

# CAP CHECK® CAPACITOR TESTERS

## Capacitor Testers

Cap Check I



### DESCRIPTION

The **Cap Check** capacitor testers are designed to identify internal problems within a capacitor or bank of capacitors. The instruments are proven to be a valuable asset in maintaining pole-mounted and substation capacitors. Due to incipient faults, a capacitor may fail or rupture upon re-energizing. During product development, it was determined that a minimum of 50 volts must be applied across a capacitor to detect incipient faults due to shorting

between individual plates. All Cap Check's allow for testing

from 50 to 480 volts AC.

- **Cap Check I** is designed to test pole-mounted capacitors. It mounts directly on a truck or trailer and requires 12-volt external power.
- **Cap Check II** is designed to test substation racks of capacitors. It is housed in a case with handles or on a dolly and requires 120-volt external power.
- **Cap Check III** is designed to test pole-mounted capacitors or individual capacitors disconnected from a substation bank. It is smaller and includes hooks for hanging on the side of a bucket and requires 120-volt external power.



Cap Check II

### BENEFITS

- Quickly and easily test capacitors for incipient faults, failures and ruptures in capacitors without disconnecting individual capacitors
- Keep more capacitors in service by identifying failing or partially failing capacitors
- Increase safety by identifying potentially hazardous conditions
- Prevent costly clean-ups when capacitors fail
- Determine the "true" internal condition of capacitors by impressing voltage (up to 480 volts) across each capacitor (**Note:** many handheld instruments cannot identify certain problems within capacitors)
- Eliminate unnecessary replacement of good capacitors
- Properly test new capacitors on receipt from factory
- Quickly enable field or lab tests of either individual capacitors or capacitors in banks to confirm proper operation
- Replace forced outages caused by capacitor failures with preventative maintenance
- Portable unit speeds testing and increases flexibility
- Provides accurate measurement & excellent repeatability



Cap Check III

Made in the USA



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# CAP CHECK I

## For Checking Capacitors On Distribution Lines

**Cap Check I** (Cat. No. CC-I) is designed for testing pole-mounted capacitors in the field. It requires 12-volt DC power from a truck, generator or battery. A two-man crew can check a 12 can capacitor bank in about 20 minutes. No other method tests so quickly and effectively to enable the crew to determine the true on-site condition of the capacitor.

**Cap Check I** consists of two units:

1. a weatherproof metal control cabinet which houses the power inverter and monitoring equipment (photo at right shows open view of panel displaying digital voltmeter, variac control knob, inverter output meter, 100 amp circuit breaker, energizing cord outlet and DC polarity lights).
2. a non-metallic probe/ammeter for bucket mounting. This unit is used by the lineman in the bucket to take the readings of the individual capacitors.

Includes a 50-foot (15 m) yellow jacketed energizing cord. The cordage has heavy-duty 100 amp insulated clamps for energizing the capacitor bank.

### SPECIFICATIONS

The **Cap Check I** cabinet is made of 14 gauge steel with continuously welded seams. It provides protection from dust, dirt, oil and water. Standard color is beige, epoxy coated inside and out.

