

# Z-Series

## Multistandard signal isolator converters with universal power supply

The modules of the **Z Series** are reliable signal conditioners, oriented towards ease of use and installation. Available in multiple power standards, they respond to the most common interface and conditioning needs. Most models are characterised by a 3-way galvanic separation equal to 1.5 kVac, reduced overall dimensions (standard width 17.5 mm), installation on DIN 42677 guide, extended temperature range, high precision and the possibility to power the sensors connected to them.

**Z Series** is the ideal solution for conditioning analog industrial, electric signals, from temperature sensors, from load, serial, digital and impulsive cells.



**UNIVERSAL POWER SUPPLY**

Vac/dc switching; measurement loop power supply

**TRANSDUCER POWER SUPPLY**

Loop power supply of current in output (min 20 Vdc)

**REDUCED ABSORPTION**

< 2.5 W

**HIGH ISOLATION MULTI-WAY**

From kVac to 4kVac

**PRECISION**

Up to 0.1%

**STANDARD SIGNALS**

mA, mV, A, V, Ohms, RTD, TC, load cell, Reed, Pnp, Npn, Effect hall, photoelectric sens., imp.24V

**RESISTANCE**

Operating temperature up to -20...+65%, RH 90%

**RELIABILITY**

MTBF>500,000 h

**CERTIFICATIONS**

**DIMENSIONS COMPACT**

Width 17.5 mm

The SENECA Z-Series converters offer 3 configuration modes.

Almost all the models allow configuration of the standard parameters by means of DIP switches accessible on the side of the instrument.

In addition, some models ensure expanded functionality that can be set using the "EASY SETUP" PC software.

Other models, equipped with Micro USB port on the front, are programmable via the App "EASY SETUP APP" for Android terminals.

## FLEXIBLE CONFIGURATION

### DIP Switch



### EASY Software SETUP



### EASY SETUP APP



Removable terminals 2.5 screw mm²









Installation on DIN guide 35 mm (IEC/EN 60175)

Front jack 3.5 mm RS232 (COM)

Communication port Micro USB












# MULTISTANDARD ISOLATOR CONVERTERS - Z SERIES

## CONVERTERS FOR ANALOG SIGNALS

	Z109REG	Z109REG2-1	Z109REG2-H
	  <p><b>Universal converter with galvanic separation</b></p>	    <p><b>Universal converter with galvanic isolation, relay output, Micro USB 9..40 Vdc/19..28 Vac</b></p>	  <p><b>Universal converter with galvanic isolation, micro USB,</b></p>
<b>GENERAL DATA</b>			
Power supply	10..40 Vdc; 19..28 Vac	10..40 Vdc; 19..28 Vac	85..265 Vac/dc
Transducers power supply	Active input 2 wires (min 18 Vdc)	Active input 2 wires (min 20 Vdc)	Active input 2 wires (min 20 Vdc)
Max absorption	2.5 W	2.5 W (max) 1.6 W (24 Vdc, 20 mA)	2.5 W (max) 1.6 W (24 Vdc, 20 mA)
Insulation	1.500 Vac (3-way)	1.500 Vac (3-way)	1.500 Vac (input/output); 3.750 Vac (power supply/input-output)
LED status indicators	Power supply Error	Power supply Error	Power supply Error
Response time	35 ms	35 ms (11 bit)..140 ms (16 bit)	35 ms (11 bit)..140 ms (16 bit)
Interfaces	Front jack 3.5 mm RS232 (COM)	Micro USB	Front jack 3.5 mm RS232 (COM)
Precision class	0.1%	0.1%	0.1%
Thermal Drift	0.01%/°K	0.01%/°K	0.01%/°K
Linearity	0.05% (V,I), 0.2% (RTD), 1°C (TC)	0.05% / 0.4%	0.05% / 0.4%
Configuration	DIP switch Software (EASY SETUP)	DIP switch Software (EASY SETUP) App Android	DIP switch Software (EASY SETUP)
Operating temperature	-20..+60°C	-20..+60 °C	-20..+60 °C
Dimensions	17.5 x 100 x 112 mm	17.5 x 100 x 112 mm	17.5 x 100 x 112 mm
Connections	Removable terminals 2.5 mm <sup>2</sup>	Removable terminals 2.5 mm <sup>2</sup>	Removable terminals 2.5 mm <sup>2</sup>
Casing	Nylon 6 with 30% glass fibre	Nylon 6 with 30% glass fibre	Nylon 6 with 30% glass fibre
Assembly	DIN Guide 35 mm (IEC/EN 60175)	DIN Guide 35 mm (IEC/EN 60175)	DIN Guide 35 mm (IEC/EN 60175)
Weight	200 g	200 g	200 g
Certifications	EC	CE- UL-UR CSA	CE
Regulations	EN 50081-1, EN 50082-2, EN 61010-1	EN 61000-6-4 / 2002, EN 61000-2-2/2005 / EN 61010-1, EN 60742	EN 61000-6-4 / 2002, EN 61000-2-2/2005 / EN 61010-1, EN 60742
<b>INPUT DATA</b>			
Channels	1	1 analog, 1 strobe	1 analog, 1 strobe
Type	<ul style="list-style-type: none"> <li>• VOLTAGE (mV, V) Bipolar 0..2, 0..5, 0..10 V</li> <li>• CURRENT (mA) Bipolar 0..20 mA</li> <li>• RTD Pt100 (-200..+600°C)</li> <li>• THERMOCOUPLE Type J, K, R, S, T, E, B, N</li> <li>• POTENTIOMETER: 0.5..15 kΩ</li> </ul>	<ul style="list-style-type: none"> <li>• VOLTAGE (mV, V) Bipolar from 75 mV to 20 V Resolution 15 bit + sign</li> <li>• CURRENT (mA) Bipolar up to 20 mA Resolution 1 µA</li> <li>• RTD Pt100, Pt500, Pt1000, Ni100, KTY81, KTY84, NTC Measurement 3, 4 wires Scale: -200..600 °C Resolution 0.1°C</li> <li>• THERMOCOUPLE Type J, K, R, S, T, E, B, N Resolution 2.5 µV</li> <li>• POTENTIOMETER: 500 Ω ..10 kΩ</li> <li>• REOSTATE: 500 Ω..25 kΩ</li> <li>• STROBE: Output relay alternative</li> </ul>	<ul style="list-style-type: none"> <li>• VOLTAGE (mV, V) Bipolar from 75 mV to 20 V Resolution 15 bit + sign</li> <li>• CURRENT (mA) Bipolar up to 20 mA Resolution 1 µA</li> <li>• RTD Pt100, Pt500, Pt1000, Ni100, KTY81, KTY84, NTC Measurement 3, 4 wires Scale: -200..600 °C Resolution 0.1°C</li> <li>• THERMOCOUPLE Type J, K, R, S, T, E, B, N Resolution 2.5 µV</li> <li>• POTENTIOMETER: 500 Ω ..10 kΩ</li> <li>• REOSTATE: 500 Ω..25 kΩ</li> <li>• STROBE: Output relay alternative</li> </ul>
<b>OUTPUT DATA</b>			
Channels	1	1 analog, 1 relay	1 analog, 1 relay
Type	<ul style="list-style-type: none"> <li>• VOLTAGE (V) 4 scales: 0/1..5V, 0/2..10V</li> <li>• CURRENT (mA) 2 scales: 0..20, 4..20 mA</li> </ul>	<ul style="list-style-type: none"> <li>• VOLTAGE (V) 4 scales: 0/1..5V, 0/2..10V Min load resistance: 2 kΩ</li> <li>• CURRENT (mA) 2 scales: 0/4..20 mA Max load resistance: 600 Ω</li> <li>• RELAY Alternative to the NC/NA strobe input in the event of an alarm</li> </ul>	<ul style="list-style-type: none"> <li>• VOLTAGE (V) 4 scales: 0/1..5V, 0/2..10V Min load resistance: 2 kΩ</li> <li>• CURRENT (mA) 2 scales: 0/4..20 mA Max load resistance: 600 Ω</li> <li>• RELAY Alternative to the NC/NA strobe input in the event of an alarm</li> </ul>
<b>ORDER CODE</b>			
Code	Z109REG	Z109REG2-1	Z109REG2-H
Software and Accessories	pg.172	pg.172	pg.172

The technical data and the diagrams in this document are indicative and not binding.





