+250°C (f.s. 330 Ω)	clamps (ohmmeter 2,3,4 wire) Pt100: -200..+650°C (f.s. 330 Ω) Pt500: -200..+750°C (f.s. 1.800 Ω) Pt1000: -200..+210°C (f.s. 1.800 Ω) Ni100: -60..+250°C (f.s. 330 Ω)	Thermocouple J, K, R, S, T, B, E, N (EN 60584-1, ITS-90) Voltage Input: -10,1..+81,4 mV Range: -210..+1820°C Current Shunt: Up to 70mV	Generic NTC, curve defined by user. Rated values: 1K, 10K, 50K @25°C; Resistance range: 100 Ohm..10 kOhm; 1 kOhm.. 100 KOhm; 5 kOhm..500 kOhm.	INPUT N.1 analog channel for load cell (and power supply) up to 4 (350Ω) or 8 (1.000 Ω) strain gauge load cells, connection to 4 or 6 wires, impedance equal to 87 Ω OUTPUT N.1 analog retransmission channel of the net weight in current (0..20, 4..20 mA) or in voltage (0..5, 0..10 V) N.1 Digital Input or Output for calibration tare or weight limit Sensibility: from 1 to 64 mV/V 24 bit
Resolution	16 bit	16 bit	16 bit	16 bit	24 bit
Accuracy	0,05%	0,05%	0,05%	0,5%	0,01%
Thermal Drift	25 ppm/K	25 ppm/K	< 100 ppm/K	< 100 ppm/K	25 ppm/K
Programming	Z-NET4 (IEC 61131software) EASY SETUP(plug&play software) DIP switches	Z-NET4 (IEC 61131software) EASY SETUP(plug&play software) DIP switches	Z-NET4 (IEC 61131software) EASY SETUP(plug&play software) DIP switches	System software (Z-NET4) Plug&Play software (EASY SETUP) DIP switches	Z-NET4 (IEC 61131software) EASY SETUP (plug&play software) DIP switches
Norms & Approvals	UL-UR, CE, EN 61000-6-4/2002, EN 61000-6-2/2002, EN 61010, EN 60742	CE, EN 61000-6-4/2002, EN 61000-6-2/2002, EN 61010, EN 60742	CE, EN 61000-6-4/2002, EN 61000-6-2/2002, EN 61010, EN 60742	CE EN 61000-6-4, EN 61000-6-2, EN 61010-1	CE, EN 61000-6-4/2002, EN 61000-6-2/2002, EN 61010, EN 60742, IEC 61131
ORDER CODES					
Code	Z-4RTD2	Z-4TC	Z-8TC	Z-8NTC	Z-SG







