I/O MODULES

Z-PC LINE
R LINE



SENECA

www.seneca.it

100% Made & Designed in Italy

Scalable and distributed I/O modules

- **Power supply Vac/dc switching**
- **Operating temp. up to -20..+70°C**
- **Hot swapping**
- **Power supply for transducers**
- **Reduced width 17.5mm**
- **Certification UL - CSA**
- **Max isolation 1.5 kVac**
- **IDC10 bus system for power supply and data**
- **Removable terminals 2.5mm²**



Extensive range

The Z-PC line offers an extensive range for acquisition and control: over 160 I/O modules, CPUs, RTUs, HMIs and accessories handle from a few to thousands of analog, digital, temperature and load cell signals, ensuring maximum system modularity and scalability.

Universal applications

Modbus models support Modbus TCP-IP communication on 1 or 2 Ethernet ports and Modbus RTU on RS485 up to 64 nodes and 115 kbps. Profinet IO RT Class 1 versions offer a minimum cycle time of 2 ms, 100 Mbps Ethernet and Ethernet/IP support for multiprotocol Industrial Ethernet networks.

Multiprotocol support

The Z-PC line supports ModBUS RTU/TCP-IP, Profinet IO, Ethernet/IP and CANopen protocols, offering communication up to 115 kbps on RS485 and 100 Mbps on Ethernet, with web configuration, minimum cycle times and flexible architectures without additional devices.

Flexible configuration

Z-PC line I/O modules offer multiple configuration options, from a single module to complex applications: EASY SETUP plug&play software, Z-NET4 design environment, SoftPLC IEC 61131-3, Web Server.

PLC integration

Z-PC line I/O modules integrate with SENECA controllers and RTUs (Z-TWS4, Z-PASS2-S, SSD-S, R-PASS-S), creating open IT-OT architectures based on SoftPLC Straton IEC 61131. They offer advanced control, datalogging, remote assistance functions and IEC 60870 and 61850 protocols.

Third-party integration

Z-PC line I/O modules enable open and flexible IT-OT architectures. They can be integrated with third-party systems such as controllers, HMIs, power analyzers, third-party devices, PLCs, sensors, actuators, network interfaces and software/Cloud platforms.

Openness and connectivity

The Z-PC line ensures high connectivity thanks to support for IT protocols, fieldbus, Ethernet, radio, optical fiber and IIoT solutions. Integration with gateways, routers, VPNs and radio modems enables remote control, remote assistance and secure access to cloud data.

Data Recorder

Data Recorder is open and scalable data logging software for Windows PCs, ideal for testing, laboratories and process monitoring. It acquires data from Z-PC modules or ModBUS devices, with serial or Ethernet connections and advanced analysis and reporting functions.

Z-PC LINE
THE RANGE

D DIGITAL
A ANALOG
M MIXED

Z-D-IN
5 digital input module

Modbus RTU



Z-D-OUT
5 digital output module

Modbus RTU



Z-10-D-IN
10 digital input module

Modbus RTU



Z-10-D-OUT
10 digital output module

Modbus RTU



Z-5DI-2DO
5 digital input,
2 digital output module

Modbus RTU



Z-6DI-2DO
6 digital input,
2 digital output module

Modbus RTU



Z-D-IO
6 digital input,
2 digital output module

Modbus RTU



ZC-24DI
24 digital input module

Modbus RTU
CANopen



ZC-24DO
24 digital output module

Modbus RTU
CANopen



ZC-16DI-8DO
16 digital input,
8 digital output module

Modbus RTU
CANopen



Z-4AI
4 analog input module

Modbus RTU



Z-8AI
8 analog input module

Modbus RTU



Z-3AO
3 analog output module

Modbus RTU



Z-DAQ-PID
Universal PID I/O module

Modbus RTU



ZC-8AI
8 analog input module

CANopen



ZC-3AO
3 analog output module

CANopen



ZE-2AI
2 analog input module

Modbus RTU TCP/IP
FLEX



ZE-2AI-E
2 digital input module

EtherNet/IP
FLEX



ZE-2AI-P
2 digital input module

PROFINET
FLEX



Z-4DI-2AI-2DO
Mixed module 4DI, 2AI, 2DO

Modbus RTU



Z-PC LINE THE RANGE

M MIXED
E ELECTRICAL
T TEMPERATURE
P WEIGHING

Z-4DI-2AI-2DO
Mixed module 4DI, 2AI, 2DO

Modbus RTU TCP/IP FLEX



Z-4DI-2AI-2DO
Mixed module 4DI, 2AI, 2DO

EtherNet/IP FLEX



ZE-4DI-2AI-2DO-P
Mixed module 2AI, 2DI, 2DO

PROFINET FLEX



Z203-2
Single-phase power analyzer
500 Vac / 5A

Modbus RTU UL



Z-4RTD
4 RTD input module, ModBUS RTU, 6-way isolation, 14 bit

Modbus RTU UL



Z-4RTD-2-SI
4 RTD input module, ModBUS RTU, 3-way isolation, 24 bit

Modbus RTU



Z-4TC
4 TC input module
J,K,R,S,T,B,E,N / mV

Modbus RTU



Z-8NTC
8 NTC input module

Modbus RTU



Z-8TC-1
8 thermocouple input module
ModBUS RTU @14bit

Modbus RTU



Z-8TC-LAB
8 TC input module @15 bit, interchangeable terminals

Modbus RTU



Z-8TC-SI
8 TC input module @24bit

Modbus RTU



Z-8TC-SI-LAB
8 TC module @24 bit with interchangeable terminals

Modbus RTU



ZC-4RTD
4 input module P100, Ni100, Pt500, Pt1000

CANopen



ZC-8TC
8 thermocouple input module (J,K,E,N,S,R,B,T)

CANopen



Z-SG
Strain gauge converter module

Modbus RTU



Z-SG3
Advanced strain gauge converter module

Modbus RTU



ZE-SG3
Advanced strain gauge converter module

Modbus RTU TCP/IP FLEX



ZE-SG3-E
Advanced strain gauge converter module

EtherNet/IP FLEX



ZE-SG3-P
Advanced strain gauge converter module

PROFINET FLEX

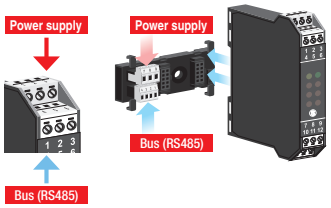
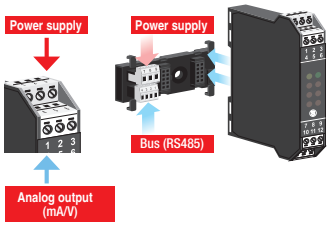
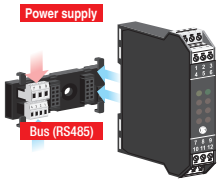


ZC-SG
Strain gauge input module

CANopen



Z-PC-DIN CONNECTION MODES

	A	B	C
Z-PC line I/O modules can be connected to the bus through their rear IDC10 connector. The bus is used to provide the communication signal and the power supply. There are several types of Z-PC-DIN depending on the size of the module to be connected.			