# MULTISTANDARD ISOLATOR CONVERTERS - Z SERIES

Z109UI2-1	Z109REG-BP	Z109S-DI	Z109S
    <p><b>MA-V converter with galvanic separation, micro USB</b></p>	    <p><b>Universal converter with voltage / current bipolar output, micro USB</b></p>	 <p><b>Galvanic separator for high isolation current loop</b></p>	  <p><b>Galvanic separator for current loop</b></p>
10..40 Vdc; 19..28 Vac	10..40 Vdc; 19..28 Vac	10..40 Vdc; 19..28 Vac	9..40 Vdc; 19..28 Vac
Active input 2 wires (min 20 Vdc)	Active input 2 wires (17 Vdc)	Active input 2 wires (17 Vdc)	Active input 2 wires (17 Vdc)
2.5 W	2.5 W	2.5 W	2.5W
1.500 Vac (3-way)	1.500 Vac (power supply / input)	3.500 Vac (3-way)	1.500 Vac (3-way)
Power supply	Power supply	Power supply	Power supply
35 ms (11 bit)..140 ms (16 bit)	35 ms (11 bit)..140 ms (16 bit)	< 200 us	< 60 ms
Micro USB	Micro USB	-	
0.1%	0.1%	0.2% or 10µA	0.2%
0.01%/°K	0.01%/°K	0.02%/°K	0.02 % f.s. / °C
0.05 % (V <sub>I</sub> ), 0.01% (V <sub>out</sub> )			0.05%
DIP switch	DIP switch		
Software (EASY SETUP)	Software (EASY SETUP)		
App (EASY SETUP)	App (EASY SETUP)		
App Android	App Android		
-20..+60°C	-20..+65°C	-20..+60°C	-20..+60°C
17.5 x 100 x 112 mm	17.5 x 100 x 112 mm	17.5 x 100 x 112 mm	17.5 x 100 x 112 mm
Removable terminals 2.5 mm <sup>2</sup>	Removable terminals 2.5 mm <sup>2</sup>	Removable terminals 2.5 mm <sup>2</sup>	Removable terminals 2.5 mm <sup>2</sup>
Nylon 6 with 30% glass fibre	Nylon 6 with 30% glass fibre	Nylon 6 with 30% glass fibre	Nylon 6 with 30% glass fibre
DIN Guide 35 mm (IEC/EN 60175)	DIN Guide 35 mm (IEC/EN 60175)	DIN Guide 35 mm (IEC/EN 60175)	DIN Guide 35 mm (IEC/EN 60175)
200 g	200 g	200 g	200 g
CE- UL-UR CSA	EC	EC	CE - UL
EN 55011, EN 61000-4-2, EN 61000-4-4, EN 50140 / 141	EN 61000-6-2; EN 61000-6-4; EN 61010-1	EN 61000-6-2; EN 61000-6-4; EN 61010-1	EN 55011, EN 61000-4-2, EN 61000-4-4, EN 50140 / 141
1	1	1	1
<ul style="list-style-type: none"> <li>• VOLTAGE (mV, V)</li> </ul> Bipolar from 75 mV a to 20 V 9 scale Resolution 15 bit + sign	<ul style="list-style-type: none"> <li>• VOLTAGE</li> <li>• CURRENT</li> <li>• RTD</li> <li>• THERMOCOUPLE</li> <li>• POTENTIOMETER:</li> <li>• REOSTATE:</li> </ul> Bipolar from 75 mV to 20 V Bipolar up to 20 mA Pt100, Pt500, Pt1000, Ni100, KTY81, KTY84, NTC Measurement 2,3, 4 wires Type J, K, R, S, T, E, B, N 500 Ω ..100 kΩ 500 Ω ..25 kΩ	<ul style="list-style-type: none"> <li>• CURRENT</li> </ul> CURRENT 0...20 / 4..20 mA	<ul style="list-style-type: none"> <li>• CURRENT</li> </ul> CURRENT 2 scales: 0/4..20 mA
1	1 (bipolar)	1	1
<ul style="list-style-type: none"> <li>• VOLTAGE (V)</li> <li>• CURRENT (mA)</li> </ul> 4 scales: 0/1..5V, 0/2..10V Min load resistance: 2 kΩ 2 scales: 0/4..20 mA Max load resistance: 600 Ω	Voltage from -10 to +10 Vdc, min load 1000 Ω Current from -20 to +20 mA, max load 500 Ω	Current, 0/4..20 mA, max load 600 Ω	<ul style="list-style-type: none"> <li>• CURRENT (mA)</li> </ul> 2 scales: 0/4..20 mA Max load resistance: 600 Ω
Z109UI2-1	Z109REG-BP	Z109S-DI	Z109S
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# MULTISTANDARD ISOLATOR CONVERTERS - Z SERIES