	MODBUS RTU DIGITAL / ANALOG I/O MODULE	MODBUS RTU / MODBUS TCP-IP DIGITAL / ANALOG I/O MODULE	MODBUS RTU / MODBUS TCP-IP ANALOG I/O MODULE
	Z-4DI-2AI-2DO	ZE-4DI-2AI-2DO	ZE-2AI
	 <p>4-CH Digital Input/ 2-CH Analogue Input / 2-CH Digital Output Modbus RTU</p>	 <p>4-CH Digital Input/ 2-CH Analogue Input, 2-CH Digital Output Modbus RTU-Modbus TCP-IP</p>	 <p>2-CH Analogue input Modbus RTU Modbus TCP-IP module</p>
GENERAL DATA			
Power Supply	11..40 Vdc; 19..28 Vac	11..40 Vdc; 19..28 Vac	11..40 Vdc; 19..28 Vac
Power consumption	3,5 W (max)	4,5 W (max)	1,8 W (max)
Isolation	1.500 Vac	1.500 Vac	1.500 Vac
LED status indicators	RX/TX RS485	RX/ TX RS485/ IP/ DHCP/ Ethernet Activity/ Ethernet Link	RX/ TX RS485/ IP/ DHCP/ Ethernet Activity/ Ethernet Link
Protection degree	IP20	IP20	IP20
Operating temperature	-10..+65°C	-10..+65°C	-10..+65°C
Dimension	35x100x112 mm	35 x 100 x 112 mm	17.5 x 100 x 112 mm
Weight	Approx 170 g	Approx 170 g	Approx 140 g
Connection	IDC 10 for Seneca bus Removable terminals, pitch 5,08 mm	DC 10 for Seneca bus Removable terminals, pitch 5,08 mm Mini-B USB Ethernet RJ45	IDC 10 for Seneca bus Removable terminals, pitch 5,08 mm Mini-B USB Ethernet RJ45
Mounting	35 mm mounting rail (DIN 46277)	35 mm mounting rail (DIN 46277)	35 mm mounting rail (DIN 46277)
COMMUNICATION			
Interfaces	Nr.2 RS485 Nr. 1 mini USB 2.0	N°1 Ethernet 10/100 Mbps N°2 RS485 N°1 mini USB 2.0	N°1 Ethernet 10/100 Mbps N°2 RS485 N°1 mini USB 2.0
Data rate	Up to 115.200 bps (RS485)	100 Mbps (TCP-IP) 115.200 bps (RS485)	100 Mbps (TCP-IP) 115.200 bps (RS485)
Protocols	MosBUS RTU	ModBUS RTU ModBUS TCP-IP Http	ModBUS RTU ModBUS TCP-IP Http
Communication time	From 1 to 300 ms	From 1 to 300 ms	From 1 to 300 ms
Max distance	Up to 1.200 m	Up to 1.200 m	Up to 1.200 m
Connectivity	Max 32 nodes	Max 32 nodes	Max 32 nodes
INPUT DATA			
Nr Channels	6 (4DI, 2AI)	6 (4DI, 2AI)	2
Type	N°2 Analog Inputs 0-20 mA / 0-30 V N°4 Digital Inputs PNP / NPN (N°4 totalizers @ 32 bit max 7 kHz) (N°4 resettable counters @ 32 bit max 7 kHz)	N°2 Analog Inputs 0-20 mA / 0-30 V N°4 Digital Inputs PNP / NPN (N°4 totalizers @ 32 bit max 7 kHz) (N°4 resettable counters @ 32 bit max 7 kHz)	N°2 Analog Inputs 0-20 mA / 0-30 V
Resolution	16 bit	16 bit	16 bit
Accuracy class	0,1%	0,1%	0,1%
Thermal Drift	100 ppm/K	100 ppm	100 ppm
OUTPUT DATA			
Nr Channels	2DO	2DO	
Type	Relay NO / NC max 5 A	Relay NO / NC max 5A	
SETTING			
Programming	Plug&play software configurator (EASY SETUP) DIP switches Web Server	Plug&Play software configurator (EASY SETUP) DIP switches Web Server	Plug&Play software configurator (EASY SETUP) DIP switches Web Server
DIP-switch	Yes (address, speed)	Yes (address, speed)	Yes (address, speed)
Web Server	Yes (remote I/O configuration)	Yes (remote I/O configuration)	Yes (remote I/O configuration)
STANDARD			
Approvals	CE	CE	CE
Norms	EN 61000-6-4, EN 64000-6-2, EN 61010-1, EN 60950	EN 61000-6-4, EN 64000-6-2, EN 61010-1, EN 60950	EN 61000-6-4, EN 64000-6-2, EN 61010-1, EN 60950
ORDER CODES			
Code	Z-4DI-2AI-2DO	ZE-4DI-2AI-2DO	ZE-2AI

Z-PC Line - Remote I/O Modules

MODBUS RTU / CANOPEN DIGITAL I/O MODULES

	ZC-24DI	ZC-24DO	ZC-16DI-8DO
			
	24-CH digital input CANopen - MODBUS module	24-CH digital output CANopen - MODBUS module	16-CH digital input, 8-CH digital output CANopen - MODBUS module
			
