

AUTOMATION INTERFACES

SHORT FORM CATALOG

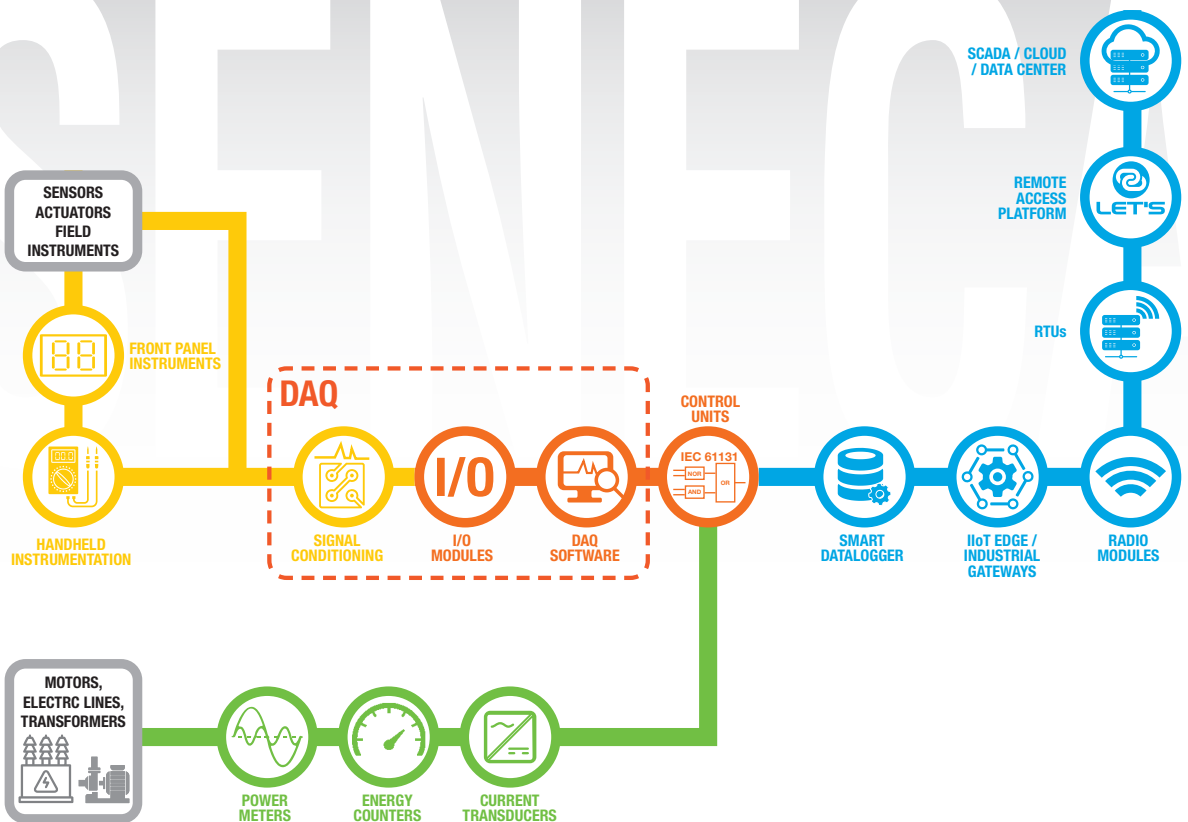
 
100% Made & Designed in Italy



 **SENECA**
www.seneca.it

MISSION: WE HANDLE THE SIGNAL FROM THE SENSOR TO INDUSTRY 4.0

One of the leading companies in Europe to design and produce galvanic isolators and signal conditioners, SENECA offers a comprehensive catalogue of high-performance and cost-effective products and systems with which it is possible to feed, isolate, convert, capture, display and transmit safely by cable, bus or radio, most industrial signals, in other words, to ensure the integrity of the data processing cycle. In the 4.0 age, an increasing number of manufacturing companies, builders of machines, utilities, chemical and process industries must be able to rely on decentralised devices and control systems to monitor the progress of machines and systems. In this scenario the intent of SENECA is to ensure the real-time knowledge of the data available in order to offer the customer new information and concrete economic opportunities. This is the essence of the innovation process called Industry 4.0, in which the functions of data collection and interconnection are fundamental.



DATA ACQUISITION AND AUTOMATION SYSTEMS

INDUSTRIAL COMMUNICATION AND REMOTE CONTROL

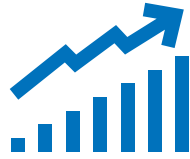
POWER MONITORING AND ELECTRICAL MEASUREMENT

MEASUREMENT AND CONTROL PANEL INSTRUMENTATION

FACTS & FIGURES



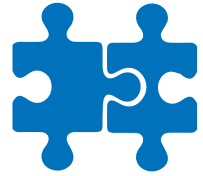
Main Italian manufacturer of automation interfaces



CAGR last 5 years 14%



ISO 9001 quality certification since 1997



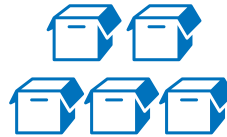
2 synergic business units



International product and process certifications



Global sales network with about 70 partners



200,000 pieces sold on average each year



Latest generation Pick&Place 50.000 comp./hour



4 product lines >700 article codes



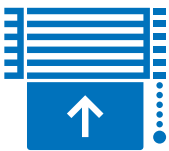
Average time for order processing 48h



Over 2,500 active customers



Multichannel technical support within 48h



Automated warehouses with over 90,000 pieces in stock



Average MTBF over 1 million hours



High-tech headquarters of over 5,000 sqm



Customized warranty up to 60 months

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**DATA ACQUISITION
AND AUTOMATION
SYSTEMS**










1.1 MODBUS RTU MODULES

Z-PC Line is a modular automation system for managing from a single signal to thousands of I/Os. ZPC series includes the maximum variety of I/O modules: digital inputs, fast counters, digital relay and mosfet outputs, analog channels (mA, V, Ohm, mV), strain gauge, resistance thermometers, thermocouples, electrical signals, galvanically isolated and with ModBUS, RTU communication protocol. The I/O modules support RS485 serial communication with ModBUS RTU protocol, up to 64 nodes without repeater and speeds up to 115 kbps.

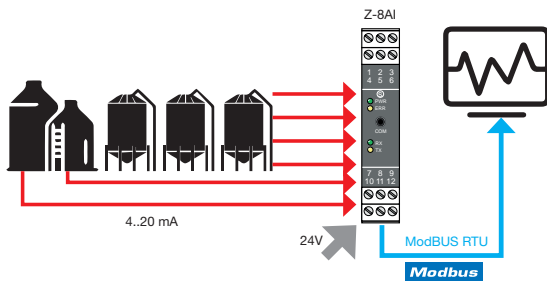
 WIDE SCALABLE MULTI-POURPOSE RANGE	 SUPPORTED PROTOCOLS	 THIRD-PARTY DEVICES INTEGRATION	 DATA RECORDER DAQ SOFTWARE
 MULTIWAYS ISOLATION @1,5 KVAC	 32 BIT COUNTERS @10KHZ	 RESOLUTION UP TO 16 BITS	 INTERNATIONAL STANDARDS COMPLIANCE

TOP SELLING PRODUCTS

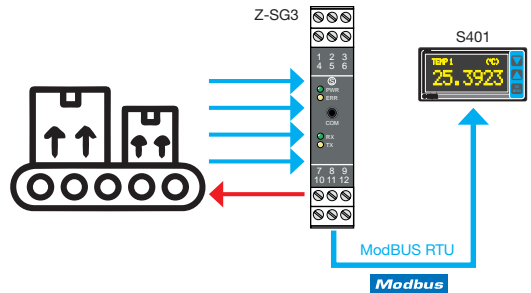
Z-8AI	Z-SG3	Z-10-D-IN	Z-4RTD2
8-CH Analog Input module RS485 ModBUS RTU	ModBUS RTU advanced strain gauge converter module	10-CH Digital Input module RS485 ModBUS RTU	4-CH RTD Input module RS485 ModBUS RTU
 		 	 

APPLICATION EXAMPLES

PROCESS MEASUREMENT AND DATA RETRANSMISSION VIA MODBUS RTU



MODBUS ACQUISITION AND DISPLAY FOR WEIGHING SYSTEMS











MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
Z-10-D-IN	10-CH Digital Input module / RS485 ModBUS RTU	Z-8TC-1	8-CH thermocouple input module @14 bits, ModBUS
Z-10-D-OUT	10-CH Digital Output module / RS485 ModBUS RTU	Z-8TC-LAB	8-CH thermocouple input module @15 bits, ModBUS interchangeable clamps
Z-3AO	3-CH analog output module / RS485 ModBUS RTU	Z-8TC-SI	8-CH thermocouple input module @24 bits, ModBUS
Z-4AI	4-CH analog input module / RS485 ModBUS RTU	Z-8TC-SI-LAB	8-CH thermocouple input module @24 bits, ModBUS interchangeable clamps
Z-4DI-2AI-2DO	Module with 2 AI, 2 DO, 4 DI, ModBUS RTU	Z-DAQ-PID	1 CH AI / RS485 ModBUS RTU with PID regulation
Z-4RTD2	4-CH RTD input module / RS485 ModBUS RTU 6 ways isolation, @14bit	Z-D-IN	5 CH DI module / RS485 ModBUS RTU
Z-4RTD2-SI	4-CH RTD input module / RS485 ModBUS RTU, 3 ways isolation, @24bit	Z-D-IO	6 CH DI / 2 CH DO module / RS485 ModBUS RTU
Z-4TC	4-CH thermocouple input module / RS485 ModBUS RTU	Z-D-OUT	5 CH DO Relay module / RS485 ModBUS RTU
Z-5DI-2DO	5CH Digital Input - 2CH Digital Output RS485-ModBUS RTU	Z-SG	Strain gauge module / Analogue out + ModBUS RTU
Z-8AI	8-CH analog input module / RS485 ModBUS RTU	Z-SG3	Advanced strain gauge input module / RS485 ModBUS RTU
Z-8NTC	8-CH NTC input module / RS485 ModBUS RTU		





Additional order
codes and
information



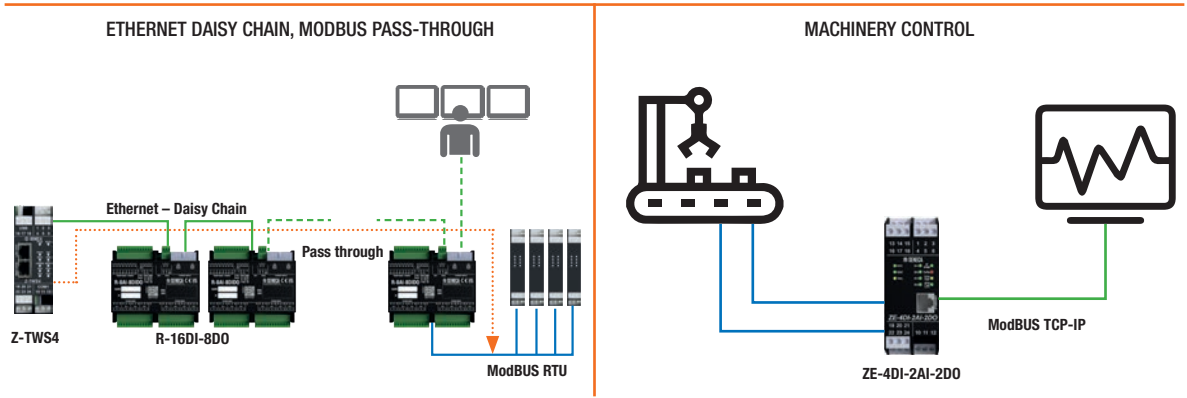
R-Line and Z-PC-Line I/O modules with Ethernet communication onboard are devices designed for flexible wiring needs, variable installation space, high or mixed density I/O applications, rapid configuration via Web Server. They support both ModBUS RTU and ModBUS TCP-IP protocols on the same hardware. “R” format versions (32 mm deep) also perform advanced networking functions (Daisy Chain, Fault-By-Pass, Pass-Through, Peer-To-Peer). “Z-PC” format versions (17.5 mm wide) offer smart through bus housed in the IEC EN 60715 rail.

 FLEXIBLE AND SPACE SAVING APPLICATIONS	 VARIABLE I/O DENSITY	 DOUBLE PROTOCOL	 CONFIGURATION VIA WEB SERVER
 DAISY CHAIN CONNECTION	 FAULT BY-PASS	 MODBUS PASS-THROUGH	 PEER-TO-PEER

TOP SELLING PRODUCTS

R-32DIDO	R-16DI-8DO	ZE-4DI-2AI-2DO	ZE-SG3
32-CH digital inputs/ outputs ModBUS RTU / TCP-IP module	16-CH digital inputs / 8-CH digital relay outputs Modbus RTU / TCP-IP module	4-CH digital inputs, 2-CH analog inputs, 2-CH digital outputs ModBUS RTU/TCP IP module	Strain gauge ModBUS RTU/TCP-IP, 1 ETH port, converter module
			

APPLICATION EXAMPLES



MAIN PRODUCT CODES








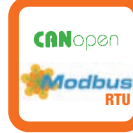
ORDER CODE	DESCRIPTION
R-16DI-8DO	16-CH digital inputs / 8-CH digital relay outputs Modbus TCP-IP / Modbus RTU module (2 ETH)
R-32DIDO	32-CH digital inputs / outputs Modbus TCP-IP / Modbus RTU (2 ETH)
R-32DIDO-2	32-CH digital inputs / outputs Modbus TCP-IP / Modbus RTU (2 ETH)
R-8AI-8DIDO-2	8-CH analog inputs / 8-CH digital inputs / outputs Modbus TCP-IP / Modbus RTU module (2 ETH)
R-SG3	Strain gauge Modbus TCP-IP / Modbus RTU converter module
ZE-2AI	Module with 2 analog inp., ModBUS RTU / ModBUS TCP-IP
ZE-4DI-2AI-2DO	Module with 2 AI, 2 DO, 4 DI, ModBUS RTU / TCP-IP
ZE-SG3	Strain gauge input ModBUS RTU / TCP-IP module



Additional order codes and information

1.3 CANOPEN I/O MODULES

CANopen Z-PC Line is a truly distributed I/O system based on IEC 61131 programming that does not require the use of couplers, controllers or repeaters for each communication line. All modules have an interface CAN communication with speeds up to 1 Mbps. CANopen Z-PC Line modules can be integrated with configurators and master controllers / network managers of third parties, even on existing machines and installations. The advantage of not needing an end-of-line coupler significantly reduces the cost factor for small to medium installations.

 HIGH ACCURACY	 ISOLATION 1,5 kVac (up to 6 ways)	 BAUD RATE UP TO 1 Mbps	 CODESYS PROGRAMMING
 UP TO 8 POWERED SENSORS PER MODULE	 DIRECT CONNECTION (NO COUPLERS)	 AC/DC POWER ON THE SAME HARDWARE	 CANOPEN/MODBUS ON DIGITAL MODULES

TOP SELLING PRODUCTS

ZC-24DI

24-CH digital inputs CANopen / ModBUS module



ZC-24DO

24-CH digital outputs CANopen / ModBUS module



ZC-16DI-8DO

16 CH DI / 8 CH DO CANopen / ModBUS module



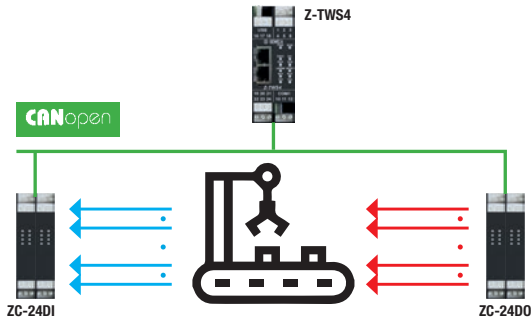
ZC-8AI

8-CH analog input (mA, V) CANopen module

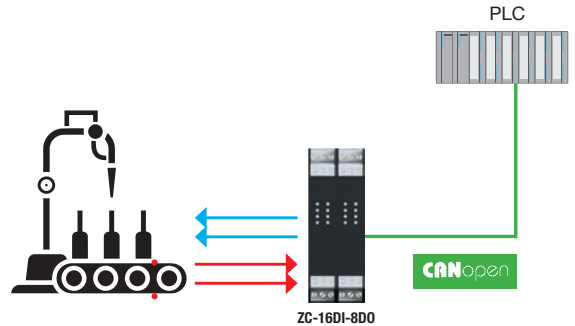


APPLICATION EXAMPLES

PROGRAMMABLE HANDLING SYSTEM



AUTOMATIC BOTTLING SYSTEM



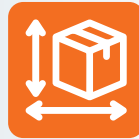
MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION
ZC-16DI-8DO	16 CH DI / 8 CH DO module / CANopen-RS485 ModBUS RTU
ZC-24DI	24-CH digital input CANopen / ModBUS
ZC-24DO	24-CH digital output CANopen / ModBUS
ZC-3AO	3-CH analog output (mA, V) CANopen module
ZC-4RTD	4-CH RTD input CANopen module
ZC-8AI	8-CH analog input (mA, V) CANopen module
ZC-8TC	8-CH Thermocouple (J,K,E,N,S,R,B,T) CANopen module
ZC-SG	1-CH strain gauge CANopen module

Additional order codes and information



R-Line and Z-PC Line I/O modules with Profinet IO RT Class 1 protocol are featured by a minimum cycle time of 2 ms and 100 Mbps Ethernet data rate. Both support star, tree and ring network topology. R” format versions (32 mm deep) also perform advanced networking functions (Daisy Chain, Fault By-Pass, Pass-Through, Peer-To-Peer). “Z-PC” format versions (17.5 mm wide) offer smart through bus housed in the IEC EN 60715 rail.