## CONVERTERS FOR ANALOG SIGNALS





	Z102	Z110S	Z110D	Z170REG-1
	 <b>Potentiometric converter</b>	 <b>Galvanic separator self-powered single-channel</b>	 <b>Galvanic separator self-powered double channel</b>	 <b>Universal converter with 2 galvanically separated analog outputs, micro USB</b>
<b>GENERAL DATA</b>				
Power supply	9..30 (opt.) - 19..40 Vdc 19..28 Vac	Self--powered from input loop	Self--powered from input loop	10..40 Vdc; 19..28 Vac
Transducers power supply				SI max 25 mA, 17 Vdc
Max absorption	2.5 W			0.5..2 W
Insulation	1.500 Vac (3-way)	1,500 Vac	1,500 Vac	1.500 Vac (4-way)
Degree of protection	IP20	IP20	IP20	IP20
LED status indicators	Power supply			Power supply Alarm
Response time	< 40 ms	< 100 ms	< 100 ms	< 25 ms
Interface				Micro USB (front)
Communication with PLC				
Precision class	0.2%	0.1%	0.1%	0.1%
Thermal Drift	0.02 % f.s. / °C	0.02 % f.s. / °C	0.02 % f.s. / °C	0.01% /K
Linearity	0.05%	0.1 % f.s.	0.1 % f.s.	<1% (input), 0.01% (output)
Configuration	DIP switch			DIP switch Software (EASY SETUP) App (EASY SETUP)
Operating temperature	0..+50 °C	0..+50 °C	0..+50 °C	-20..+60°C
Dimensions	17.5 x 100 x 112 mm	17.5 x 100 x 112 mm	17.5 x 100 x 112 mm	17.5 x 100 x 112 mm
Connections	Screw removable terminals	Screw removable terminals	Screw removable terminals	Screw removable terminals
Casing	Nylon 6 30% glass fibre	Nylon 6 30% glass fibre	Nylon 6 30% glass fibre	Nylon 6 30% glass fibre
Assembly	DIN Guide 35 mm (IEC/EN 60715)	DIN Guide 35 mm (IEC/EN 60715)	DIN Guide 35 mm (IEC/EN 60715)	DIN Guide 35 mm (IEC/EN 60715)
Weight	200 g	200 g	200 g	200 g
Certifications	EC	EC	EC	CE- UL-UR CSA
Regulations	EN 61000-6-4, EN 61000-6-2, EN 61010-1	EN 61000-6-4, EN 61000-6-2, EN 61010-1	EN 61000-6-4, EN 61000-6-2, EN 61010-1	EN 61000-6-4, EN 61000-6-2, EN 61010-1
<b>INPUT DATA</b>				
Channels	1	1	2	1
Type	<ul style="list-style-type: none"> <li>• REOSTATE 2 wires: 0..300 Ω (I=6mA); 0..500 Ω (I=3.6 mA); 0..1 K Ω (I=1.8 mA)</li> <li>• POTENTIOMETER: 3 wires: Vref=1,8 Vcc, from 200 Ω to 1 M Ω</li> </ul>	<ul style="list-style-type: none"> <li>• CURRENT (mA) 4..20 mA</li> </ul>	<ul style="list-style-type: none"> <li>• CURRENT (mA) 4..20 mA</li> </ul>	<ul style="list-style-type: none"> <li>• VOLTAGE configurable scale 0..10 V</li> <li>• CURRENT configurable scale 0..20 mA (active / passive module)</li> <li>• POTENTIOMETER configurable scale 1 kΩ ..100 kΩ</li> <li>THERMOCOUPLE: J,K,R,S,T,B,E,N</li> <li>• THERMISTOR: Pt100, Pt500, Pt1000, Ni100 14 bit resolution Sampling period configurable from 1 to 20 ms.</li> </ul>
<b>OUTPUT DATA</b>				
Channels	1	1	2	2
Type	<ul style="list-style-type: none"> <li>• VOLTAGE (V) 4 scales: 0..5, 1..5, 0..10, 0..10 V Load impedance &gt; 2.5 K Ω</li> <li>• CURRENT (mA) 2 scales: 0..20, 4..20 mA Loop impedance &lt; 600 Ω</li> </ul>	<ul style="list-style-type: none"> <li>• CURRENT (mA) 4..20 mA</li> </ul>	<ul style="list-style-type: none"> <li>• CURRENT (mA) 4..20 mA</li> </ul>	<ul style="list-style-type: none"> <li>• VOLTAGE configurable scale 0..10 V</li> <li>• CURRENT configurable scale 0..20 mA (active / passive) 14 bit resolution</li> </ul>
<b>ORDER CODE</b>				
Code	Z102	Z110S	Z110D	Z170REG-1
Software and Accessories	pg.172	pg.172	pg.172	pg.172

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# MULTISTANDARD ISOLATOR CONVERTERS - Z SERIES

## A/D CONVERTERS

Z190	Z-SG	Z-4AI-D	Z-4TC-D
			
<b>Signal subtracter adder with galvanic separation</b>	<b>Converter for load cell</b>	<b>A/D converter for 4 analog signals</b>	<b>A/D converter for 4 thermocouples</b>
9..30 (opz.) - 19..40 Vdc 19..28 Vac Active input 2 wires (min 20 vdc) 2.5 W 1.500 Vac (3-way) IP20 Power supply Error Data Transmission Data Receipt < 10 ms Front jack 3.5 mm RS232 (COM) IDC10 ModBUS RTU RS485	9..30 (opz.) - 19..40 Vdc 19..28 Vac - 2 W 1.500 Vac (3-way) IP20 Power supply Error Data Transmission Data Receipt < 10 ms Front jack 3.5 mm RS232 (COM) IDC10 ModBUS RTU RS485	9..30 (option) - 19..40 Vdc 19..28 Vac (50..60 Hz) 2.5 W 1,500 Vac (3-way) IP20 Power supply RST signal status Data transmission Data receipt Front jack 3.5 mm RS232 (COM) Synchronous three-wire serial: CLOCK, DATA, STROBE, standard 24V pnp levels	9..30 (option) - 19..40 Vdc 19..28 Vac (50..60 Hz) 2 W 1,500 Vac (3-way) IP20 Power supply RST signal status Data transmission Data receipt Front jack 3.5 mm RS232 (COM) Synchronous three-wire serial: CLOCK, DATA, STROBE, standard 24V pnp levels
0.2% 0,02% f.s./°C 0.05%	0.01% 0.0025 % f.s. / °C 0.01%		
DIP switch	DIP switch Software (EASY SETUP)	IEC 61131 PLC libraries DIP switch Z-PROG (PC software)	IEC 61131 PLC libraries DIP switch Z-PROG (PC software)
0..50°C	-20..+65°C	0..+55°C	0..+55°C
17.5 x 100 x 112 mm Screw removable terminals Nylon 6 30% glass fibre DIN Guide 35 mm (IEC/EN 60715) 200 g	17.5 x 100 x 112 mm Screw removable terminals Nylon 6 30% glass fibre DIN Guide 35 mm (IEC/EN 60715) 200 g	17.5 x 100 x 112 mm Screw removable terminals Nylon 6 30% glass fibre DIN Guide 35 mm (IEC/EN 60715) 200 g	17.5 x 100 x 112 mm Screw removable terminals Nylon 6 30% glass fibre DIN Guide 35 mm (IEC/EN 60715) 200 g
EC EN 50081-1, EN 50081-2, EN 61010-1	EC EN 61000-6-4, EN 61000-6-2, EN 61010-1, EN 60742, IEC 61131	CE, UL EN 61010-1, EN 50081-2, EN 50082-2, EN 60742, IEC 61131	CE, UL EN 61010-1, EN 50081-2, EN 50082-2, EN 60742, IEC 61131
2	1 analogic, 1 digital	4	4
VOLTAGE (V) 4 scales: 0..1, 0..5, 0..10, 2..10 V Input impedance 500 kΩ CURRENT (mA) 2 scales: 0/4..20 mA Active connection: loop powered 20 Vdc not stabilised Passive connection: inlet impedance 100 Ω	• ANALOG Strain gauge load cell, 4 or 6-wire connection, min 87 Ω for 1..4 load cells (350 Ω) or 1..8 load cells (1,000 Ω); Sensitivity: 1..64 mV/V • DIGITAL Tare calibration	VOLTAGE (V) 2..10 V f.s 16,000 point resolution Impedance: 100 KΩ CURRENT (mA) ± 20 mA (bipolar) 16,000 point resolution Impedance: 100 Ω	VOLTAGE (mV) ± 80 mV Impedance 10 MΩ THERMOCOUPLE Type J, K, R, S, T, E; B, N
1	1 analogic, 1 digital		
VOLTAGE (V) 4 scales: 0..5, 0..10, 1..5, 2..10 V, min load resistance 2 kΩ CURRENT (mA) 2 scales: 0/4..20 mA Passive / active connection (max impedance loop 600 Ω)	CURRENT (mA) 0..20, 4..20 mA VOLTAGE (V) 0..10, 0..5 Vdc DIGITAL Weight threshold		
<b>Z190</b>	<b>Z-SG</b>	<b>Z-4AI-D</b>	<b>Z-4TC-D</b>
<b>Software and Accessories p.172</b>	<b>Software and Accessories p.172</b>	<b>Software and Accessories p.172</b>	<b>Software and Accessories p.172</b>

