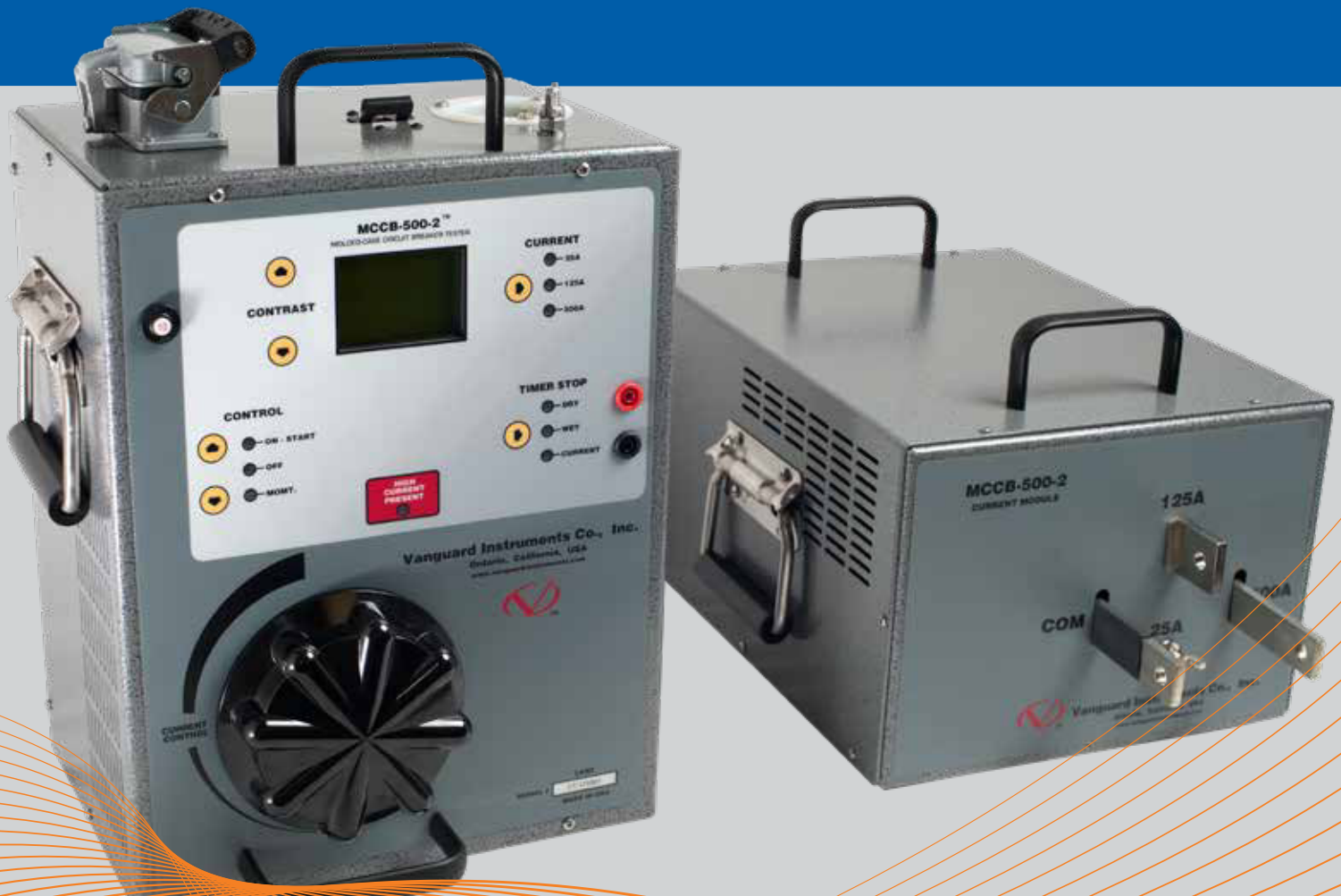
MCCB-500-2

molded case circuit breaker tester



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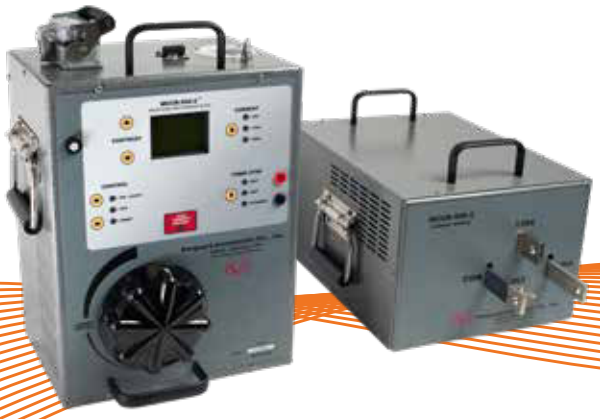