FLEXIBLE AND SPACIOUS APPLICATIONS



I/O HIGH DENSITY



PROFINET IO REAL TIME CLASS



SETTINGS VIA STEP7/TIA PORTAL



DAISY CHAIN



FAULT BY-PASS



PROGRAMMING VIA CODESYS



SHORT SCAN TIME

TOP SELLING PRODUCTS

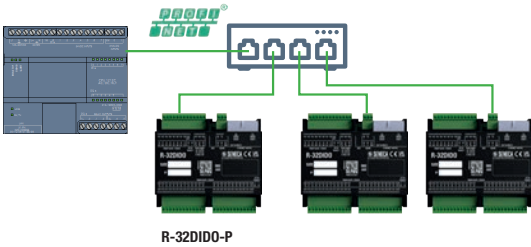
R-32DIDO-P R-16DI-8DO-P R-8AI-8DIDO-P ZE-2AI-P

32-CH digital inputs / outputs Profinet IO 16-CH digital inputs / 8-CH digital relay outputs Profinet IO module 8-CH analog inputs / 8-CH digital inputs / outputs Profinet IO module 2-CH analog input Profinet IO module



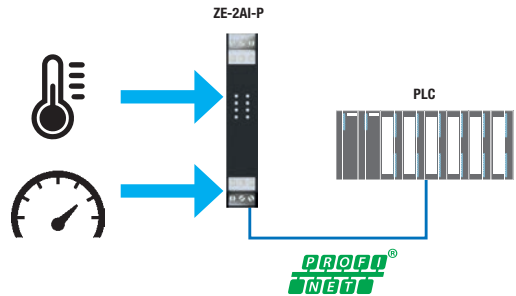
APPLICATION EXAMPLES

EXAMPLE OF STAR TOPOLOGY (WITH SWITCH)



R-32DIDO-P

SENSOR DATA ACQUISITION



MAIN PRODUCT CODES









ORDER CODE	DESCRIPTION
R-16DI-8DO-P	16-CH digital inputs / 8 digital relay outputs Profinet IO module (2 ETH)
R-32DIDO-P	32-CH digital inputs / outputs Profinet IO (2 ETH)
R-32DIDO-2-P	32-CH digital inputs / outputs Profinet IO (2 ETH)
R-8AI-8DIDO-2-P	8-CH analog inputs / 8-CH digital inputs / outputs Profinet IO module (2 ETH)
R-SG3-P	Strain gauge Profinet IO converter module
ZE-2AI-P	2-CH Analogue input Profinet IO module
ZE-4DI-2AI-2DO-P	4-CH Digital Input/ 2-CH Analogue Input, 2-CH Digital Output Profinet IO module
ZE-SG3-P	Strain gauge Profinet IO converter module







Additional order codes and information

1.5 IEC 61131-3 MULTI-FUNCTION CONTROLLERS

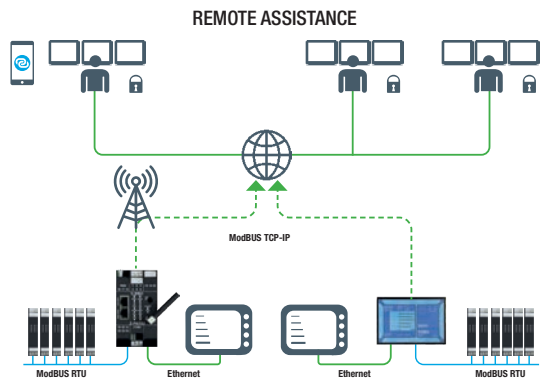
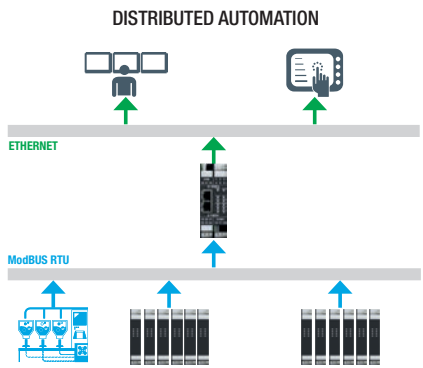
SENECA's multi-function controllers (Z-TWS11, Z-TWS4-RT, Z-PASS2-RT-S, R-PASS-S,, S6001-RTU) are modular / all-in-one devices with high connectivity modular / all-in-one devices. They combine PLC tasks based on the Straton IEC 61131-3, softLPLC platform with web server functionality, with web server, datalogger, remote control, remote maintenance and energy management functions (in accordance with IEC 60870-101/104, IEC 61850). The controllers can be used with different architectures and configurations depending on the complexity of the system and the hardware requirements.

 MULTIPURPOSE CONTROLLERS	 SOFT PLC IEC 61131-3	 FIELDBUS SUPPORT	 ENERGY PROTOCOLS
 UNIVERSAL APPLICATION AREAS	 DATALOGGER FUNCTION	 IT PROTOCOLS	 OPC UA STANDARD

TOP SELLING PRODUCTS

Z-TWS11	Z-TWS4-RT	Z-PASS2-RT-S	R-PASS-S
IEC 61131 basic controller, built-in IO, Straton	IEC 61131 multifunction controller, built-in I/O, Straton	Remote Controller, VPN, serial device server, GPS and built-in I/O	IIoT Edge Controller Straton with Ethernet Ports
			

APPLICATION EXAMPLES



MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION
R-PASS-0-4-S	IIoT Edge Controller Straton with 4 Ethernet Ports
R-PASS-W-4-S	IIoT Edge Controller Straton with Wi-Fi and 4 Ethernet ports
S6001-RTU-4GWW	Remote Control Unit with built-in IO and 4G WW LTE modem
Z-PASS2-RT-4G-S	IIoT Edge Controller, 4G, GPS, built-in I/O
Z-PASS2-RT-4G-E	IIoT Edge Controller, 4G, energy protocols, GPS, built-in I/O
Z-TWS11	IEC 61131 multifunction controller, built-in IO, Straton
Z-TWS4-RT-S	IEC 61131 IIoT Edge controller, built-in I/O, workbench Straton
Z-TWS4-RT-E	IEC 61131 IIoT Edge controller, built-in I/O, energy protocols

S6001-PC

S6001 Pump Controller is a controller for pumping units and pressurization systems managing from 2 to 6 pumps (with expansion I/O modules), supporting three different operating modes: flow rate adjustment, level dependent control and pressure dependent control.



3G+/4G LTE



STRATON



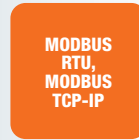
VPN SUPPORT



PUMPING / PRESSURE BOOSTING SYSTEM

Z-FLOWCOMPUTER

Z-FLOWCOMPUTER is a flow computer for gas, steam and water application. The unit is equipped with nr. 4 PNP / NPN digital inputs, nr. 2 voltage / current analog inputs, nr. 1 universal analog input, nr. 2 relay digital outputs and nr. 1 analog voltage / current output.



COMMUNICATION PROTOCOLS



HMI TFT TOUCHSCREEN



BUILT-IN I/O



WATER / STEAM / FLOW COMPENSATION

TOP SELLING PRODUCTS

S6001-PC

Advanced Pump Controller with 7" HMI, 3G+ modem



VISUAL5-PC

7" HMI widescreen 64k colors, Ethernet



TOP SELLING PRODUCTS

Z-FLOWCOMPUTER

Universal water / steam flow computer with 4,3" HMI



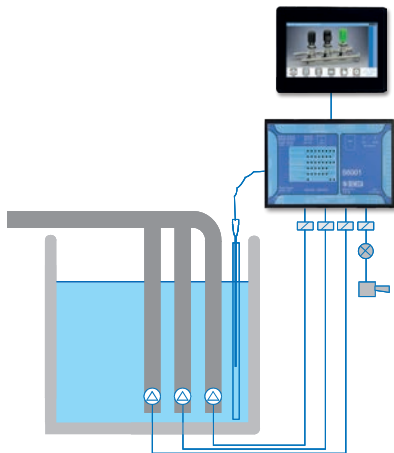
Z-FLOWCOMPUTER-B

Universal water / steam flow computer



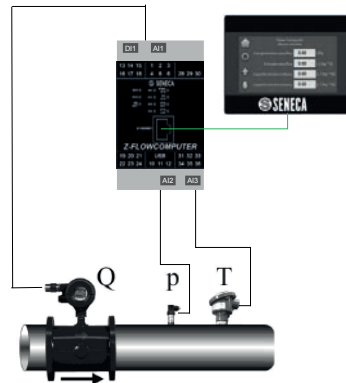
APPLICATION EXAMPLE

PUMP AND LEVEL CONTROL



APPLICATION EXAMPLE

MASS AND STEAM CALCULATION



MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION
S6001-PC-4GWW	Advanced Pump Controller 4G WW LTE with 7" HMI
S6001-RTU-4GWW	Remote Control Unit with built-in IO and 4G WW LTE modem
VISUAL5-PC	7" HMI widescreen 64k colors, Ethernet, S6001-PC spare version

MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION
Z-FLOWCOMPUTER	Universal energy & flow computer with 4,3" HMI
Z-FLOWCOMPUTER-B	Universal energy & flow computer



Additional order codes and information

S401-L is the first indicator with OLED display (Organic Light Emitting Diode) display on the industrial market.

This display technology is based on a series of layers of organic material that conduct current only in one direction, behaving similarly to a diode. Unlike traditional LCD and LED displays, OLED displays do not require additional components to be illuminated, but produce their own light. All this translates into higher brightness, greater definition and reduced footprint.



DISPLAY UP TO 30 VALUES



R/W/MATH MASTER FUNCTIONS



HIGH BRIGHTNESS 70cd/m²



COMPACT SIZE 96X48X40 mm



AUTOMATIC SCROLLING



SMART CABLING



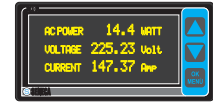
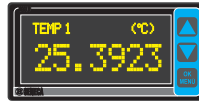
FAST PROGRAMMING



ALARM MANAGEMENT

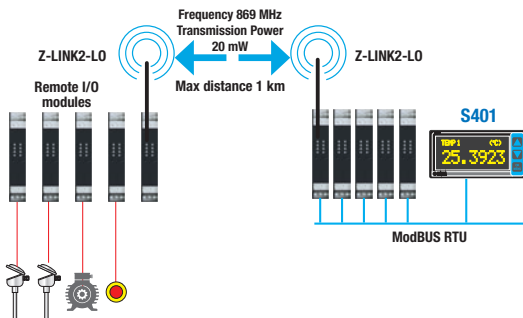
PRODUCT VIEWS

S401-L

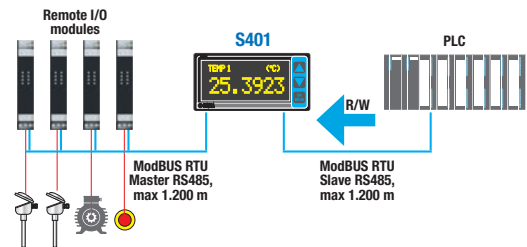


APPLICATION EXAMPLES

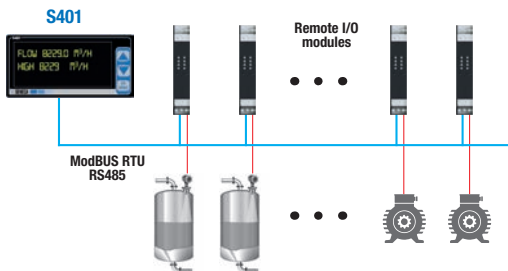
WIRELESS SIGNAL RETRANSMISSION



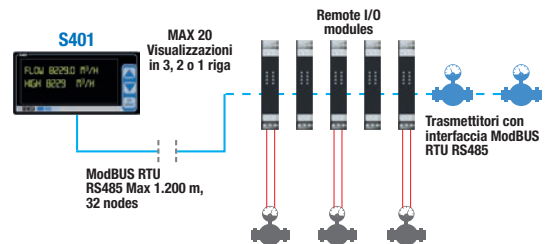
DATA ACQUISITION AND RETRANSMISSION TO PLC



MEASUREMENT ACQUISITION AND ACTUATOR CONTROL



FLOW RATE MEASUREMENTS ACQUISITION AND VISUALIZATION



MAIN PRODUCT CODES

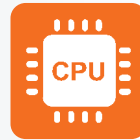
ORDER CODE	DESCRIPTION
S401-L	ModBUS RTU indicator with OLED 2,7" display



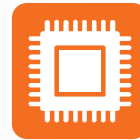
VISUAL touchscreen Operator Panels are suitable to satisfy a wide range of applications from small automation to control of complex industrial processes. With 4,3", 7", 9,7", 10,1", 15" and widescreen format display they allow the visualization of more information than a traditional display, while ensuring external compact dimension. HMI VISUAL screens can be freely horizontally or vertically oriented, depending on the needs of the application. TFT displays support up to 16 million colors with high resolution and LED back-lighting.



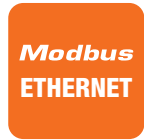
TFT
16M COLORS



HIGH PERFORMANCE
PROCESSOR



FLASH MEMORY
UP TO 512MB



COMMUNICATION
INTERFACES



CE/UL
APPROVALS



NEMA4/IP65
/IP66



EASY PROGRAMMING
TOOLKIT



RESISTIVE
TOUCHSCREEN

TOP SELLING PRODUCTS

VISUAL2E

7" touch screen operator panel, Ethernet



VISUAL4

7" touch screen operator panel, 800x480, ARM 600 MHz



VISUAL10

9,7" HMI widescreen colors, Ethernet interface



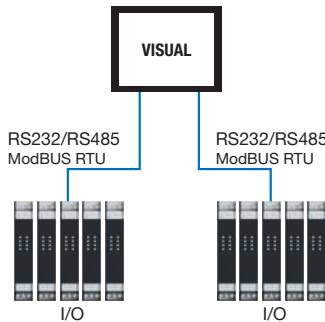
VISUAL12E

15" HMI widescreen colors, Ethernet interface, aluminum case

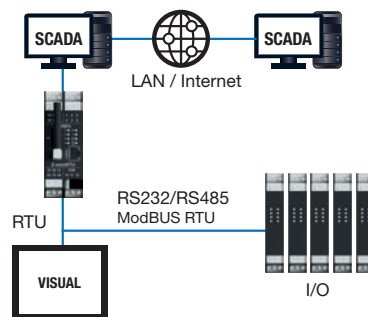


APPLICATION EXAMPLES

DISTRIBUTED SERIAL NETWORK



REMOTE CONTROL



MAIN PRODUCT CODES









ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
VISUAL11E	9,7" HMI widescreen colors, double Ethernet interface	VISUAL5-PC	7"HMI widescreen 64k colors, Ethernet, S6001-PC spare version
VISUAL12E	15" HMI widescreen colors, Ethernet (x2) aluminum case	VISUAL5-WB	7"HMI widescreen 64k colors, Ethernet, HMI / Web Server ver.
VISUAL1E	4,3" HMI widescreen colors, Ethernet interface	VISUAL6E	7" HMI widescreen colors, double Ethernet interface
VISUAL2E	7" touch screen operator panel, Ethernet	VISUAL7N	10,1"HMI touchscreen 10,1" widescreen colors, Ethernet interface
VISUAL3	4,3" touch screen operator panel, 480x272, ARM 600 MHz	VISUAL8E	10,1" HD HMI widescreen colors, Ethernet interface
VISUAL3-FLOW	4,3" touch screen operator panel, 480x272, ARM 600 MHz, spare parts Flow Computer	VISUAL9E	Touch Screen, display 10,1" wide, 1024x600, Ethernet, Wi-Fi
VISUAL4	7" touch screen operator panel, 800x480, ARM 600 MHz	VISUALTV	TV Process interface
VISUAL4ET	HMI touchscreen 7" widescreen colors, Eth. aluminum case	VISUALWIFI	WiFi Expansion Module for VISUAL9E



Additional order codes and information

1.9 IIoT MULTI-FUNCTION HMI

SURPRISE Smart Display is a latest generation 7" touch operator terminal with powerful 800 MHz ARM microprocessor, dual Fast Ethernet port, 802.11 b/g/n Wi-Fi module, interfaces and sniffer function for serial lines. It is a multipurpose device with IIoT gateway, datalogger, Wi-Fi router, microcontroller with integrated I/O, remote assistance unit and remote control on LET'S platform. Surprise Smart Display is not only a touchscreen HMI, but a multifunction device that integrates IIoT gateway, Wi-Fi router, remote assistance module, datalogger, microcontroller, serial sniffer and I/O Also SoftPLC IEC 61131-3 Straton versions are available.

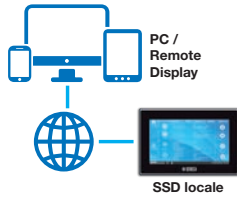
 IIoT REMOTE ACCESS	 LAN / WAN DUAL ETHERNET	 BUILT-IN LOGIC UNIT	 DISPLAY ON DISPLAY
 WI-FI	 OPC UA	 MQTT	 ADVANCED ROUTING

VISUALIZATION MODE

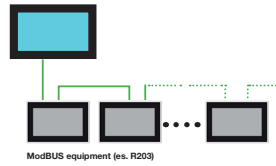
DISPLAY STANDARD WIDGET BASED 7"



REMOTE DISPLAY



DISPLAY ON DISPLAY



CONFIGURATION MODE

BASIC (FROM DISPLAY)

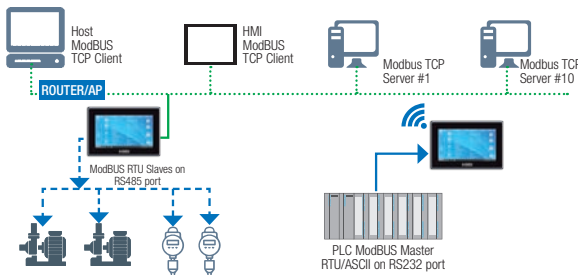


ADVANCED (FROM WEB SERVER)

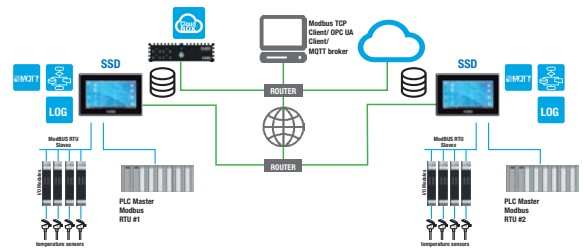


APPLICATION EXAMPLES

MODBUS GATEWAY - ETHERNET TO SERIAL



IIoT / CLOUD GATEWAY

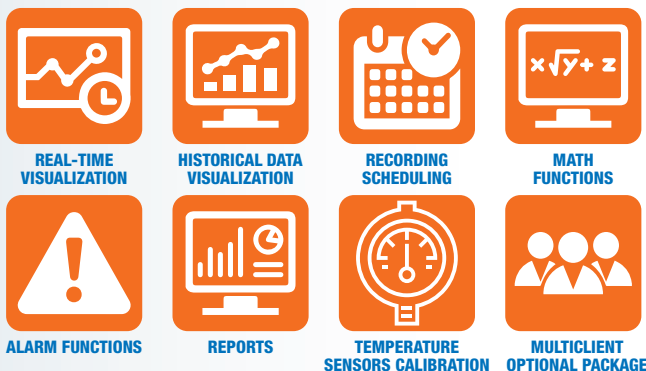


MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
SSD-0-0-0-0	Advanced touchscreen HMI with integrated I/O	SSD-UPG-L	SSD - Upgrade "logic" functions
SSD-0-L-0-0	Advanced touchscreen HMI with integrated logic and I/O	SSD-UPG-V	SSD - Upgrade "VPN" functions
SSD-0-0-V-0	Advanced touchscreen HMI with integrated VPN and I/O	SSD-UPG-I	SSD - Upgrade "IIoT/MQTT/Cloud" functions
SSD-0-0-0-1	Advanced touchscreen HMI with integrated IIoT and I/O	SSD-UPG-L-V	SSD - Upgrade "logic" and "VPN" functions
SSD-0-L-V-0	Advanced touchscreen HMI with integrated logic, VPN and I/O	SSD-UPG-L-I	SSD - Upgrade "logic" and "IIoT/MQTT/Cloud" functions
SSD-0-L-0-1	Advanced touchscreen HMI with integrated IIoT, logic and I/O	SSD-UPG-V-I	SSD - Upgrade functions "VPN" and "IIoT/MQTT/Cloud".
SSD-0-0-V-1	Advanced touchscreen HMI with integrated IIoT, VPN and I/O	SSD-UPG-L-V-I	SSD - Upgrade functions "logic", "VPN" and "IIoT/MQTT/Cloud"
SSD-0-L-V-1	Advanced touchscreen HMI with integrated IIoT, logic, VPN and I/O	SSD-S-0-0-1	SoftPLC+Advanced HMI with built-in IIoT and I/O



Data Recorder is an open, scalable and inexpensive Windows PC-based software recorder, ideal for professionals, maintenance engineers, students, researchers, designers and technical department managers working in the test, measurement and simulation sessions, in test benches, in electronics laboratories and for teaching, in test rooms, climatic chambers, engine rooms, industrial ovens, environmental measures, energy and plant monitoring. Physical data acquisition takes place through distributed SENECA I/O modules and in general from any standard ModBUS RTU slave device.