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# MULTISTANDARD ISOLATOR CONVERTERS - Z SERIES

## CONVERTERS FOR ELECTRIC READINGS

	Z201	Z201-H	Z202
			
	<b>Alternate current converter 10..40 Vdc; 19..28 Vac</b>	<b>Alternate current converter 85..265 Vac/dc</b>	<b>Alternate voltage converter 10..40 Vdc; 19..28 Vac</b>
<b>GENERAL DATA</b>			
Power supply	10..40 Vdc; 19..28 Vac	85..265 Vac/dc	10..40 Vdc; 19..28 Vac
Max absorption	< 2.5 W	< 2.5 W	< 1.5 W
Insulation	3.750 Vac (input/output/power supply) 1.500 Vac (output/power supply)	4.000 Vac (input/output/power supply)	3.750 Vac (input/output, input/power supply) 1.500 Vac (output/power supply)
Degree of protection	IP20	IP20	IP20
LED status indicators	Power supply	Power supply	Power supply
Response time	< 200 ms	< 100 ms	< 30 ms
Interfaces			
Precision class	0.3%	0.3%	0.25%
Thermal Drift	<200 ppm/K	<200 ppm/K	<150 ppm/K
Configuration	DIP switch	DIP switch	DIP switch
Operating temperature	0..+55°C	-10..+65°C	0..+60°C
Dimensions	17.5 x 100 x 112 mm	17.5 x 100 x 112 mm	17.5 x 100 x 112 mm
Connections	Screw removable terminals	Screw removable terminals	Screw removable terminals
Casing	Nylon 6 30% glass fibre	Nylon 6 30% glass fibre	Nylon 6 30% glass fibre
Assembly	35 mm DIN rail (IEC/EN 60715)	35 mm DIN rail (IEC/EN 60715)	35 mm DIN rail (IEC/EN 60715)
Weight	200 g	200 g	200 g
Certifications	EC	EC	EC
Regulations	EN 61000-6-4, EN 61000-6-2, EN 61010-1	EN 61000-6-4, EN 61000-6-2, EN 61010-1	EN 61000-6-4, EN 61000-6-2, EN 61010-1
<b>INPUT DATA</b>			
Channels	1	1	1
Type	ALTERNATE CURRENT 0..5 / 0..10 Aac	ALTERNATE CURRENT 0..5 / 0..10 Aac	ALTERNATE VOLTAGE 0..500 Vac (41 scales), inlet impedance 2.000 Ω/V Frequency 10 Hz..1 kHz
<b>OUTPUT DATA</b>			
Channels	1	1	1
Type	CURRENT 0..20 / 4..20 mA, max load 600 Ω, active / passive connection VOLTAGE 0..5 / 0..10 / 1..5 / 2..10 Vdc, min load 2.500 Ω	CURRENT 0..20 / 4..20 mA, max load 600 Ω, active / passive connection VOLTAGE 0..5 / 0..10 / 1..5 / 2..10 Vdc, min load 2.500 Ω	CURRENT 0..20 / 4..20 mA, max load 600 Ω, active / passive connection VOLTAGE 0..5 / 0..10 / 1..5 / 2..10 Vdc, min load 2.500 Ω
<b>ORDER CODE</b>			
Code	Z201	Z201-H	Z202
Software and Accessories	pg.172	pg.172	pg.172

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# MULTISTANDARD ISOLATOR CONVERTERS - Z SERIES

## CONVERTERS FOR ELECTRIC READINGS







Z202-H	Z202-LP	Z203-1	Z204-1
			
<b>Alternate voltage converter, 85..265 Vac/dc</b>	<b>Alternate voltage converter loop powered</b>	<b>Monophase network analyser</b>	<b>TRMS alternate and continuous voltage converter</b>
85..265 Vac/dc	5..28 Vdc (dal loop)	10..40 Vdc; 19..28 Vac	10..40 Vdc; 19..28 Vac
< 1.5 W	<1 mA	< 2.5 W	< 1 W
3.750 Vac (input/output; input/power supply) 1.500 Vac (output/power supply)	4.000 Vac (input/output)	3,750 Vac (input/output/power supply)	4,000 Vac (input/output, input/power supply) 1.500 Vac (output/power supply)
IP20	IP20	IP20	IP20
Power supply	Power supply	Power supply Error Communication RS485	Power supply Error Communication RS485
< 100 ms	< 100 ms	< 10 ms	For a step variation 1 s from 10 to 90 %
		RS232 (front connector for programming): baud rate, address, parity, data/stop bit RS485 (backplane), as an alternative to the analogue output, speed up to 115.200 bps, ModBUS RTU protocol	RS232 (front connector for programming): baud rate, address, parity, data/stop bit RS485 (backplane), as an alternative to the analogue output, speed up to 115.200 bps, ModBUS RTU protocol
0.3%	0.3%	0.5%	0.5% input; 0.1% output
+150 ppm/K	+150 ppm/K	+150 ppm/K	+100 ppm/K
DIP switch	DIP switch	DIP switch Software (EASY SETUP)	DIP switch Software (EASY SETUP)
-20..+65°C	-20..+65°C	-20..+65°C	-20..+65°C
17,5 x 100 x 112 mm	35 x 100 x 112 mm	17,5 x 100 x 112 mm	35 x 100 x 112 mm
Screw removable terminals	Screw removable terminals	Screw removable terminals	Screw removable terminals
Nylon 6 30% glass fibre	Nylon 6 30% glass fibre	Nylon 6 30% glass fibre	Nylon 6 30% glass fibre
DIN Guide 35 mm (IEC/EN 60715)	DIN Guide 35 mm (IEC/EN 60715)	DIN Guide 35 mm (IEC/EN 60715)	DIN Guide 35 mm (IEC/EN 60715)
200 g	200 g	200 g	200 g
EC	EC	EC	EC
EN 61000-6-4, EN 61000-6-2, EN 61010-1	EN 61000-6-4, EN 61000-6-2, EN 61010-1	EN 61000-6-4, EN 61000-6-2, EN 61010-1	EN 61000-6-4, EN 61000-6-2, EN 61010-1
1 (single phase load)	1	1 (single phase load)	1
ALTERNATE VOLTAGE 0..500 Vac (41 scales), inlet impedance 2.000 Ω/V Frequency 10 Hz..1 kHz	ALTERNATE VOLTAGE 0..500 Vac CONTINUOUS VOLTAGE 0..540 Vdc, max voltage 710 Vpk Frequency DC / 20 Hz..20 kHz	ALTERNATE VOLTAGE Max capacity 500 Vac, frequenza 50-60 Hz ALTERNATE CURRENT Nominal flow rate 5 A rms, max crest factor 3, max current 15 A, frequency 50 – 60 Hz	CONTINUOUS VOLTAGE: 0..1,200 Vdc; ALTERNATE VOLTAGE 0..850 Vac Input impedance: 800 kΩ Frequency: 30..300 Hz
1	1	1 analogic, 1 digital	1
CURRENT 0..20 / 4..20 mA, max load 600 Ω, active / passive connection VOLTAGE 0.5 / 0..10 / 1..5 / 2..10 Vdc, min load 2.500 Ω	CURRENT 4..20 mA, passive	VOLTAGE 0-5, 0-10, 1-5, 2-10 V Analog retransmission Vrms, Irms, Watt, Var, frequency, cosφ, energy CURRENT 0-20, 4-20 mA DIGITAL TBD meter	CURRENT Range: 0..20 mA; max impedance: 500 Ω VOLTAGE Range: 0..10 V; min impedance: 1 k Ω
Z202-H	Z202-LP	Z203-1	Z204-1
pg.172	pg.172	pg.172	pg.172

The technical data and the diagrams in this document are indicative and not binding.