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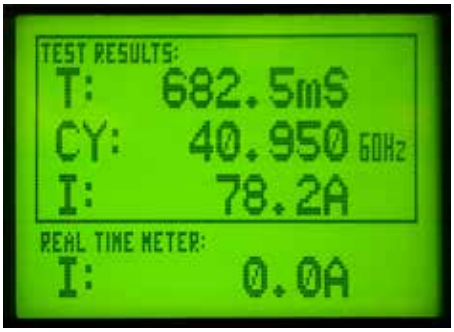
ordering information

Part No.	Description
9127-UC	MCCB-500-2 [110V] and cables
9128-UC	MCCB-500-2 [220V] and cables
9127-SCA	MCCB-500-2 current module shipping case
9127-SCB	MCCB-500-2 control module shipping case

Sample Test Results Screen



Product Overview

The Vanguard MCCB-500-2 is a microprocessor-based high current circuit breaker test set. This unit provides a variable high current source, control, metering, and timing circuitries for testing overload relays and thermal and magnetic circuit breakers. The MCCB-500-2 high output current source can also be used in other primary current injection applications.

Current Source

The MCCB-500-2's current source has 3 outputs: 500A @ 4 Vac, 125A @ 14Vac, and 25A @ 70Vac. The current sources can output short-duration overload conditions. This feature is convenient for performing instantaneous trip tests of molded case circuit breakers, or testing the time delay characteristics of magnetic overload relays.

Test current is measured and displayed on a 128 x 64 pixel back-lit LCD screen that is clearly visible in direct sun light or low light levels. Control switches are used to turn the current source on and off, select the timer stop input type (current mode, dry contact, or wet contact), and control the LCD contrast.

A "momentary" mode can turn on the current source, capturing the current reading and displaying the value on the LCD. This feature can be used to set the test current and minimizes the possibility of overheating the device under test.

Test current is turned on at the zero crossing point using a solid state device for reliability and precision timing.

Built-in Current Meter

The MCCB-500-2 features a built-in current meter that displays the test current (100mA - 3000A). Current reading accuracy is: ±1% of reading, ±2 digits. Test results (current reading and time) are retained after performing a test so that the test results can be reviewed. This is a convenient feature when used with the momentary mode to preset the test current to avoid overheating the circuit breaker.

Current Source Thermal Protection

Built in thermal sensor allows the microprocessor to monitor the transformer current source operating temperature.

Built-in Timer

The MCCB-500-2's built-in timer displays the test results in milliseconds and cycles. The cycle time (50 or 60 Hz) is selectable by the user. Timer reading range is from 0.1 ms to 2 hours. Timer resolution is 0.1 ms and the timer accuracy is ±0.1% of reading, ±0.1 ms.

Timer Start Mode: Timer can be started when the current source is turned on or off.

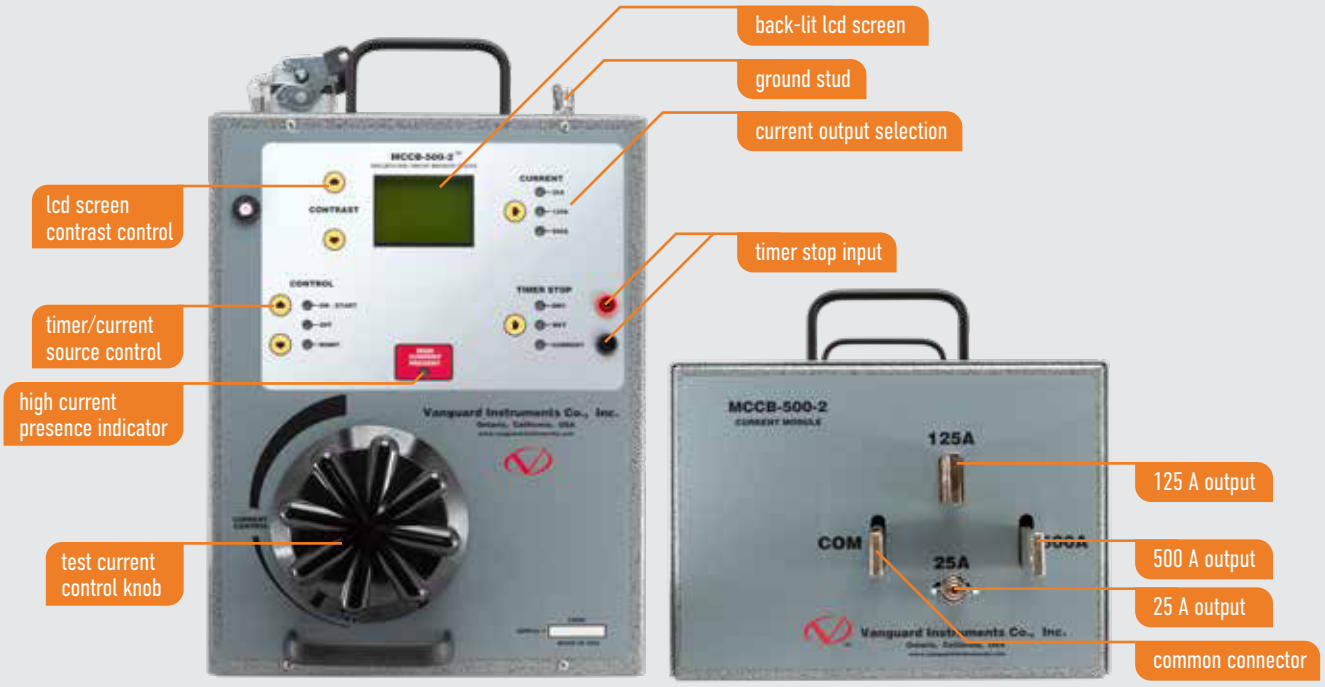
Timer Stop Mode: Timer can be stopped with the removal of the test current or detection of a status change of dry contact or voltage input.