			
GENERAL DATA			
Power supply	10..40 Vdc / 19..28 Vac	10..40 Vdc / 19..28 Vac	10..40 Vdc / 19..28 Vac
Power Consumption	2,5 W	2,5 W	2,5 W
Operating Temperature	-10..-65°C	-10..-65°C	-10..-65°C
Status Indicators	Power supply Input State Communication	Power supply Input State Communication	Power supply Input State Communication
Isolation	1.5 kVac (3 way)	1.5 kVac (3 way)	1.5 kVac (3 way)
Communication Time	2,5 ms	1,2 ms	1,2..2,5 ms
Housing	Nylon 6 with 30% glass-fiber, V0 self-extinguished class	Nylon 6 with 30% glass-fiber, V0 self-extinguished class	Nylon 6 with 30% glass-fiber, V0 self-extinguished class
Connections	Removable screw terminals, IDC10 connector for Z-PC-DIN backplane 3.5 mm RS232, front jack	Removable screw terminals, IDC10 connector for Z-PC-DIN backplane 3.5 mm RS232, front jack	Removable screw terminals, IDC10 connector for Z-PC-DIN backplane 3.5 mm RS232, front jack
Protection Degree	IP20	IP20	IP20
Configuration	DIP switches (baud rate, Node ID) EDS file IEC 61131	DIP switches (baud rate, Node ID) EDS file IEC 61131	DIP switches (baud rate, Node ID) EDS file IEC 61131
Protocols supported	CAN bus standard (2.0A, 2.0B) CANopen (profile CiA 401v.2.01) ModBUS RTU (Through RS485)	CAN bus standard (2.0A, 2.0B) CANopen (profile CiA 401v.2.01) ModBUS RTU (Through RS485)	CAN bus standard (2.0A, 2.0B) CANopen (profile CiA 401v.2.01) ModBUS RTU (Through RS485)
CANopen max speed	1Mbps	1Mbps	1Mbps
Special functions	CANopen/ModBUS protocol switching	CANopen/ModBUS protocol switching	CANopen/ModBUS protocol switching
Norms & Approvals	CE, EN 61000-6-4, EN 64000-6-2, EN 61010-1 CAN 2.0A, 2.0B CiA 401 v.2.01 IEC EN 61131-2	CE, EN 61000-6-4, EN 64000-6-2, EN 61010-1 CAN 2.0A, 2.0B CiA 401 v.2.01 IEC EN 61131-2	CE, EN 61000-6-4, EN 64000-6-2, EN 61010-1 CAN 2.0A, 2.0B CiA 401 v.2.01 IEC EN 61131-2
INPUT DATA			
Channels	24 (with shared common powered at 16Vdc)		16 (with shared common powered at 16Vdc)
Polarity	EN 61131-2 type 2, synq (pnp)		EN 61131-2 type 2, synq (pnp)
Counters	Nr.8 @ 32 bit, Max Freq. 10 KHz Increment individual configurable, reset, preset Overflow indication		Nr.8 @ 32 bit, Max Freq. 10 KHz Increment individual configurable, reset, preset Overflow indication
Vmax	30V		30V
Minimum pulse width	250µs		250µs
ON/OFF delay	< 3ms		< 3ms
TPDO	< 1ms		< 1ms
OUTPUT DATA			
Channels		24	8
Type		Mosfet (open source) with shared common	Mosfet (open source) with shared common
Power Supply Voltage		5..30 Vdc	5..30 Vdc
Maxim Current		0.5A (connection from terminals) 25mA (connection from connectors)	0.5A (connection from terminals) 25mA (connection from connectors)
ON/OFF delay		< 1ms	< 1ms
RPDO		<1,25MS	<1,25MS
CANOPEN FEATURES			
NMT	Slave	Slave	Slave
Error Control	Node Guarding	Node Guarding	Node Guarding
Node ID	Free software, DIP switches	Free software, DIP switches	Free software, DIP switches
Nr.PDO	RX 5	RX 5	RX 5
PDO modes	Event triggered - Synq (cyclic) - Synq (acyclic)	Event triggered - Synq (cyclic) - Synq (acyclic)	Event triggered - Synq (cyclic) - Synq (acyclic)
PDO linking	yes	yes	yes
PDO mapping	variable	variable	variable
Nr. SDO server	1	1	1
Emergency message	yes	yes	yes
Application layer	CiA 301 v4.02	CiA 301 v4.02	CiA 301 v4.02
Profile	CiA 401 v2.01	CiA 401 v2.01	CiA 401 v2.01
ORDER CODES			
Code	ZC-24DI	ZC-24DO	ZC-16DI-8DO