Model	Bus (RS485): Terminals or IDC10 Power supply: Terminals or IDC10	Bus (RS485): IDC10 only Power supply: Terminals or IDC10	Bus (RS485): IDC10 only Power supply: IDC10 only
DIGITAL			
Z-10-D-OUT			X
Z-10-D-IN			X
Z-5DI-2DO		X	
Z-6DI-2DO		X	
ZC-16DI-8DO			X
ZC-24DI			X
ZC-24DO			X
Z-D-IN	X		
Z-D-IO		X	
Z-D-OUT	X		
ANALOG			
Z-3AO	X		
Z-4AI	X		
Z-8AI			X
ZC-3AO			X
ZC-8AI			X
Z-DAQ-PID		X	
ZE-2AI	X		
ZE-2AI-E	X		
ZE-2AI-P	X		
MIXED			
Z-4DI-2AI-2DO	X		
ZE-2AI-2DO-E	X		
ZE-4DI-2AI-2DO	X		
ZE-4DI-2AI-2DO-P	X		
TEMPERATURE			
Z-4RTD2			X
Z-4RTD2-SI			X
Z-4TC	X		
Z-8NTC			X
Z-8TC-1			X
Z-8TC-LAB			X
Z-8TC-SI			X
Z-8TC-SI-LAB			X
ZC-4RTD			X
ZC-8TC			X
WEIGHING			
ZC-SG			X
ZE-SG3	X		
ZE-SG3-E	X		
ZE-SG3-P	X		
Z-SG		X	
Z-SG3	X		

Z-PC-DIN MODELS

	DESCRIPTION	SLOT	PITCH	TERMINAL POWER / BUS	HOT SWAPPING	DIN RAIL MOUNTING
	**Z-PC-DINAL1-35** Quick-mount DIN rail support – head +1 slot P=35 mm	1	35 mm	Yes	Yes	Yes
	**Z-PC-DINAL2-17.5** Quick-mount DIN rail support – head +2 slot P=17.5 mm	2	17.5 mm	Yes	Yes	Yes
	**Z-PC DINAL2-52.5** Quick-mount DIN rail support – head +1 slot 52.5 mm + 1 slot 17.5 mm	2	52.5 mm	Yes	Yes	Yes
	**Z-PC-DIN1-35** Quick-mount DIN rail support – 1 slot P=35 mm	1	35 mm	-	Yes	Yes
	**Z-PC-DIN2-17.5** Quick-mount DIN rail support – 1 slot P=17.5 mm	2	17.5 mm	-	Yes	Yes
	**Z-PC-DIN4-35** Quick-mount DIN rail support – 4 slot P=35 mm	4	35 mm	-	Yes	Yes
	**Z-PC-DIN8-17.5** Quick-mount DIN rail support – 8 slot P=17.5 mm	8	17.5 mm	-	Yes	Yes

I/O modules with integrated networking

Power supply
10..40 Vdc; 19..28 Vac

Operating temperature
-25..+65°C

1 / 2 Ethernet ports
10/100 Mbps

Power supply
for transducers 5/12 Vdc

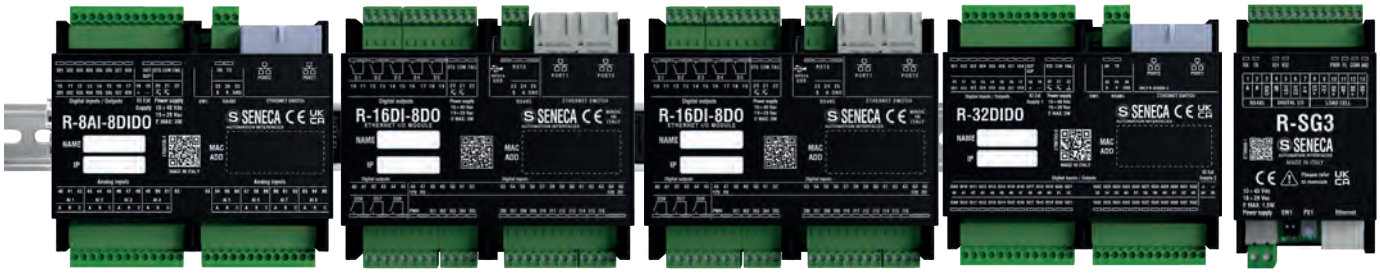
Reduced depth
32 mm

1 RS485 port
(ModBUS versions)

Max isolation
1.5 kVac

32-bit counters
(ModBUS versions)

Multiprotocol
support



Applications

R line I/O modules are designed for flexible wiring requirements, small installation spaces (32 mm thickness) and high I/O density applications.

Multiprotocol models

Modbus models support Modbus TCP-IP communication on 1 or 2 Ethernet ports and Modbus RTU on RS485 up to 64 nodes and 115 kbps. Profinet IO RT Class 1 versions offer a minimum cycle time of 2 ms, 100 Mbps Ethernet and Ethernet/IP support for multiprotocol Industrial Ethernet networks.

FLEX

SENECA Flex technology applied to R line I/O modules allows switching between Modbus RTU/TCP-IP, Profinet and Ethernet/IP protocols via dedicated firmware, simplifying integration, retrofitting and standardization of Industrial Ethernet architectures with no hardware changes.

Configuration

ModBUS I/O configuration is performed via web server. Profinet IO versions support softPLC IEC 61131-3 (e.g. Straton, CODESYS) and third-party engineering environments (e.g. Siemens TIA Portal).

Daisy Chain

Thanks to the dual Ethernet interface, a chain connection to the next Ethernet device (daisy chain) can be made, avoiding expensive industrial switches and simplifying wiring.

Fault-by-pass

The Ethernet connection and data transmission remain active even if a module in the chain fails or loses power. This ensures service availability and continuity.

ModBUS Pass Through

Thanks to the «ModBUS Pass Through» function, the module can redirect requests coming from Modbus TCP-IP to RS485, effectively acting as a gateway.

