Universal signal converter WZ109REG21

- For current and voltage signals, potentiometers, Pt100, Pt1000, Pt500, Ni100, KTY81/84, NTC and thermocouples type J, K, R, S, T, E, B and N.
- Galvanic 3-way isolation, test voltage 1.5 kV (50 Hz, 1 minute)
- Converts the input signals into a 0/4 - 20 mA, 0/2 - 10 V or 0/1 - 5 V signal
- Supply via 10 - 40 VDC, 19 - 28 VAC
- Simple commissioning possible via DIP switch or USB interface

https://www.wachendorff-prozesstechnik.de/en/WZ109REG21

Description

The WZ109REG21 universal signal converter converts current/voltage signals, signals from temperature sensors as well as resistance signals and potentiometer signals into a standard current or voltage signal. The output signal is linearly proportional to the input. The additional input/output can be used to output an alarm value or to operate several WZ109REG21s in multiplex mode on a PLC. The device is fully set via DIP switches, software on the PC or via the TEST3 calibration device and is immediately ready for operation. For mounting, the WZ109REG21 is simply snapped onto a top-hat rail.

Product details

Entrance:	**Voltage:** Two-pole from 75 mV up to 20 V in 9 scales, input impedance 1 MOhm, max. resolution 15 bit + sign **Current:** Two-pole up to 20 mA, input impedance ~50, resolution: 1 µA. **Thermal resistance (RTD) PT100, PT500, PT1000, NI100, KTY81, KTY84-130/-150, NTC:** Measurement with 2, 3 or 4 wires, excitation current 0.56 mA, resolution 0.1 °C, automatic detection of cable interruption or RTD interruption. For NTC resistance value < 25 kW KTY81, KTY84 and NTC only adjustable via software. **Thermocouple (TC):** Type S, T, J, N, K, E, R, B. Resolution 2.5 µV, automatic detection of cable interruption or TC interruption, input impedance > 5 MOhm. **Rheostat:** end scale min. 500 Ohm, max. 25 kOhm. **Potentiometer:** Excitation voltage 300 mV, input impedance > 5 MOhm, potentiometer value from 500 Ohm to 100 kOhm (using a 500 Ohm resistor connected in parallel).
Sampling frequency:	Variable from 240 PLC with 11 bit resolution + sign to 15 PLC with 15 bit + sign resolution (typical values).
Response time:	35 ms with 11-bit resolution, 140 ms with 16-bit resolution (measurement of voltage, current, potentiometer).
Output:	**Voltage range:** 0-5 V / 0-10 V / 1-5 V / 2-10 V, min. load resistance 2 kOhm **Current range:** 0-20 / 4-20 mA, load resistance 600 Ohm **Resolution:** 2.5 A/ 1.25 mV

Data storage:	EEPROM for all configuration data; storage time 40 years
Alarm output/strobe input	1 relay output as NC contact, 1 A @ 30 VDC/AC, can alternatively be used as strobe input with contact input.
Burden	V > 2 KOhm, A < 600 Ohm
Resolution	11 to 15 bits depending on the setting
Accuracy	between +/- 0.1 % and +/- 0.5 % depending on the range
Linearity	0.02 % to 0.1 % depending on the setting
Temperature coefficient	0,01 % / °K
Response time	35 ms
Setting	DIP switch or via the setup software
Scaling	Linear, square root determination
Filter	Switchable filter
Error signaling	LED, fault / settings
Assembly	35 mm top-hat rail
Ambient conditions	Working temperature: -10 to +60 °C Storage temperature: -20 to +85 °C Humidity: 30 to 90 % non-condensing
Dimensions(W x H x D)	17.5 mm x 115 mm x 130 mm
Manufacturer:	Seneca s.r.l.

Products Order no.