ACQUISITION, RECORDING, DISPLAYING

RS-232

Modbus over RS485

Modbus TCP/IP

Temperature sensors (RTD, TC, PTC, NTC...)

Process sensors (pressure, flow, level...)

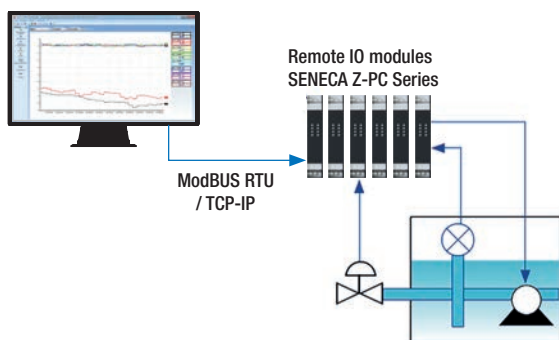
Mechanical and kinematic measurements (speed, force, acceleration, weight...)

Pulse or digital sensors (limit switch, photocell)

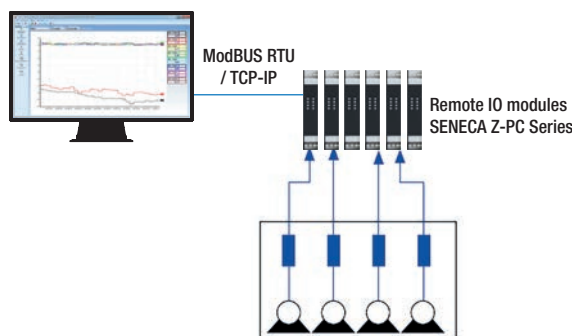
Power measurement analyzers, meters, recorders

APPLICATION EXAMPLES

MONITORING WATER QUALITY PARAMETERS



TESTS, TRIALS AND DATA ACQUISITION FOR ELECTRIC MOTORS



MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
DR-04	4-CH DAQ Software	DR-04-PLUS	4-CH Data Recorder+ multi-client
DR-08	8-CH DAQ Software	DR-08-PLUS	8-CH Data Recorder+ multi-client
DR-16	16-CH DAQ Software	DR-16-PLUS	16-CH Data Recorder+multi-client
DR-32	32-CH DAQ Software	DR-32-PLUS	32-CH Data Recorder+multi-client
DR-64	64-CH DAQ Software	DR-64-PLUS	64-CH Data Recorder+multi-client
DR-UN	Unlimited-CH DAQ Software	DR-UN-PLUS	Unlimited-CH Data Recorder+multi-client
		DR-UPGRADE	Data Recorder license upgrade service



Additional order codes and information

SENECA SOFTWARE SUITE

SENECA Software suite includes the IEC 61131-3 configuration environment, Z-NET4, with which integrated applications are installed for the complete management of an automation project. Also available are data export interfaces to the programming environment Straton and OPC programming environment.



Z-NET4
System configurator: project, CPU, I/O, network communication, variables



DATA RECORDER
Data acquisition and registration software



STRATON
Interface of editing, reading and export configurations for IEC 61131-3 Straton environment



WEB FACTOR
Tool for creation and management of monitoring Web-HMI



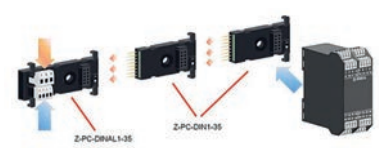
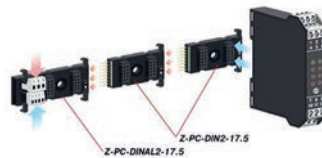
TREND VIEWER
Software for visualization and historical analysis of data



OPC
Interface of variables editing and export in OPC environment

Z-PC-DIN - COMMUNICATION BUS REAR SUPPORT / POWER SUPPLY FOR DIN RAIL I/O MODULES

	DESCRIPTION	SLOT	STEP	TERMINAL POWER SUPPLY/BUS	HOT SWAPPING	DIN GUIDE ASSEMBLY
	Z-PC-DINAL1-35 DIN guide rapid assembly support head +1 slot P=35mm	1	35 mm	Yes	Yes	Yes
	Z-PC-DINAL2-17.5 DIN guide rapid assembly support head +2 slot P=17,5mm	2	17,5 mm	Yes	Yes	Yes
	Z-PC-DINAL2-52.5 DIN guide rapid assembly support head +1 slot 52,5 mm + 1slot 17,5 mm	2	52,5 mm	Yes	Yes	Yes
	Z-PC-DIN1-35 DIN guide rapid assembly support 1 slot P=35mm	1	35 mm	-	Yes	Yes
	Z-PC-DIN2-17.5 DIN guide rapid assembly support 1 slot P=17,5mm	2	17,5 mm	-	Yes	Yes
	Z-PC-DIN4-35 DIN guide rapid assembly support 4 slot P=35mm	4	35 mm	-	Yes	Yes
	Z-PC-DIN8-17.5 DIN guide rapid assembly support 8 slot P=17,5mm	8	17,5 mm	-	Yes	Yes



MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
OPC-DA-SERVER	OPC Server I/O unlimited tags	STRATON-IDEUN	Straton development env. unlimited tags, USB activ. key
OPC-UA-SERVER	OPC Server I/O unlimited tags	STRATON-SNMP	SNMP agent driver Straton extension
STRATON-870-850	IEC 60870-5-101/104 Master / Slave + IEC 61850 Client / Server lic.	Z-PC-DIN1-35	DIN rail bus system 1 slot 35 mm
STRATON-870M	IEC 60870-5-101/104 Master activation license	Z-PC-DIN2-17.5	DIN rail bus system 2 slots 17.5 mm
STRATON-870S	IEC 60870-5-101/104 Slave activation license	Z-PC-DIN4-35	DIN rail bus system 4 slot 35 mm
STRATON-870S-850	IEC 60870-5-101/104 Slave license+IEC 61850 Client/Server	Z-PC-DIN8-17.5	DIN rail bus system 8 slot 17.5 mm
STRATON-D-USB	Straton activation key for IEC 61131 controllers	Z-PC-DINAL1-35	DIN rail bus system head terminal + 1 slot 35 mm
STRATON-FULL01	IEC 60870-5-101/104 Master / Slave + IEC 61850 Client / Server lic. + SNMP	Z-PC-DINAL2-17.5	DIN rail bus system head terminal + 2 slots 17.5 mm
STRATON-IDE256	Straton development env. 256 tags, USB activation key	Z-PC-DINAL2-52.5	DIN rail bus system head terminal + 2 slots 52.5 mm
STRATON-IDE512	Straton development env. 512 tags, USB activation key	Z-SUPPLY	Single-phase switching power supply 24V @ 1.5A



2

INDUSTRIAL COMMUNICATION AND REMOTE CONTROL



2.1 REMOTE ALARM UNITS

SENECA remote alarm and datalogging devices are designed to remotely manage, monitor and implement small automations for houses, buildings, plants, production machines through simple commands sent with SMS messages or via app. With any mobile device or smartphone you can control the switching on and off of a technical system, activate a contact, receive an anomaly or alarm signal. These professional and universal devices are easily programmable and are based on a 4G/LTE or GSM/GPRS module that acts as a phone communicator enabling intelligent way calls, commands, address books and data storage.



REMOTE CONTROL OF UNATTENDED SITES



FLEXIBLE SETTINGS



AUTOMATIC SENDING COMMANDS, DATA, ALARMS



BUILT-IN MODEM AND I/O



REAL-TIME ALARM MANAGEMENT



ON-OFF TIME BASED CONTROLS



HVAC / TEMPERATURE CONTROL



RECHARGEABLE LI-ON BATTERY

TOP SELLING PRODUCTS

B-ALARM

Remote alarm unit, 1DI/DO, basic functions



MY2B

GSM/GPRS remote alarm and datalogger unit, BASIC version



MY2S

4G/LTE or GSM/GPRS remote alarm and datalogger unit, SECURITY AUDIO version



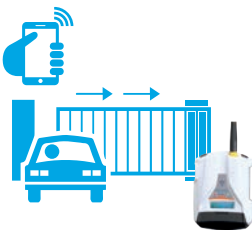
MYALARM3 CLOUD

App/cloud based monitoring and remote alarm unit

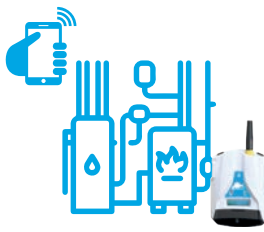


APPLICATION EXAMPLES

AUTOMATIC BARRIERS CONTROL



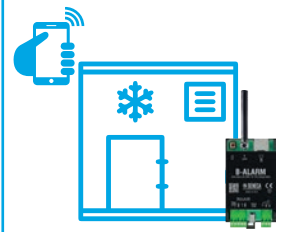
BOILER AND HVAC CONTROL



WATER CONSUMPTION AND LOSSES CONTROL



COLD ROOMS MONITORING



MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
B-ALARM	Remote alarm Unit, 1DI / 1DO, basic functions	MY2S-0-0-M-G	Remote alarm unit - security, no relay, clamps, grey color
MY2B-0-0-M-G	Remote Alarm Unit - basic version, no relay, clamps, grey color	MY2S-R-0-M-G	Remote alarm unit - security, relay, clamps, grey color
MY2B-R-0-M-G	Remote Alarm Unit - basic version, relay, clamps, grey color	MY2SL-0-0-M-G	Remote alarm unit, security audio, 4G/LTE, clamps, gray case
MY2G-0-0-M-G	MyALARM2 - gps version, no relay, clamps, grey color	MY2SL-R-0-M-G	Remote alarm unit, security audio, 4G/LTE, relays, clamps, gray case
MY2G-R-0-M-G	MyALARM2 - gps version, relay, clamps, grey color	MY3CLOUD-R-0-0-G	Remote Alarm Unit, Cloud support, relay, grey color
MY2GL-0-0-M-G	Remote alarm unit, GPS, 4G/LTE, clamps, gray case	MY3CLOUD-R-0-G-G	Remote Alarm Unit, Cloud support, relay, GPS, gray color
MY2GL-R-0-M-G	Remote alarm unit, GPS, 4G/LTE, relays, clamps, gray case	MY3CL-R-0-0-G	Remote Alarm Unit, Cloud support, 4G/LTE, relay, grey color
MY2-KITIP66	IP66 ABS kit enclosure for field application	MY3CL-R-0-G-G	Remote Alarm Unit, Cloud support, 4G/LTE, relay, GPS, gray color



MYALARM SEAL, Z-GPRS3, Z-LOGGER3, Z-LTE advanced dataloggers represent a solution able to respond to the growing needs of data collection, real-time analysis and integration with IT systems in plant automation and monitoring. Designed to perform remote alarm, telemetry and datalogging functions, these devices are available with integrated UPS, integrated I/O channels, dedicated programming and visualization software, serial and Ethernet communication support, MQTT protocol and in most models 2G/3G+/4G modem with GNSS/GPS/GLONASS receiver.



SYNCHRONOUS / ASYNCHRONOUS



DATA REDUNDANCY



ALARM MANAGEMENT VIA SMS / DTMF



SENDING EMAIL / FTP FILE



BLOCK-BASED PROGRAMMING



IoT PROTOCOLS



BUILT-IN I/O



SERIAL / ETHERNET COMMUNICATION PORTS

TOP SELLING PRODUCTS

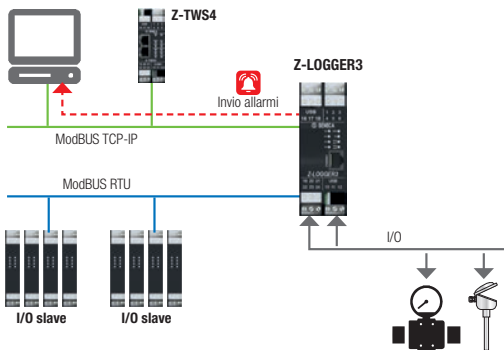
MYALARM SEAL Z-LOGGER3 Z-GPRS3 Z-LTE

Remote datalogger, SEAL programming, control logic Advanced datalogger, alarm module, web server with built-in IO Advanced GSM/GPRS datalogger, built-in IO, voice alarm 4G worldwide datalogger with built-in I/O, remote control functions and voice commands

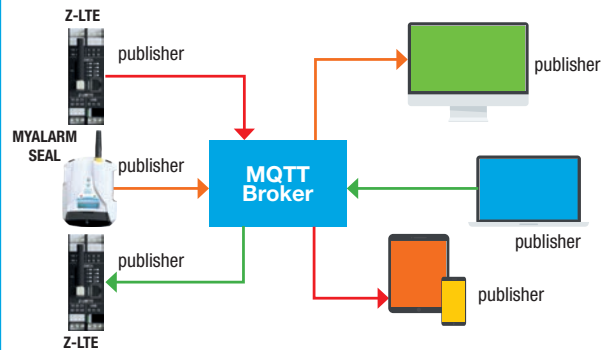


APPLICATION EXAMPLES

DATA ACQUISITION AND RETRANSMISSION



MQTT ARCHITECTURE



MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
LOG FACTORY	Visualization and log data tool	MY-SEAL-R-0-0-G	Remote datalogger with SEAL control logic, relay board, grey color
MY-SEAL-0-0-0-B	Remote datalogger with SEAL control logic, blue color	MY-SEAL-0-W-0-G	Remote datalogger with SEAL control logic, radio module, grey color
MY-SEAL-R-0-0-B	Remote datalogger with SEAL control logic, relay board, blue color	MY-SEAL-0-0-G-G	Remote datalogger with SEAL control logic, GPS receiver, grey color
MY-SEAL-0-W-0-B	Remote datalogger with SEAL control logic, radio module, blue color	MY-SEAL-R-W-0-G	Remote datalogger with SEAL control logic, relay board, radio module, grey color
MY-SEAL-0-0-G-B	Remote datalogger with SEAL control logic, GPS receiver, blue color	MY-SEAL-R-0-G-G	Remote datalogger with SEAL control logic, relay board, GPS receiver, grey color
MY-SEAL-R-0-0-B	Remote datalogger with SEAL control logic, relay board, radio module, blue color	MY-SEAL-0-W-G-G	Remote datalogger with SEAL control logic, radio module, GPS receiver, grey color
MY-SEAL-R-0-G-B	Remote datalogger with SEAL control logic, relay board, GPS receiver, blue color	MY-SEAL-R-W-G-G	Remote datalogger with SEAL control logic, relay board, radio module, GPS receiver, grey color
MY-SEAL-0-W-G-B	Remote datalogger with SEAL control logic, radio module, GPS receiver, blue color	Z-GPRS3	Advanced GSM/GPRS datalogger, built-in IO, voice alarm
MY-SEAL-R-W-G-B	Remote datalogger with SEAL control logic, relay board, radio module, GPS receiver, blue color	Z-LOGGER3	Advanced datalogger, alarm module, web server with built-in IO
MY-SEAL-0-0-0-G	Remote datalogger with SEAL control logic, grey color	Z-LTE-WW	4G worldwide datalogger with built-in I/O, remote control functions and voice commands



Additional order codes and information

2.3 RTUs / TELECONTROL UNITS

SENECA remote control devices are a perfect combination between remote control and automation worlds.. The RTU range includes solutions for small installations, all-in-one solutions that combine I/O, control logic and communication system, equipment for special applications (unmanned sites, pumping stations, energy management).

The use of compatible platforms and of the most common technological standards offers to the user the possibility to improve the efficiency and the quality of the investments in his applications.



