

# MODEL DC-1/10/20AC & AR

## Digital D.C. Spark Tester Series

- >> Reliable D.C. spark testing at any speed
- >> Versatile control configurations
- >> Available in 1, 10KV and 20KV Models
- >> Test voltages from 50v
- >> Digital voltage and fault count displays
- >> Wide range of electrode styles
- >> CE approved



DC-AC/BD-14

The DC-AC/AR, Clinton's new versatile Digital D.C. Spark Tester series, will fit almost anywhere on the wire line. The DC-AC/AR, offering 1, 10 and 20KV models, represents the latest advancement in spark tester design and manufacture.

The DC-AC/AR can work either as a standalone spark tester or as part of a fully process-controlled quality system. It is available as a compact All-in-One system, or it may be configured in two pieces: a separate 19" display and a remote spark tester located as far as 200 feet away.

Equipped with a 4" long bead chain electrode, the spark tester meets UL444 test standards for communications cables at virtually any line speed.

Digital test voltage and fault count displays are vivid and easy to read. For operator protection, a safety interlock switch removes high voltage when the electrode cover is lifted. Wiring and setup are done externally-- there is no need to open up the unit. Membrane switches on the display panel allow the operator to configure the spark tester for respooling or extrusion modes and to set the length of time that process control relay contacts are energized after a fault occurs. The form C relay contacts are accessible on a rear panel connector for easy wiring to external

alarms, lights or machines that are to be controlled by the spark tester.

### The DC-AC

The spark tester is an All-in-One configuration-- display panel and spark tester-- with an RS-485 serial interface. Spark tester voltage can be set or verified, the fault count and interlock status can be monitored, and many other tasks can be performed by customer supplied computer or PLC.

### The DC-AR

This configuration is a remote spark tester (without a display) with an RS-485 serial interface that can receive and respond to digital commands from a customer supplied computer or PLC.

### The DC-AR with ARC Remote Display

This arrangement allows the ARC Remote Display to be rack or panel-mounted. An RS-485 serial interface is standard on the ARC.

### The DC-1AC/AR - Low Voltage Digital DC Spark Tester

The DC-1AC/AR is typically used with a high density high brush contact electrode for maximum coverage at low voltages. Test voltages are accurate from approximately 50 volts to 1000 volts DC and are non-destructive. Please contact the factory- regarding your application.



DC-AC/BD-14  
with optional X3A Horn/Light Tower



DC-AR/BD-14  
with the ARC  
Remote Display



DC-AR/BR-1A

(Computer shown in photos not included nor offered by CIC.)

# DC-AC/AR SPECIFICATIONS

## Voltage Test Range:

- DC-1AC/AR ..... 50v to 1KV (minimum voltage varies on electrode design.)
- DC-10AC/AR ..... 500v to 10KV (minimum voltage varies on electrode design.)
- DC-20AC/AR ..... 500v to 20KV (minimum voltage varies on electrode design.)

## Output Current:

- DC-1AC/AR ..... 2 milliamperes.
- DC-10AC/AR ..... 1.5 milliamperes maximum.
- DC-20AC/AR ..... 0.75 milliamperes maximum.

Fault Indication ..... red 3-digit 14.2mm high LED display; amber indicating light.

Fault Response ..... Less than 1 millisecond.

Fault Resolution ..... 1.5 milliseconds.

## Detection Sensitivity

- DC-1AC/AR ..... 200  $\mu$ a. at 1000v.
- DC-10&20AC/AR ..... Less than 600  $\mu$ a. at 5KV.

Operating Modes ..... Continuous HV/Remove HV on Fault. Momentary Process Control/Latch until Reset.

Process Control ..... Relay, form "C" contacts rated 1 amp max @ 240VAC, 2 amps max @ 120VAC, for both NO and NC circuits.

Power Requirements ..... 100 to 240VAC 1 amp, 49-61 Hz. Power supply is self-adjusting.

Communications ..... RS-485 Serial Interface; Analog (optional); Ethernet (optional); Profibus (optional).

Safety ..... CE Approved  
Designed to IEC-1010

# DC-AC/AR ELECTRODES

## Bead Chain Assemblies (DC-10&20AC/AR only) :

- BD-12 ..... Bead Chain Assembly 1" Product Diameter, 2" along wire line.
- BD-13 ..... Bead Chain Assembly 1" Product Diameter, 3" along wire line.
- BD-14 ..... Bead Chain Assembly 1" Product Diameter, 4" along wire line.
- BD-15 ..... Bead Chain Assembly 1" Product Diameter, 5" along wire line.
- BD-22S ..... Bead Chain Assembly 2" Product Diameter, 2" along wire line.