Peer-To-Peer

Digital signals can be duplicated on one or more modules in Peer-To-Peer mode (I/O mirror function) and transmitted remotely without using a Master PLC.

R LINE
THE RANGE

D DIGITAL
M MIXED
P WEIGHING

R-16DI-8DO
16DI, 8DO module (SPST relay)

Modbus RTU TCP/IP



R-16DI-8DO-P
16DI, 8DO module (SPST relay)

PROFINET



R-32DIDO
32DIDO module (Mosfet/PNP)

Modbus RTU TCP/IP, FLEX, UL



R-32DIDO-E
32DIDO module (Mosfet/PNP)

EtherNet/IP, FLEX, UL



R-32DIDO-P
32DIDO module (Mosfet/PNP)

PROFINET, FLEX, UL



R-2AI-6DIDO
2AI, 6DI/DO module

Modbus RTU TCP/IP, FLEX



R-2AI-6DIDO-E
2AI, 6DI/DO module

EtherNet/IP, FLEX



R-2AI-6DIDO-P
2AI, 6DI/DO module

PROFINET, FLEX



R-4AO-8DIDO
4AO (mA, V), 8DIDO module

Modbus RTU TCP/IP, FLEX



R-4AO-8DIDO-E
4AO (mA, V), 8DIDO module

EtherNet/IP, FLEX



R-4AO-8DIDO-P
4AO (mA, V), 8DIDO module

PROFINET, FLEX



R-4RTD-8DIDO
4RTD, 8DIDO module

Modbus RTU TCP/IP, FLEX



R-4RTD-8DIDO-E
4RTD, 8DIDO module

EtherNet/IP, FLEX



R-4RTD-8DIDO-P
4RTD, 8DIDO module

PROFINET, FLEX



R-8AI-8DIDO-2
8AI module (mA, V, TC, Pt100), 8DIDO

Modbus RTU TCP/IP, FLEX



R-8AI-8DIDO-2-E
8AI module (mA, V, TC, Pt100), 8DIDO

EtherNet/IP, FLEX



R-8AI-8DIDO-2-P
8AI module (mA, V, TC, Pt100), 8DIDO

PROFINET, FLEX



R-SG3
Strain gauge converter module

Modbus RTU TCP/IP, FLEX



R-SG3-E
Strain gauge converter module

EtherNet/IP, FLEX



R-SG3-P
Strain gauge converter module

PROFINET, FLEX



SELECTION GUIDE / GENERAL DATA AND CONFIGURATION

Models	GENERAL DATA									
	Power supply	Transducer supply	Isolation max	Format	Dimensions	Operating temperature	UL	DIP Switch	EASY SETUP	
DIGITAL										
R-16DI-8DO	10..40 Vdc; 19..28 Vac	Yes, 12 Vdc / 40 mA	1.5 kVac	R	106 x 90 x 32 mm	-25..+65°C	-	x		
R-16DI-8DO-P	10..40 Vdc; 19..28 Vac	Yes, 12 Vdc / 40 mA	1.5 kVac	R	106 x 90 x 32 mm	-25..+65°C	-	x		
R-32DIDO-2	10..40 Vdc; 19..28 Vac	-	1.5 kVac	R	106 x 90 x 32 mm	-25..+65°C	-	x		
R-32DIDO-2-E	10..40 Vdc; 19..28 Vac	-	1.5 kVac	R	106 x 90 x 32 mm	-25..+65°C	-	x		
R-32DIDO-2-P	10..40 Vdc; 19..28 Vac	-	1.5 kVac	R	106 x 90 x 32 mm	-25..+65°C	-	x		
Z-10-D-OUT	10..40 Vdc; 19..28 Vac	-	1.5 kVac	Z-PC	17.5x102.5x111 mm	-10..+65°C	x	x	x	
Z-10-D-IN	10..40 Vdc; 19..28 Vac	Yes, 17 Vdc / 40 mA	1.5 kVac	Z-PC	17.5x102.5x111 mm	-10..+65°C	x	x	x	
Z-5DI-2DO	10..40 Vdc; 19..28 Vac	Yes, 16 V / 50 mA	1.5 kVac	Z-PC	17.5x102.5x111 mm	-20..+65°C	-	x	x	
Z-6DI-2DO	10..40 Vdc; 19..28 Vac	Yes, 16 V / 50 mA	3 kVac	Z-PC	17.5x102.5x111 mm	-20..+65°C	-	x	x	
ZC-16DI-8DO	10..40 Vdc; 19..28 Vac	Yes, 16V / 40 mA	1.5 kVac	Z-PC	35x102.5x111 mm	-10..+65°C	-	x	x	
ZC-24DI	10..40 Vdc; 19..28 Vac	Yes, 16V / 70 mA	1.5 kVac	Z-PC	35x102.5x111 mm	-10..+65°C	-	x		
ZC-24DO	10..40 Vdc; 19..28 Vac	-	1.5 kVac	Z-PC	35x102.5x111 mm	-10..+65°C	-	x	x	
Z-D-IN	10..40 Vdc; 19..28 Vac	Yes, 17Vdc / 20 mA	1.5 kVac	Z-PC	17.5x102.5x111 mm	-10..+65°C	-	x	x	
Z-D-IO	10..40 Vdc; 19..28 Vac	Yes, 20 V / 30 mA	1.5 kVac	Z-PC	17.5x102.5x111 mm	-10..+65°C	-	x	x	
Z-D-OUT	10..40 Vdc; 19..28 Vac	-	1.5 kVac	Z-PC	17.5x102.5x111 mm	-10..+65°C	-	x	x	
ANALOG										
Z-3AO	10..40 Vdc; 19..28 Vac	-	1.5 kVac	Z-PC	17.5x102.5x111 mm	-10..+65°C	x	x	x	
Z-4AI	10..40 Vdc; 19..28 Vac	Yes, 20 Vdc, 40 mA	1.5 kVac	Z-PC	17.5x102.5x111 mm	-10..+65°C	x	x	x	
Z-8AI	10..40 Vdc; 19..28 Vac	Yes, 13 Vdc / 90+90 mA	1.5 kVac	Z-PC	17.5x102.5x111 mm	-10..+65°C	x	x	x	
ZC-3AO	10..40 Vdc; 19..28 Vac		1.5 kVac	Z-PC	17.5x102.5x111 mm	-10..+65°C	-	x	x	
ZC-8AI	10..40 Vdc; 19..28 Vac	Yes, 22 mA / 16 V	1.5 kVac	Z-PC	17.5x102.5x111 mm	-10..+65°C	-	x	x	
Z-DAQ-PID	10..40 Vdc; 19..28 Vac	Yes, 17 Vdc / 25 mA	1.5 kVac	Z-PC	17.5x102.5x111 mm	-10..+65°C	-	x	x	