# MULTISTANDARD ISOLATOR CONVERTERS - Z SERIES

## RELAY THRESHOLD CON CONVERTERS









	Z112A	Z112D	Z113S	Z113D	Z113T	Z113-1
						
	<b>Power supply-amplifier for digital contacts, 1 relay output</b>	<b>Power supply-amplifier for digital contacts, 2 relay outputs</b>	<b>Single adjustable alarm threshold</b>	<b>Double adjustable alarm threshold</b>	<b>Triple adjustable alarm threshold</b>	<b>Double alarm threshold with universal analogue input and relay output</b>
<b>GENERAL DATA</b>						
Power supply	19..40 (9..30 opz.) Vdc; 19..28 Vac	19..40 (9..30 opz.) Vdc; 19..28 Vac	19..40 (9..30 opz.) Vdc; 19..28 Vac	19..40 (9..30 opz.) Vdc; 19..28 Vac	19..40 (9..30 opz.) Vdc; 19..28 Vac	10..40 Vdc; 19..28 Vac
Transducers power supply	Yes, 2 wire active input (min 20 Vdc)	Yes, 2 wire active input (min 20 Vdc)	Yes, 2 wire active input (min 20 Vdc)	Yes, 2 wire active input (min 20 Vdc)	Yes, 2 wire active input (min 20 Vdc)	Yes, 2 wire active input
Max absorption	2.5 W	2.5 W	2.5 W	2.5 W	2.5 W	2.5 W
Insulation	1.500 Vac (power supply/input) 4.000 Vac (input/power supply./outlet)	1,500 Vac	1.500 Vac (power supply/input) 4.000 Vac (input/power supply./outlet)	1,500 Vac	1,500 Vac	1.500 Vac (3-way)
Degree of protection	IP20	IP20	IP20	IP20	IP20	IP20
LED status indicators	Power supply Attracted relay	Power supply Attracted relay	Power supply Exceeding of threshold	Power supply Exceeding of threshold	Power supply Exceeding of threshold	Power supply Alarm
Interfaces						Micro USB (front)
Thermal Drift	0.01%/°C	0.01%/°C	0.01%/°C	0.01%/°C	0.01%/°C	0.01%/°K
Linearity	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%
Configuration	DIP switch Trimmer	DIP switch Trimmer	DIP switch Trimmer	DIP switch Trimmer	DIP switch Trimmer	DIP switch Software (EASY SETUP)
Operating temperature	0..+50°C	0..+50°C	0..+50°C	0..+50°C	0..+50°C	-20..+65°C
Dimensions	17.5 x 100 x 112 mm	17.5 x 100 x 112 mm	17.5 x 100 x 112 mm	17.5 x 100 x 112 mm	17.5 x 100 x 112 mm	17.5 x 100 x 112 mm
Connections	Screw removable terminals	Screw removable terminals	Screw removable terminals	Screw removable terminals	Screw removable terminals	Screw removable terminals
Casing	Nylon 6 30% glass fibre	Nylon 6 30% glass fibre	Nylon 6 30% glass fibre	Nylon 6 30% glass fibre	Nylon 6 30% glass fibre	Nylon 6 30% glass fibre
Assembly	DIN Guide 35 mm (IEC/EN 60715)	DIN Guide 35 mm (IEC/EN 60715)	DIN Guide 35 mm (IEC/EN 60715)	DIN Guide 35 mm (IEC/EN 60715)	DIN Guide 35 mm (IEC/EN 60715)	DIN Guide 35 mm (IEC/EN 60715)
Weight	200 g	200 g	200 g	200 g	200 g	200 g
Certifications	EC	EC	EC	EC	EC	EC
Regulations	EN 61000-6-4, EN 61000-6-2, EN 61010-1	EN 61000-6-4, EN 61000-6-2, EN 61010-1	EN 61000-6-4, EN 61000-6-2, EN 61010-1	EN 61000-6-4, EN 61000-6-2, EN 61010-1	EN 61000-6-4, EN 61000-6-2, EN 61010-1	EN 61000-6-4, EN 61000-6-2, EN 61010-1
<b>INPUT DATA</b>						
Channels	1	2	1	1	1	1
Type	impulse (mechanical contact, reed, npn, pnp, Namur, imp. 24 Vdc, photoelectric sensor, Hall effect sensor), freq. Max 400 Hz	Impulse (mechanical contact, reed, npn, pnp, Namur, imp. 24 Vdc, photoelectric sensor, Hall effect sensor), freq. Max 400 Hz	Voltage (V), 4 scales (0/1..5 Vdc, 0/2..10 Vdc); input impedance 500 kW Current (mA), 2 scales (0..20, 4..20 mA); active/passive connection; input impedance 100Ω	Voltage (V), 4 scales (0/1..5 Vdc, 0/2..10 Vdc); input impedance 500 kW Current (mA), 2 scales (0..20, 4..20 mA); active/passive connection; input impedance 100Ω	Voltage (V), 4 scales (0/1..5 Vdc, 0/2..10 Vdc); input impedance 500 kW Current (mA), 2 scales (0..20, 4..20 mA); active/passive connection; input impedance 100Ω	Voltage up to 10 V Bipolar current up to 20 mA Thermistors Pt100, Pt500, Pt1000, Ni100 Thermocouples type J,K,R,S,T,B,E,N Potentiometer up to 100 kΩ
<b>OUTPUT DATA</b>						
Channels	1	2	1	2	3	2
Type	SPDT 1A relay - 30Vdc / 5A - 250 Vac (resistive load)	SPST relay reed, max capacity 0.5A - 100 Vac/dc (10 VA resistive load)	SPDT 1A relay - 30Vdc / 5A - 250 Vac (resistive load)	SPST relay, max capacity 0.1A - 30 Vac/dc (10 VA resistive load)	SPST relay, max capacity 0.1A - 30 Vac/dc (10 VA resistive load)	SPST relay, 1 common contact, 2 NO contacts, capacity 250 Vac - 3 A
<b>ORDER CODE</b>						
Code	Z112A	Z112D	Z113S	Z113D	Z113T	Z113-1
Software and Accessories	pg.172	pg.172	pg.172	pg.172	pg.172	pg.172

The technical data and the diagrams in this document are indicative and not binding.