**Dimensions:** Length (L) 36" (90 cm)  
Width (W) 26" (66 cm)  
Height (H) 12" (30 cm)

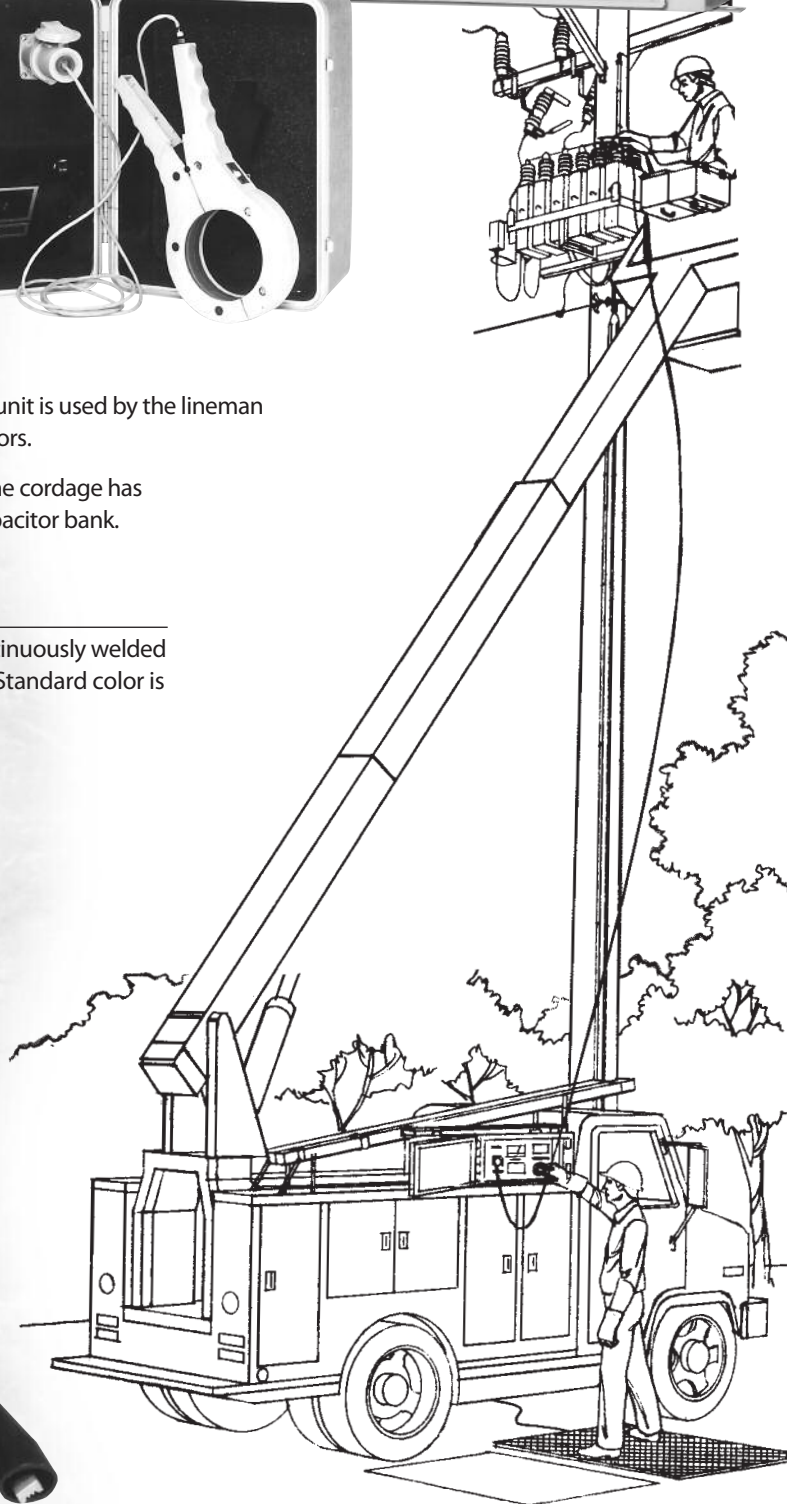
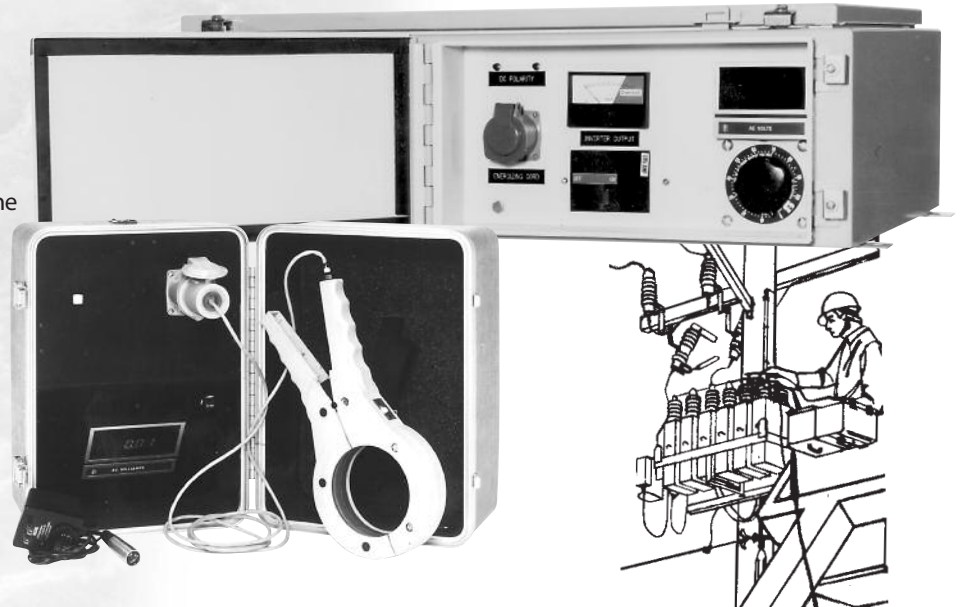
**Weight:** 130 lbs. (59 kg)