ZE-2AI	10..40 Vdc; 19..28 Vac	Yes, 12 V / 40 mA	1.5 kVac	Z-PC	17.5x102.5x111 mm	-25..+70°C	-	x	x	
ZE-2AI-E	10..40 Vdc; 19..28 Vac	Yes, 12 V / 40 mA	1.5 kVac	Z-PC	17.5x102.5x111 mm	-25..+70°C		x		
ZE-2AI-P	10..40 Vdc; 19..28 Vac	Yes, 12 V / 40 mA	1.5 kVac	Z-PC	17.5x102.5x111 mm	-25..+70°C	-	x		
MIXED										
R-8AI-8DIDO-2	10..40 Vdc; 19..28 Vac	-	1.5 kVac	R	106 x 90 x 32 mm	-25..+65°C	-	x		
R-8AI-8DIDO-2-E	10..40 Vdc; 19..28 Vac	-	1.5 kVac	R	106 x 90 x 32 mm	-25..+65°C	-	x		
R-8AI-8DIDO-2-P	10..40 Vdc; 19..28 Vac	-	1.5 kVac	R	106 x 90 x 32 mm	-25..+65°C	-	x		
R-2AI-6DIDO	10..40 Vdc; 19..28 Vac	-	1.5 kVac	R	53.3x90x32.2 mm	-25..+65°C	-	x		
R-2AI-6DIDO-E	10..40 Vdc; 19..28 Vac	-	1.5 kVac	R	53.3x90x32.2 mm	-25..+65°C	-	x		
R-2AI-6DIDO-P	10..40 Vdc; 19..28 Vac	-	1.5 kVac	R	53.3x90x32.2 mm	-25..+65°C	-	x		
R-4AO-8DIDO	10..40 Vdc; 19..28 Vac	-	1.5 kVac	R	106 x 90 x 32 mm	-25..+65°C	-	x		
R-4AO-8DIDO-E	10..40 Vdc; 19..28 Vac	-	1.5 kVac	R	106 x 90 x 32 mm	-25..+65°C	-	x		
R-4AO-8DIDO-P	10..40 Vdc; 19..28 Vac	-	1.5 kVac	R	106 x 90 x 32 mm	-25..+65°C	-	x		
R-4RTD-8DIDO-2	10..40 Vdc; 19..28 Vac	-	1.5 kVac	R	106 x 90 x 32 mm	-25..+65°C	-	x		
R-4RTD-8DIDO-2-E	10..40 Vdc; 19..28 Vac	-	1.5 kVac	R	106 x 90 x 32 mm	-25..+65°C	-	x		
R-4RTD-8DIDO-2-P	10..40 Vdc; 19..28 Vac	-	1.5 kVac	R	106 x 90 x 32 mm	-25..+65°C	-	x		
Z-4DI-2AI-2DO	10..40 Vdc; 19..28 Vac	Yes, 12 V / 40 mA, 12 V / 20 mA	3 kVac	Z-PC	35x102.5x111 mm	-25..+70°C		x	x	
ZE-4DI-2AI-2DO	10..40 Vdc; 19..28 Vac	Yes, 12 V / 40 mA, 12 V / 20 mA	3 kVac	Z-PC	35x102.5x111 mm	-25..+70°C		x	x	
ZE-4DI-2AI-2DO-E	10..40 Vdc; 19..28 Vac	Yes, 12 V / 40 mA, 12 V / 20 mA	3 kVac	Z-PC	35x102.5x111 mm	-25..+70°C		x		
ZE-4DI-2AI-2DO-P	10..40 Vdc; 19..28 Vac	Yes, 12 V / 40 mA, 12 V / 20 mA	3 kVac	Z-PC	35x102.5x111 mm	-25..+70°C		x		
TEMPERATURE										
Z-4RTD2	10..40 Vdc; 19..28 Vac	-	1.5 kVac	Z-PC	17.5x102.5x111 mm	-20..+70°C	x	x	x	
Z-4RTD2-SI	10..40 Vdc; 19..28 Vac	-	1.5 kVac	Z-PC	17.5x102.5x111 mm	-25..+70°C	-	x	x	
Z-4TC	10..40 Vdc; 19..28 Vac	-	1.5 kVac	Z-PC	17.5x102.5x111 mm	-25..+65°C	-	x	x	
Z-8NTC	10..40 Vdc; 19..28 Vac	-	1.5 kVac	Z-PC	17.5x102.5x111 mm	-20..+70°C	-	x	x	
Z-8TC-1	10..40 Vdc; 19..28 Vac	-	1.5 kVac	Z-PC	17.5x102.5x111 mm	-20..+65°C	-	x	x	
Z-8TC-LAB	10..40 Vdc; 19..28 Vac	-	1.5 kVac	Z-PC	17.5x102.5x111 mm	-20..+65°C	-	x	x	
Z-8TC-SI	10..40 Vdc; 19..28 Vac	-	1.5 kVac	Z-PC	17.5x102.5x111 mm	-25..+70°C	-	x	x	
Z-8TC-SI-LAB	10..40 Vdc; 19..28 Vac	-	1.5 kVac	Z-PC	17.5x102.5x111 mm	-25..+70°C	-	x	x	
ZC-4RTD	10..40 Vdc; 19..28 Vac	-	1.5 kVac	Z-PC	17.5x102.5x111 mm	-10..+65°C	-	x	x	
ZC-8TC	10..40 Vdc; 19..28 Vac	-	1.5 kVac	Z-PC	17.5x102.5x111 mm	-10..+65°C	-	x	x	
WEIGHING										
R-SG3	10..40 Vdc; 19..28 Vac	Yes, 5 Vdc / 60 mA	1.5 kVac	R	53.3x90x32.2 mm	-25..+65°C	-	x		
R-SG3-E	10..40 Vdc; 19..28 Vac	Yes, 5 Vdc / 60 mA	1.5 kVac	R	53.3x90x32.2 mm	-25..+65°C	-	x		
R-SG3-P	10..40 Vdc; 19..28 Vac	Yes, 5 Vdc / 60 mA	1.5 kVac	R	53.3x90x32.2 mm	-25..+65°C	-	x		
ZC-SG	10..40 Vdc; 19..28 Vac	Yes, 5 Vdc	1.5 kVac	Z-PC	17.5x102.5x111 mm	-10..+65°C	-	x	x	
ZE-SG3	10..40 Vdc; 19..28 Vac	Yes, 5Vdc / 60 mA	1.5 kVac	Z-PC	17.5x102.5x111 mm	-25..+70°C	-	x		
ZE-SG3-E	10..40 Vdc; 19..28 Vac	Yes, 5Vdc / 60 mA	1.5 kVac	Z-PC	17.5x102.5x111 mm	-25..+70°C	-	x		
ZE-SG3-P	10..40 Vdc; 19..28 Vac	Yes, 5Vdc / 60 mA	1.5 kVac	Z-PC	17.5x102.5x111 mm	-25..+70°C	-	x		
Z-SG	10..40 Vdc; 19..28 Vac	Yes, 5Vdc / 60 mA	1.5 kVac	Z-PC	17.5x102.5x111 mm	-10..+65°C	-	x	x	
Z-SG3	10..40 Vdc; 19..28 Vac	Yes, 5Vdc / 60 mA	1.5 kVac	Z-PC	17.5x102.5x111 mm	-25..+70°C	-	x		
ELECTRICAL MEASUREMENTS										
Z203-2	10..40 Vdc; 19..28 Vac	-	3.75 kVac	Z-PC	17.5x102.5x111 mm	0..55°C	x	x	x	
Z204-1	10..40 Vdc; 19..28 Vac	-	4 kVac	Z-PC	35x102.5x111 mm	-20..+65°C	-	x	x	