CANOPEN ANALOG I/O MODULES

	ZC-8AI	ZC-3AO	ZC-4RTD	ZC-8TC	ZC-SG
					
	8-CH analog input / CANopen module	3-CH analog output / CANopen module	4-CH RTD input / CANopen module	8-CH thermocouple input / CANopen module	Strain gauge input / CANopen module
GENERAL DATA					
Power supply	10..40 Vdc / 19..28 Vac	10..40 Vdc / 19..28 Vac	10..40 Vdc / 19..28 Vac	10..40 Vdc / 19..28 Vac	10..40 Vdc / 19..28 Vac (strain gauge powered by the instrument)
Power Consumption	5 W	2,5 W	1 W	1 W	2 W
Power Transducers	up to 8 (22 mA @ 16.5 V) 2/3 wires				5 Vdc , up to 4/8 load cells
Isolation	1.5 kVac (6 way)	1.5 kVac (5 way)	1.5 kVac (6way)	1.5 kVac (6 way)	1.5 kVac (3 way)
Input protection	Against ESD discharge up to 4kV	Against ESD discharge up to 4kV	Against ESD discharge up to 4kV	Against ESD discharge up to 4kV	Against ESD discharge up to 4kV
Status Indicator	Power - Communication Fault input	Power - Communication Fault input	Power - Communication Fault input	Power - Communication Fault input	Power - Communication Fault input
Response Time	< 28 ms	< 7 ms	< 28ms	< 28ms	< 7 ms
Accuracy	0,05%	0,01%	0,05%	0,10%	0,01%
A/D Resolution	14 or 15 bit	14 bit	13 or 14 bit	15 bit	ADC 24bit
Thermal Drift	<100 ppm/°C	<100 ppm/°C	<50 ppm/°C	<100 ppm/°C	<25 ppm/°C
Dimension	17,5 x 110 x 112 mm	17,5 x 110 x 112 mm	17,5 x 110 x 112 mm	17,5 x 110 x 112 mm	17,5 x 110 x 112 mm
Housing	Nylon 6 with 30% glass-fiber, V0 self-extinguished class	Nylon 6 with 30% glass-fiber, V0 self-extinguished class	Nylon 6 with 30% glass-fiber, V0 self-extinguished class	Nylon 6 with 30% glass-fiber, V0 self-extinguished class	Nylon 6 with 30% glass-fiber, V0 self-extinguished class
Weight	About 170 g	About 170 g	About 170 g	About 170 g	About 170 g
Operating Temperature	-10..+65°C	-10..+65°C	-10..+65°C	-10..+65°C	-10..+65°C
Connections	Removable screw terminals, IDC10 connector for Z-PC-DIN backplane 3.5 mm RS232, front jack	Removable screw terminals, IDC10 connector for Z-PC-DIN backplane 3.5 mm RS232, front jack	Removable screw terminals, IDC10 connector for Z-PC-DIN backplane 3.5 mm RS232, front jack	Removable screw terminals, IDC10 connector for Z-PC-DIN backplane 3.5 mm RS232, front jack	Removable screw terminals, IDC10 connector for Z-PC-DIN backplane 3.5 mm RS232, front jack
Protection Degree	IP20	IP20	IP20	IP20	IP20
Configuration	DIP switches (baud rate, Node ID)	DIP switches (baud rate, Node ID) - EDS file - IEC 61131	DIP switches (baud rate, Node ID) - EDS file - IEC 61131	DIP switches (baud rate, Node ID) - EDS file - IEC 61131	DIP switches (baud rate, Node ID) - EDS file - IEC 61131
Protocols supported	EDS file IEC 61131 CAN bus standard (2.0A, 2.0B) CANopen (profile CiA 401 v.2.01)	EDS file IEC 61131 CAN bus standard (2.0A, 2.0B) CANopen (profile CiA 401 v.2.01)	EDS file IEC 61131 CAN bus standard (2.0A, 2.0B) CANopen (profile CiA 401 v.2.01)	EDS file IEC 61131 CAN bus standard (2.0A, 2.0B) CANopen (profile CiA 401 v.2.01)	EDS file IEC 61131 CAN bus standard (2.0A, 2.0B) CANopen (profile CiA 401 v.2.01)
CANopen max speed	1Mbps	1Mbps	1Mbps	1Mbps	1Mbps
Norms & Approvals	CE, EN 61000-6-4, EN 64000-6-2, EN 61010-1 CAN 2.0A, 2.0B CiA 401 v.2.01 IEC EN 61131-2	CE, EN 61000-6-4, EN 64000-6-2, EN 61010-1 CAN 2.0A, 2.0B CiA 401 v.2.01 IEC EN 61131-2	CE, EN 61000-6-4, EN 64000-6-2, EN 61010-1 CAN 2.0A, 2.0B CiA 401 v.2.01 IEC EN 61131-2	CE, EN 61000-6-4, EN 64000-6-2, EN 61010-1 CAN 2.0A, 2.0B CiA 401 v.2.01 IEC EN 61131-2	CE, EN 61000-6-4, EN 64000-6-2, EN 61010-1 CAN 2.0A, 2.0B CiA 401 v.2.01 IEC EN 61131-2
INPUT DATA					
Channels	8 (4 isolation zones)		4, RTD with 2,3,4 wires, fully isolation	8 (thermocouples or mV)	1
Type	Voltage : 0-10V Current : 0-20 mA		PT100 (EN 60751/A2-ITS90), -200..+650°C PT500 (EN 60751/A2-ITS90), -200..+750°C PT1000 (EN 60751/A2-ITS90), -200..+210°C Ni100 (EN 60751/A2-ITS90), -60..+250°C	Thermocouple Type: J, K, E, N, S, R, B, T; EN 60584-1 (ITS-90) Span mV: -10,1 mV..+81,4 mV Impedance: 10 MΩ	ANALOG INPUT Input type: 6/4 wires differential measurement input Load cells (strain gauge), Voltage supply: 5Vdc Min impedance: 87Ω Sensitivity from ±1 to ±64 mV/V Full Scale : ±5.. ±320 mV DIGITAL INPUT Tare calibration and span (max 30 V)
OUTPUT DATA					
Channels		3			1
Type		Voltage : ±10V Current : 0-20, 4..20 mA			Digital Nr.1 channel for stable weight or threshold (max 30 V, 50 mA)
CANOPEN FEATURES					
NMT	Slave	Slave	Slave	Slave	Slave
Error Control	Node Guarding	Node Guarding	Node Guarding	Node Guarding	Node Guarding
Node ID	Free software - DIP switches	Free software - DIP switches	Free software - DIP switches	Free software - DIP switches	Free software - DIP switches
Nr.PDO	RX 5	RX 5	RX 5	RX 5	RX 5
PDO modes	Event triggered Synq (cyclic) - Synq (acyclic)	Event triggered Synq (cyclic) - Synq (acyclic)	Event triggered Synq (cyclic) - Synq (acyclic)	Event triggered Synq (cyclic) - Synq (acyclic)	Event triggered Synq (cyclic) - Synq (acyclic)
PDO linking	yes	yes	yes	yes	yes
PDO mapping	variable	variable	variable	variable	variable
Nr. SDO server	1	1	1	1	1
Emergency message	yes	yes	yes	yes	yes
Application layer	CiA 301 v4.02	CiA 301 v4.02	CiA 301 v4.02	CiA 301 v4.02	CiA 301 v4.02
Profile	CiA 401 v2.01	CiA 401 v2.01	CiA 401 v2.01	CiA 401 v2.01	CiA 401 v2.01
ORDER CODES					
Code	ZC-8AI	ZC-3AO	ZC-4RTD	ZC-8TC	ZC-SG

