

# MODEL AC-30B and AC-30BH

## Digital Mains Frequency AC Spark Tester

- Split electrode design for easy string-up
- DSP based voltage regulation and differentiation of four fault-types
- Bright LED display removable (up to 200 feet away, with optional cable)
- Voltage Watchdog
- Automatic calibration with Clinton STCAL system
- Communications: Modbus RTU via RS-485 Analog, Optional: Ethernet/IP, Modbus TCP, Profibus, Profinet, DeviceNET

The Clinton model AC-30B Mains Frequency AC Spark Tester combines the latest in technology and innovative features for spark testing of insulated wire and cable products.

Using DSP based fault typing, the AC-30B can differentiate between four fault conditions: pinhole, direct metal contact, multi-pinhole and gross bare wire.

The AC-30B split electrode design provides an easy way to string-up wire through the electrode, guaranteeing precise center alignment for the most effective and reliable testing.

The AC-30B can be quickly configured through a simple configuration menu on the alphanumeric display. During spark testing, critical data such as test voltage, percent load, and fault counts for each fault type can be easily accessed. Additionally, descriptive codes inform the operator when there is an error. For example, when the protective electrode cover is open.

The display module can be mounted to the unit as shown, or can be installed up to 200 feet away, with an optional longer interconnecting cable.

The AC-30B features a flexible front panel password security, locking out unauthorized changes to test voltage and other settings.



AC-30B shown with horn light tower and floor stand, both included with system.

The AC-30B can connect to a PLC with Modbus RTU via RS-485 full duplex or discrete Analog signals. Optional industrial protocols are supported, including DeviceNET, Ethernet/IP, Profinet, Profibus, and Modbus TCP

One form-C and three form-A relay contacts are located on the rear panel for easy connection to external alarms, lights, or machinery controlled by the spark tester. Relay function may be selected from options including: high voltage ON indication, fault alarm, bare wire alarm, and voltage watchdog (when enabled, the equipment will alert when a preset upper or lower voltage is exceeded).

Output Voltage can be automatically calibrated to IEC/CEI 62230, EN 50356, UL, and NEMA standards with the Clinton's STCAL system.

\* The AC-30BH model is used for products that place a heavy capacitive load on the system. Contact the factory for additional details.

**Clinton**  
INSTRUMENT COMPANY

# AC-30B & AC-30BH SPECIFICATIONS

**Voltage Test Range:** Approximately 1kV to 30kV RMS, depending on electrode type and product under test.

**Voltage Accuracy** +/- 2% of reading

**Test Frequency** Mains frequency 50 or 60Hz

**Output Power** 6mA Resistive

**Fault Indication** White 3-digit 20.32mm high LED display, amber fault indicating LED

**Fault Resolution** Variable with electrode length or directly configurable from 2 milliseconds to 2 seconds

**Detection Sensitivity** Conforms to IEC 62230

**Operating Modes** Continuous HV/remove voltage on fault, momentary process control/latch until reset

**Relay Outputs** 1 Form C, 3 Form A / Configurable Functionality  
Relay contacts rated 1A max @ 240VAC or 2A max @ 120VAC for both NO and NC circuits. Front panel or external reset. In non-latch modes, closure time is adjustable in 10 millisecond increments from 50 milliseconds to 2 ½ seconds

**Power Requirements** 120 or 240VAC 49-61 Hz. (automatically internally switched)  
Optional 100 or 200VAC, 2amps, 49-61Hz.

**Safety** Designed to IEC-1010

**Communications** Modbus RTU via RS-485, Analog

**Optional** Ethernet IP, Modbus TCP, Profibus, Profinet, Device NET

### Standard Bead Chain Electrodes (for Additional Electrodes, Contact Factory)

BD-A230 Bead Chain Assembly 2" Product Diameter, 30" along the wire line.

BD-A236 Bead Chain Assembly 2" Product Diameter, 36" along the wire line.

BD-A406 Bead Chain Assembly 4" Product Diameter, 6" along the wire line.

BD-A412 Bead Chain Assembly 4" Product Diameter, 12" along the wire line.

BD-A418 Bead Chain Assembly 4" Product Diameter, 18" along the wire line.

BD-A424 Bead Chain Assembly 4" Product Diameter, 24" along the wire line.

BD-A506 Bead Chain Assembly 5" Product Diameter, 6" along the wire line.

BD-A512 Bead Chain Assembly 5" Product Diameter, 12" along the wire line.