CONFIGURATION				Description Files
EASY SETUP 2	Z-NET4	Web Server	Special features	
		x	Daisy Chain, Fault-By-Pass, Pass-Through, Peer-To-Peer	
			Daisy Chain, Fault-By-Pass	x
		x	Daisy Chain, Fault-By-Pass, Pass-Through, Peer-To-Peer	
			Daisy Chain, Fault-By-Pass	x
			Daisy Chain, Fault-By-Pass	x
x	x		Programmable fail-safe function	
x	x		-	
x	x		-	
x			CRA Ready	
x	x		-	x
x			-	x
x	x		-	x
x	x		-	
x	x		Motor control, programmable alarms, internal logic	
x			Programmable fail-safe function	
x	x		-	
x	x		-	
x	x		-	
x			-	x
x			-	x
x	x		-	
x		x	-	
				x
			-	x
		x	Daisy Chain, Fault-By-Pass, Pass-Through, Peer-To-Peer, 1 input available for PT100	
			Daisy Chain, Fault-By-Pass, 1 input available for PT100	x
			Daisy Chain, Fault-By-Pass, 1 input available for PT100	x
		x	Pass-Through, Peer-To-Peer	
			Pass-Through, Peer-To-Peer	x
			Pass-Through, Peer-To-Peer	x
		x	Daisy Chain, Fault-By-Pass, Pass-Through, Peer-To-Peer	
			Daisy Chain, Fault-By-Pass	x
			Daisy Chain, Fault-By-Pass	x
		x	Daisy Chain, Fault-By-Pass, Pass-Through, Peer-To-Peer	
			Daisy Chain, Fault-By-Pass	x
			Daisy Chain, Fault-By-Pass	x
x	x		-	
x		x	-	
			-	x
			-	x
x	x		-	
	x		-	
x	x		-	
x	x		-	
x	x		-	
			Interchangeable terminals	
			-	
			Interchangeable terminals	
x			-	x
x			-	x
		x	Pass-Through, Peer-To-Peer, weighing functions	
			Weighing functions	x
			Weighing functions	x
x			Tare acquisition, stable weighing	x
		x	Tare acquisition, stable weighing, predictive filter, piece counting	
			Tare acquisition, stable weighing, predictive filter, piece counting	x
			Tare acquisition, stable weighing, predictive filter, piece counting	x
x	x		Tare acquisition, stable weighing	
x			Tare acquisition, stable weighing, predictive filter, piece counting	
			Pulse counter	
			-	

SELECTION GUIDE / COMMUNICATION AND I/O

Models	Protocols						Interfaces						
	ModBUS RTU	ModBUS TCP-IP	CANopen	Profinet IO	Ethernet/IP	FLEX	Ports Ethernet	Serial Ports	Ports USB	Jack	Port CAN	N°	Type
DIGITAL													
R-16DI-8DO	x	x					2	1 (RS485)				16	PNP, NPN
R-16DI-8DO-P				x			2					16	PNP, NPN
R-32DIDO-2	x	x				x	2	1 (RS485)					
R-32DIDO-2-E					x	x	2						
R-32DIDO-2-P				x		x	2						
Z-10-D-OUT	x							1 (RS485)					
Z-10-D-IN	x							1 (RS485)				10	Reed, Contact, Proximity, PN
Z-5DI-2DO	x							1 (RS485)	1			5	Reed, Contact, Proximity, PN
Z-6DI-2DO	x							1 (RS485)	1			6	Reed, Contact, Proximity, PN
ZC-16DI-8DO	x		x					1 (RS485)	1		1	16	PNP
ZC-24DI	x		x					1 (RS485)	1		1	24	PNP
ZC-24DO	x		x					1 (RS485)	1		1		
Z-D-IN	x							1 (RS485)				5	Reed, Contact, proximity PN
Z-D-IO	x							1 (RS485)				6	Reed, Contact, Proximity, PN
Z-D-OUT	x							1 (RS485)	1				
ANALOG													
Z-3AO	x							1 (RS485)	1				
Z-4AI	x							1 (RS485)	1				
Z-8AI	x							1 (RS485)	1				
ZC-3AO			x					1 (RS232)		1	1		
ZC-8AI			x					1 (RS232)		1	1		
Z-DAQ-PID	x							1 (RS232/RS485)		1			
ZE-2AI	x	x					1	1 (RS485)					
ZE-2AI-E					x		1						
ZE-2AI-P				x			1						
MIXED													
R-8AI-8DIDO-2	x	x				x	2	1 (RS485)					
R-8AI-8DIDO-2-E					x	x	2						
R-8AI-8DIDO-2-P				x		x	2						
R-2AI-6DIDO	x	x				x	1	1 (RS485)					
R-2AI-6DIDO-E					x	x	1						
R-2AI-6DIDO-P				x		x	1						
R-4AO-8DIDO	x	x				x	2	1 (RS485)					
R-4AO-8DIDO-E					x	x	2						
R-4AO-8DIDO-P				x		x	2						
R-4RTD-8DIDO-2	x	x				x	2	1 (RS485)					
R-4RTD-8DIDO-2-E					x	x	2						
R-4RTD-8DIDO-2-P				x		x	2						
Z-4DI-2AI-2DO	x							1 (RS485)	1			4	PNP, NPN
ZE-4DI-2AI-2DO	x	x				x	1	1 (RS485)				4	PNP, NPN
ZE-4DI-2AI-2DO-E					x	x	1					4	PNP, NPN
ZE-4DI-2AI-2DO-P				x		x	1					4	PNP, NPN
TEMPERATURE													
Z-4RTD2	x							1 (RS485)	1				
Z-4RTD2-SI	x							1 (RS485)	1				
Z-4TC	x							1 (RS485)	1				
Z-8NTC	x							1 (RS485)	1				
Z-8TC-1	x							1 (RS485)	1				
Z-8TC-LAB	x							1 (RS485)	1				
Z-8TC-SI	x							1 (RS485)	1				
Z-8TC-SI-LAB	x							1 (RS485)	1				
ZC-4RTD			x					1 (RS232)		1	1		
ZC-8TC			x					1 (RS232)		1	1		
WEIGHING													
R-SG3	x	x				x	1	1 (RS485)	1				
R-SG3-E					x	x	1						
R-SG3-P				x		x	1						
ZC-SG			x					1 (RS232)		1	1		
ZE-SG3	x	x				x	1	1 (RS485)					
ZE-SG3-E					x	x	1						
ZE-SG3-P				x		x	1						
Z-SG	x							1 (RS485)	1				
Z-SG3	x							1 (RS485)	1				
ELECTRICAL MEASUREMENTS													
Z203-2	x							1 RS232, 1 RS485	1				
Z204-1	x							1 RS232, 1 RS485		1			