CONTROLLERS

IEC 61131 STRATON CONTROLLERS

Z-TWS11

Z-TWS4



	Z-TWS11	Z-TWS4	
MAIN FEATURES	Built-in I/O	2AI	-
	CPU	ARM 32 bit @ 120 MHz	ARM9 32-bit @400MHz
	Memory (Flash/RAM)	- / 256 MB	1 GB / 64 MB
	Programming System	Straton	Straton
	Program Dimension	250 kB	2048 kB
CONNECTIVITY	Modem / Router	-	-
	Industrial protocols	ModBUS RTU/TCP	ModBUS RTU/TCP
	IT protocols	http, ftp, smtp	http, ftp, smtp, ppp
	Energy protocols	-	IEC 60870-101/104, IEC 61850 (opt.)
	VPN Support	-	VPN Box, OpenVPN
	Private APN support	-	Yes
	Ethernet ports	1	2
	Serial ports	2	2
	USB ports	1	1
APPLICATION	Up to 1000 I/O		x
	Up to 200 I/O	x	
	Advanced Automation		x
	Remote Control / Remote Assistance		x
	Microautomation	x	
	Energy Management		x
	Pump control		
	Fluid regulation		

SENECA's IEC 61131 Controllers (Z-TWS11, Z-MINIRTU, Z-TWS4, Z-TWS5, Z-PASS2-S, S6001-RTU) combine PLC automation tasks (based on Straton workbench following IEC 61131 standard), such as web server, datalogger, data acquisition, remote control and energy management (IEC 6087'-101/104, IEC 61850). They can be used in many configurations and architectures different from each other based on system complexity and hardware features required. SENECA also provides process controllers for pump control and flow regulation.

IEC 61131 STRATON RTUs			PROCESS CONTROLLERS AND CALCULATORS	
Z-MINI-RTU	Z-PASS2-S	S6001-RTU	S6001-PC	Z-FLOWCOMPUTER
				
4DI, 2DO, 2AI	-	15DI+2DI, 8DO, 4AI, 2AO	15DI+2DI, 8DO, 4AI, 2AO	4DI, 3AI, 2DO
ARM 32 bit @ 120 MHz	ARM9 32-bit @400MHz	ARM9 32-bit @400Mhz	ARM9@32bit 400 MHz	ARM 32 bit @ 120 MHz
- / 256 MB	1 GB / 64 MB	1 GB / 64 MB	1 GB / 64 MB	8 MB / 256 kB
Straton	Straton	Straton	HMI	HMI, EASY
250 kB	2048 kB	2048 kB	2048 kB	2048 kB
2G	3G+	3G+	3G+	-
ModBUS RTU/TCP	ModBUS RTU/TCP	ModBUS RTU/TCP	ModBUS RTU/TCP(Slave)	ModBUS RTU/TCP(Slave)
http, ftp, smtp, ppp	http, ftp, smtp, ppp	http, ftp, smtp, ppp	http, ftp, smtp, ppp	http, ftp
-	IEC 60870-101/104, IEC 61850 (opt.)	IEC 60870-101/104, IEC 61850 (opt.)	-	-
-	VPN Box, OpenVPN	VPN Box, OpenVPN	VPN Box, OpenVPN	-
Yes	Yes	Yes	Yes	-
2	2	1	1	1
3	4	3	3	1
2	2	2	2	1
	x	x		
x				
x	x	x		
x	x	x		
	x	x		
			x	
				x

RTUs / CONTROLLERS FOR ENERGY MANAGEMENT



For Energy Management applications SENECA introduces different CPU such Z-TWS4-E, Z-PASS2-S-E and S6001RTU-E supporting IEC 60870-5-101, IEC 60870-5-104, IEC 61850 protocols.

These units allow a redundant connection in plant automation applications, power generation control, renewable energy management (biomass, solar, wind, etc.) and smart grid systems. They are configurable as a web server and TCP-IP node, this device can easily be integrated into SCADA, EMS and monitoring web platforms.



