

ARFD-200

HIGHEST ACCURACY & LOWEST COST



Relay Testing

ARFD-200

AC and DC Voltage Source

AC Current Source


Auxiliary AC/DC Power Supplies

Power Resistors

Digital Timer

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The ARFD-200 is a portable relay test set that delivers performance verification testing of electromechanical, electronic, and microprocessor based protective relays in their operating installations. The ARFD-200 is a rugged test set suitable for testing a variety of protection relays operated in both indoor and outdoor environments. The unit's ergonomic design and intuitive control panel layout make it ideal for first-time users who have little or no training.

Built-in Digital Timer

The ARFD-200's digital timer features independent start and stop trigger inputs designed to measure the time between event transitions and to display the elapsed time in both milli-seconds and cycles. The ARFD-200's timer has three different trigger inputs; Internal Trigger, Dry-Contact, or Wet-Contact. The Internal Trigger can start or stop the timer by sensing the application or removal of the unit's voltage or current source.

The Dry-Contact can trigger the timer by detecting a change in state of the dry-contact input. Similarly, the Wet-Contact can trigger the timer by detecting a change in state of the voltage input. Thus, the three inputs can trigger the timer by the presence or removal of the unit's voltage or current source or by changes in voltage or current states.

AC Current Source

An AC current source with three outputs (10A, 40A, and 100A) provides test current to relays. The current source output can be programmed to synchronize with the ARFD-200's timer. After a test is completed, the test current reading is latched and displayed on the LCD screen. This feature reduces the possibility of overheating the relay coils.

Auxiliary Output Contact

A set of NO/NC dry contacts change state when a test is initiated.

AC Voltage Source

An AC voltage source is available for testing relays up to 250 Vac. The AC voltage source output can be programmed to synchronize with the ARFD 200's timer.

DC Voltage Source

A 0 – 300 Vdc voltage source is also available. The DC voltage source can also be programmed to synchronize with the ARFD-200's timer.

Volt Meter

One volt meter input (0 to 600 V input range) is available on the ARFD-200.

Ampere Meters

The test current is displayed on the unit's backlit LCD

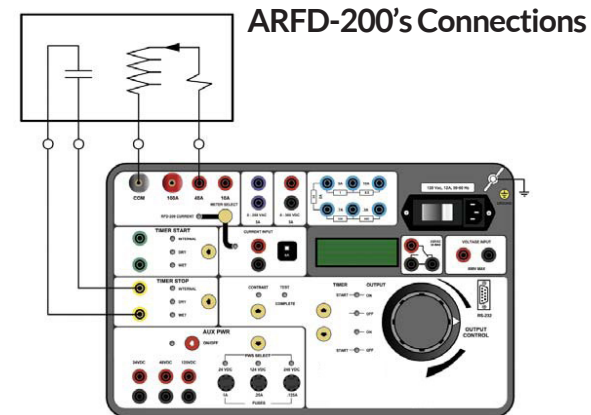
screen that is viewable in both bright sunlight and low-light levels. The current measuring range is from 0.00 to 250 A. A second ampere meter is also available and can be used to read an external current input. The external current input is rated at 6 A max and is protected by a circuit-breaker.

