

# Z-LINE

## OVERVIEW

Z-Line series offers a full range of signal conditioners including **Signal Converters, Transmitters, Galvanic Isolators, Splitters, Trip Amplifiers** and **Maths Modules**. They are easy to use, simple to install and have a universal (ac/dc) low voltage supply.

### Specifications Z-LINE

**Power supply** : 10 – 40 Vdc / 19 – 28 Vac / 85..265 Vac/dc / 5..30 Vdc loop powered  
**Maximum power consumption** : 2.5 W  
**Isolation**: from 1500 Vrms (up to 4.000 Vrms) for 1 minute at three points (power supply/input/output)  
**Operating temperature**: 0 - +50 °C / -10..+60 °C  
**Storage temperature**: -20 - +70 °C  
**Maximum humidity**: 90% at +40 °C (non-condensing)  
**Connections**: Screw-fit removable terminals for wires up to 2.5 mm<sup>2</sup>  
**Mounting**: For guide 35 mm DIN 46277  
**Case dimensions**: 17.5 x 100 x 112 mm  
**Case material**: Nylon 6 filled with 30% fibreglass – self-extinguishing class V0

### CE and UL Standards



All Serie Z products comply with the directives concerning electromagnetic compatibility in INDUSTRIAL ENVIRONMENTS:

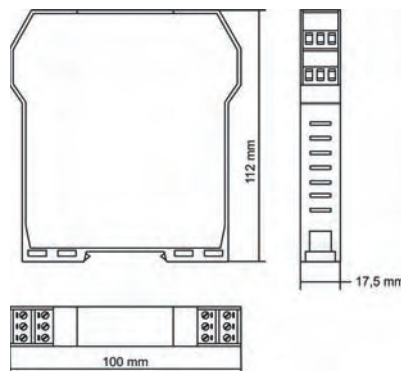
EMISSION in compliance with:

- Standard EN 50081-2
- Conducted EN 55011
- Radiated EN 55011

IMMUNITY in compliance with:

- Standard EN 50082-2:
- ESD EN 61000-4-2
- Burst EN 61000-4-4
- Radio frequency EN 50140 / 141

### Dimensions



### Highlights



#### Connections and Mechanics

- Screw-fit removable terminals
- Rail mounting
- Compact housing (17.5 mm wide)



#### Parameters configuration

- Configuration via DIP switch / Software (Z-SETUP) / Hand Held configurator (Test-3)
- Setup software for universal converter
- Selection input / output / filter / scaling / com / burn out etc.



#### Transducers power supply

- Source for transducers
- Active input 2 wires
- Minimum voltage of 20 Vdc and current of 20 mA












#### Standard signals

- ANALOG: currents (bidirectional, active or passive), voltage (bipolar), resistance (2 or 3 wires potentiometer, rheostat), electric parameters
- SENSORS: RTD (thermoresistance 2, 3, 4 wires), TC (thermocouples J K R S T E B N), Load Cell (strain gauge)
- Any kind of PULSES
- Electric parameters: W, I, V, cosfi, f



#### Isolation & Power Supply

- 3 way (Input / Supply / Output) galvanic isolation from 1.500 to 4.000 Vac
- Supply range: from 10 to 265 Vac/dc
- Switching supply