Output Current and Duration Table

percentage rated current	max on time	max off time
40% (200 A)	continuous	continuous
100% (500 A)	30 minutes	30 minutes
200% (1,000 A)	5 minutes	15 minutes
400% (2,000 A)	30 seconds	5 minutes
500% (2,500 A)	3 seconds	5 minutes

NOTE: The MCCB-500-2 is capable of delivering 2,500 A instantaneous current.

MCCB-500-2 Features



MCCB-500-2 technical specifications

physical specifications	**Control Module** **Dimensions:** 12"W x 16.25"H x 10"D (30.5 cm x 41.3 cm x 25.4 cm) **Weight:** 32 lbs. (14.5 Kg)	**Current Supply Module** **Dimensions:** 12"W x 10"H x 17.25"D (30.5 cm x 25.4 cm x 43.8 cm) **Weight:** 67 lbs. (30.4 Kg)	
internal current meter	1 A – 3,000A; accuracy: 1% of reading, ±2 digits	**input voltage**	100 – 120 Vac or 200 – 240 Vac (factory-pre-set), 50/60 Hz
timer stop inputs	voltage input (20V – 300V, dc or peak ac), dry contact input, or removal of test current	**measurement method**	isolated CT
display	back-lit LCD screen (128 x 64 pixels); viewable in bright sunlight and low light levels	**timer reading range**	0.1ms – 2 hours (also displayed in cycles); accuracy: 0.1% of reading, ±0.1ms
humidity	90% RH @ 40°C (104°F) non-condensing	**output currents**	**500A** @ 4V, **125A** @ 14V, **25A** @ 70V
temperature	**Operating:** -10°C to +50°C (+15°F to +122°F) **Storage:** -30°C to +70°C (-22°F to +158°F)	**instantaneous current**	**2,500A**
cables	two 6-foot (1.8m) #4/0 current cables, two 6-foot (1.8m) #1/0 current cables, two 10-foot (3m) 8 AWG external timer input cables with alligator clips, one Control Module to Current Module connection cable, one ground cable, one power cord, two 10-foot (3m) Timer+Sense Cables		
furnished accessories	shipping case	**safety**	designed to meet IEC61010 (1995), UL61010A-1, CSA-C22.2 standards
altitude	2,000 m (6,562 ft) to full safety specifications	**warranty**	one year on parts and labor

NOTE : the above specifications are valid at nominal voltage and ambient temperature of +25°C (+77°F). Specifications are subject to change without notice.

Instruments designed and developed by the hearts and minds of utility electricians around the world.

Founded in 1991 and located in Ontario, California, USA, Vanguard Instruments™ offers a wide range of diagnostic test equipment that accurately and efficiently measures the health of critical substation equipment, such as transformers, circuit breakers, and protective relays.

Our first product was a computerized, extra high voltage (EHV) circuit breaker analyzer, which became the forerunner of an entire line of EHV circuit breaker test equipment. Over the years, our portfolio has grown tremendously to include microcomputer-based precision micro-ohmmeters; single- and three-phase transformer winding turns-ratio testers; transformer winding-resistance meters; mega-ohm resistance meters; and a variety of other application-specific products.

Our instruments are rugged, reliable, accurate, and user friendly. They eliminate tedious and time-consuming operations, while providing fast, complex test-result calculations. Using our equipment helps reduce errors and eliminates the need to memorize long sequences of procedural steps.

In 2017, Vanguard Instruments became a part of Doble Engineering Company, an energy industry leader in hardware, software, and services that diagnose and monitor the health of critical assets.

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