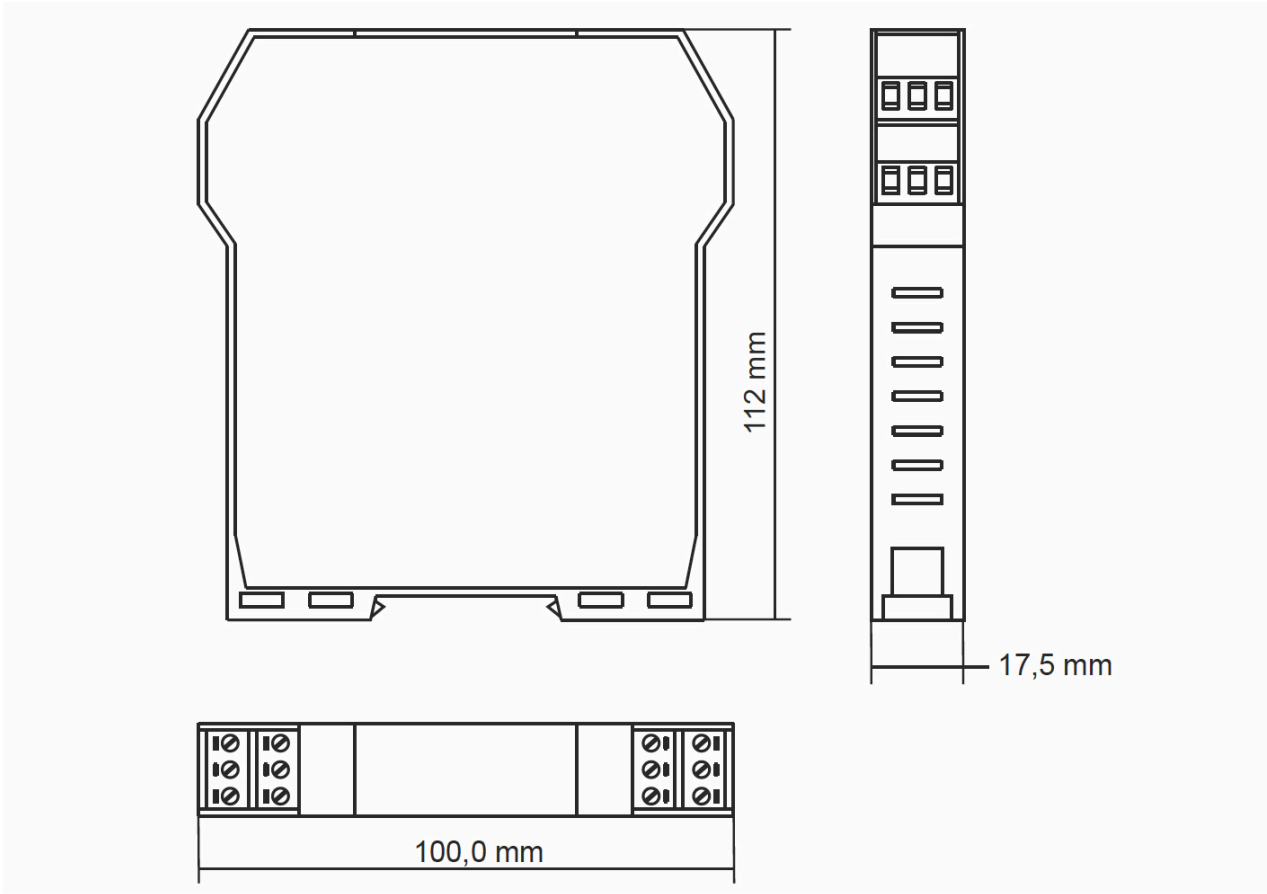
WZ109REG21	Universal signal converter / supply: 19 VDC - 40 VDC

Accessories Order no.

WTEST400	Calibrator/measuring device
KABUSBM2	USB programming cable, USB 2.0A to micro USB, 2 m cable

Drawings

Dimensions:



Drawings

Adjustable input ranges

Hinweis: Die DIP-Schalter müssen eingestellt werden, während das Modul abgeschaltet wird, sonst kann das Modul beschädigt werden.

(*) START und END eingestellt im Speicher von PC oder Programmiertasten.