		Z109REG	Z109REG2-Z109REG2-H	Z109UI2	Z109S
					
		<b>Universal converter / isolator</b>	<b>Universal converter / isolator with advanced functions</b>	<b>DC current -voltage isolator / converter</b>	<b>DC current isolator</b>
<b>FUNCTIONAL DIAGRAM</b>					
<b>ORDER CODE</b>		<b>Z109REG</b> -ER (square root extraction)	<b>Z109REG2</b> (9..40 Vdc/19..28 Vac) <b>Z109REG2-H</b> (85..265 Vac/dc) -ER (square root extraction)	<b>Z109UI2</b>	<b>Z109S</b>
<b>INPUT</b>	<b>NR</b>	1	1 analog, 1 strobe	1	1
	<b>TYPE</b>	<b>Voltage (mV, V)</b> Bipolar 0..20 mA Bipolar 0..2, 0.5, 0..10 V <b>Current (mA)</b> Bipolar 0..20 mA <b>RTD</b> Pt100 (-200..+600°C) <b>Thermocouple</b> Type J, K, R, S, T, E, B, N <b>Potentiometer</b> 0.5..15 kΩ	<b>Voltage (mV, V)</b> Bipolar from 75 mV up to 20 V Resolution 15 bit + sign <b>Current (mA)</b> Bipolar up to 20 mA Resolution 1 μA <b>RTD</b> Pt100, Pt500, Pt1000, Ni100, KTY81, KTY84, NTC 3, 4 wires measurement Scale: -200..600 °C Resolution 0,1°C <b>Thermocouple</b> Type J, K, R, S, T, E, B, N Resolution 2,5 μV <b>Potentiometer / Rheostat</b> Potentiometer: 500 Ω ..10 kΩ Rheostat: 500 Ω ..25 kΩ <b>Strobe</b> Alternative to relay output	<b>Voltage (mV, V)</b> Bipolar from 75 mV up to 20 V 9 scales Resolution 15 bit + sign <b>Current (mA)</b> Bipolar up to 20 mA Resolution 1 μA	<b>Current</b> 2 scales: 0/4..20 mA
<b>OUTPUT</b>	<b>NR</b>	1	1 analog, 1 relay	1	1
	<b>TYPE</b>	<b>Voltage (V)</b> 2 scales: 0..2, 0..10 V <b>Current (mA)</b> 2 scales: 0..20, 4..20 mA	<b>Voltage (V)</b> 4 scales: 0/1..5V, 0/2..10V Min load impedance 2 kΩ <b>Current (mA)</b> 2 scales: 0/4..20 mA Max load impedance 600 Ω <b>Relay</b> Alternative to strobe input NC / NO in case of alarm	<b>Voltage (V)</b> 4 scales: 0/1..5V, 0/2..10V Min load impedance 2 kΩ <b>Current (mA)</b> 2 scales: 0/4..20 mA Max load impedance 600 Ω	<b>Current (mA)</b> 2 scales: 0/4..20 mA Max load impedance 600 Ω
<b>PRECISION CLASS</b>		0,2%	0,1%	0,1%	0,2%
<b>THERMAL DRIFT</b>		0,02 % f.s. / °C	0,01%/°K	0,01%/°K	0,02 % f.s. / °C
<b>LINEARITY</b>		0,05% (V,I), 0,2% (RTD), 1°C (TC)	0,05% / 0.4%	0,05 % (V,I), 0,01% (Vout)	0,05 %
<b>SETTINGS</b>		DIP switch Z-SETUP (PC software)	DIP switch Z-SETUP2 (PC software) Test-3 (hand held calibrator)	DIP switch Jumper	DIP switch
<b>POWER SUPPLY</b>		9..30 (option) - 19..40 Vdc 19..28 Vac; (50..60 Hz)	Z109REG2: 9..40 Vdc; 19..28 Vac; (50..60 Hz) Z109REG2-H: 85..265 Vac/dc	9..40 Vdc 19..28 Vac; (50..60 Hz)	9..40 Vdc 19..28 Vac; (50..60 Hz)
<b>SENSORS SUPPLY</b>		Active input 2 wires (min 18 Vdc)	Active input 2 wires (min 20 Vdc)	Active input 2 wires (min 20 Vdc)	Active input 2 wires (min 20 Vdc)
<b>POWER CONSUMPTION</b>		2,5 W (max)	2,5 W (max) 1,6 W (24 Vdc, 20 mA)	2,5 W	2,5 W
<b>ISOLATION &amp; PROTECTIONS</b>		1.500 Vac (1 at 3 way) Input: 60 V / 200 mA Pulses 400 W / ms	1.500 Vac (1 at 3 way) Pulses 400 W / ms	1.500 Vac (1 at 3 way) Input: 60 V / 200 mA Pulses 400 W / ms	1.500 Vac (1 at 3 way) Input: 60 V / 200 mA Pulses 400 W / ms
<b>FRONT LED</b>		Power supply Error	Power supply Error Alarm	Power supply	Power supply
<b>RESPONSE TIME</b>		300 ms	35 ms (11 bit)..140 ms (16 bit)	35 ms (11 bit)..140 ms (16 bit)	< 60 ms
<b>OPERATING TEMP.</b>		0..+55°C	-10..+60°C	-10..+60°C	0..+50°C
<b>DIMENSIONS</b>		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
<b>CONNECTIONS</b>		Screw fit removable terminals	Screw fit removable terminals	Screw fit removable terminals	Screw fit removable terminals
<b>WEIGHT</b>		200 g	200 g	200 g	200 g
<b>APPROVALS</b>		CE	CE 	CE	CE
<b>NORMS</b>		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 55011, EN 61000-4-2, EN 61000-4-4, EN 50140 / 141	EN 55011, EN 61000-4-2, EN 61000-4-4, EN 50140 / 141