

Z13B

Current Sensor

3-349-085-03
1/12.99

- Measurement of DC and AC current to 600 A or 400 A respectively
- Automatic zero balancing by simply pressing a key simplifies external field compensation for DC measurements
- Automatic battery shutdown (can be disabled) for easy operation and reduced power consumption
- Measuring range and battery check with LEDs increases operating reliability
- Selectable measuring ranges and sensitivities for optimized resolution and accuracy
- Rugged construction for long service life



Applications

The Z13B current sensor is used for the safe measurement and recording of direct and alternating current in power installations without the need for interrupting power. It transforms primary current from the conductor into a proportional, direct or alternating voltage signal at the output circuit of the sensor. Thanks to its broad DC bandwidth of up to 10 kHz, it serves as a universal accessory for multimeters, power meters, mains power and energy analyzers and recorders.

Description

The Z13B current sensor combines rugged construction with simple handling and extraordinary electrical safety. Its superb handling is based upon ergonomic, one-hand operation, zero balancing at the press of a key and the handy housing design. The two LEDs contribute to ease of operation as well by indicating the correct measuring range selection and battery voltage. The shape of the jaws and their mechanical bearings make measurements possible at difficult to access measuring points: For example, the cable to be measured can be easily lifted with one of the jaws, and then reliably enclosed. The electrical design is in conformance with the most up-to-date international and national regulations. This applies to EMC regulations as well.

Applicable Regulations and Standards

IEC 61010-1/EN 61010-1/ VDE 0411-1	Safety requirements for electrical equipment for measurement, control and laboratory use
IEC 61010-2-32	Safety requirements for current transformers
VDI/VDE 3540	Reliability of measuring, control and regulating devices
EN 60529 VDE 0470 Part 1	Test instruments and test procedures Protection provided by enclosures (IP code)
EN 50081-1	Electromagnetic compatibility (EMC) Generic standard for interference emission
EN 50082-1	Electromagnetic compatibility (EMC) Generic standard for interference immunity

Characteristic Values

Meas. Range	A DC	A AC RMS	A Peak	Intrinsic Error	Transmission Function
I	0.4 ... 60	0.2 ... 40	0.2 ... 60	≤ 1.5% of range	10 mV/A
II	0.5 ... 600	0.5 ... 400	0.5 ... 600	≤ 2% of range	1 mV/A

Resolution 100 mA
 Bandwidth DC ... 1 kHz ... 10 kHz
 Imax 1000/frequency in kHz

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Current Sensor

Measuring Range	Display at Multimeter	Primary Current	Comment
I / 10 mV/A	004.00 mV	0.400 A	Minimal display
	010.00 mV	1.000 A	
	300.00 mV	30.00 A	Maximum display with mV
	0.4000 V	40.00 A	Maximum display in A AC
	0.6000 V	60.00 A	Maximum display in A DC
II / 1 mV/A	004.00 mV	04.00 A	
	010.00 mV	10.00 A	
	300.00 mV	300.0 A	Maximum display with mV
	0.4000 V	400.0 A	Maximum display in A AC
	0.6000 V	600.0 A	Maximum display in A DC

Reference Conditions

Ambient Temperature	+23 °C ±5 K
Relative Humidity	20 ... 75%, no condensation allowed
Measured Qty. Frequency	≤ 65 Hz
Measured Qty. Waveshape	sine
Nominal Bandwidth	DC ... 440 Hz
Battery Voltage	9 V ±0.1 V

Ambient Conditions

Operating Temp.	-10 °C ... +55 °C
Storage Temperature	-40 °C ... +80 °C (without batteries)
Relative Humidity	during operation: max. 75%, no condensation allowed in storage: max. 70%, no condensation allowed
Elevation	to 2000 m
Deployment	indoors only

Power Supply

Battery	9 V flat cell battery, alkaline manganese cell per IEC 6 LR 61
Service Life	approx. 50 hours

Electromagnetic Compatibility (EMC)

Interference Emission	EN 50081-1: 1992
Interference Immunity	EN 50082-1: 1992

Mechanical Design

Protection	housing: IP 30 per DIN VDE 0470 part 1/EN 60529
Dimensions	224 mm x 97 mm x 44 mm
Jaw Opening	for busbars: 50 mm x 10 mm, for round cable: 50 mm diameter
Connection	cable length: 1.6 m, 4 mm diameter contact-protected plug multimeter impedance: ≥ 1 MΩ, ≤ 100 pF
Weight	approx. 440 gr.

Standard Equipment

- 1 current sensor with connector cable
- 1 9 V block battery
- 1 operating instructions

Guarantee

1 year materials and workmanship

Order Information

Description	Type	Article Number
Clip-on current transformer with selectable current measuring ranges: 60/600 A DC and 40/400 A DC	Z13B	Z213B

Please refer to our *Measuring Instruments and Testers Catalog* for additional information concerning accessories.

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