SW2 DIP-Schalter in OFF↓ Stellung

SKALA n°		Spannung		Widerstand / Rheostat		Strom		Potentiometer	
		START	END	START	END	START	END	START	END
	1	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
	2	0 V	100 mV	0 Ω	1 kΩ	0 mA	1 mA	0 %	40 %
	3	400 mV	200 mV	0.5 kΩ	2 kΩ	1 mA	2 mA	10 %	50 %
	4	1 V	500 mV	1 kΩ	3 kΩ	4 mA	3 mA	20 %	60 %
	5	2 V	1 V	2 kΩ	5 kΩ	-1 mA	4 mA	30 %	70 %
	6	-5 V	5 V	5 kΩ	10 kΩ	-5 mA	5 mA	40 %	80 %
	7	-10 V	10 V	10 kΩ	15 kΩ	-10 mA	10 mA	50 %	90 %
	8	-20 V	20 V	15 kΩ	25 kΩ	-20 mA	20 mA	60 %	100 %

SKALA n°		NI100 (RTD)		PT100 (RTD)		PT500 (RTD)		PT1000 (RTD)	
		START	END	START	END	START	END	START	END
	1	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
	2	-50 °C	20 °C	-200 °C	50 °C	-200 °C	0 °C	-200 °C	0 °C
	3	-30 °C	40 °C	-100 °C	100 °C	-100 °C	50 °C	-100 °C	50 °C
	4	-20 °C	50 °C	-50 °C	200 °C	-50 °C	100 °C	-50 °C	100 °C
	5	0 °C	80 °C	0 °C	300 °C	0 °C	150 °C	0 °C	150 °C
	6	20 °C	100 °C	50 °C	400 °C	50 °C	200 °C	50 °C	200 °C
	7	30 °C	150 °C	100 °C	500 °C	100 °C	300 °C	100 °C	300 °C
	8	50 °C	200 °C	200 °C	600 °C	150 °C	400 °C	200 °C	400 °C

SKALA n°		Thermoelement J		Thermoelement K		Thermoelement R		Thermoelement S	
		START	END	START	END	START	END	START	END
	1	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
	2	-200 °C	100 °C	-200 °C	200 °C	0 °C	400 °C	0 °C	400 °C
	3	-100 °C	200 °C	-100 °C	400 °C	100 °C	600 °C	100 °C	600 °C
	4	0 °C	300 °C	0 °C	600 °C	200 °C	800 °C	200 °C	800 °C
	5	100 °C	400 °C	100 °C	800 °C	300 °C	1000 °C	300 °C	1000 °C
	6	200 °C	500 °C	200 °C	1000 °C	400 °C	1200 °C	400 °C	1200 °C
	7	300 °C	800 °C	300 °C	1200 °C	600 °C	1400 °C	600 °C	1400 °C
	8	500 °C	1000 °C	500 °C	1300 °C	800 °C	1750 °C	800 °C	1750 °C

SKALA n°		Thermoelement T		Thermoelement B (#)		Thermoelement E		Thermoelement N	
		START	END	START	END	START	END	START	END
	1	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
	2	-200 °C	50 °C	0 °C	500 °C	-200 °C	50 °C	-200 °C	200 °C
	3	-100 °C	100 °C	500 °C	600 °C	-100 °C	100 °C	-100 °C	400 °C
	4	-50 °C	150 °C	600 °C	800 °C	0 °C	200 °C	0 °C	600 °C
	5	0 °C	200 °C	700 °C	1000 °C	100 °C	300 °C	100 °C	800 °C
	6	50 °C	250 °C	800 °C	1200 °C	150 °C	400 °C	200 °C	1000 °C
	7	100 °C	300 °C	1000 °C	1500 °C	200 °C	600 °C	300 °C	1200 °C
	8	150 °C	400 °C	1200 °C	1800 °C	400 °C	800 °C	500 °C	1300 °C

ANMERKUNGEN	ON	OFF

(#) Ausgang = 0 (null) wenn t < 250°C.

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