DI		DO		DI/DO		AI			AO		
	Counters	N°	Type	N°	Type	N°	Type	Resolution	N°	Type	Resolution
	16, 5kHz, 32bit	8	SPST relay								
		8	SPST relay								
	32, 500Hz, 32 bit			32	PNP, NPN, Mosfet						
	-			32	PNP, NPN, Mosfet						
	-			32	PNP, NPN, Mosfet						
	-	10	Mosfet								
P, NPN	10, 2.5kHz, 32 bit										
P, NPN	5, 5kHz, 32bit	2	SPST relay								
P, NPN	6, 5kHz, 32bit	2	SPST relay								
	8, 10kHz, 32bit	8	Mosfet								
	8, 10kHz, 32bit										
	-	24	Mosfet								
P, NPN	4, 100Hz, 16bit; 1, 10 kHz, 32bit										
P, NPN	-	2	SPST relay								
	-	5	SPST relay								
									3	mA, V	12 bit
						4	mA, V	16 bit			
						8	mA, V	16 bit			
									3	mA,V	14 bit
						8	mA, V	15 bit			
						1	mA, V, mV, Ohm, TC J,K,T,E,N,R,S,B,L, PT100, PT500, PT1000, NI100		1	mA, V	
						2	mA, V	16 bit			
						2	mA, V	16 bit			
						2	mA, V	16 bit			
				8	PNP, NPN, Mosfet	8	mA, V, mV, TC J,K,T,E,N,R,S,B,L, PT100	24 bit			
				8	PNP, NPN, Mosfet	8	mA, V, mV, TC J,K,T,E,N,R,S,B,L, PT100	24 bit			
	-			8	PNP, NPN, Mosfet	8	mA, V, mV, TC J,K,T,E,N,R,S,B,L, PT100	24 bit			
				6	PNP, NPN, Mosfet	2	mA, V	16 bit			
				6	PNP, NPN, Mosfet	2	mA, V	16 bit			
				6	PNP, NPN, Mosfet	2	mA, V	16 bit			
				8	PNP, NPN, Mosfet				4	mA, V	13 bit
				8	PNP, NPN, Mosfet				4	mA, V	13 bit
	-			8	PNP, NPN, Mosfet				4	mA, V	13 bit
				8	PNP, NPN, Mosfet	4	PT100,PT500, PT1000, CU50, CU100,NI100, NI120, NI1000	24 bit			
				8	PNP, NPN, Mosfet	4	PT100,PT500, PT1000, CU50, CU100,NI100, NI120, NI1000	24 bit			
				8	PNP, NPN, Mosfet	4	PT100,PT500, PT1000, CU50, CU100,NI100, NI120, NI1000	24 bit			
	4, 5kHz, 32bit	2	SPDT relay			2	mA, V	16 bit			
	4, 5kHz, 32bit	2	SPDT relay			2	mA, V	16 bit			
	4, 5kHz, 32bit	2	SPDT relay			2	mA, V	16 bit			
	-	2	SPDT relay			2	mA, V	16 bit			
						4	PT100, PT500, PT1000, NI100	14 bit			
						4	PT100, PT500, PT1000, NI100, CU50, CU100, NI120, NI1000	24 bit			
						4	TC J,K,R,S,T,B,E,N, mV	16 bit			
						8	NTC	16 bit			
						8	TC J, K, E, N, S, R, B, T	16 bit			
						8	TC J, K, E, N, S, R, B, T	16 bit			
						8	TC J,K,R,S,T,B,E,N,L mV	24 bit			
						8	TC J,K,R,S,T,B,E,N,L mV	24 bit			
						4	Pt100, Ni100, Pt500, Pt1000	14 bit			
						8	TC J,K,E,N,S,R,B,T, mV	15 bit			
				2	On-Off	1	Load cell (mV)	24 bit			
				2	On-Off	1	Load cell (mV)	24 bit			
				2	On-Off	1	Load cell (mV)	24 bit			
				1	On-Off	1	Load cell (mV)	15 bit			
				2	On-Off	1	Load cell (mV)	24 bit	1	mA, V	
				2	On-Off	1	Load cell (mV)	24 bit	1	mA, V	
				2	On-Off	1	Load cell (mV)	24 bit	1	mA, V	
				1	On-Off	1	Load cell (mV)	24 bit	1	mA, V	
				2	On-Off	1	Load cell (mV)	24 bit	1	mA, V	
							Aac, Vac		1	mA, V	
							Vac/dc		1	mA, V	

SIGNAL FLOW

SENSORS & ACTUATORS






mA
V
Ohm
mV

Inputs
Namur, Reed
Photoelectric,
Proximity
TTL
Variable reluctance
PNP, NPN
24 V pulses
Counters
Outputs
SPST / SPDT relay
Mosfet

