

Technical data

55XXA/COIL 50 50-Turn Current Coil

55XXA/COIL 10 1, 2, and 10-Turn Current Coil



55XXA Current Coils

The 55XXA/COIL 10 Current Coil is a 1-, 2-, 10-turn current coil expands workload coverage for calibrating clamp meters and ammeters. The 55XXA/COIL 50 Current Coil is a 50-turn current coil, which also expands workload coverage for calibrating clamp meters and ammeters. Both coils are optional accessories for the Fluke Calibration 5560A, 5550A and 5540A Multi-Product Calibrators.

Each coil, like the calibrators, is designed for continuous use at 30 A with a minimum duty cycle that improves calibration throughput as much as four times.

The coils include an accredited 17025 Calibration Certificate traceable to international standards with data.

Features at a glance

- Optional coils expand workload coverage
- Workload that includes clamp-type current meters and oscilloscope current probes
- Use with the 52120A Transconductance Amplifier to increase current output to 1000 A

Specifications

Comparing the 55XX/COIL 50 and the 55XXA/COIL 10		
Function	55XX/COIL 50	55XXA/COIL 10
Number of turns	50	1, 2, or 10
Maximum current	20 A rms, continuous 30.2 A rms, 5 minutes	30.2 A rms, continuous
Maximum duty cycle derating	<20 A, continuous >20 A, 50 % duty cycle	-
Maximum voltage, all inputs	30 V to earth	
Minimum inner diameter of clamp jaws	23 mm	1-Turn: 3 mm 2-Turn: 6 mm 10-Turn: 10 mm
Coil ratio	±0.65 %1, DC to 440 Hz. ¹	

¹ Includes coil/clamp interaction but does not include current source errors

Calculate total specification

The total specification of the effective current that the clamp meter measures is a function of the clamp/coil interaction and of the current calibrator. To determine the total specification, use this formula:

$$S_{\text{total}} = \sqrt{S_{\text{coil}}^2 + U_{\text{source}}^2}$$

Example

A Fluke Calibration 5560A calibrator supplies 13 A at 60 Hz to the 55XXA/COIL 50 generating an effective current of 650 A (50 x 13 A, 60 Hz). The 1-year specification of the Calibrator at 13 A is ±(0.07 % + 8 mA), which is equivalent to 0.13 % of the 13 A calibrator output. The total specification of the calibrator and the coil together as a percentage of the output:

Specification of calibrator current = ±0.13 %

Specification due to the Coil = 0.65 %

The RSS of these two specifications determines the total specification of the source/coil combination:

$$S_{\text{total}} = \sqrt{0.13^2 + 0.65^2} = 66\%$$

For higher frequencies or higher current levels, the compliance voltage may exceed 1 V. If the compliance voltage exceeds 1 V, then compliance adders must be added to the Calibrator specification.

Ordering information

Item #	Model	Description
5128219	55XXA/COIL 10	1, 2 and 10-Turn Current Coil
5128228	55XXA/COIL 50	50-Turn Current Coil

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Electrical

RF

Temperature

Humidity

Pressure

Flow

Software

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