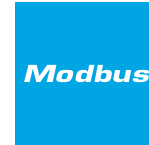
**ENERGY
MANAGEMENT
APPLICATIONS**



**STRATON
SOFT PLC
IEC 61131-3**



**VPN
SUPPORT**



**MODBUS RTU /
TCP-IP
CONNECTIVITY**



**IEC 60870-101-104
MASTER / SLAVE**



**IEC 61850
CLIENT /
SERVER**

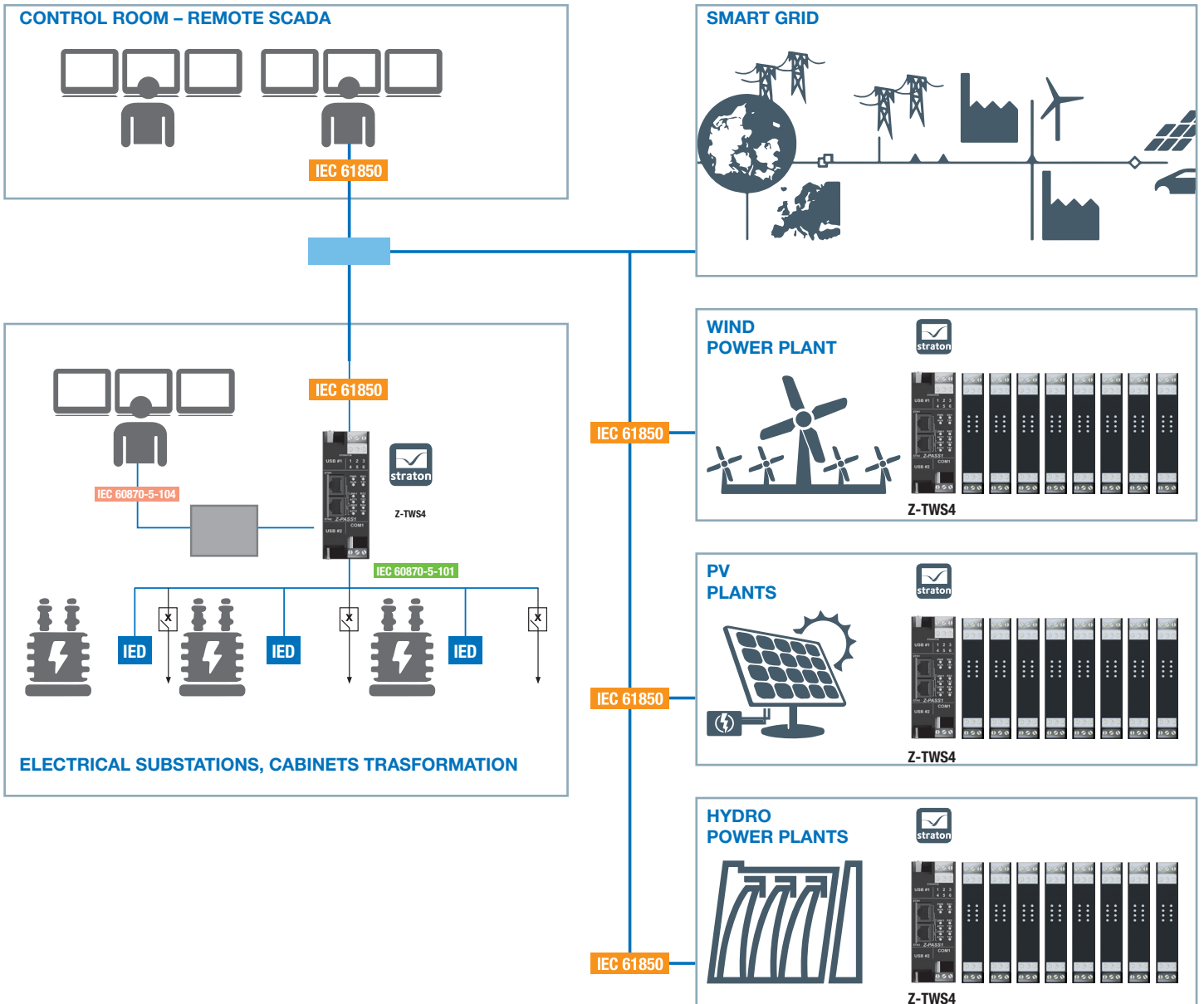


**SMART
GRID**



**SCADA /
WEB BASED**

ARCHITECTURES



SENECA software suite include powerful configurators, programming toolkit, data access / acquisition tools. Z-NET4 is designed for CPU / Controller and I/O modules configuration, It also enables variable database (IEC 61131, OPC, trend, log, alarm / events). Alternatively for fast I/O setting is available EASY SETUP tool. Programming strategy is based on Straton, IEC 61131 Soft PLC a powerful environment designed for process industry. Web Factory allows to develop web pages starting from a Z-NET4 project and to upload them in SENECA CPUs. Data Recorder and Trend Viewer are flexible tools for data acquisition, graph trending and events/variables log / archive. OPC Server technology can communicate real-time data towards Scada and other clients.