**Operating Frequency:** 60Hz (50Hz Available)

The bucket-mounted probe/ammeter with mounting bracket is made of durable ABS and fiberglass.

**Dimensions:** Length (L) 18" (45 cm)  
Width (W) 11" (27 cm)  
Height (H) 16.5" (41 cm)

**Weight:** 19.25 lbs. (8.74 kg)





# CAP CHECK II

## For Checking Substation Capacitors

The successful development of **Cap Check I** for line-type capacitor checking led to the design of the **Cap Check II** for checking substation capacitors. **Cap Check II** (either the console or carrying case type) is based on the same principle of operation. A two-man crew can check approximately 500 substation capacitors per day.

### Cap Check II Console Version

(Cat. No. CC-II/102 - right) offers an all steel, three-drawer cabinet with attached two-wheel dolly. The unit comes standard with digital voltmeter and milliammeter, variac control, circuit breakers, all necessary cordage, current probe and modified hotstick.

### Cap Check II Carrying Case Version

(Cat. No. CC-II/100 - below) provides the same features and options as the console version. It is housed in an aluminum carrying case.



#### Note:

Most inverters and generators will not provide a suitable power supply - consult factory.



2" Current  
Transformer  
and Cord

Energizing  
Cord

Power Supply Cord  
(yellow)  
Ground Cord (black)

Both versions of the **Cap Check II** include four sets of cordage. All are 50 feet long (15 meters). Current transformer mounts on a 24-foot long (7.2 meter) sectional hotstick modified for application around capacitor bushing (Included but not illustrated).

## SPECIFICATIONS

### Cap Check II Console Version

Mounted on a 2-wheel dolly.  
Color is sky-blue and is epoxy baked.