WIDE RTU RANGE



H24 REMOTE CONTROL



ADVANCE ALARM



REDUCED OPERATING COSTS



ENERGY MONITORING



DATA STORAGE



OPENNESS TO SCADA / OPC



COMMANDS AND NOTIFICATIONS VIA EMAIL/SMS / APP

TOP SELLING PRODUCTS

Z-LTE

4G worldwide datalogger with built-in I/O, remote control functions and voice commands



Z-PASS2-RT-S

Remote Controller 4G worldwide, VPN, serial device server, GPS and built-in I/O



S6001-RTU

Remote Control Unit with built-in IO and 3G+/4G modem



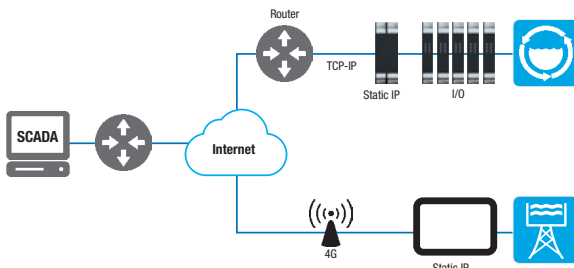
R-PASS-S+R-COMM

IIoT Edge Controller Straton+ 4GWW communication module

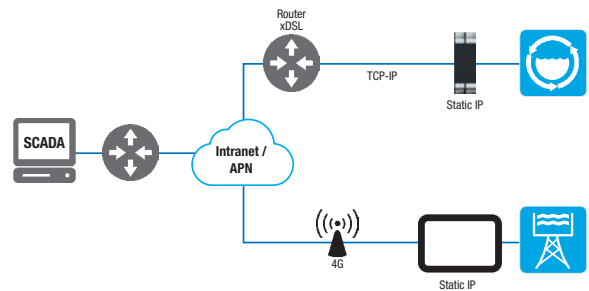


APPLICATION EXAMPLES

WEB-BASED REMOTE CONTROL



INTRANET / APN REMOTE CONTROL



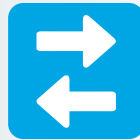
MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
R-COMM-0-4GWW	Communication module with 4GWW modem	RTU-LP-ST1	GSM/GPRS RTU Low Power, built-in I/O, single battery pack
R-COMM-B-4GWW	Communication module with mini UPS and 4GWW modem	RTU-LP-ST2	Low power RTU, FTP version, 4DI, 2AI, 2DO, double battery pack
R-PASS-0-4-E	IIoT Edge Controller Straton with Energy protocols and 4 Ethernet ports	S-DIN	DIN rail guide support
R-PASS-0-4-S	IIoT Edge Controller Straton with 4 Ethernet Ports	Z-LTE-WW	4G/LTE WW datalogger, built-in IO, remote control functions
R-PASS-W-4-E	IIoT Edge Controller Straton with Energy protocols, Wi-Fi and 4 Ethernet ports	Z-PASS2-RT-4G-S	Edge IIoT Controller, 4G, GPS, built-in I/O
R-PASS-W-4-S	IIoT Edge Controller Straton with Wi-Fi and 4 Ethernet ports	Z-PASS2-RT-4G-E	Edge IIoT Controller, 4G, energy protocols, GPS, built-in I/O
RTU-LP-ST	GSM/GPRS RTU Low Power, built-in I/O		



SENECA Gateways connect new and legacy systems and enable secure, uninterrupted data flow between peripheral devices and centralized servers. Gateways establish two-way communication between the field and the supervisor, as well as offering processing and data storage capabilities to provide services with secure VPN connections and to manage field devices in real time.

SENECA's new range of industrial routers / gateways includes devices that can extend networks and allow process data to pass between different levels of the network.



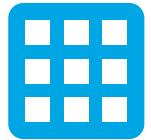
ETHERNET / SERIAL CONVERTER



PROTOCOL CONVERTER



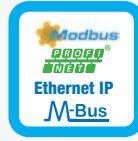
SERIAL DEVICE SERVER



SHARED MEMORY GATEWAY



SERIAL SNIFFER



FIELDBUS SUPPORT



FLEXIBLE FORMAT



INTERNATIONAL STANDARDS COMPLIANCE

TOP SELLING PRODUCTS

Z-KEY Z-KEY-P Z-KEY-MBUS Z-KEY-2ETH-E

Industrial Gateway - Serial Device Server

Gateway - ModBUS RTU / TCP-IP ↔ Profinet IO protocol converter

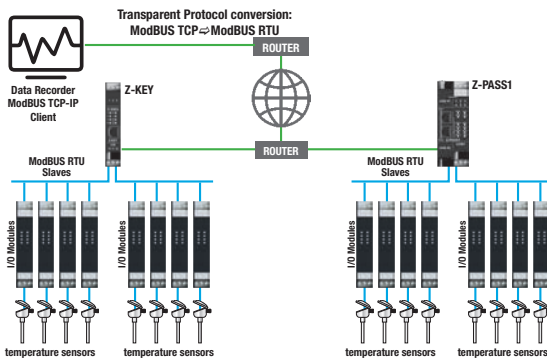
ModBUS RTU / TCP-IP ↔ MBUS gateway

ModBUS RTU / TCP-IP ↔ Ethernet/IP gateway

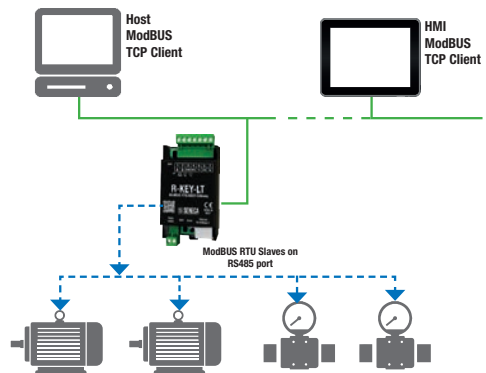


APPLICATION EXAMPLES

MODBUS GATEWAY - ETHERNET TO SERIAL



MODBUS GATEWAY - ETHERNET TO SERIAL



MAIN PRODUCT CODES

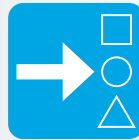
ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
R-KEY-LT	Compact industrial ModBUS gateway	Z-KEY-0	Industrial Gateway - Serial Device Server
R-KEY-MBUS	Compact industrial M-BUS gateway	Z-KEY-2ETH	Industrial Gateway - Serial Device Server, 2xEthernet
R-KEY-LT-P	Compact Industrial Gateway Profinet IO ↔ ModBUS RTU / TCP-IP	Z-KEY-2ETH-P	Industrial Gateway - Serial Device Server, 2xProfinet IO
SDD	Discovery Device, IP scanner for Z-KEY, Z-PASS1/2	Z-KEY-2ETH-E	Industrial Gateway - Serial Device Server, Ethernet/IP
SESC	Ethernet to Serial Connection tool for Z-KEY, Z-PASS1/2	Z-KEY-MBUS	ModBUS RTU / TCP-IP M-BUS gateway
TEMP-TAG-Z-KEY	Excel template for Z-KEY tags (gateway mode)	Z-KEY-P	Gateway - ModBUS RTU / TCP-IP Profinet IO protocol converter
TEMP-WEB-Z-KEY	Web page template for Z-KEY	Z-KEY-WIFI	2-port ModBUS RTU industrial gateway / serial device server with Wi-Fi access



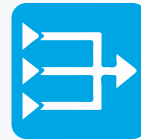
Additional order codes and information

2.5 IIoT EDGE GATEWAYS

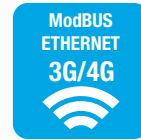
SENECA IoT Advanced Gateways establish two-way communication between the field and supervision, as well as offering diagnostic, processing and data storage capabilities to provide services with secure VPN connections and to manage devices in the field in real time. Z-PASS1 and Z-PASS2 are multifunction devices, able allow the transfer of process data between IT and OT communication. Applications therefore range from M2M/IoT communications to remote maintenance, from network integration to protocol conversion to integration with Cloud platforms and services, in most industrial sectors.



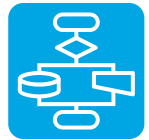
MULTIFUNCTION DEVICES



NAT1:1 & ADVANCED ROUTING



ModBUS
ETHERNET
3G/4G
EXTENDED
CONNECTIVITY



BUILT-IN LOGIC
FUNCTIONS



MQTT
SUPPORT



OPC UA
SUPPORT



CYBERSECURITY
COMPLIANCE



LET'S
VPN
CONNECTIVITY
SOLUTIONS
VPN REMOTE
ACCESS

TOP SELLING PRODUCTS

R-PASS-0

IIoT VPN compact gateway / router



Z-PASS1

VPN Industrial Gateway - Serial Device Server, built-in I/O



Z-PASS2

VPN Industrial Gateway, Serial Device Server, Router 4G/LTE WW, GPS, built-in I/O



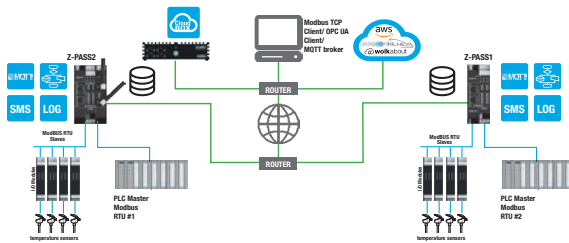
SSD

Multifunction IIoT HMI Gateway

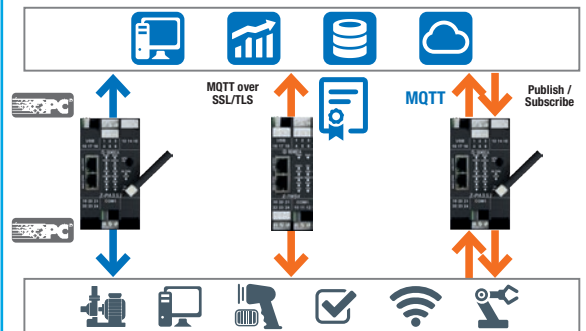


APPLICATION EXAMPLES

CLOUD DATALOGGER



IOT CONNECTIONS

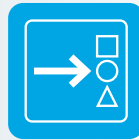


MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
SSD-0-0-0-0	Advanced touchscreen HMI with integrated I/O	R-PASS-0-4-0	IIoT Edge Gateway with 4 Ethernet ports
SSD-0-0-0-1	Advanced touchscreen HMI with integrated IIoT and I/O	R-PASS-W-4-0	IIoT Edge Gateway with Wi-Fi and 4 Ethernet ports
SSD-0-0-V-0	Advanced touchscreen HMI with integrated VPN and I/O	Z-PASS1-RT	Industrial Gateway - Serial Device Server, built-in I/O
SSD-0-0-V-1	Advanced touchscreen HMI with integrated IIoT, VPN and I/O	Z-PASS2-RT-4G	IIoT Edge Gateway / 4G Router, GPS, built-in I/O



LET'S a VPN - IoT platform that reduces maintenance costs for automation applications and management of machines and plants, offering an integrated connectivity service on 3 levels: remote access to data, programmable control, network monitoring. Based on the Server VPN BOX module, LET'S allows "Always ON" connections (Remote Control / Single LAN mode) for plant supervision or "ON Demand" connections (Remote Assistance / Point-To-Point mode) to third party machines and devices and for maintenance or data acquisition services. LET'S platform ensures advanced cybersecurity requirements, from 2-factor authentication factors to automated certificate management TLS for HTTPS and IEC 62443 certified.



MULTIFUNCTION DEVICES



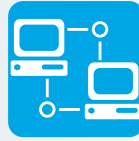
BUILT-IN I/O



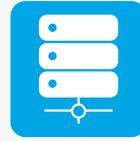
OPC UA



MQTT



VPN SINGLE LAN / P2P



IN HOUSE SERVER



IEC 62443 COMPLIANCE



CONTROL LOGIC - SOFTPLC

TOP SELLING PRODUCTS

VPN BOX - 2 Z-PASS1-RT Z-PASS2-RT Z-PASS2-RT-S

PC Box - VPN Server for simultaneous connections and low latency

IIoT Edge Gateway, built-in I/O

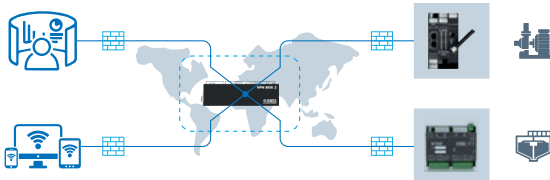
IIoT Edge Gateway / 4G Router, GPS, built-in I/O

Edge IIoT Controller, 4G, GPS, built-in I/O

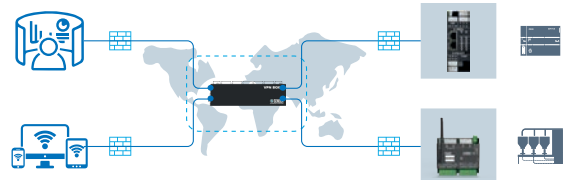


APPLICATION MODELS

"ALWAYS ON" CONNECTION / TELECONTROL



"ON DEMAND" CONNECTION / REMOTE ASSISTANCE



MAIN PRODUCT CODES

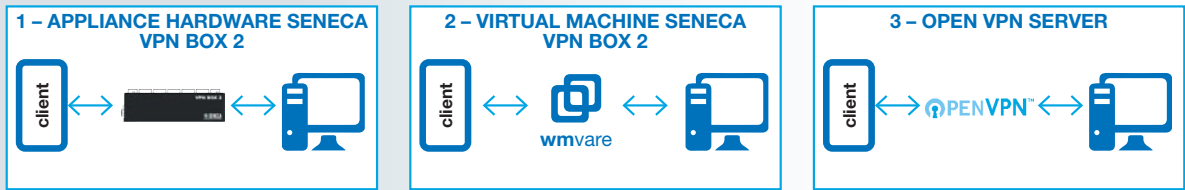
ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
R-PASS-0-4-0	IIoT Edge Gateway with 4 Ethernet ports	SSD-0-L-V-0	Advanced touchscreen HMI with integrated logic, VPN and I/O
R-PASS-W-4-0	IIoT Edge Gateway with Wi-Fi and 4 Ethernet ports	SSD-0-L-V-I	Advanced touchscreen HMI with integrated IIoT, logic, VPN and I/O
S6001-PC-4GWW	Advanced Pump Controller 4G WW LTE with 7" HMI	VPN-BOX-2	PC Box - VPN Server for simultaneous connections and low latency Poin-To_Point / Single LAN
S6001-RTU-4GWW	Remote Control Unit with built-in IO and 4G WW LTE modem	VPN-BOX-2-VM	VPN-BOX-2 Virtual Machine
S6001-RTU-E-4GWW	Remote Control Unit with built-in IO, 4G WW LTE, Energy protocols	VPN-CC-2	VPN Client Communicator, remote access software VPN-BOX-2
SSD-0-0-0-0	Advanced touchscreen HMI with integrated I/O	Z-PASS1-RT	IIoT Edge Gateway, built-in I/O
SSD-0-0-0-1	Advanced touchscreen HMI with integrated IIoT and I/O	Z-PASS2-RT-4G	IIoT Edge Gateway / 4G Router, GPS, built-in I/O
SSD-0-0-V-0	Advanced touchscreen HMI with integrated VPN and I/O	Z-PASS2-RT-4G-S	Edge IIoT Controller, 4G, GPS, built-in I/O
SSD-0-0-V-1	Advanced touchscreen HMI with integrated IIoT, VPN and I/O	Z-TWS4-RT-E	IEC 61131 IIoT Edge controller, built-in I/O, energy protocols
SSD-0-L-0-0	Advanced touchscreen HMI with integrated logic and I/O	Z-TWS4-RT-S	IEC 61131 IIoT Edge controller, built-in I/O, workbench Straton
SSD-0-L-0-1	Advanced touchscreen HMI with integrated IIoT, logic and I/O		



Additional order codes and information

VPN SCENARIOS

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



PLATFORM

SERVER INFRASTRUCTURE



MULTILEVEL CYBERSECURITY



SETTINGS / PROGRAMMING



- Hardware appliance or virtual machine
- Firewall friendly
- Simultaneous LAN / P2P management
- Firmware update and automated backups
- LTS, 2FA, OpenVPN compliance
- Flexible license management
- Full Log Management
- Fully supported products: RPASS, R-PASS-S, SSD, ZPASS1-RT, Z-PASS2-RT, ZTWS4-RT
- R-PASS, R-PASS-S, S6001-RTU, SSD, Z-PASS1-RT, Z-PASS2-RT, ZPASS2-RT-S, Z-TWS4-RT

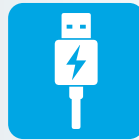
- Remote access lock mechanical with digital input
- LAN/WAN separation
- 2-factor authentication (Google Authenticator)
- Advanced permission management (supervisor, users, groups)
- Data encryption algorithm Encryption (OpenVPN AES 256bits CBC + AUTH SHA 256bits or user selectable)
- Security Protocols: 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

- 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)

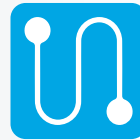


Serial transmission is a mode of communication between digital devices in which information is communicated one after the other and reaches the receiver sequentially in the same order in which the sender transmitted it. Serial mode is one of the most popular in the computer field because it requires fewer wires, thus reducing costs.

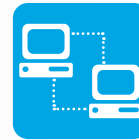
It is also more tolerant of interference and transmission errors. SENECA instrumentation allows the management of RS232, TTL, RS485, USB interfaces to and from PC and control and acquisition systems.



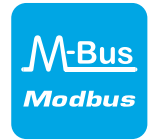
EASY WIRING



FLEXIBLE DISTANCE



SYNCHRONOUS / ASYNCHRONOUS



FIELDBUS SUPPORT



FAST CONFIGURATION



PORTABLE VERSIONS



ADAPTABLE ARCHITECTURES



EXISTING DEVICES/ NETWORKS INTEGRATION

TOP SELLING PRODUCTS

K107USB

USB <-> RS485 converter / Isolator



S117P1

RS232/USB, TTL/USB, RS485/USB serial converter



Z-MBUS

M-BUS <-> RS232-RS485 adapter



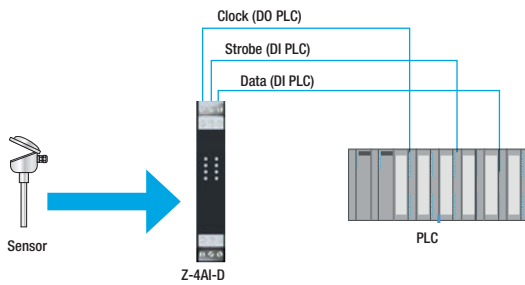
Z-4TC-D

Thermocouples A/D converter

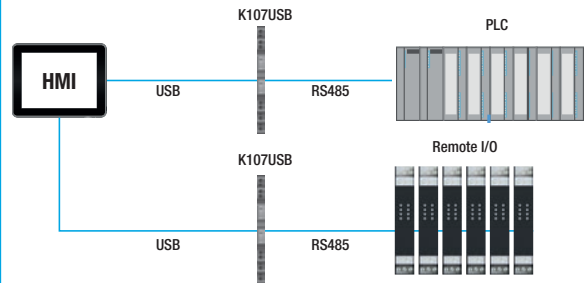


APPLICATION EXAMPLES

CONNECTION OF SEVERAL RS485 SERIAL LINES (MODBUS) WITH ELECTRICAL ISOLATION



MULTIPLE CONNECTION AND DATA TRANSMISSION WITH USB/RS485 ELECTRICAL ISOLATION



MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
EASY-USB	USB - UART TTL converter	K107A	RS485 <-> RS485 serial amplifier/Isolator
S107P	RS232 - RS485/422 serial converter, portable version	K107B	RS232 <-> RS485 serial converter/Isolator
S107USB	RS485/USB serial converter, portable version	K107USB	USB <-> RS485 converter / Isolator
S117P1	RS232/USB, TTL/USB, RS485/USB serial converter	Z-4AI-D	4-CH analog input DC current-voltage A/D converter
Z107	DIN rail RS232 - RS485/422 serial converter	Z-4TC-D	4-CH thermocouple A/D converter
Z-MBUS	M-BUS ↔ RS232-RS485 adapter		



Additional order codes and information

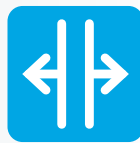
2.8 FIBER OPTICS CONVERTERS

SENECA S232, S485, SETH and SCAN fiber optic converters give the possibility to extend over fiber optics any type of network / bus (LAN / Ethernet, CAN or serial) at the same time.