Analog
mA, V
Digital
Namur, Reed
Photoelectric,
Proximity, TTL,
Variable reluctance,
PNP, NPN, 24 V
pulses, relay, Mosfet



IO Modules ANALOG



IO Modules DIGITAL



IO Modules MIXED

Modbus
MQTT
CANopen
EtherNet/IP



Data Recorder
DAQ software

straton



Multifunction controllers
IEC 61131-3
IEC 61850/870



RTU / Gateway
Edge IIoT

IT / IIoT protocols
MQTT(s), OPC UA, http(s) post, Wi-Fi, 4G, PPP, HTTP(s), SMTP, FTP(s), SNMP



HMI



SCADA / Control Room

LET'S



Remote control / Remote assistance






Strain gauge load cells

Thermocouples
J,K,R,S,T,B,E,N
Thermistors
NTC
RTDs
Pt100, Pt500, Pt1000, Ni1000, Cu50, Cu100, Ni120
mV
Ohm

A, V
AC/DC



IO Modules WEIGHING



IO Modules TEMPERATURE



Power analyzers



PLCs and third-party devices



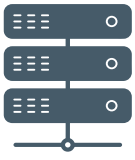
Radio Modules



Protocol converter gateways



IoT / Cloud platforms

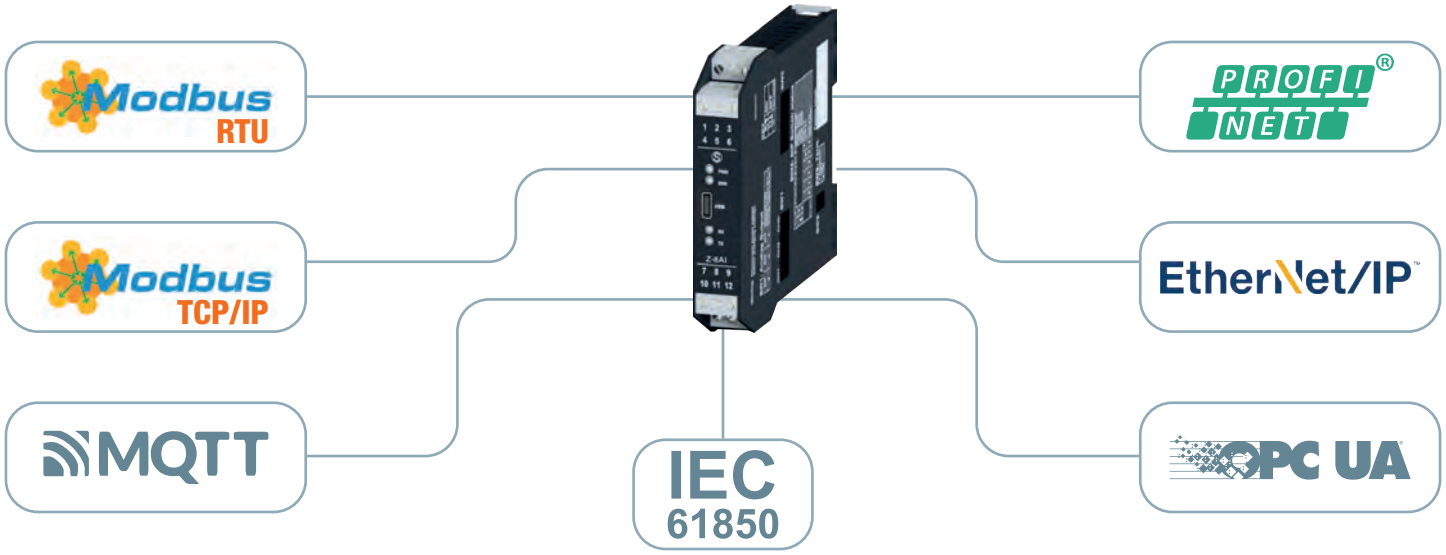


Data Center

Modbus
EtherNet/IP
PROFINET
OPC UA
M-Bus
IEC 61850

FLEXIBLE AND RECONFIGURABLE DEVICES WITH FLEX TECHNOLOGY

SENECA's proprietary FLEX technology makes it possible to connect a single device capable of supporting different protocols in serial and industrial Ethernet communication networks. Starting from the same I/O module, for example, the type of protocol conversion can be changed in a few steps, coping with rapid production layout changes or efficiently transferring data to and from PLCs and other Master/Slave or Client/Server devices. This flexible approach saves time and money and avoids the complication of managing multiple devices with different part numbers, regardless of the type of application.



KEY BENEFITS

- Single multiprotocol solution on a single device
- Maximum connectivity in a single piece of hardware
- Functionality of multiple gateways for the price of one
- Simplified part numbers
- Reduced storage and handling costs
- Immediate selection of multiple protocol combinations using the Seneca Discovery Device tool, freely downloadable from the Seneca website
- No programming software and no changes to I/O tags and registers
- Supported and interchangeable protocols: ModBUS RTU, ModBUS TCP-IP, ModBUS ASCII, Profinet, Ethenet/IP, OPC UA, IEC 61850, MQTT

PROTOCOL RECONFIGURATION PROCEDURE WITH FLEX TECHNOLOGY

- Connect the PC to the FLEX device via Ethernet
- Launch the SENECA DISCOVERY DEVICE software, available on the SENECA website, and scan the ModBUS / Ethernet network
- Select the new protocol combination to apply to the device
- With the module off, set the DIP switches to “Factory settings reset” mode
- Switch the module back on and set the DIP switches to “Read configuration from Flash” mode

1 Connect the PC via Ethernet to the SENECA module



2 Launch the SENECA DISCOVERY DEVICE software and scan the ModBUS / Ethernet



3 Change the protocol from ModBUS to Profinet or Ethernet/IP



4 With the module off, set the DIP switches to «ON» (factory settings reset)



5 Switch the module back on and set the DIP switches to «OFF», read configuration from Flash



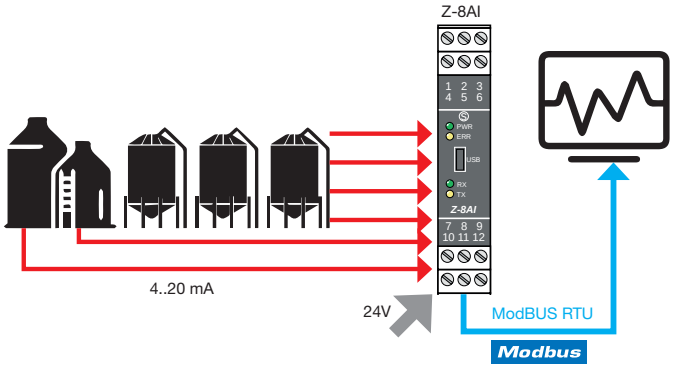
6 The module now works with a different protocol combination