EASY SETUP

Plug&Play suite for SENECA programmable instruments



Z-NET4

SENECA CPU / I/O systems settings and engineering environment (IP, VPN, Routing etc...)



WEB FACTORY

Z-NET4 integrated HMI / Web editor



DATA RECORDER

Z-NET4 integrated DAQ software



TREND VIEWER

Z-NET4 integrated DAQ software



STRATON

Z-NET4 integrated trend visualization



OPC SERVER

Real time control units data access via OPC DA



	EASY SETUP	Z-NET4	WEB FACTORY	DATA RECORDER	TREND VIEWER	STRATON	OPC Server
License	free	free	free	USB key	free	USB key	USB key
Hardware and IO Configuration	✓	✓					
Complete System Configuration	✓	✓					
Communication Settings	✓	✓		✓		✓	✓
Advanced Variables Settings		✓				✓	✓
Alarm Management		✓		✓		✓	
Control Logic		✓		✓		✓	
Telecontrol functions		✓				✓	
Math functions				✓		✓	
Event / Log Archive						✓	
Diagnostic		✓		✓		✓	✓
Data Acquisition	✓	✓	✓	✓		✓	✓
Real-time variables Acquisition/Simulation	✓	✓	✓	✓		✓	✓
Data Visualization (Graph, Trend)			✓	✓	✓		
Import/Export Data					✓		✓
Import/Export Variables Configuration		✓			✓	✓	✓

DATA RECORDER Z-NET4 INTEGRATED DAQ SOFTWARE



Data Recorder is an open software, scalable and cost-effective Windows PC-based, suitable for laboratories, testing rooms, process measures monitoring.

The communication between PC hardware and can be either serial (RTU RS232/RS485/ModBUS) or Ethernet / Modbus TCP-IP on wired or wireless system. A tabular menu provides access to the configuration of the channels from where you can set several parameters (name, description, unit of measure, start-end scale) for each track.

USB License KEY that can manage from 2 to unlimited channels (analog, digital, impulsive or calculated). The graphical representation is available on display (digit) or nibs. The real-time displaying offers multiple selection: groups of channels, range of representation, view type. Also the historical data (input and alarms) with a special visualization tool.

Plus package available include: alarm management (with enabling of digital outputs), report management (with trigger events) and math tool with algebraic functions, linear, trigonometric, boolean (digital channels) averaging calculation, deviations and compensation measures.

BASIC TOOLS / OPTIONS

Minimum hardware requirements

O.S. Windows 8 or later
RAM 128 MB
HD 3G
SVGA 800x600

Physical data acquisition via SENECA Z-PC Line Remote I/O system



Windows & OPC tested & supported



Hand-held DAQ system ready-to-use



HIGHLIGHTS

Software license from 2 to 64 channels



Real-time data recording with pen or display (digit)



Logging files (mdb, csv) displayed with Trend Viewer software tool



Data and project integration with Z-NET suite configuration



PLUS package with math, report, alarm, multiclient functions



Scheduling recording



Serial, Ethernet, Wireless connection support

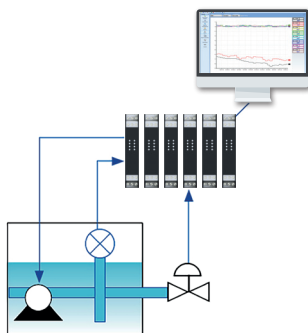


Advanced temperature sensors calibration

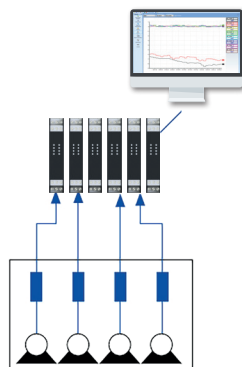


APPLICATION EXAMPLES

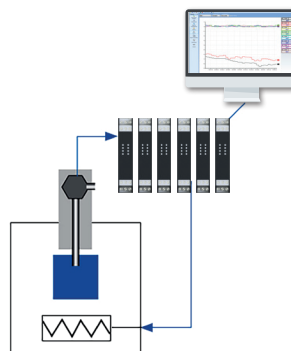
WATER QUALITY PARAMETERS MONITORING



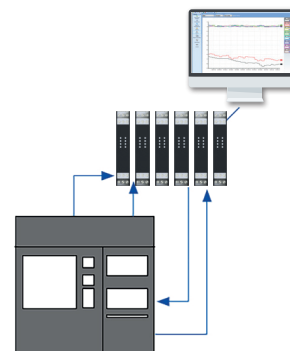
DATA TEST AND ACQUISITION FOR ELECTRIC MOTORS