They also ensure high levels of security and reliability. The modules make it possible to use both mono-modal and multi-modal fiber, ensuring a solid communication, reliable and very high speed communication. The application of fiber optics ranges from industrial environments to civil environments, energy production plants and telecommunications and control systems.



HIGH SPEED COMMUNICATION



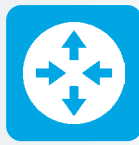
DATA / POWER LINES NOT SEPARATED



ELECTRIC DISCHARGE PROTECTION



EASY DIAGNOSTIC



REAL-TIME DATA TRANSMISSION



RELIABLE MEDIUM



HIGH COVERAGE DISTANCES



NOISE IMMUNITY

TOP SELLING PRODUCTS

S232-FO

RS232 - Fiber Converter single mode / multi mode single / double loop



S485-FO

RS485 - Fiber Converter single mode / multi mode single / double loop



SETH-FO

Ethernet - Fiber Converter single mode / multi mode single / double loop



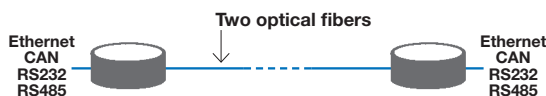
SCAN-FO

CAN - Fiber Converter single mode / multi mode single / double loop

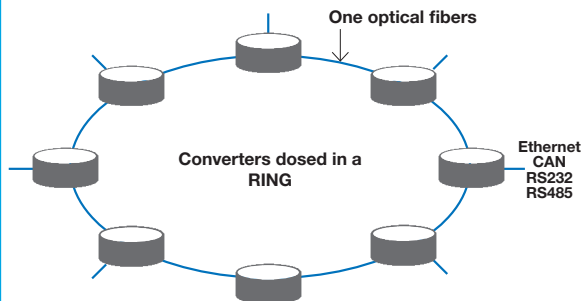


TOPOLOGY EXAMPLES

POINT TO POINT (LINKED DIRECTLY)



RING (SINGLE LOOP)



MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
FO TEST	Fiber optics automatic test software	SCAN-FO-MONO-SL	CAN - single mode fiber, single loop converter
S232-FO-MONO-SL	RS232 - single mode fiber, single loop converter	SCAN-FO-MONO-DL	CAN - single mode fiber, double loop converter
S232-FO-MONO-DL	RS232 - single mode fiber, double loop converter	SCAN-FO-MULTI-SL	CAN - multimode fiber, single loop converter
S232-FO-MULTI-SL	RS232 - multi mode fiber, single loop converter	SCAN-FO-MULTI-DL	CAN - multimode fiber, double loop converter
S232-FO-MULTI-DL	RS232 - multi mode fiber, double loop converter	SETH-FO-MONO-SL	Ethernet - single mode fiber, single loop converter
S485-FO-MONO-DL	RS485 single mode fiber, double loop converter	SETH-FO-MONO-DL	Ethernet - single mode fiber, double loop converter
S485-FO-MULTI-DL	Multidrop fiber optic - RS485 double loop converter	SETH-FO-MULTI-SL	Ethernet - multimode fiber, single loop converter
S485-FO-MONO-SL	RS485 - single mode fiber, single loop converter	SETH-FO-MULTI-DL	Ethernet - multimode fiber, double loop converter
S485-FO-MULTI-SL	Multidrop fiber optic - RS485 single loop converter		



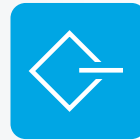
SENECA proposal of radio modules and radio modems is one of the key elements of automation and communication systems, particularly in the transport of signals from few meters to tens of kilometers.

The use of UHF / VHF / LoRa technologies allows you to reach distances of several kilometers with maximum reliability.

It also allows you to perform functions of remote control, remote interrogation and diagnostics of devices in the field through connections point-to-point, multi-point, broadcasting, signal repetition.



NBFM / GFSK MODULATION



RS232 / RS485 INTERFACE



Vac/dc WIDE RANGE



BUILT-IN I/O



TRANSMISSION POWER 25..500mW



ModBUS / LoRa TECHNOLOGIES



OPERATING BANDWIDTH 169 / 869 MHz



OUTDOOR VERSIONS

TOP SELLING PRODUCTS

Z-AIR1 Z-LINK2-LO RM169-1 RTURADIO

Simplex/half duplex radiomodem, 868 - 870 MHz

Radiomodem 869 MHz with LoRa technology

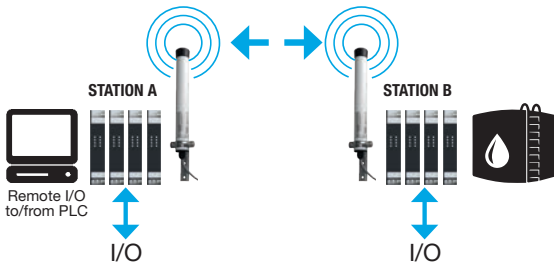
169MHz Radiomodem RS232/RS485 interface, RED directive

169MHz Radiomodem with built-in I/O, RS485

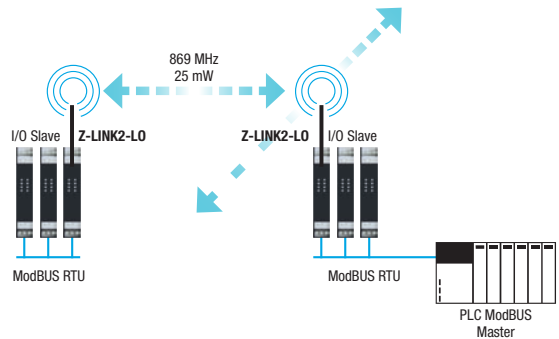


APPLICATION EXAMPLES

POINT-TO-POINT DATA TRANSMISSION (E.G. I/O REPETITION)



BRIDGE MODE (TRANSPARENT WIRELESS LINK)



MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
A-169DV12	169MHz vert.Dip. lambda/2 ant, BNC M, 5mt,low loss cable	RTURADIO-169	Radiomodem 169MHZ, 4DI, 2DO, 2AO, 2AI, RS485
A-169DV14	169MHz vert.Dip. lambda/4 ant, BNC M, L=450 mm	RTURADIO-169DV14	Radiomodem 169MHZ, 4DI, 2DO, 2AO, 2AI, RS485, vertical
A-169DV16	169MHz vert.Dip. lambda/4 ant, BNC M	RTURADIO-169DV12	Radiomodem 169MHZ, 4DI, 2DO, 2AO, 2AI, RS485, dipole
A-169YAGI	169MHz 3 elem. Yagi Ant., BNC M, 10 mt, low loss cable	RTURADIO-169YAGI	Radiomodem169MHZ, 4DI, 2DO, 2AO, 2AI, RS485, yagi
RADIO SETUP	Configuration software Z-AIR-1, RM169-1, RTURADIO 169	Z-AIR-1	Radiomodem 868MHz with omnidir. antenna, RED compl. 5 mt cable
RM169-1	169MHZ Radiomodem, 1DI,1DO,1RS485, BNC-F connector, RED directive	Z-AIR-1-10	Radiomodem 868MHz with omnidir. antenna, RED compl. 10 mt cable
RM169-1-169DV12	169MHz Radiomodem, 1DI,1DO,1RS485, vertical dipole antenna, RED directive	Z-LINK2-LO	LoRa wireless gateway / repeater
RM169-1-169YAGI	169MHz Radiomodem, 1DI,1DO,1RS485, 3 elements Yagi antenna, RED directive		
RM169-1-169DV14	169MHz Radiomodem, 1DI,1DO,1RS485, vertical stilo antenna, RED directive		



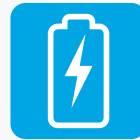
Additional order codes and information

2.10 RADIO MEASUREMENT SYSTEMS

R-GWR is an interface and measurement system for industrial, civil or environmental variables. In fact, the device creates a network of remote sensors connected with LoRa radio technology (863-865 MHz) and accessible via ModBUS RTU/TCP-IP protocol. R-GWR operates as a radio hub capable of managing up to 32 sensors, each capable of acquiring 1) a temperature signal/ humidity integrated, 2) a generic digital input / analog (0-30 Vdc) terminal or alternatively a counter @16bit with maximum frequency 1Hz.



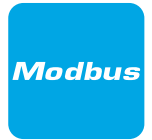
ENVIRONMENTAL MEASUREMENTS



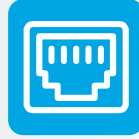
BATTERY POWERED SENSORS



UP TO 32 LORA NODES / SENSORS



MODBUS



ETHERNET



EXT RADIO ANTENNA



BUILDING MONITORING



LOW COST INSTALLATION

TOP SELLING PRODUCTS

R-GWR-S

Gateway / Radio Hub for wireless sensors



Home automation sensor with digital / analog input and antiflooding



R-GWR-IP

Industrial sensor with digital / analog input

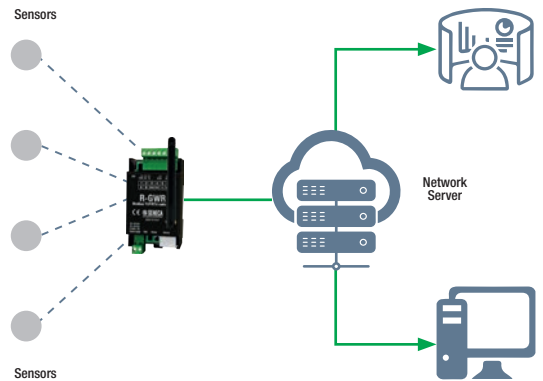
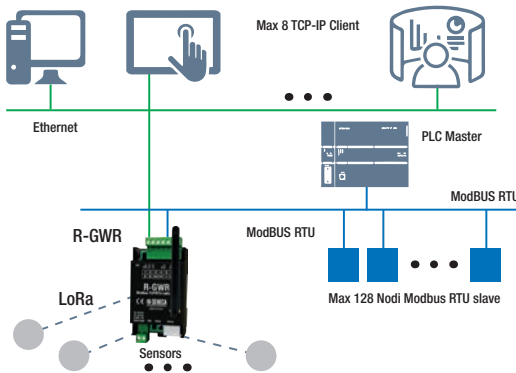


R-BT1

Single battery pack



APPLICATION EXAMPLES



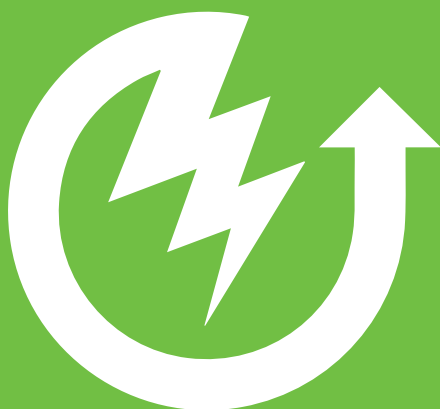
MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION
R-BT1	Single battery pack
R-BT2	Double battery pack 3.6V
R-GWR	ModBUS gateway for wireless sensors
R-GWR-IP-1	LoRa industrial sensor with analog/digital input
R-GWR-IP-2	Sensore industriale LoRa con ingresso analogico/digitale, batteria doppia
R-GWR-S-1	LoRa home automation sensor with analog/digital input and anti flooding
R-GWR-AF	Anti-Flooding Sensor



3

POWER MONITORING AND ELECTRICAL MEASUREMENT



3.1 POWER METERS - S203 SERIES

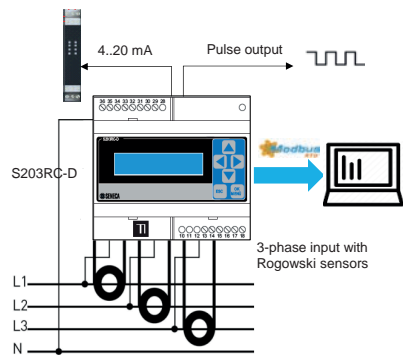
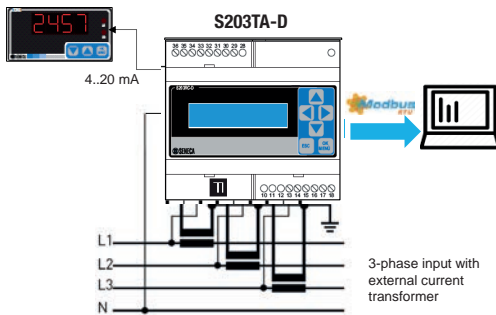
S203 Power Meters are specifically designed to detect the features of power supply in networks and in single-phase or three-phase users. They allow energy and power analysis and therefore the control of power quality. At the same time in many versions are also used to continuously record the trend of the available alternating variables. The measurement and event reporting functions provide a basis of useful information for controlling the right operation of a machine, maximizing energy efficiency.

600 Vac VOLTAGE INPUT	100 mA 5 Arms 4.000 A CURRENT INPUT	EMBEDDED COUNTER METER	Modbus MODBUS COMMUNICATION
SOFTWARE / APP PROGRAMMING	LCD DISPLAY	MULTIPLE OPTION CONNECTIONS	4.000 Vac MAX ISOLATION

TOP SELLING PRODUCTS

S203T AC triple phase power meter, 100 mA input	S203TA-D AC three phase power meter with energy counter	S203RC-D Three-phase power meter for Rogowski's sensor	RC-V250-100 Rogowski Coil, output 100 mV/kA, 50-60 Hz, Ø 68 mm
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APPLICATION EXAMPLES



MAIN PRODUCT CODES

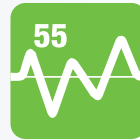
ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
RC-V250-100	Rogowski coil, 100 mV/kA output, 50-60 Hz, 65 mm	S203RC-D	Three-phase power meter for Rogowski's sensor
RC-V400-050	Rogowski coil, 50 mV/kA output, 50-60 Hz, 115 mm	S203TA-D	AC three phase power meter with energy counter
RC-V400-100	Rogowski coil, 100 mV/kA output, 50-60 Hz, 115 mm	S203R	AC thee phase power meter 100 mA input
RC-V500-100	Rogowski coil, 100 mV/kA output, 50-60 Hz, 147 mm		



R203 three-phase power meter family accepts current measurement inputs for CTs with current/voltage output, TVs and Rogowski sensors with single-phase / three-phase insertion, 3/4 wire, supporting ModBUS RTU, ModBUS TCP-IP, Profinet IO, Peer-To-Peer protocols. R203 has 2 Ethernet ports that can also be used for daisy chain connections with automatic bypass protection. R203 provides a voltage (0..10Vdc) / current (0/4..20mA) output signal and it offers also the measurement and recording of harmonics in voltage / current up to 55th order with THD (total harmonic distortion).



UNIVERSAL ANALOG INPUT



HARMONICS UP TO 55TH ORDER WITH THD



HIGH ACCURACY



MULTIPLE PROTOCOLS



ENERGY COUNTER



EMBEDDED DATALOGGER



DUAL ETHERNET / DAISY CHAIN



FAULT-BY PASS / MODBUS PASSTHROUGH

TOP SELLING PRODUCTS

R203-2-L

3-phase power meter, 2xEth,10-30 Vdc, ModBUS RTU/TCP-IP

ModBUS

ETHERNET



R203-2-H

3-phase power meter, 2xEth,90-264 Vac, ModBUS RTU/TCP-IP

ModBUS

ETHERNET



R203-2-L-P

3-phase power meter, 2xEth,10-30 Vdc, Profinet IO

PROFINET



R203-2-H-P

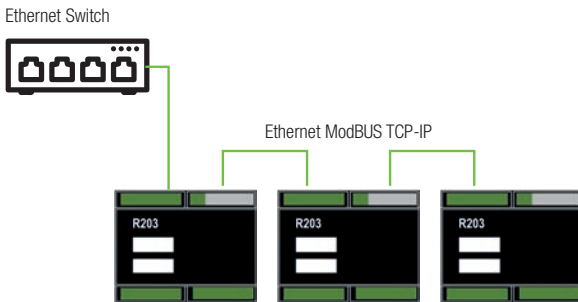
3-phase power meter, 2xEth,90-264 Vac, Profinet IO

PROFINET

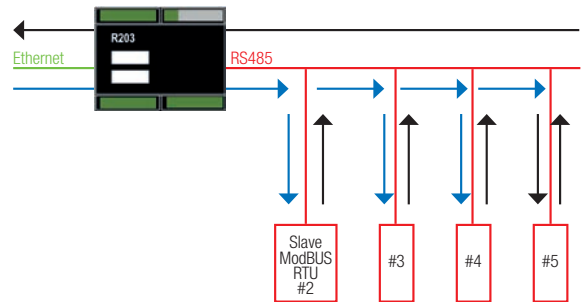


APPLICATION EXAMPLES

CONNESSIONE DAISY CHAIN



MODBUS PASS THROUGH



MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION
R203-2-L	Three-phase power meter, 2xEth,10-40 Vdc / 19-28 Vac, ModBUS RTU/TCP-IP
R203-2-H	Three-phase power meter, 2xEth, 90-264 Vac, ModBUS RTU/TCP-IP
R203-2-L-P	Three-phase power meter, 2xEth,10-40 Vdc / 19-28 Vac, Profinet IO
R203-2-H-P	Three-phase power meter, 2xEth, 90-264 Vac, Profinet IO



Additional order codes and information

3.3 POWER METERS - S203 SERIES

T203PM is a series of single-phase AC/DC TRMS power meter, ModBUS interface, analog and digital output, inputs with 3 current measurement ranges: 100, 300 or 600 Aac/dc depending on the version (T203PM100-MU, T203PM300-MU, T203PM600-MU). The instruments carry out the direct measurement of current and energy without using external CTs. T203PMs measure voltage values, AC/DC current, active/reactive/apparent power, power factor, frequency, voltage, current, reactive apparent power, power factor, frequency, harmonic distortion (THD).