## Brush Assemblies:

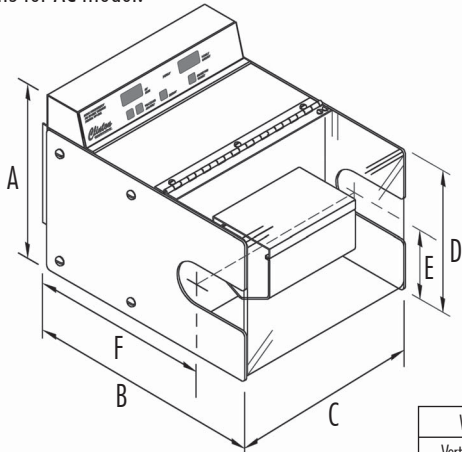
- BR-1A ..... Brush Assembly Phosphor Bronze 1" Product Diameter.
- BR-1ALZ ..... Brush Assembly Phosphor Bronze 1" Product Diameter, 10KV max.
- BR-3A ..... Brush Assembly Phosphor Bronze 3" Product Diameter.
- BR-3ALZ ..... Brush Assembly Phosphor Bronze 3" Product Diameter, 10KV max.
- BRTC-6LZ ..... Brush Assembly Tape Cable 6", 10KV max.
- BRTC-12LZ ..... Brush Assembly Tape Cable 12", 10KV max.
- FB-12 ..... Fiberlite Brush Assembly.

## Roller Assemblies:

- R-46 ..... Roller Assembly .25" (6mm) max. Product Thickness, 6" (150mm) Product Width.

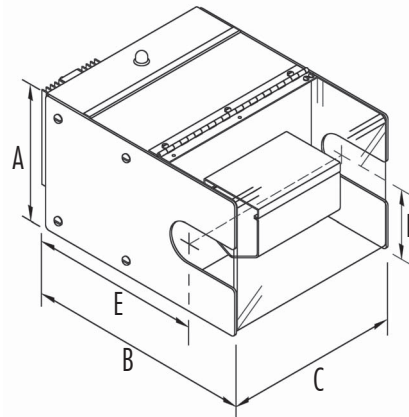
Please consult factory for help in choosing equipment for specific applications.

## Measurements for AC model.



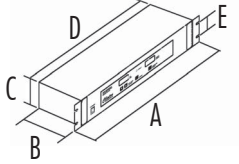
	A	B	C	D	Wireline Center	
					Vertical	Horizontal
BD-12, 13, 14, BR-1A, BR-1ALZ, FB-12	9.50" [241.2mm]	13.16" [334.3mm]	11.52" [292.6mm]	7.50" [190.4mm]	3.75" [95.3mm]	10.00" [254.0mm]
BD-22S	10.50" [292mm]	15.41" [392mm]	11.59" [294.3mm]	8.52" [216.3mm]	4.28" [108.7mm]	11.00" [279.4mm]
BD-15	11.43" [290.2mm]	16.31" [414.2mm]	12.53" [318.3mm]	9.44" [239.6mm]	4.72" [119.9mm]	11.45" [290.4mm]
BR-3A, BR-3ALZ	11.43" [290.2mm]	17.81" [452.3mm]	12.53" [318.3mm]	9.44" [239.6mm]	Call Factory for Details	
BRTC-6	11.52" [292.6mm]	19.08" [484.5mm]	12.53" [318.3mm]	9.62" [244.2mm]	Call Factory for Details	

## Measurements for models AR with optional ARC.



	A	B	C	D	E
BD-22S	10.50" [292mm]	15.41" [392mm]	11.59" [294.3mm]	4.28" [108.7mm]	11.00" [279.4mm]
BD-15	11.43" [290.2mm]	16.31" [414.2mm]	12.53" [318.3mm]	4.72" [119.9mm]	11.45" [290.4mm]
BR-3A, BR-3ALZ	11.43" [290.2mm]	17.81" [452.3mm]	12.53" [318.3mm]	Call Factory for Details	
BRTC-6	11.52" [292.6mm]	19.08" [484.5mm]	12.53" [318.3mm]	Call Factory for Details	

## ARC display dimensions.



A	19.00"
B	5.75"
C	3.50"
D	17.00"
E	1.75"
Wireline Center	
Vertical	
Horizontal	

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Specifications subject to change without notice. 2/07 EN