# MULTISTANDARD ISOLATOR CONVERTERS - Z SERIES

## CONVERTERS FOR TEMPERATURE SENSORS

## CONVERTERS FOR FREQUENCY SIGNALS

	Z109PT2-1	Z109TC2-1	Z104	Z111
	   <b>Thermoresistance isolator converter with Micro USB interface</b>	   <b>Thermocouple isolator converter with Micro USB interface</b>	 <b>MA / V converter - frequency with galvanic separation</b>	 <b>Frequency converter - mA / V with galvanic isolation</b>
<b>GENERAL DATA</b>				
Power supply	9..40 Vdc; 19..28 Vac	9..40 Vdc; 19..28 Vac	19..40 Vdc; 19..28 Vac	19..40 Vdc; 19..28 Vac
Transducers power supply			Yes, 20 Vdc, max 20 mA, 2 wires	
Max absorption	2.5 W	2 W	2.5 W	2.5 W
Insulation	1.500 Vac (3-way)	1.500 Vac (3-way)	1.500 Vac (3-way)	1.500 Vac (3-way)
Degree of protection	IP20	IP20	IP20	IP20
LED status indicators	Power supply Setting error Off scale	Power supply Error	Power supply Output (attracted relay)	Power supply Error
Response time	35..140 ms	35..140 ms	350 ms	250 ms
Interfaces	Micro USB (front)	Micro USB (front)		
Precision class	0.1% (RTD) - 0.3% (output under voltage)	0.1% (TC) - 0.3% (output under voltage)	0.2%	0.3%
Thermal Drift	0.01%/°K	0.01%/°K	0,02% f.s./°C	0.01% f.s./°C
Configuration	DIP switch Software (EASY SETUP) APP Android	DIP switch Software (EASY SETUP) APP Android	DIP switch Trimmer (full scale)	DIP switch Trimmer (full scale)
Operating temperature	-20..+60°C	-20..+60°C	0..+50°C	0..+50°C
Dimensions	17.5 x 100 x 112 mm	17.5 x 100 x 112 mm	17.5 x 100 x 112 mm	17.5 x 100 x 112 mm
Connections	Screw removable terminals	Screw removable terminals	Screw removable terminals	Screw removable terminals
Casing	Nylon 6 30% glass fibre	Nylon 6 30% glass fibre	Nylon 6 30% glass fibre	Nylon 6 30% glass fibre
Assembly	DIN Guide 35 mm (IEC/EN 60715)	DIN Guide 35 mm (IEC/EN 60715)	DIN Guide 35 mm (IEC/EN 60715)	DIN Guide 35 mm (IEC/EN 60715)
Weight	200 g	200 g	200 g	200 g
Certifications	EC	EC	EC	CE, UL-UR CSA
Regulations	EN 61000-6-4, EN 61000-6-2, EN 61010-1	EN 61000-6-4, EN 61000-6-2, EN 61010-1	EN 61000-6-4, EN 61000-6-2, EN 61010-1	EN 61000-6-4, EN 61000-6-2, EN 61010-1
<b>INPUT DATA</b>				
Channels	1	1	1	1
Type	RTD Pt100, Pt500, Pt1000, Ni100 2, 3, 4-wire connection Excitation current 1mA Resolution 0.1°C	THERMOCOUPLE Tipo: J, K, R, S, T, E, B, N Resolution 5 µV Automatic interruption detection	VOLTAGE (V) 4 scales (0..1, 0..5, 0..10, 2..10 V); input impedance 1 MΩ CURRENT (mA) 2 scales (0/4..20 mA); active connection loop powered 15 Vdc not stabilised; passive connection input impedance 100 Ω	Pulse (mechanical contact, reed, npn, pnp, Namur, imp. 24 Vdc, photoelectric sensor, Hall effect sensor, TTL variable reluctance), freq. measurable from 1 mHz to 9.99 kHz
<b>OUTPUT DATA</b>				
Channels	1	1	1	1
Type	VOLTAGE (V) 4 scales: 0..5, 0..10, 1..5, 2..10 V Min. load impedance 2 kΩ Resolution: 2.5 µA / 1.25 mV CURRENT (mA) 2 scales: 0..20, 4..20 mA Max load impedance 600 Ω Resolution: 2.5 µA / 1.25 mV	VOLTAGE (V) 4 scales: 0..5, 1..5, 0..10, 2..10 V Min. load impedance 2.5 kΩ Resolution: 0.025%..0.032 % CURRENT (mA) Active / passive connection 2 scales: 0..20, 4..20 mA Max load impedance: 600 Ω Resolution: 0.025..0.032 %	Pulse npn open collector, 30 Vcc, 300 mA; reed relay 30 Vac/dc, 100 mA, max frequency 10 kHz	VOLTAGE (V) 4 scales (0..5, 0..10, 0..5, 2..10 V); min load resistance 1 MW CURRENT (mA) 2 scales 0/4..20 mA, max load resistance 600 Ω
<b>ORDER CODE</b>				
Code	Z109PT2-1	Z109TC2-1	Z104	Z111
Software and Accessories	Software and Accessories p.172	Software and Accessories p.172	Software and Accessories p.172	Software and Accessories p.172

The technical data and the diagrams in this document are indicative and not binding.

# MULTISTANDARD ISOLATOR CONVERTERS - Z SERIES

## SOFTWARE & ACCESSORIES

### EASY SETUP

#### Configuration software



**Programmable models:**  
Z109REG, Z109REG2-1, Z109UI-2, Z109REG-BP, Z170REG-1, Z-SG, Z203-1, Z204-1, Z113-1, Z109PT2-1, Z109TC2-1

**Minimum hardware requirements:**  
CPU 1GHz, 256 MB free in HD, graphic board resolution 1024x769 pixel

- Automatic connection to the module
- Setting of operation and communication parameters
- Parameter monitoring
- Automatic configuration of modules
- Testing and replication of the configuration

### EASY SETUP APP

#### Configuration app for Android terminal



**Programmable models:**  
Z109REG2-1, Z109UI2-1, Z109REG-BP, Z170REG-1, Z109PT2-1, Z109TC2-1

**Android version:** 4.0 or later

**Compatible terminals:** Android Smartphone/Tablet with OTG function

**Download:** Google Play Store

- Automatic connection to the module
- Setting of operation and communication parameters
- Parameter monitoring
- Automatic configuration of modules
- Testing and replication of the configuration

### S117P1

#### S117P1 SERIAL CONVERTER RS232↔USB, TTL↔USB, RS485↔USB

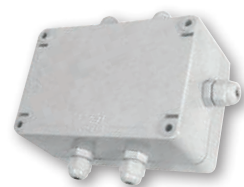


- Asynchronous serial conversion RS232, RS485, TTL
- Multiple connection possibility of multiple S117P1 units on the same PC
- USB 1.0, 1.1, 2.0 standard compatibility
- RS485 communication, max 32 nodes
- External modules power supply (100 mA, 12 Vdc)
- Supplied accessories: USB cable, TTL cable, driver CD

#### ORDER CODE

Code	Description
S117P1	Asynchronous serial converter RS232↔USB, TTL↔USB, RS485↔USB

### EQUALISATION AND CONNECTION SYSTEM FOR LOAD CELLS



#### ORDER CODE

Code	Description
SG-EQ4	Equalisation board and connection up to 4 load cells in parallel
SG-EQ4-BOXPG7	Equalisation board and connection up to 4 parallel load cells + IP67 containment box complete with cable glands with 7 mm diameter and 2 hole covers