Auxiliary AC/DC Power Supplies

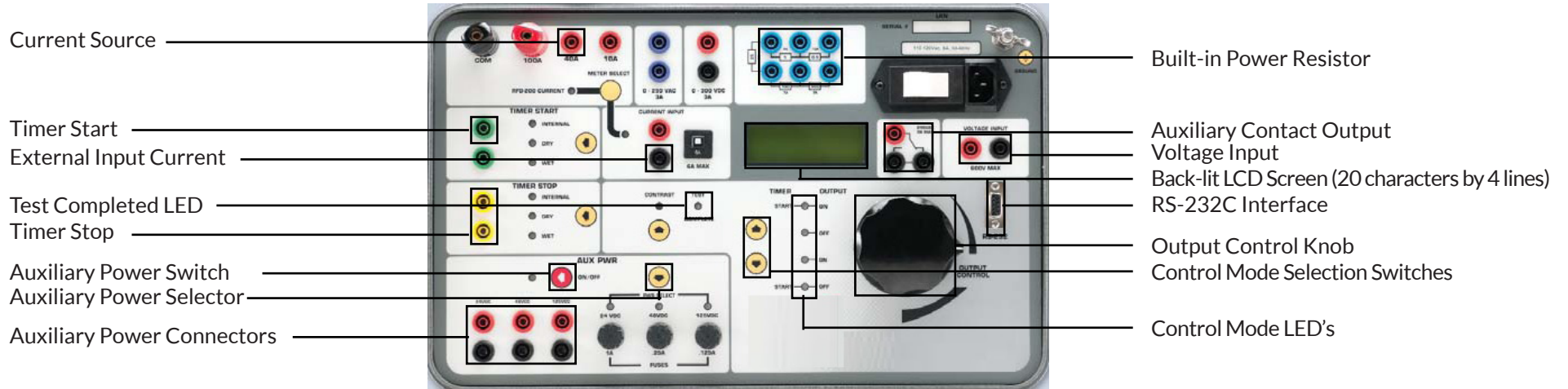
The ARFD-200 provides three power supplies (24 Vdc, 48 Vdc and 124 Vdc) for powering solidstate or microprocessor-based relays.

Built-in Power Resistors

The ARFD-200 features built-in power resistors for fine current adjustment.



ARFD-200's Controls



ARFD-200's Specifications

Type	Portable relay test set
Physical specifications	17"W x 12½"H x 12"D, (42.7 cm x 32.0 cm x 30.5 cm); Weight: 35 lbs (15.9 kg)
Input power	100 - 120 Vac or 200 - 240 Vac (factory pre-set), 50/60 Hz
Ampere meter input ranges	Internal input range: 0 - 250 A; Accuracy: 2% of reading ±10 mA, External AC input range: 0 - 6A; Accuracy: 1% of reading ±10mA; External DC input range: 0 - 6A; Accuracy: 0.5% of reading ±1 count Measurement Method: True RMS for AC
Voltmeter input range	0 - 600.0V; AC accuracy: 1% of reading ±1 count; DC accuracy 0.5% of reading ±1 count
Power resistors	Measurement Method: True RMS for AC
Dry contact output	5 Ω/50 W, 1 Ω/50 W, 25 Ω/50 W, 100 Ω/50 W, 500 Ω/50 W
Auxiliary power supplies	3A, 240 Vac or 120 Vdc 24 Vdc @ 1 A, 48 Vdc @ 0.25 A, 124 Vdc @ 0.125 A
Safety	Designed to meet IEC61010 (1995), UL61010A-1, CSA-C22.2 standards
Environment	Operating: -10°C to +50°C (+15°F to +122°F); Storage: -30°C to +70°C (-22°F to +158°F)
Humidity	90% RH @ 40°C (104°F) non-condensing
Altitude	2,000 m (6,562 ft) to full safety specifications
Optional accessories	Transportation case
Warranty	1 year on parts and labor

Timer Second Display (in seconds and cycles - 50/60 Hz programmable)			Timer Cycles Display		
range	resolution	accuracy	range	resolution	accuracy
0 to 9,999 sec	1 ms	±(1 ms + 0.01%)	0 to 9,999 sec	1 ms	±(1 ms + 0.01%)
10.00 to 99.99 sec	10 ms	±(10 ms + 0.01%)	10.00 to 99.99 sec	10 ms	±(10 ms + 0.01%)
100.00 to 999.999 sec	100 ms	±(100 ms + 0.01%)			

AC Current Output				
range	no-load voltage	load voltage	load current	load/unload time
10A	90 Vac	75 Vac	10A	2 min / 15 min
40A	25 Vac	20 Vac	40A	1 min / 15 min
100A	10 Vac	7.5 Vac	100A	1 min / 15 min
100A	10 Vac	3 Vac	250 ms	1 sec / 5 min

AC or DC Voltage Output				
range	no-load voltage	load voltage	load current	load/unload time
250 Vac	260 Vac	240 Vac	3A	10 min / 45 min
300 Vcc	300 Vdc	250 Vdc	2A	10 min / 45 min

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