HUMIDITY / TEMPERATURE MONITORING

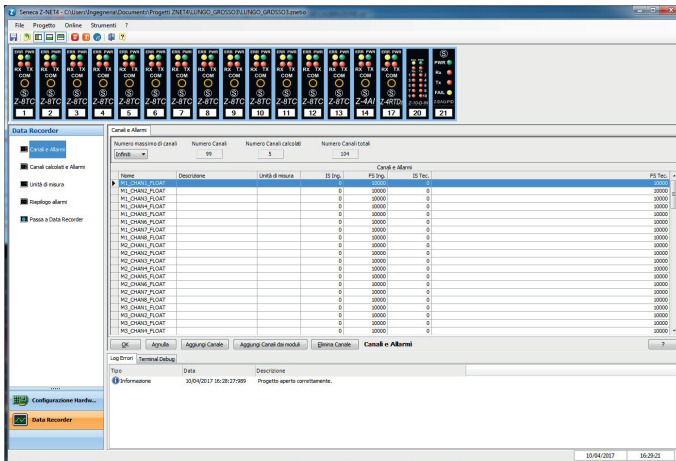


CLIMATIC CHAMBER MONITORING



CONFIGURATION STEPS

1 Z-NET4 – SYSTEM CONFIGURATION



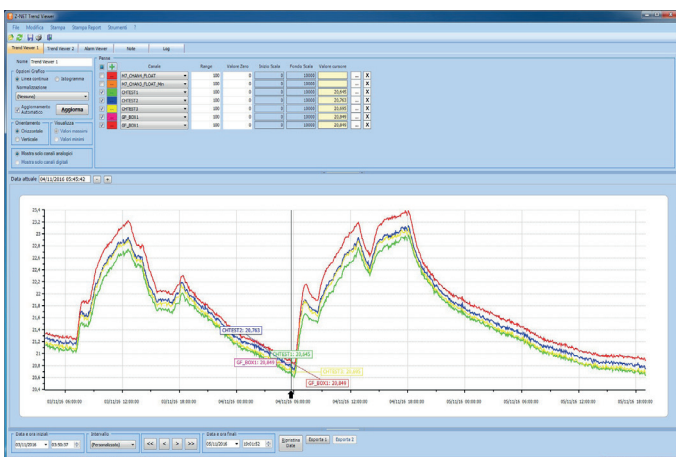
- Hardware & Project configuration
- Communication parameters settings
- Channels (I/O, variables) settings
- Tag, name, description, end/full scale
- Math functions
- Alarm settings
- Online test configuration

2 DATA RECORDER



- Data acquisition from 2 to unlimited channels (min 1 sec. recording period)
- Visualization pages settings
- Digital display or pen mode visualization
- Start / Stop / Pause recording command
- Channels groups, range, scroll selection
- Real-time value / unit visualization
- Automatic report generation
- Recording scheduler
- Alarm display
- Thermocouple calibration
- Independent Multi-client recording sessions

3 TREND VIEWER



- Trend graphs visualization
- Independent visualization for different signal groups
- Alarms / Events log
- Archive and access history database
- Statistical processing over a cursor specified area
- Printing and conversion of data to csv and Excel compatible formats
- SQLite database management

ORDER CODES

Code	Description
DR-2	2-CH Data Recorder, data acquisition and visualization software for Modbus IO modules
DR-4	4-CH Data Recorder, data acquisition and visualization software for Modbus IO modules
DR-8	8-CH Data Recorder, data acquisition and visualization software for Modbus IO modules
DR-16	16-CH Data Recorder, data acquisition and visualization software for Modbus IO modules
DR-32	32-CH Data Recorder, data acquisition and visualization software for Modbus IO modules
DR-64	64-CH Data Recorder, data acquisition and visualization software for Modbus IO modules
DR-UN	Unlimited CH Data Recorder, data acquisition and visualization software for Modbus IO modules

ORDER CODES

Code	Description
DR-2-PLUS	2-CH Data Recorder + plus package (alarm, math, report, multi-client)
DR-4-PLUS	4-CH Data Recorder + plus package (alarm, math, report, multi-client)
DR-8-PLUS	8-CH Data Recorder + plus package (alarm, math, report, multi-client)
DR-16-PLUS	16-CH Data Recorder + plus package (alarm, math, report, multi-client)
DR-32-PLUS	32-CH Data Recorder + plus package (alarm, math, report, multi-client)
DR-64-PLUS	64-CH Data Recorder + plus package (alarm, math, report, multi-client)
DR-UN-PLUS	Unlimited CH Data Recorder + plus package (alarm, math, report, multi-client)

Z-PC LINE - DOCUMENTS FOR RELATED PRODUCTS



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