### Z-POWER

#### 19 Vac transformers for DIN guide mounting



- Primary voltage 230 (115) Vac  $\pm$  10% Housing in self-extinguishing thermoplastic material (class V-0)
- Protection with thermal fuse
- Dimensions 3 DIN modules (15 VA), 5 DIN modules (25 VA)
- Dimensions 3 DIN modules (15 VA), 5 DIN modules (25 VA)
- IP 40

#### ORDER CODE

Code	Description
Z-POWER 230-15VA	Transformer 19 Vac, 230-15 VA
Z-POWER 230-25VA	Transformer 19 Vac, 230-25 VA
Z-POWER 115-15VA	Transformer 19 Vac, 115-15 VA

### Z-SUPPLY

#### Power supply switching monophase 24V @ 1.5 A

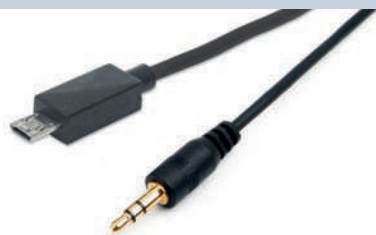


- **Input:** 110..230 Vac @ 47-63 Hz 0,7 A; 110..315 Vdc, 0,7 A
- **Output:** 24 Vdc  $\pm$  2%
- **Redundancy** In parallel with two Z-SUPPLY modules (only from IDC10 connector)
- **Output current:** 1.5 A
- **Output control:** "Power Good" output relay
- **Internal fuse:** 1.25A T-type (delayed)
- **Assembly:** On DIN guide 46277
- **Insulation:** Up to 3KV in output and output voltage

#### ORDER CODE

Code	Description
Z-SUPPLY	Power supply switch monophase 24V @ 1.5 A

### CABLES



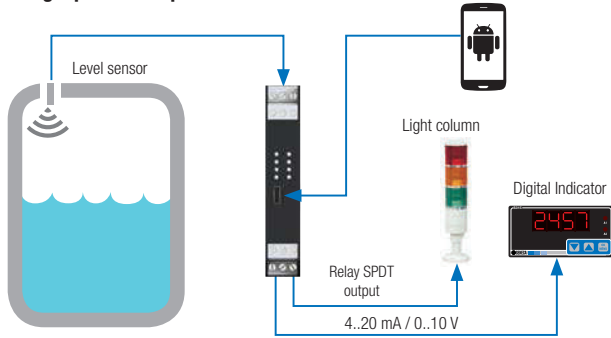
#### ORDER CODE

Code	Description
CS-JACK-DB9F	Programming serial cable (Jack / DB9F)
CU-A-MICROB	Cable plug USB-A Micro USB-B 5 P
CU-A-MICRO-OTG	Adapter cable Micro USB OTG – USB Female A type

## APPLICATION EXAMPLES

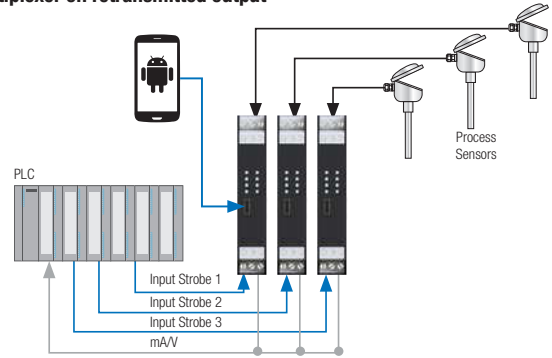
### Z109REG2-1

Isolation and conversion with alarm threshold on analog input and output retransmission on indicator



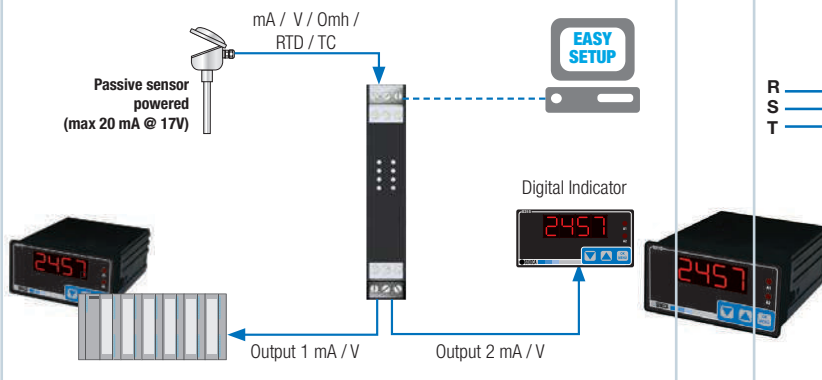
### Z109REG2-1

Isolation and analog conversion with function of multiplexer on retransmitted output



