

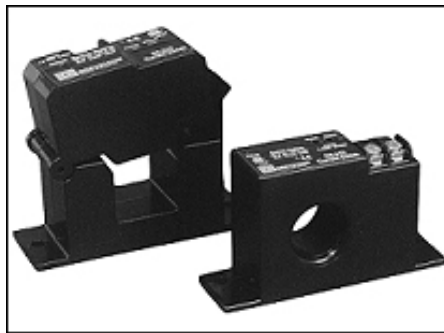
Current Sensor

Catalog Numbers 1414-CCZ10FZWZDC, 1414-CCZ10FZWZDD,
1414-CCZ10FZWZDE, 1414-CCZ10FZWZDA

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About the Current Sensor

These AC current sensors can be used to monitor fans, pumps, motor operation and failure, conveyor belt, bearing loss, and other electrical loads. The current sensor requires no external power supply since internal electronics are powered by the AC line induction being monitored with an output-limited voltage clamp <12V DC.



ATTENTION: Never open a current-transformer secondary circuit with primary current applied. Wiring between the CTs and the power monitor should include a shorting terminal block in the CT secondary circuit. Shorting the secondary with primary current present allows other connections to be removed if needed. An open CT secondary with primary current applied produces a hazardous voltage, which can lead to personal injury, death, property damage, or economic loss.

Important User Information

Solid-state equipment has operational characteristics differing from those of electromechanical equipment. Safety Guidelines for the Application, Installation and Maintenance of Solid State Controls (Publication [SGI-1.1](#) available from your local Rockwell Automation sales office or online at <http://www.rockwellautomation.com/literature/>) describes some important differences between solid-state equipment and hard-wired electromechanical devices. Because of this difference, and also because of the wide variety of uses for solid-state equipment, all persons responsible for applying this equipment must satisfy themselves that each intended application of this equipment is acceptable.





In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

No patent liability is assumed by Rockwell Automation, Inc. with respect to use of information, circuits, equipment, or software described in this manual.

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Throughout this manual, when necessary, we use notes to make you aware of safety considerations.

	WARNING: Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.
	ATTENTION: Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you identify a hazard, avoid a hazard and recognize the consequences.
	SHOCK HAZARD: Labels may be on or inside the equipment, for example, drive or motor, to alert people that dangerous voltage may be present.
	BURN HAZARD: Labels may be on or inside the equipment, for example, drive or motor, to alert people that surfaces may reach dangerous temperatures.
IMPORTANT	Identifies information that is critical for successful application and understanding of the product.

Install the Current Sensor

1. Disconnect and lock-out all power sources during installation as severe injury or death can result from electrical shock due to contact with high voltage conductors.

IMPORTANT Ensure all installations are in compliance with applicable electrical codes and that the installation is completed by qualified installers familiar with the standards and proper safety procedures for high-voltage installation.



ATTENTION: Never rely on status indicating devices only to determine if power is present in a conductor.

Excessive current can damage the sensor.

2. Install the Split-core over the conductor to be monitored and close the sensor until it latches, ensuring that the two halves are properly aligned.

Operation of the sensor is impaired if any dirt particles prevent good contact between the core pieces when the device is closed. Keep the sensor clean when it is opened.

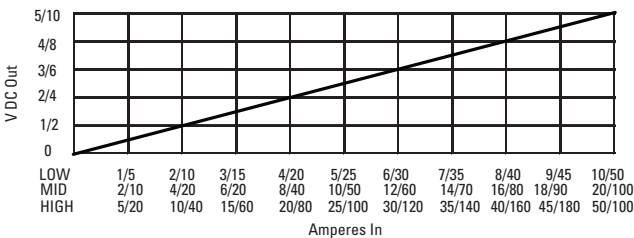
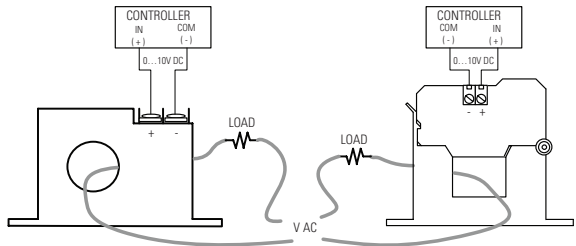
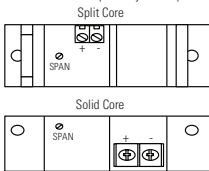
3. Mount the sensor in a suitable location by using the two mounting holes in the base of the unit.

The conductor may be looped more than once through the sensor to multiply the sensitivity, but this also divides the maximum currents. For example, on the 0...50 A scale, if the conductor is looped through twice, the maximum current is 25 A.

4. Connect the output circuit to the two screw terminals by using ring or fork type terminals.

Typical connections are shown in the wiring examples. Note polarity as indicated on the device label. To allow field calibration, all devices have easily-accessible calibration pots.

Note: Peel back label to expose adjustable pot



5. Jumper the amperage range selected from sensor label chart.

Remove the jumper for the None position. This example illustrates a 20 A mode.

Amperes	Jumper
0...50	HIGH
0...20	MID
0...10	NONE

Input Range

HIGH

MID



Specifications

Technical Specifications - Current Sensor

Attribute	1414-CCZ10FZWZDC, 1414-CCZ10FZWZDD, 1414-CCZ10FZWZDE, 1414-CCZ10FZWZDA
Power supply	Self-powered
Response time	100 ms (0...90%)
AC conductor hole	Split core - 24 mm x 19 mm (0.95 in. x 0.75 in.) Solid core - Ø20 mm (0.8 in.)
Output loading error (0...10V)	Calibrated with 1 MΩ load, add 1.2% error with 100 KΩ
Enclosure size	Split Core - 70 mm x 87 mm x 30 mm (2.75 in. x 3.45 in. x 1.2 in.) Solid Core - 49 mm x 87 mm x 25 mm (1.95 in. x 3.45 in. x 1.0 in.)
Operating temperature range	0...40 °C (32...104 °F)
Protection circuitry	Revers voltage protected and output limited
Wiring connections	Split Core - Screw terminal block (14...22 AWG) Solid Core - Barrier strip
Enclosure material	UL 94 V-0 flammability rated ABS, insulation class 600V
Output signal accuracy	0...5V DC and 0...10V DC (Better than ±1% FS on all three ranges)
Frequency	40...100 Hz
Certifications	cULus, RoHS compliant, CE certified

Current Sensors Amp Ranges

Model	Output	Amp Range	Max Amp
1414-CCZ10FZWZDC	0...10V DC	0...10	140
1414-CCZ10FZWZDD	0...10V DC	0...25	160
1414-CCZ10FZWZDE	0...10V DC	0...50	190
1414-CCZ10FZWZDA	0...10V DC	0...10, 0...20, 0...50	80, 120, 200

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