DIRECT MEASUREMENT



ANALOG VOLTAGE OUTPUT



HARMONIC ANALYSIS



DIGITAL OUTPUT



MODBUS RTU INTERFACE



MICRO USB PORT



SETTINGS VIA EASY SETUP 2



EMBEDDED ENERGY METER

TOP SELLING PRODUCTS

T203PM100-MU

Single-phase AC/DC TRMS power meter, inputs up to 100 Vac/dc, ModBUS, analog and digital output



T203PM300-MU

Single-phase AC/DC TRMS power meter, inputs up to 300 Vac/dc, ModBUS, analog and digital output

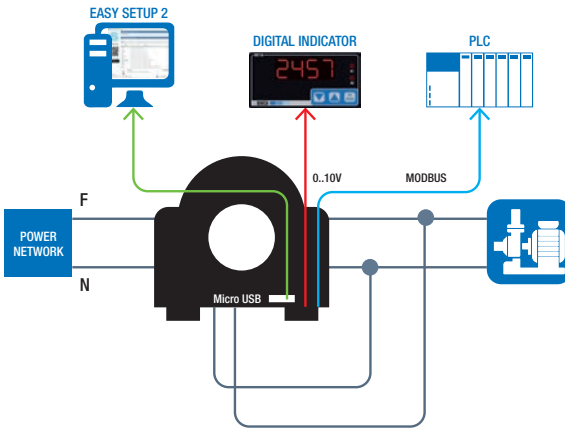


T203PM600-MU

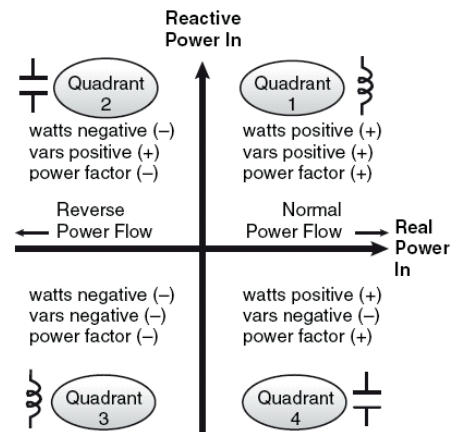
Single-phase AC/DC TRMS power meter, inputs up to 600 Vac/dc, ModBUS, analog and digital output



TYPICAL APPLICATION



AVAILABLE MEASURES VIA SERIAL



MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION
T203PM100-MU	Single-phase power meter AC/DC TRMS, inputs up to 100 Vac/dc, ModBUS, analog and digital output
T203PM300-MU	Single-phase AC/DC TRMS power meter, inputs up to 300 Vac/dc, ModBUS, analog and digital output
T203PM600-MU	Single-phase AC/DC TRMS power meter, inputs up to 600 Vac/dc, ModBUS, analog and digital output
CU-A-MICROB	Micro USB-A USB-B cable 5 P



S604 and S711 Series Power Meters are innovative instruments for measuring and storing electrical parameters. They are particularly suitable when you need a device for the analysis and control of consumption control, with an excellent price/performance ratio. At versions with Rogowski current transducers, they offer extreme ease of connection and can be used in applications with high currents, linear measurements, retrofitting, audits, etc. The instruments can communicate via RS485 serial port with ModBUS RTU/ ASCII protocol or LAN port.



SINGLE PHASE / THREE PHASE INSERTION



DATA STORAGE



BUILT-IN DIGITAL I/Os



SMART PROGRAMMING



MODBUS / ETHERNET COMMUNICATION



EMBEDDED ENERGY COUNTERS



THD / HARMONICS (UP to 15%)

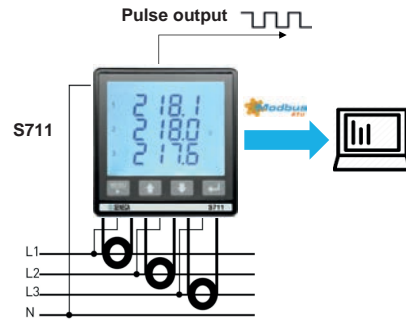
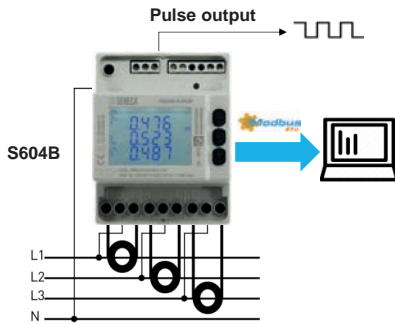


CT / ROGOWSKI / DIRECT CURRENT

TOP SELLING PRODUCTS

S604B	S604E	S604E-ROG	S711B
Three phase power meter, BASIC, Modbus,1MB	Power Meter, Energy PLUS, 8MB log. Harm.	Kit Energy PLUS RS485 Modbus+3 Rog. RC150	Three-phase power meter LCD 96x96 BASIC version

APPLICATION EXAMPLES



MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
S604B-6-MOD	Three phase power meter, BASIC, for CT/5A, Modbus, 1MB	S711B6MOD	LCD 96x96 BASIC Power Meter, TA1/5A, Modbus, I/O
S604B-6-ETH	Three-phase power meter, BASIC, CT/5A, Ethernet, 1MB log	S711E6MOD	LCD 96x96 Energy PLUS Power Meter, TA1/5A, Modbus
S604B-80-MOD	Three phase power meter, BASIC, 80A, Modbus, 1MB log	S711E6MODAO	LCD 96x96 Energy PLUS Power Meter, TA1/5A, Modbus, AO
S604E-6-MOD	Power Meter, Energy PLUS x TA1/5A-RS485 Modbus, 8MB log. Harm.	S711E6ETH	LCD 96x96 Energy PLUS Power Meter, TA1/5A-Eth., 1DI 2DO
S604E-6-ETH	Power Meter Energy PLUS x TA1/5A-Ethernet, 8MB log. Harmonics	S711EROGMOD30	LCD 96x96 Energy PLUS Kit, Modbus, N.3 RC150 (30cm)
S604E-80-ETH	Power Meter Energy PLUS 80A-Ethernet, 8MB log. Harmonics	S711EROGMOD45	LCD 96x96 Energy PLUS Kit, Modbus, N.3 RC150 (45cm)
S604E-80-MOD	Power Meter, Energy PLUS 80A-RS485 Modbus, 8MB log. harmonics	S711EROGMOD70	LCD 96x96 Energy PLUS Kit, Modbus, N.3 RC150 (70cm)
S604E-ROG-MOD-30	Kit Energy PLUS RS485 Modbus+3 Rog. RC150 L= 30cm int.14cm	S711EROGETH30	LCD 96x96 Energy PLUS Kit, Ethernet, N.3 RC150 (30cm)
S604E-ROG-MOD-45	Kit Energy PLUS RS485 +3 Rog. RC150 L= 45cm int.14cm	S711EROGETH45	LCD 96x96 Energy PLUS Kit, Ethernet, N.3 RC150 (45cm)
S604E-ROG-MOD-70	Kit Energy PLUS RS485 Modbus+3 Rog. RC150 L= 70cm int.22cm	S711EROGETH70	LCD 96x96 Energy PLUS Kit, Ethernet, N.3 RC150 (70cm)



Additional order codes and information

3.5 ROGOWSKI COILS RC150 / RC190 SERIES

Suitable for measuring currents from mA to hundreds of kA, RC150 and RC190 Rogowski coils ensure high linearity, wide dynamic range and are very useful with large or irregularly shaped conductors. The light weight and flexibility make them optimal even in locations with reduced access. The transducers pose no danger to open secondaries and cannot be damaged by large overloads. The absence of a magnetic core gives this range a response in very wide frequency range. All this makes them particularly suitable for the measurement of harmonic content or transients. The bayonet closure ensures linear detection at any distance between the conductor and transducer, even those not perpendicular to each other.



FULL SHIELDING



NON-INTRUSIVE MEASURING



OVERLOAD TOLERANCE



LIGHTWEIGHT AND HANGABLE



mA/kA MEASURING



HIGH LINEARITY

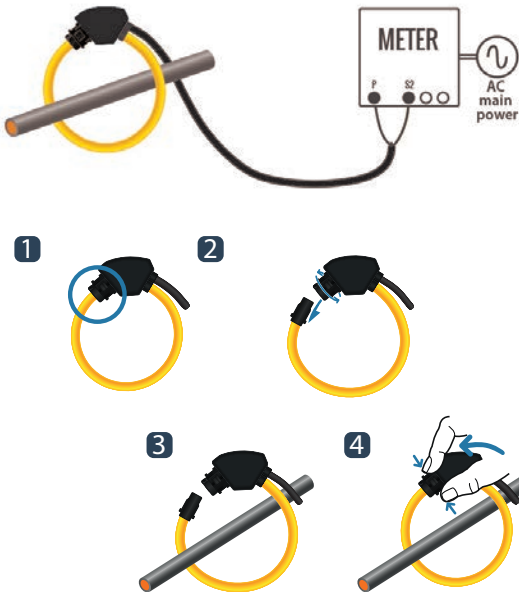


BIG CONDUCTORS

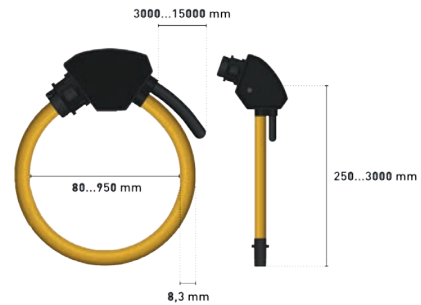


LIMITED ACCESS

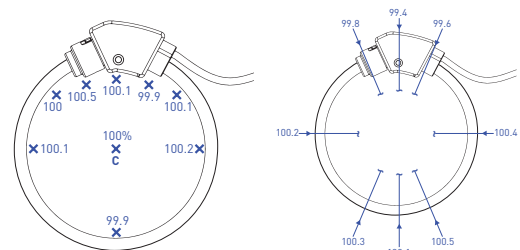
INSTALLATION



DIMENSION



ACCURACY RANGE



C (center based conductor)

Technical data, diagrams and drawings in this catalog are indicative only and not binding

MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
RC150-025-100-10	Rogowski Coil L=25cm Øint.8cm, 100mV/1KA-50Hz, cable L=10mt.	RC150-090-100-5M	Rogowski Coil L=90cm Øint.28cm, 100mV/1KA-50Hz, cable L=5mt.
RC150-025-100-3M	Rogowski Coil L=25cm Øint.8cm, 100mV/1KA-50Hz, cable L=3mt.	RC150-120-100-3M	Rogowski Coil L=120cm Øint.38cm, 100mV/1KA-50Hz, cable L=3mt.
RC150-025-100-5M	Rogowski Coil L=25cm Øint.8cm, 100mV/1KA-50Hz, cable L=5mt.	RC150-120-100-5M	Rogowski Coil L=120cm Øint.38cm, 100mV/1KA-50Hz, cable L=5mt.
RC150-035-100-3M	Rogowski Coil L=35cm Øint.11cm, 100mV/1KA-50Hz, cable L=3mt.	RC150-130-100-5M	Rogowski Coil L=130cm Øint.38cm, 100mV/1KA-50Hz, cable L=5mt.
RC150-035-100-5M	Rogowski Coil L=35cm Øint.11cm, 100mV/1KA-50Hz, cable L=5mt.	RC150-180-100-3M	Rogowski Coil L=180cm Øint.57cm, 100mV/1KA-50Hz, cable L=3mt.
RC150-035-100-10	Rogowski Coil L=35cm Øint.11cm, 100mV/1KA-50Hz, cable L=10mt.	RC150-280-100-5M	Rogowski Coil L=280cm Øint.57cm, 100mV/1KA-50Hz, cable L=5mt.
RC150-040-100-10	Rogowski Coil L=40cm Øint.11cm, 100mV/1KA-50Hz, cable L=10mt.	RC150-300-100-5M	Rogowski Coil L=300cm Øint.57cm, 100mV/1KA-50Hz, cable L=5mt.
RC150-040-100-3M	Rogowski Coil L=40cm Øint.12cm, 100mV/1KA-50Hz, cable L=3mt.	RC190-030-333-3M	Rogowski sensor L-coil=30cm, Øint. 9cm, 333mV/1KA-50Hz, L=3mt
RC150-040-100-5M	Rogowski Coil L=40cm Øint.11cm, 100mV/1KA-50Hz, cable L=5mt.	RC190-030-333-5M	Rogowski sensor L-coil=30cm, Øint. 9cm, 333mV/1KA-50Hz, L=5mt
RC150-060-100-10	Rogowski Coil L=60cm Øint.19cm, 100mV/1KA-50Hz, cable L=10mt.	RC190-035-333-3M	Rogowski sensor L-coil=35cm, Øint. 9cm, 333mV/1KA-50Hz, L=3mt
RC150-060-100-3M	Rogowski Coil L=60cm Øint.19cm, 100mV/1KA-50Hz, cable L=3mt.	RC190-060-333-3M	Rogowski sensor L-coil=60cm, Øint. 9cm, 333mV/1KA-50Hz, L=3mt
RC150-060-100-5M	Rogowski Coil L=60cm Øint.19cm, 100mV/1KA-50Hz, cable L=5mt.	RC190-090-333-3M	Rogowski sensor L-coil=90cm, Øint. 9cm, 333mV/1KA-50Hz, L=3mt
RC150-090-100-10	Rogowski Coil L=90cm Øint.28cm, 100mV/1KA-50Hz, cable L=10mt.	RC190-160-333-3M	Rogowski sensor L-coil=160cm, Øint. 9cm, 333mV/1KA-50Hz, L=3mt
RC150-090-100-3M	Rogowski Coil L=90cm Øint.28cm, 100mV/1KA-50Hz, cable L=3mt.		



S500 Series DIN format energy meters are used for energy measurement in industrial and civil environments. They are available with integrated, remote and MID certified communication. Totals and instantaneous powers are shown on the LCD display.

For remote management are available the tools ENERGY MODBUS PACK for meters with ModBUS interface and ENERGY M-BUS PACK for meters with M-BUS interface as well as the Web Server for versions with Ethernet interface. S500 meters are manufactured in full compliance with EN 50470-1.



M-BUS COMMUNICATION



MID CERTIFICATION



S0 OUTPUT / TARIFF INPUT



MULTI-PROTOCOL SUPPORT



CLASS B / CLASS 2 ACCURACY



MULTIPLE TYPES OF CONNECTION



SW / WEB SERVER / FRONT KEYS



POWER CONSUMPTION MONITORING

TOP SELLING PRODUCTS

S501-40

40A single phase energy counter 2 wires 1 DIN



S501-80

80A single phase energy counter 2 wires 2 DIN



S504C

6A 3-phase energy counter 4 wires 4 DIN

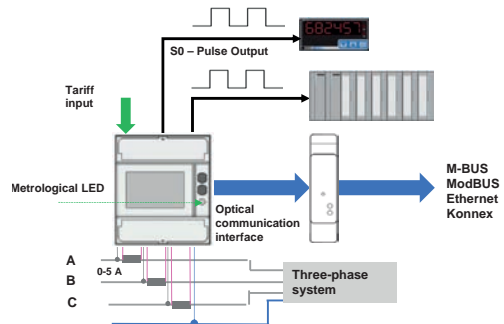
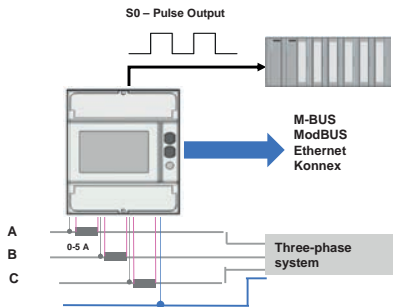


S534

6/80A three phase energy counter 3/4 wires 4 DIN



APPLICATION EXAMPLES



MAIN PRODUCT CODES

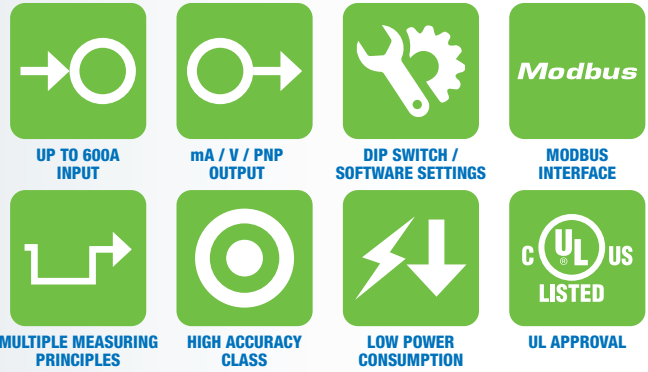
ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
S500-MOD	RS485 Modbus RTU optical interface module	S504C-6-MOD-MID	6A 3-phase energy counter 4 wires 4 DIN, Modbus, MID
S501-40-0	40A single phase energy counter 2 wires 1 DIN	S504C-6-MBU-MID	6A 3-phase energy counter 4 wires 4 DIN, M-BUS, MID
S501-40-0-MID	40A single phase energy counter 2 wires 1 DIN, MID certified	S504C-6-ETH-MID	6A 3-phase energy counter 4 wires 4 DIN, Ethernet, MID
S501-40-MOD-MID	40A single phase energy counter 2 wires 1 DIN, RS485 Modbus MID	S504C-80-MOD-MID	80A 3-phase energy counter 4 wires 4 DIN, Modbus, MID
S501-40-MBU-MID	40A single phase energy counter 2 wires 1 DIN, RS485 M-Bus, MID	S504C-80-MBU-MID	80A 3-phase energy counter 4 wires 4 DIN, M-BUS, MID
S502-80-MOD	80A single phase energy counter 2 wires 2 DIN, RS485 Modbus	S504C-80-ETH-MID	80A 3-phase energy counter 4 wires 4 DIN, Ethernet, MID
S502-80-MBU	80A single phase energy counter 2 wires 2 DIN, M-BUS	S534-6-MID	6A three phase energy counter 3/4 wires 4 DIN, MID
S502-80-ETH	80A single phase energy counter 2 wires 2 DIN, Ethernet	S534-80-MID	80A three phase energy counter 3/4 wires 4 DIN, MID
S502-80-MID	80A Single Phase Energy Counter, 2 wires, 1 DIN, MID		



Additional order codes and information

3.7 CURRENT TRANSDUCERS T201 SERIES

T201 Series AC/DC Current Transducers are devices capable of converting the measured current value (up to 600 A) into a standardized industrial 4..20 mA or 0..10 V signal. Most models of the T201 Series are UL certified and feature low power consumption, convenient DIP-switch-settable measurement scales and high accuracy guaranteed by the absence of thermal drift. 15 models are available with different measuring principles: rectified average, magnetic balance (with patented technology), Hall Effect or TRMS with bipolar input range.