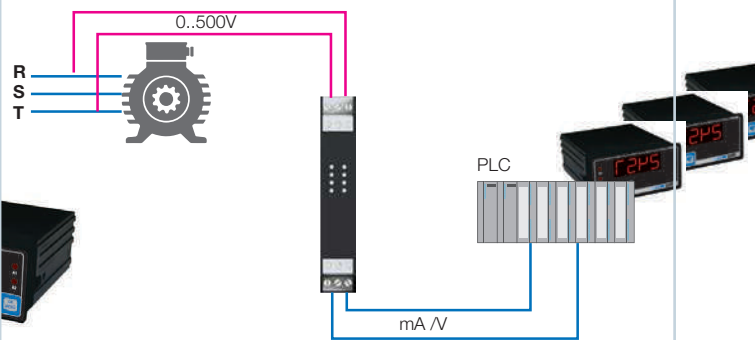
### Z170REG-1

Duplication and retransmission of analogue signal



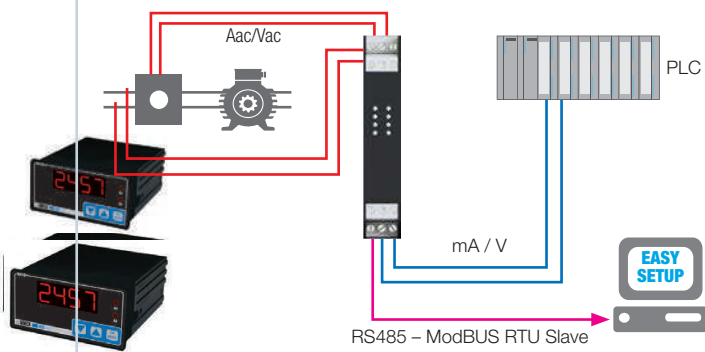
### Z202

Conversion of the alternating voltage into a normalised mA/V signal



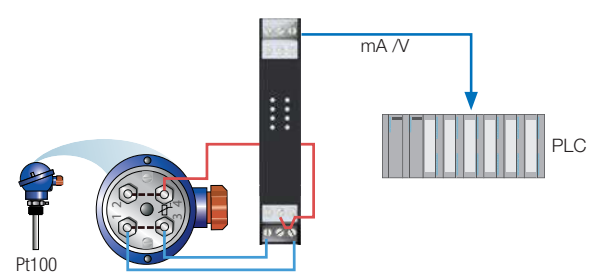
### Z203-1

Single-phase network analyser with output signal retransmission



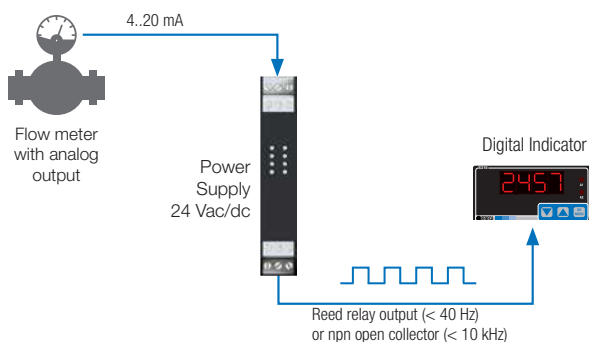
### Z109PT2-1

Temperature conversion from Pt100 into a standard analogue signal



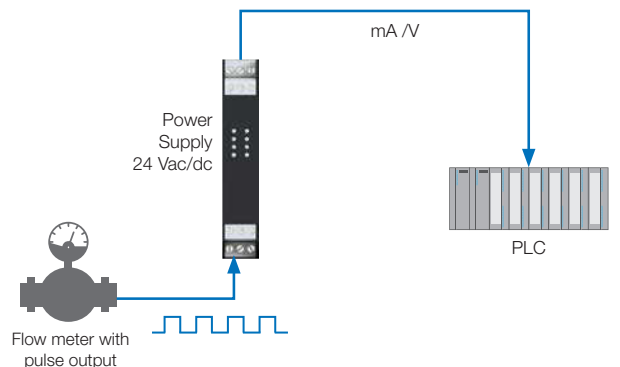
### Z104

Pulse count from flow meter with analogue output



### Z111

Instantaneous flow acquisition from meter with pulse output



# MULTISTANDARD ISOLATOR CONVERTERS - Z SERIES

## RAPID SELECTION

CODE INSTRUMENT	CONVERSION				POWER SUPPLY					OTHER CHARACTERISTICS	
	IN	OUT	No. INPUTS	No. OUTPUTS	19..40 Vdc (9..30 Vdc opt.); 19..28 Vac	10..40 Vdc; 19..28 Vac	85..265 Vac/dc	External / From measurement loop	POWER SUPPLY SENSORS / ACTIVE INPUT	MAX INSULATION	PRECISION CLASS
<b>CONVERTERS FOR ANALOG SIGNALS</b>											
Z102	Ohm	mA, V	1	1	x					1.5 kVac	0.2%
Z109REG	mA, mV, V, Ohm, TC (J,K,R,S,T,B,E,N), Pt100	mA, V	1	1	x				18 Vdc	1.5 kVac	0.2%
Z109REG2-1	mA, mV, V, Ohm, TC (J,K,R,S,T,B,E,N), Pt100, Pt500, Pt1000, Ni100, KTY81, KTY84, NTC, (Strobe)	mA, V, (SPST relay)	2	2		x			20 Vdc	1.5 kVac	0.1%
Z109REG2-H	mA, mV, V, Ohm, TC (J,K,R,S,T,B,E,N), Pt100, Pt500, Pt1000, Ni100, KTY81, KTY84, NTC, (Strobe)	mA, V, (SPST relay)	2	2			x		20 Vdc	1.5 kVac	0.1%
Z109REG-BP	mA, mV, V, Ohm, TC (J,K,R,S,T,B,E,N), Pt100, Pt500, Pt1000, Ni100, KTY81, KTY84, NTC	mA, V	1	1		x			17 Vdc	1.5 kVac	0.1%
Z109S	mA	mA	1	1	x				20 Vdc	1.5 kVac	0.2%
Z109S-DI	mA	mA	1	1		x			17 Vdc	3.5 kVac	0.2%
Z109UI2-1	mA, V, mV	mA, V	1	1		x				1.5 kVac	0.1%
Z110D	mA	mA	2	2				x		1.5 kVac	0.1%
Z110S	mA	mA	1	1				x		1.5 kVac	0.1%
Z170REG-1	mA, mV, V, Ohm, TC (J,K,R,S,T,B,E,N), Pt100, Ni100, Pt500, Pt1000, (Strobe)	mA, V, (SPST relay)	1	2		x				1.5 kVac	0.1%
Z190	mA, V	mA, V	2	1	x				20 Vdc	1.5 kVac	0.2%
Z-SG	mV, load cell	mA, V, RS485 ModBUS	1	1		x				1.5 kVac	0.01%
<b>A/D CONVERTERS</b>											
Z-4AI-D	mA, V	Serial / Signals 24V PNP (Clock, Data, Strobe)	4	3	x					1.5 kVac	0.1%
Z-4TC-D	TC, mV	Serial / Signals 24V PNP (Clock, Data, Strobe)	4	3	x					1.5 kVac	0.1%
<b>ELECTRIC MEASUREMENT CONVERTERS</b>											
Z201	Aac	mA, V	1	1	x					1.5 kVac	0.3%
Z201-H	Aac	mA, V	1	1			x			4 kVac	0.3%
Z202	Vac	mA, V	1	1		x				3.75 kVac	0.25%
Z202-H	Vac	mA, V	1	1			x			4 kVac	0.25%
Z202LP	Vac/dc	mA, V	1	1				x		4 kVac	0.25%
Z203-1	A, V	mA, V, RS485 ModBUS	1	1		x				3.75 kVac	0.5%
Z204-1	Vac/dc	mA, V, RS485 ModBUS	1	1		x				4 kVac	0.5%
<b>CONVERTERS WITH RELAY THRESHOLDS</b>											
Z112A	Contact, Reed, NPN, PNP, Namur, Photoelectric, Hall, Var. Reluctance, Imp. 24 V, TTL, Volumetric Meter	SPDT Relay	1	1	x				20 Vdc	1.5 kVac	
Z112D	Contact, Reed, NPN, PNP, Namur, Photoelectric, Hall, Var. Reluctance, Imp. 24 V, TTL, Volumetric Meter	SPST relay	2	2	x				20 Vdc	1.5 kVac	
Z113D	mA, V	SPST relay	1	2	x				20 Vdc	1.5 kVac	
Z113S	mA, V	SPDT Relay	1	1	x				20 Vdc	1.5 kVac	
Z113T	mA, V	SPST relay	1	3	x				20 Vdc	1.5 kVac	
Z113-1	mA, V, Ohm, RTD, TC	SPST relay	1	2		x				1.5 kVac	
<b>TEMPERATURE SENSOR CONVERTERS</b>											
Z109PT2-1	Pt100, Ni100, Pt500, Pt1000	mA, V	1	1		x				1.5 kVac	0.1%
Z109TC2-1	TC (J,K,R,S,T,B,E,N)	mA, V	1	1		x				1.5 kVac	0.2%
<b>CONVERTERS FOR FREQUENCY SIGNALS</b>											
Z104	mA, V	NPN Open Collector, Reed Relay	1	1	x				20 Vdc	1.5 kVac	0.2%
Z111	Contact, Reed, NPN, Namur, Photoelectric, Hall, Var. Reluctance, Imp. 24 V, TTL, Volumetric Meter	mA, V	1	1	x				20 Vdc	1.5 kVac	0.2%



The information contained in this document may be modified or supplemented without notice for technical and commercial requirements; discrepancies and inaccuracies cannot be ruled out, in spite of the continuous commitment to perfection. In any case the contents of this document are subject to periodic review.