



## Features

- Rugged industrial case with handle
- Easy-to-read LCD display, simple operation
- High accuracy peak reading circuit
- Wide 10-1000 V test range
- Precise auto-sensing shutoff
- Built-in 5-pin socket for in-line resistance measurement

## Applications

- Suitable for testing:
- Gas tubes
- Carbon gaps
- MOVs
- Zener and avalanche diodes
- Thyristor devices
- Finished surge protection products

## 4030-0x - Surge Protector Test Set

### Description

BOURNS® Model 4030-0x Surge Protector Test Set is a handheld, battery-operated tester designed to measure the clamping voltage and DC breakdown voltage of most surge protective devices. The Model 4030-0x is suitable for testing gas tubes, carbon gaps, MOVs, Zener and avalanche diodes and thyristor devices, both as components and as complete protectors.

The Model 4030-0x is a true slow-rise tester because it does not use a pulse transformer. It contains unique test circuitry and a precise 1 mA detector. As soon as 1 mA is conducted through clamping type devices such as MOVs and avalanche diodes, the control circuit removes the test voltage from the output terminals and displays the clamping voltage on the meter. A low energy capacitive circuit will discharge through crowbar type protectors such as gas tubes and carbon blocks, and trigger the detector. The breakdown voltage will be displayed and the test voltage removed.

### Operation

Internal switches for ramp speed circuit types are accessed by removing the back cover. They are to be set for the intended application: 200 V/s for laboratory tests or QC type approvals; 1000 V/s for high-speed testing or sorting. (Factory default is 1000 V/s.) Pushing the test button applies a linear ramp to the device under test. Sensing circuitry automatically terminates the test when either the DC breakdown or 1 mA clamping voltage is reached. The test value is maintained on the LCD display until the test button is released.

### Specifications

Open Circuit Voltage Rate of Rise.....	200 V/s or 1000 V/s
Maximum Tested Output Voltage.....	1000 V
Useable Measuring Range .....	10-1000 V
Test Current for Clamping Devices.....	1 mA $\pm 10\%$
Test Current for Crowbar Devices .....	>1 A
In-line Resistance Measurement 1 .....	<150 ohms (Open is >150 ohms)
Operating Temperature.....	0 to +50 °C
Storage Temperature.....	-10 to +60 °C
Measurement Accuracy .....	0.5 %
Power Source .....	2 alkaline batteries - NEMA type 1604A
Battery Life (Based on usable reading up to 750 V)	
Alkaline .....	>1,500 tests
Lithium .....	>3,000 tests
Shipping Weight .....	3 lbs.
Warranty .....	2 years

#### Notes:

- For P-type thyristor protectors, breakdown voltage  $V_{BO}$  occurs at the device Zener voltage  $V_Z$ . Therefore, the tester will measure actual  $V_{BO}$ .
- For N-type thyristor protectors, breakdown voltage  $V_{BO}$  is higher than the Zener voltage  $V_Z$ . For these devices, the tester will measure  $V_Z$ .

1 Available only when using the 5-pin socket, TIP<sub>in</sub> to TIP<sub>out</sub>, RING<sub>in</sub> to RING<sub>out</sub>.

Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.

## Additional Features

- Individual buttons for complete testing between all terminals and polarities
- Linear voltage ramp, selectable for 200 V/s or 1000 V/s operation
- Wide range of adapters for standard protector types

## 4030-0x - Surge Protector Test Set

**BOURNS®**

### Product Dimensions (Approximate, Rounded up to the Nearest 0.1 Inch)



Width ..... 8.25 "  
Length ..... 6.50 "  
Depth ..... 3.50 "  
Depth with Lid Open ..... 9.25 "

### How To Order

**4030 - 0X - Y**

**Model Number Designator** \_\_\_\_\_

**Tester Configuration** \_\_\_\_\_

01 = Standard Tester with 800 V (1000 V Max.)  
02 = Low Voltage Tester with 200 V (250 V Max.)

**Mounting Configuration** \_\_\_\_\_

(Blank) = Portable  
W = Wall Mount / Frame Mount

**NOTE:** Uses two 9 V NEMA Type 1604A alkaline batteries. Lithium batteries may be used for longer test life.

Due to shipping regulations, factory may not install lithium batteries. Please see the manual for battery installation instructions.

#### Part No.      Accessories Included

4030-01/	
4030-02	Portable –
	2 each P/N 30503-03
	1 each P/N 30503-04
4030-01-W/	
4030-02-W	Wall Mount (DIN-Rail type) –
	1 each P/N 50502-01
	2 each P/N 30503-03
	1 each P/N 30503-04

#### Part No.      Available Separately

30503-01	Test Cable w/Alligator Clip – 48-inch - Red
30503-02	Test Cable w/Alligator Clip – 48-inch - Black
30503-03	Test Cable w/Alligator Clip – 24-inch - Red
30503-04	Test Cable w/Alligator Clip – 24-inch - Black
50502-01	120 Vac to 18 Vdc Adapter
72288	Adapter for 2-pole Gas Tubes, Fits 6 and 8 mm diameter Gas Tubes and most Carbon Block Protectors
72289	Adapter for 3-pole Gas Tubes with Leads on 4.4, 4.7 and 6.4 mm centers
72292	1-pin to 5-pin Adapter
72293	4-pin to 5-pin Adapter

REV. B 04/14

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