TOP SELLING PRODUCTS

T201DC

DC Current Transducer 5-40 A to 4..20 mA (Loop powered)



T201DCH

AC/DC Current Transducer 0-50 A to 0..10V, auxiliary power



T201DCH100-LP

AC/DC C.T. (100 A), Hall Effect, Loop Powered, 4-20 mA



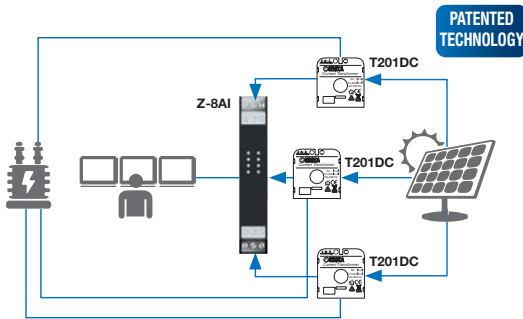
T201DCH600-OPEN

Open core CT, input up to 600 Aac/dc, output 0..10 V

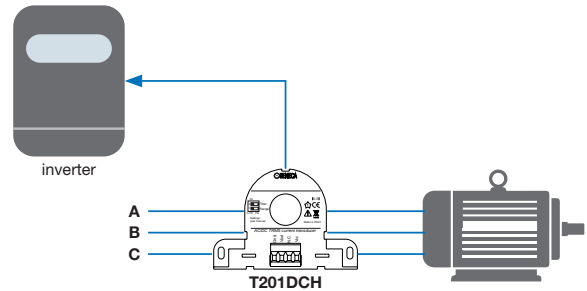


APPLICATION EXAMPLES

DIRECT CURRENT TRANSDUCTION WITH 4-20 mA DIRECT OUTPUT



TRANSDUCTION OUTPUT CURRENT FROM ELECTRIC MOTOR IN 0-10V SIGNAL



MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
A-DIN-T201	DIN rail plastic clip for T201 Series	T201DCH50-M	AC/DC C.T. (50 A), Hall Effect, Loop Powered, 0-10V, Modbus
T201	AC Current Transf. 5-40 A to 4..20 mA (Loop powered);	T201DCH100-M	AC/DC C.T. (100 A), Hall Effect, Loop Powered, 0-10V, Modbus
T201DC DC	Current Transf. 5-40 A to 4..20 mA (Loop powered) ;	T201DCH300-M	AC/DC C.T. (300 A), Hall Effect, loop Powered, 0-10V, Modbus
T201DC100	DC Current Transf 0-100A to to 4..20 mA (Loop powered);	T201DCH50-MU	AC/DC C.T. (50 A), TRMS, 0..10V, Pnp alarm, Modbus, USB
T201DCH	AC/DC Current Transf. 0-50 A to 0..10V, Auxiliary Power	T201DCH100-MU	AC/DC C.T. (100 A), TRMS 0..10V, Pnp alarm, Modbus, USB
T201DCH100	AC/DC CT with Hall effect INP 0-100Aac/dc OUT 0-10Vdc	T201DCH300-MU	AC/DC C.T. (300 A), TRMS 0..10V, Pnp alarm, Modbus, USB
T201DCH300	AC/DC CT with Hall effect INP 0-300Aac/dc OUT 0-10Vdc	T201DCH600-MU	AC/DC C.T. (600 A), TRMS 0..10V, Pnp alarm, Modbus, USB
T201DCH50-LP	AC/DC C.T. (50 A), Hall Effect, Loop Powered, 4-20 mA	T201DCH100-OPEN	Open core current transducer with input up to 100 Aac/dc output 0..10 V
T201DCH100-LP	AC/DC C.T. (100 A), Hall Effect, Loop Powered, 4-20 mA	T201DCH300-OPEN	Open core current transducer with input up to 300 Aac/dc output 0..10 V
T201DCH300-LP	AC/DC C.T. (300 A), Hall Effect, Loop Powered, 4-20 mA	T201DCH600-OPEN	Open core current transducer with input up to 600 Aac/dc output 0..10 V



The converter modules for electrical measurements measure voltage and current values (alternating and / or continuous) converting them into a signal normalized in current or in voltage at the output terminals, proportional to the input value. The scaling parameters of the inputs and outputs are selectable via software or DIP switches. The modules ensure a high accuracy class (0.1 to 0.5%) and a very high multiple ways galvanic isolation, up to 4,000 Vac. In addition to power or error signalling, ModBUS modules equipped offer RS485 LED indication on the front panel.



WIDE MEASURING RANGE



EASY CONNECTIONS



FLEXIBLE SETTINGS



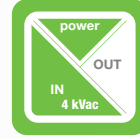
FULL POWER SUPPLY OPTIONS



COMPACT SIZE



INTERNATIONAL APPROVALS



HIGH LEVEL ISOLATION



FIELDBUS INTERFACE

TOP SELLING PRODUCTS

Z201

Alternate current converter
10..40 Vdc; 19..28 Vac



Z202-LP

Alternate voltage converter
loop powered



Z203-2

Single Phase
Power Meter

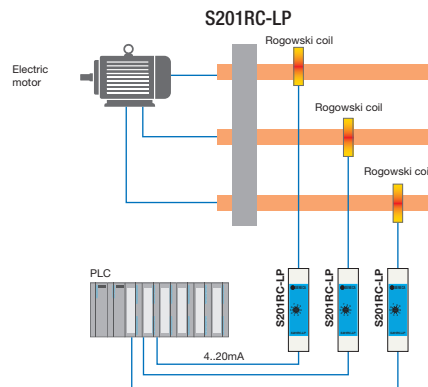
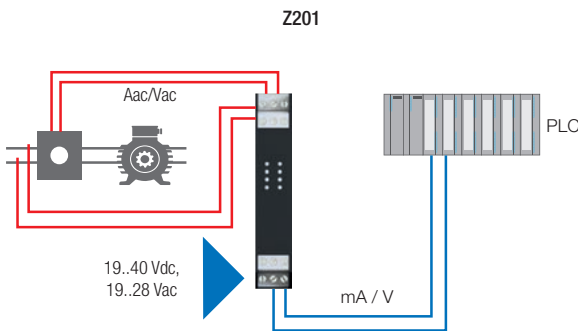


S201RC-LP

Loop-powered converter for
Rogowski sensors



APPLICATION EXAMPLES



MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION
S201RC-LP	Loop powered current converter for Rogowski Coils
Z201	AC Current to DC I/V Conv.19..40Vdc - 19..28 Vac
Z201-H	AC Current to DC I/V Isolator/Conv.85..265Vac/dc
Z202	AC Voltage(500 A);to DC I/V Conv.19..40 Vdc-19..28 Vac
Z202-H	AC Voltage(500 A);to DC I/V Isolator/Conv.85..265Vac/dc
Z202-LP	500 VAC- 540 VDC to 4..20 mA Converter, loop pow.
Z203-2	AC single phase advanced network analyzer, Micro USB port
Z204-1	AC/DC high voltage converter, analog out, ModBUS RTU



Additional order codes and information

3.9 IEC 61850 / IEC 60870 ENERGY CONTROLLERS

For Energy Management applications SENECA offers different types of controller supporting IEC 60870-101/104 (telecontrol systems standard) and IEC 61850 (automation systems for power substations) communication protocols. These units can be used as redundant controllers for plant automation, energy management, management of renewable energy systems (biomass, photovoltaic, wind, etc.), development of smart grids, etc.. They are also configurable as web servers and TCP-IP nodes and can be integrated with SCADA, EMS and Web supervision platforms.



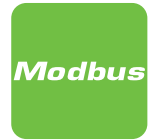
ENERGY MANAGEMENT APPLICATIONS



SOFT PLC IEC 61131-3



VPN SUPPORT



MODBUS RTU / TCP/IP SUPPORT



IEC 60870-101-104 SLAVE



IEC 61850 CLIENT / SERVER



SUBSTATION CONTROLS



SCADA INTEGRATION

TOP SELLING PRODUCTS

Z-TWS4-RT-E

Energy controller, built-in I/O, Straton



Z-PASS2-RT-E

Energy Remote Controller 4G, VPN, GPS, built-in I/O, Straton



S6001-RTU-E

Energy Remote Control Unit, built-in IO, 4G, Straton



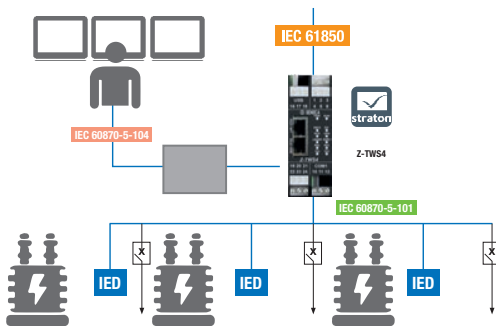
R-PASS-E

Multifunction Controller / Gateway, WIFI, 4 LAN ports, Straton, energy protocols

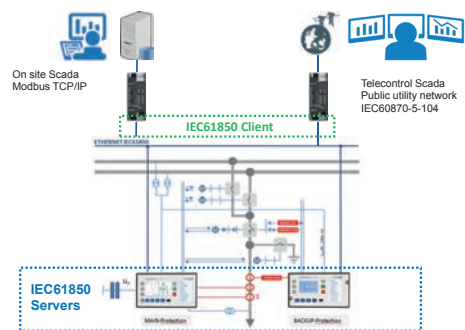


APPLICATION EXAMPLES

REMOTE CONTROL OF ELECTRICAL SUBSTATIONS



ENERGY MANAGEMENT SMART GATEWAY



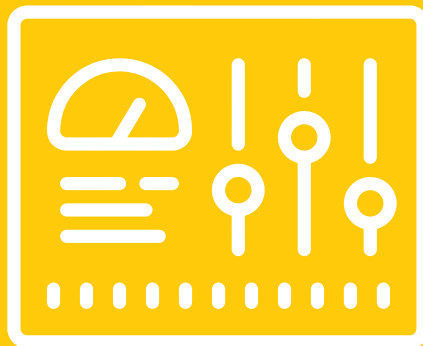
MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
MY2CEI-016-0-220	MY2-CEI, built-in antenna, 220 Vac - 12 Vdc	Z-PASS2-RT-4G-E	Remote Controller Energy 4G worldwide, VPN, serial device server, GPS and I/O integrated
MY2CEI-016-0-24	MY2-CEI, built-in antenna, 24 Vac - 12 Vdc	Z-TWS4-RT-E	IEC 61131 Energy controller energy, built-in I/O, Straton OEM
MY2CEI-016-A-220	MY2-CEI, A-GSM, 220 Vac - 12 Vdc	R-PASS-0-4-E	Multifunction Controller / Gateway, 4 LAN ports, Straton, energy protocols
MY2CEI-016-A-24	MY2-CEI, A-GSM, 24 Vac - 12 Vdc	R-PASS-W-4-E	Multifunction Controller / Gateway, WIFI, 4 LAN ports, Straton, energy protocols
S6001-RTU-E	Remote Control Unit with built-in IO, 3G+ modem, energy		
S6001-RTU-E-4GWW	Remote Control Unit with built-in IO, 4G WW LTE, Energy protocols		



4

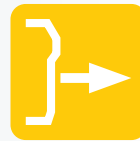
MEASUREMENT AND CONTROL PANEL INSTRUMENTATION



Z-Line modules are reliable signal conditioners that are geared toward ease of use and installation. Most models features are characterized by 3-way galvanic isolation equal to 1.5 kVac, reduced overall dimensions (standard width 17.5 mm), installation on DIN 42677, extended temperature range, high accuracy, possibility to power the sensors connected to them. Z-Line is the ideal solution for analog, electrical, from temperature sensors, load cells, serial, digital, impulsive signal conditioning.



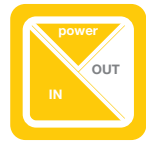
UNIVERSAL
POWER SUPPLY



POWER
TRANSDUCER



LOW POWER
CONSUMPTION



MULTIWAYS
ISOLATION @1,5 KVAC



HIGH LEVEL
ACCURACY



UNIVERSAL I/O
STANDARD SIGNALS



INDUSTRIAL
RELIABILITY



INTERNATIONAL
CERTIFICATIONS

TOP SELLING PRODUCTS

Z170REG-1

DC duplicator / isolator prog. via Micro USB



Z109S

DC current isolator



Z109REG2-1

High performance universal converter, prog. via Micro USB



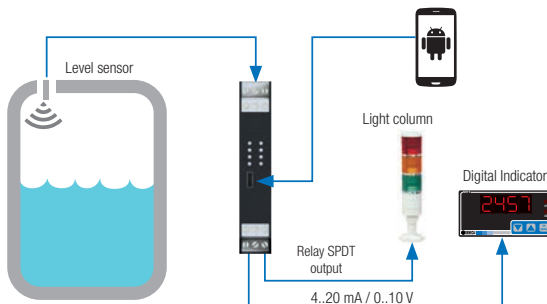
Z111

Frequency to DC isolator / converter

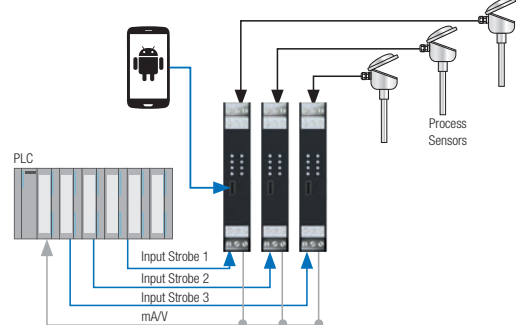


APPLICATION EXAMPLES

ISOLATION AND CONVERSION WITH ALARM THRESHOLD ON ANALOG INPUT AND OUTPUT RETRANSMISSION ON INDICATOR



ISOLATION AND ANALOG CONVERSION WITH FUNCTION OF MULTIPLEXER ON RETRANSMITTED OUTPUT



MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
Z102	Potentiometer to DC Current/Voltage isolator/converter	Z109UI2-1	DC current / voltage converter, prog. via Micro USB/App
Z104	DC V/I to frequency isolator / converter	Z110D	DC current isolator (self-powered) double channel
Z109PT2-1	RTD to DC V/I isolator converter, prog. via MicroUSB/App	Z110S	DC current isolator (self-powered) single channel
Z109REG	Analog universal converter with galvanic isolation	Z111	Frequency to DC isolator / converter
Z109REG-BP	Universal converter with bipolar mA / V output	Z112A	On/Off sensors digital amplifier, single channel
Z109REG2-1	High perf. universal converter, prog. via MicroUSB/App	Z112D	On/Off sensors amplifier, double channel
Z109REG2-H	High performance universal converter, 85-265 Vac/dc	Z113-1	Double threshold with universal analog input
Z109S	DC current isolator for 0/4..20mA loops	Z113S	DC current / voltage single alarm trip module
Z109S-DI	DC wide range current isolator for 0/4..20mA loops	Z170REG-1	DC duplicator / isolator prog. Via MicroUSB/App
Z109TC2-1	TC to DC isolator / converter, prog. via MicroUSB/App	Z190	DC Current/Voltage Adder/subtractor



SENECA K-Line converter modules are characterized by isolation 1.5 kVac 3-way digital technology, accuracy class 0.1%, power supply range from 19.2 to 30 Vdc, compact size (102.5x93.1x6.2 mm), low power consumption, Mtbf over 500.000 hours.

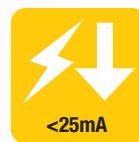
The configuration of the signals is immediate by DIP switch or software. The power supply technique is standard (on the spring clamp) or with distributed system, based on expandable connector (K-BUS) that can be snapped onto the 35 mm DIN rails according to EN 60715.



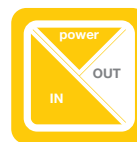
HIGH RELIABILITY



WIDE RANGE OPERATING TEMPERATURE



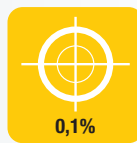
LOW POWER CONSUMPTION



MULTIWAYS ISOLATION @1,5 KVAC



COMPACT DIMENSION



HIGH ACCURACY CLASS



FLEXIBLE SETTINGS VIA DIP SWITCHES



PROGRAMMING VIA PC

TOP SELLING PRODUCTS

K109S

DC Current/Voltage to DC Current/Voltage Converter



K109UI

DC Current/Volt. to DC Current/Volt. Isolator/Converter



K109PT

PT100 to DC Current/Voltage Isolator/Converter



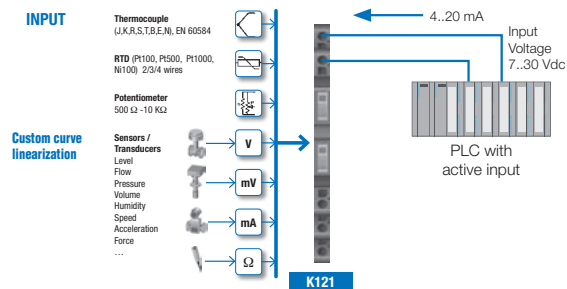
K121

Universal isolator converter loop powered

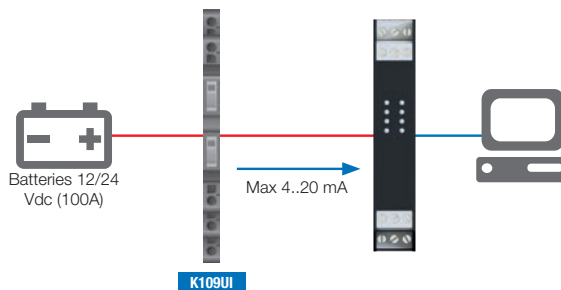


APPLICATION EXAMPLES

CONVERSION AND TRANSMISSION TO THE PLC OF A UNIVERSAL ANALOGUE SIGNAL



MONITORING OF THE BATTERY CHARGE VOLTAGE



MAIN PRODUCT CODES

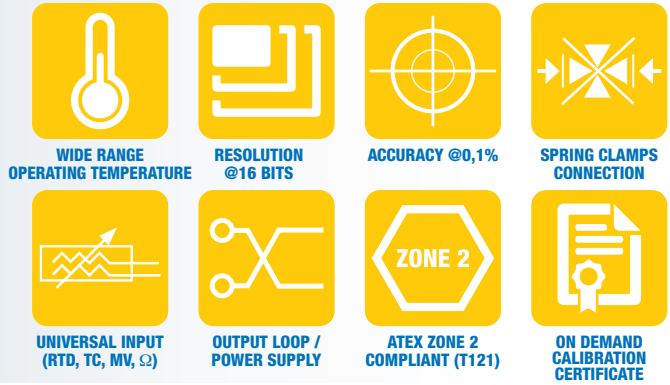
ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
K107A	RS485 <-> RS485 serial amplifier/Isolator	K111-C	Isolated dual output frequency trip amplifier - config.
K107B	RS232 <-> RS485 serial converter/Isolator	K111D	2-CH frequency divider-repeater with 2 isolated outputs
K107USB	USB <-> RS485 converter / Isolator	K111D-C	2-CH frequency divider-repeater with 2 isolated outputs, config.
K109LV	mV to DC Current/Voltage Isolator/Converter	K112	Universal digital Coupler/Isolator
K109PT	PT100 to DC Current/Voltage Isolator/Converter	K120RTD	Pt100, Ni100 loop powered converter
K109PT1000	PT1000 to DC Current/Voltage Isolator/Converter	K120RTD-C	Pt100, Ni100 loop powered converter, config.
K109PT-HPC	PT100 to DC Current/Volt. Isol/Conv. High prec.	K121	Universal isolator converter loop powered
K109S	DC Current/Voltage to DC Current/Voltage Converter	K121-C	Universal isolator converter loop powered - config.
K109TC	TC to DC Current/Volt. Isolator/Converter-with alarm	K-BUS	Expandable power supply connector
K109UI	DC Current/Volt. to DC Current/Volt. Isolator/Converter	K-SUPPLY	Redundant power supply module for K-Line modules
K111	Isolated dual output frequency trip amplifier		








Additional order codes and information

4.3 TEMPERATURE TRANSMITTERS

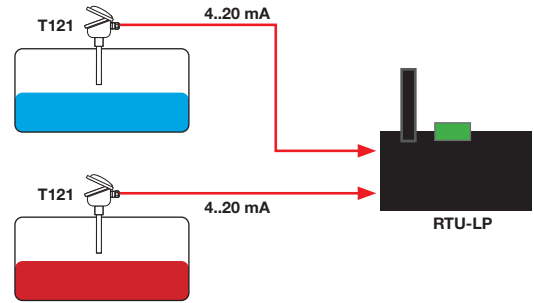
The high-accuracy head-mounted temperature transmitters, T120 and T121, are designed for universal use in machines, plants, installations and the process industry. They convert input signals and transmit them back into a normalized current signal current through a 4-20 mA loop. Input signals can come from 2-, 3-, 4-wire RTD sensors such as Pt100 (EN 60751) and Ni100 (DIN 43760). T121 model also acquires Cu50, Cu100, Ni121 and Ni1000 RTDs and signals from thermocouples type J, K, R, S, T, B, E, N, L (EN 60584), voltage and resistance.