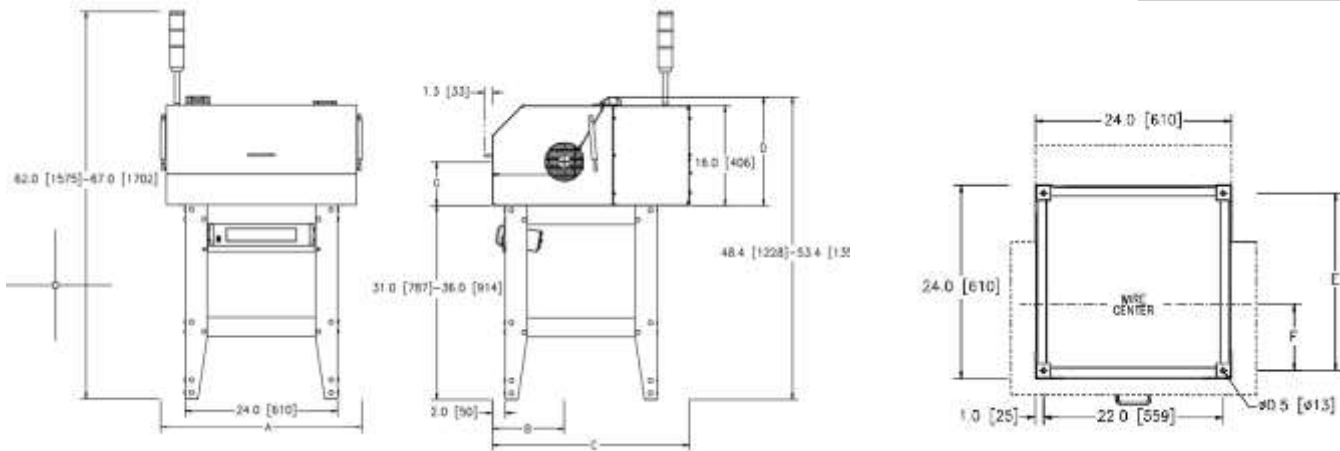
BD-A806 Bead Chain Assembly 8" Product Diameter, 6" along the wire line.

BD-A812 Bead Chain Assembly 8" Product Diameter, 12" along the wire line.

### Dimensions for AC-30B with RC Display Mounted

### Rack Mounted RC

A 19.0" [483 mm]  
B 1.8" [46 mm]  
C 3.5" [89 mm]  
D 11.2" [285 mm]  
E 1.8" [45 mm]  
F 3.1" [79 mm]



For additional dimension information please contact the factory for model specific outline dimension drawings.

Measurements												
Product size: Max 2" diameter												
Model:	A	B	C	D	E	F	G	Electrode Length	UL 60Hz	UL 50Hz	EN 50356/IEC 62230	
BD-A230	49.7 [1263]	11.3 [286]	31.00 [787]	17.4 [441]	22.0 [559]	8.3 [211]	7.0 [178]	30 [762]	1000rpm, 305mpm	833rpm, 254mpm	3000rpm, 914mpm	
BD-A236	49.7 [1263]	11.3 [286]	31.00 [787]	17.4 [441]	22.0 [559]	8.3 [211]	7.0 [178]	36 [914.4]	1200rpm, 368mpm	1000rpm, 306mpm	3600rpm, 1104mpm	
Product size: Max 4" diameter												
BD-A406	31.7 [806]	11.3 [286]	31.00 [787]	17.4 [441]	22.0 [559]	8.3 [211]	7.0 [178]	6 [152.4]	200rpm, 61mpm	167rpm, 51mpm	600rpm, 184mpm	
BD-A412	31.7 [806]	11.3 [286]	31.00 [787]	17.4 [441]	22.0 [559]	8.3 [211]	7.0 [178]	12 [304.8]	400rpm, 122mpm	333rpm, 102mpm	1200rpm, 368mpm	
BD-A418	31.7 [806]	11.3 [286]	31.00 [787]	17.4 [441]	22.0 [559]	8.3 [211]	7.0 [178]	18 [457.2]	600rpm, 183mpm	500rpm, 153mpm	1800rpm, 552mpm	
BD-A424	49.7 [1263]	11.3 [286]	31.00 [787]	17.4 [441]	22.0 [559]	8.3 [211]	7.0 [178]	24 [609.6]	800rpm, 245mpm	667rpm, 204mpm	2400rpm, 736mpm	
Product size: Max 5" diameter												
BD-A506	31.7 [806]	12.6 [320]	34.6 [880]	19.6 [498]	30.5 [775]	9.6 [244]	7.4 [187]	6 [152.4]	200rpm, 61mpm	167rpm, 51mpm	600rpm, 184mpm	
BD-A512	31.7 [806]	12.6 [320]	34.6 [880]	19.6 [498]	30.5 [775]	9.6 [244]	7.4 [187]	12 [304.8]	400rpm, 122mpm	333rpm, 102mpm	1200rpm, 368mpm	
Product size: Max 8" diameter												
BD-A806	31.7 [808]	15.9 [405]	39.5 [1004]	21.9 [555]	30.5 [775]	12.9 [327]	8.7 [221]	6 [152.4]	200rpm, 61mpm	167rpm, 51mpm	600rpm, 184mpm	
BD-A812	31.7 [808]	15.9 [405]	39.5 [1004]	21.9 [555]	30.5 [775]	12.9 [327]	8.7 [221]	12 [304.8]	400rpm, 122mpm	333rpm, 102mpm	1200rpm, 368mpm	