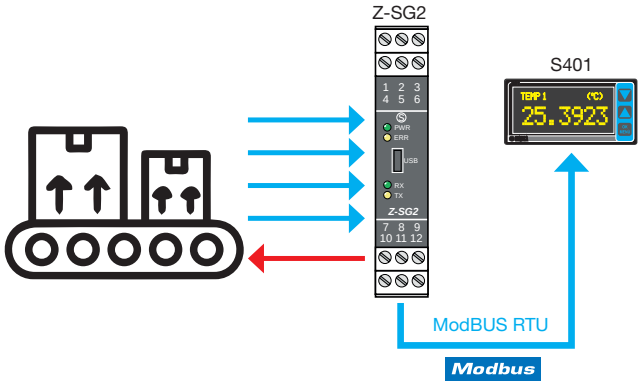
For more information: www.seneca.it/flex

I/O MODULES – APPLICATION DIAGRAMS

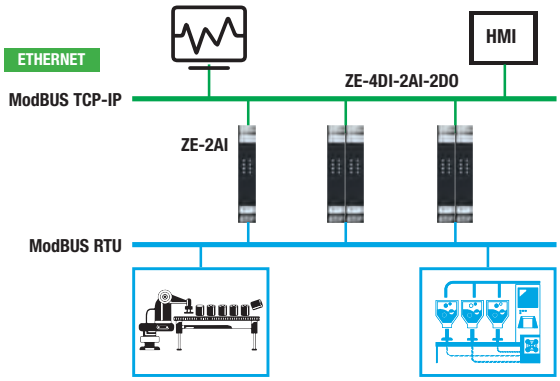
PROCESS MEASUREMENT ACQUISITION AND RETRANSMISSION VIA MODBUS RTU



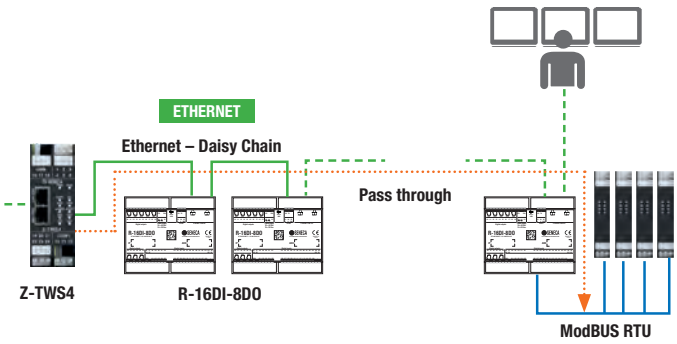
MODBUS ACQUISITION AND DISPLAY FOR WEIGHING SYSTEMS



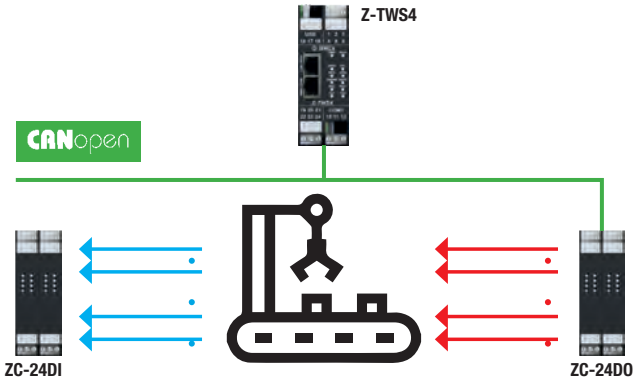
DATA ACQUISITION OVER ETHERNET



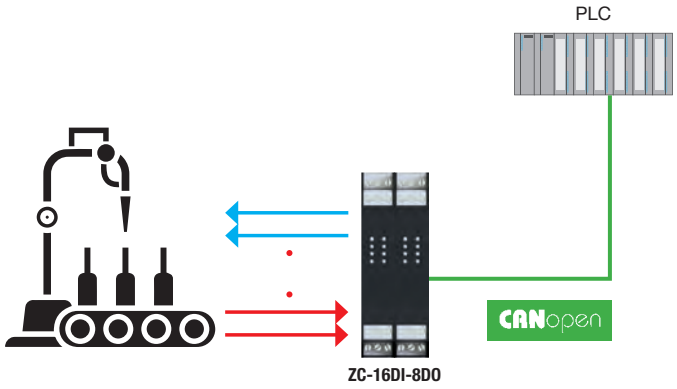
ETHERNET DAISY CHAIN CONNECTION AND MODBUS PASS-THROUGH



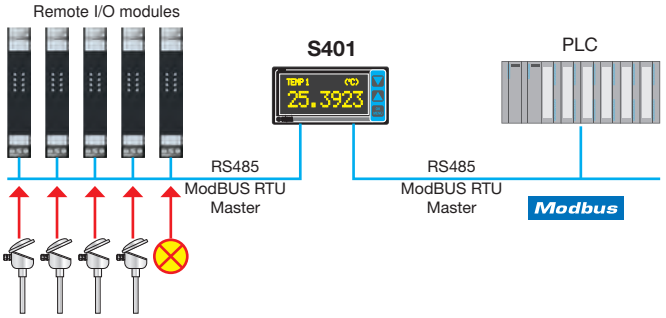
PROGRAMMABLE HANDLING SYSTEM



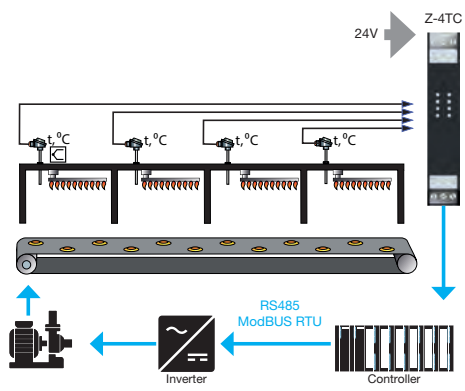
AUTOMATIC BOTTLING SYSTEM



LOCAL CONTROL VIA PLC AND REMOTE I/O



TEMPERATURE ACQUISITION AND TRANSMISSION TO A CLOSED-LOOP CONTROL SYSTEM



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