TOP SELLING PRODUCTS

T120	T121	PT100-100-MA	PT100-50
Loop powered 2-wire transmitter for Pt100 and Ni100	Universal temperature transmitter	Pt100 std length 100 mm, 4-20 mA output	Pt100 std length 50 mm
	 		

APPLICATION EXAMPLES



MAIN PRODUCT CODES

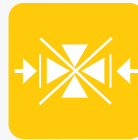
ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
PT100-100	Pt100 std length 100 mm	PT100-50	Pt100 std length 50 mm
PT100-100-MA	Pt100 std length 100 mm, 4-20 mA output	PT100-50-MA	Pt100 std length 50 mm, 4-20 mA output
PT100-150	Pt100 std length 150 mm	PT100-A	Atmosphere Pt100
PT100-150-MA	Pt100 std length 150 mm, 4-20 mA output	PT100-A-MA	Atmosphere Pt100, 4-20 mA output
PT100-200	Pt100 std length 200 mm	PT100-SOLAR	Single element 3 wires Pt100 for photovoltaic modules
PT100-200-MA	Pt100 std length 200 mm, 4-20 mA output	PT100-SOLAR-MA	Single element Pt100 for PV modules, out 4-20 mA
PT100-250	Pt100 std length 250 mm	T120	Loop powered 2-wire transmitter for Pt100 and Ni100
PT100-250-MA	Pt100 std length 250 mm, 4-20 mA output	T120-C	Calibrated loop powered 2-wire transmitter for Pt100 and Ni100
PT100-300	Pt100 std length 300 mm	T121	Universal temperature transmitter
PT100-300-MA	Pt100 std length 300 mm, 4-20 mA output	T121-C	Calibrated universal temperature transmitter



SENECA S400 Series surge protectors are designed to protect electrical systems and equipment against transient and impulsive overvoltages caused by atmospheric phenomena and electrical switching. The S400 range includes: type 2 and 3 surge arresters for industrial power systems; protection for control and systems used in binary and analog circuits, such as pulse, 0..10 Vdc signals and 0/4..20 mA current loops; surge protections for computer and communication networks (token ring, ISDN, DS1, Ethernet, Power over Ethernet, RS232/422/485 etc.)



MULTIPLE FIELD APPLICATIONS



DIFFERENT DESIGNS



HIGH SECURITY INTERRUPTION LEVEL



FRONT STATUS SIGNALLING



COST SAVING



REMOTE SIGNALLING



EASY CONNECTION

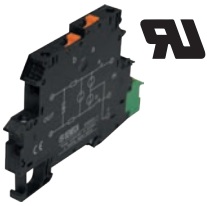


VOLTAGE SUPPRESSION

TOP SELLING PRODUCTS

S400CL-1

Analog and Digital Signals Surge Protection with knife disconnecter



S400HV-2

Type 2 230 Vac Surge Protection at 3 conductors (L, N, PE)



K400CL

Analog and Digital Signals Surge Protection, 6,2 slim



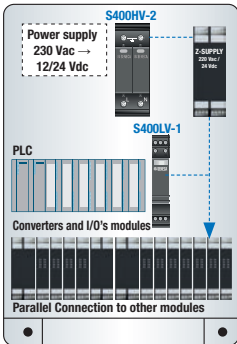
S400NET-1

Ethernet, serial, fieldbus networks Surge Protections, 5 wires



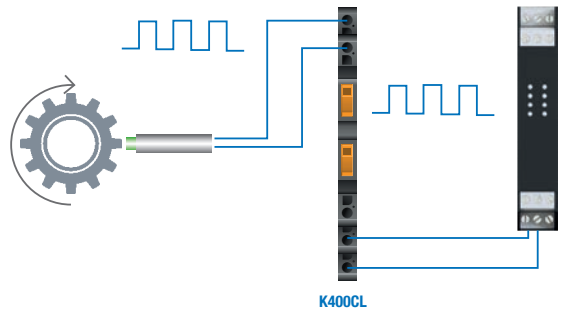
APPLICATION EXAMPLES

PROTECTION AND ISOLATION FOR POWER SUPPLY TYPE 2 AND 3



Automation Panels, Marshalling Panels, Panel of PLC & DCS command and machines control, Distribution Panels, Electrical Panels Power Center, MCC Panels

PROTECTION OF A PULSE MEASUREMENT DEVICE (REED, NAMUR, PNP, NPN, HALL EFFECT, ETC)



MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
K400CL	Analog and Digital Signals Surge Protection, 6,2 slim	S400CL-1	Analog and Digital Signals SPD with knife disconnecter
K400CL-10	K400CL-1 10 pieces kit	S400CL-1-15	S400CL-1 10 pieces kit
S400HV-2	Type 2 230 Vac SPD at 3 conductors (L, N, PE)	S400CL-1-P5	S400CL-1 closing side (5 pieces)
S400HV-2-RIC-SL	S400HV2 plug spare 1L-NPE, no FM contact	S400NET-1	Ethernet, serial, fieldbus networks SPD, 5 wires
S400HV-2-RIC-SN	S400HV2 plug spare N/PE	S400NET-1-RIC	S400NET-1 plug spare
S400LV-1	Type 3 24 Vac/dc SPD with FM contact at 3 conductors		



Additional order codes and information

S-Line is a high performance compact/modular indicators / totalizers family. This series offers display choice with 4, 6, 8, 4+7 digits in multiple visualization mode (real-time, integrated, totalized measured values). S-Line indicators support universal input (analog, digital, by sensor) and re-transmitted output mA, V standard.

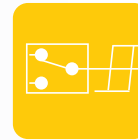
Concerning power supply they ensure an extended range of options: 80-265 Vac; 10-40 Vdc / 19-28 Vac; loop powered. Accuracy class reach 0,1% with 14-16 bit A/D conversion.



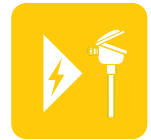
UNIVERSAL INPUT



RE-TRANSMITTED OUTPUT



ALARM (RELAY) ENABLING



POWER TRANSDUCERS



TOTALIZER



SIGNAL GENERATOR



BATCH COUNTER



MULTIWAYS ISOLATION @1,5 KVAC

TOP SELLING PRODUCTS

S311AK

4-digit display indicator with mA/V analog input



S312A

4-digit display indicator with universal analog input, nr.4 relay output, Modbus interface



S315

4-digit display loop powered indicator, 4-20 mA input



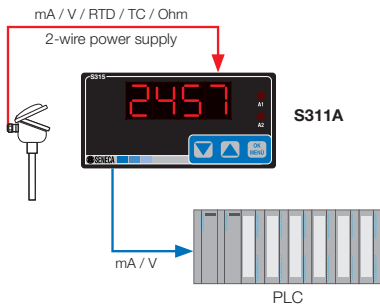
S311A-4

4-digit display indicator - totalizer with universal analog input

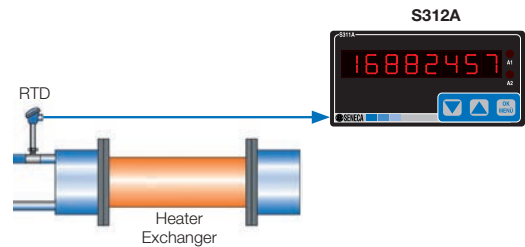


APPLICATION EXAMPLES

ANALOG SIGNAL VISUALIZATION AND PLC RE-TRANSMISSION



MEASURE CONSUMPTION



MAIN PRODUCT CODES

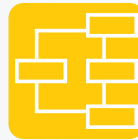
ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
S311A-11-H	11 digit indicator, universal analog input, 80-265 Vac	S311A-6-H-0	6 digit indicator, universal AI, 80-265 Vac, opt. board
S311A-11-H-0	11 digit indicator, univ. AI, 80-265 Vac, opt. board	S311A-6-L	6 digit indicator, universal AI, 10-40 Vdc/19-28 Vac
S311A-11-L	11 digit analog input indicator, 10-40 Vdc/19-28 Vac	S311A-6-L-0	6 digit indicator, 10-40 Vdc / 19-28 Vac, opt. board
S311A-11-L-0	11-digit input indicator, 10-40Vdc/19-28Vac, opt. board	S311A-8-H	8-digit indicator, universal analog input, 80-265 Vac
S311A-4-H	4 digit indicator, universal analog input, 80-265 Vac	S311A-8-H-0	8-digit indicator, universal AI, 80-265 Vac, opt. board
S311A-4-H-0	4 digit indicator, 80-265 Vac, opt. board	S311A-8-L	8-digit indicator, universal AI 0-40 Vdc/19-28 Vac
S311A-4-L	4 digit indicator, universal AI, 10-40Vdc/19-28 Vac	S311A-8-L-0	8-digit indicator, 10-40 Vdc/19-28 Vac, opt. board
S311A-4-L-0	4-digit indicator, 10-40 Vdc/19-28 Vac, opt. Board	S311D-8-L-0	8-digit dig. input ind., 10-40Vdc/19-28 Vac, opt. board
S311A-6-H	6 digit indicator, universal analog input, 80-265 Vac	S311G-4-L	4-digit universal input indicator/signal generator, 10-40 Vdc, 19-28 Vac



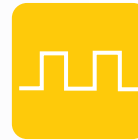
SENECA S20N1 and S21N1 batch controllers are costeffective, simple and safe solutions for process automation. Equipped with polycarbonate front membrane from 72x144 mm with 2 Numeric 5-digit LED high brightness displays, 7 status indicators LED and 6 programming buttons, S20N1 and S21N1 get digital signals from free contact, Reed, NPN, NAMUR, Hall effect and photoelectric sensors. S20N1 and S21N1 batch controllers can be used as “stand-alone” metering unit or “auto-manual” station. In this second mode they work as a local control unit in order to manually compensate, integrate or stop metering recipes remotely controlled from the PLC.



BATCH MODES



FLEXIBLE RECIPES



PULSE INPUT



SPDT RELAY



RS485 ModBUS



IMPACT PRINTER



EX / IP65 VERSIONS



SELF-POWERED INPUT ADAPTER BOARD

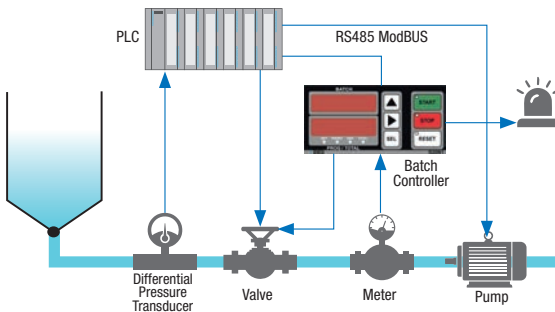
TOP SELLING PRODUCTS

S20N1	S21N1	S20N1IP65	S21N1EX
Basic batch controller	Advanced batch controller	Basic batch controller in IP65 case	Basic batch controller in EExd case

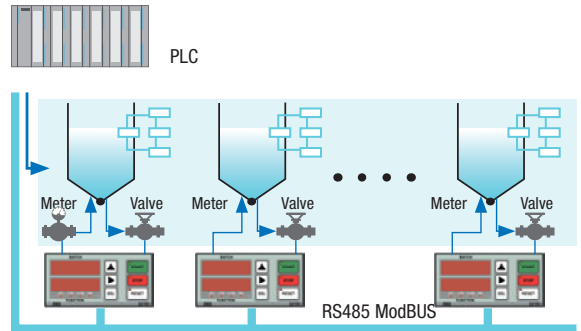


APPLICATION EXAMPLES

BATCH PROCESS CONTROL WITH PLC



MULTIPLE RECIPES FROM REMOTE COMMAND (PLC) OR LOCAL (AUTO-MAN STATION)



MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION	ORDER CODE	DESCRIPTION
FH190-24	Impact printer, 9-40 Vdc, for S20N1 e S21N1	S20N1IP65-23-ST	Batch controller in IP65 case, 24 Vac/dc
S20ADP	Input adapter board self-powered for S20N1, S21N1, S30	S20N1-KIT-1-ST	S20N1 / S21N1 remote board, 115 / 230 Vac
S20ADP-CM	Self-powered input adapter board for S20N1, S21N1, S30	S20N1-KIT-23-ST	S20N1 / S21N1 remote board, 24 Vac/dc
S20ADP-IP65	IP65 self-powered input adapter board	S21N1-1-ST	Batch controller with advanced functions, 115 / 230 Vac
S20N1-1-ST	Batch controller, 115 / 230 Vac	S21N1-23-ST	Batch controller with advanced functions, 24 Vac / dc
S20N1-23-ST	Batch controller, 24 Vac / dc	S21N1EX-1-ST	Batch controller EExd, advanced functions, 115/230 Vac
S20N1EX-1-ST	Batch controller in EExd case, 115 / 230 Vac	S21N1EX-23-ST	Batch controller Eexd, advanced functions, 24 Vac/dc
S20N1EX-23-ST	Batch controller in EExd case, 24 Vac/dc	S21N1IP65-1-ST	Batch controller IP65, advanced functions, 115/230 Vac
S20N1IP65-1-ST	Batch controller in IP65 case, 115 / 230 Vac	S21N1IP65-23-ST	Batch controller IP65, advanced functions, 24 Vac/dc



Additional order codes and information

4.7 MULTIFUNCTION CALIBRATORS

MSC

MSC (Multifunction Smart Calibrator) is a flexible device for maintenance and testing of sensors and process meters. With best-in-class accuracy at 0.05% for each type of input / output, MSC offers measurement, generation and simulation of analog and digital signals, temperature sensors and load cells.



SIGNAL MEASUREMENT



SIGNAL GENERATOR SIMULATOR



RAMP FUNCTION



DATALOGGER

Test-4

Test-4 is a reliable support for calibration sessions, laboratory tests and of analog measurements simulation controlled by industrial devices (controllers, DAQ systems etc.). With a total accuracy better than 0.1%, and a whole resolution of 1 μ A / 1 mV, Test-4 achieve accurate calibration results.



RAMP GENERATOR



INPUT / OUTPUT mA / V



LOW CONSUMPTION DISPLAY



MULTIFUNCTION ENCODER BUTTON

PACKAGE CONTENT

MSC



(1) Custodia portatile, (2) MSC completo di batterie, (3) spina elettrica, (4) cavo dati e ricarica USB, (5) rapporto di taratura, (6) manuale operativo, (7) cavi di test

PACKAGE CONTENT

TEST-4



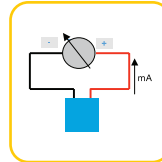
(1) Custodia portatile, (2) Test-4 completo di batterie NiMH 2650 mAh, (3) alimentatore, (4) puntali, (5) manuale operativo

APPLICATION / USE

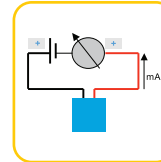


CONNECTIONS

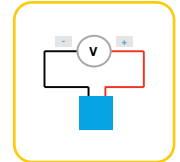
SIGNAL GENERATION



Active Current

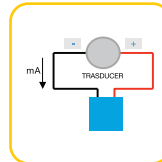


Passive Current

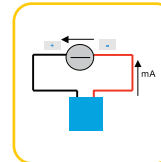


Voltage

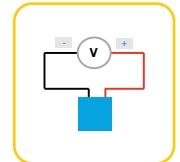
SIGNAL MEASUREMENT



Active Current



Passive Current



Voltage

MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION
MSC	Multifunction bluetooth calibrator
MSC-POWER	MSC Power Supply
MSC-T	MSC Calibration Report
MSC TOOL	MSC data export and firmware update

MAIN PRODUCT CODES

ORDER CODE	DESCRIPTION
TEST-4-C	TEST-4 transport and protection case
TEST-4-PWR	Test-4 power supply
TEST-4-PK	Precision kit for Test-4
TEST-4-R	Precision test leads for Test-4
TEST-4-T	ISO 9001 calibration certificate for Test-4
TEST-4	V/I handheld multimeter with ramps simulation
USB-ISO	USB galvanic isolator



WATCH OUR CORPORATE VIDEO



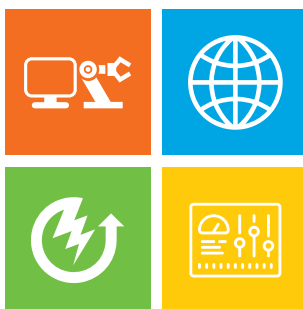
<https://www.youtube.com/@SENECAutomation>



WEBSITE



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www.seneca.it



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