**Dimensions:** Length (L) 22" (55 cm)  
Width (W) 19" (47 cm)  
Height (H) 45" (112 cm)

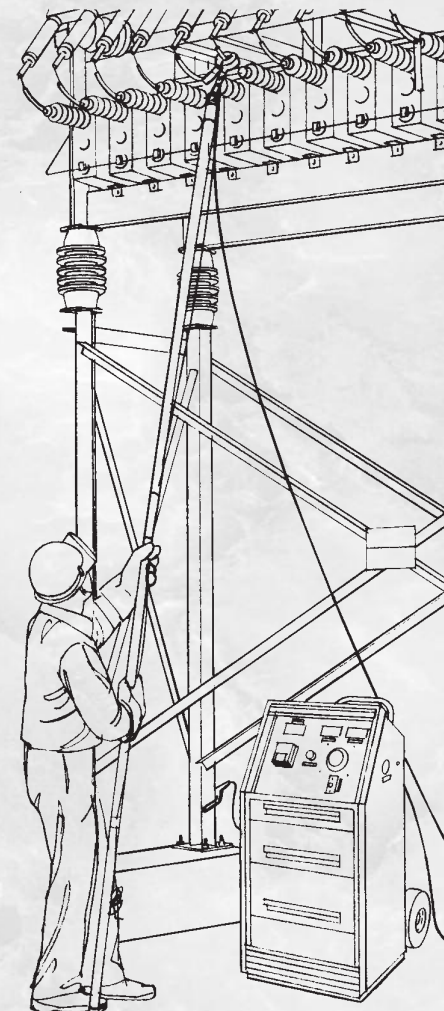
**Weight:** 328 lbs. (149 kg)

**Operating Frequency:** 60Hz (50Hz Available)

### Cap Check II Carrying Case Version

**Dimensions:** Length (L) 36" (90 cm)  
Width (W) 18" (45 cm)  
Height (H) 15" (37.5 cm)

**Weight:** 135 lbs. (61 kg)



# CAP CHECK III

## For Checking Distribution, Small Substation Capacitor Banks and Individual Capacitors

**Cap Check III** (Cat. No. CC-III) allows crews to check both parallel and/or series connected capacitor banks. Optional current transformers allow measurement of individual capacitors in multi-can banks without changing the energizing leads. Smaller in size, the **Cap Check III** can check single capacitors or small group banks consisting of multiple capacitors.

**Cap Check III** is portable, with a shoulder strap and hanging hooks for bucket work.

All the cordage required for testing individual capacitors is provided. Includes 12-foot energizing cord with connector plug and heavy-duty 100 amp alligator clamps, and 12-foot long power supply cord made of 16-3 wire.

Heavy-duty, spring loaded aluminum hanging hooks allow for easy positioning in bucket applications.

**Note:** Most inverters & generators will not provide a suitable power supply - consult factory.



Shown with Optional 2" CT (CT002/III)

### SPECIFICATIONS

The **Cap Check III** is housed in its own carrying case made of durable ABS. Removable top and bottom lids secured in place with milspec latches provide storage for cordage, optional current transformers, data sheets and operating manual.

**Dimensions:** Length (L) 11" (27.5 cm)  
Width (W) 13" (32.5 cm)  
Height (H) 19" (47.5 cm)

**Weight:** 45 lbs. (20 kg)

**Operating Frequency:** 60Hz (50Hz Available)

Model	Power Required	Maximum Current Output
Cap Check I	12 VDC, 20 amps	2 amps
Cap Check II	120 V, 50/60 Hz, 20 amps	13 amps
Cap Check III	120 V, 50/60 Hz, 2 amps	2 amps

### ORDERING INFORMATION

CC-I	Cap Check I for checking distribution bank capacitors
CC-II/100	Cap Check II Carrying Case Version for checking substation capacitor banks. Supplied in an aluminum "foot locker" style case, with 2" current transformer and accessories
CC-II/102	Cap Check II Console Version. Same as CC-II/100, but supplied in a console enclosure with attached dolly
CC-III/K01	Distribution/Substation Capacitor Checker Portable Version, Includes 2" CT (CT002/III)
CC-III	Cap Check III Portable Capacitor Checker Optional current transformers available, see below
CT002	2" diameter Current Transformer with cord & plug used with CC-II
CT002/III	2" diameter Current Transformer with cord & plug used with CC-III
CT004	4" diameter Current Transformer with cord & plug used with CC-II
CT004/III	4" diameter Current Transformer with cord & plug used with CC-III

All sales are subject to the terms and conditions of the Limitation of Warranty and Liability found at [www.HDElectricCompany.com](http://www.HDElectricCompany.com).

Users must read and agree to the Limitation terms, as stated, before using the product.

HD Electric Company is committed to ongoing review and improvement of its product lines and thus reserves the right to modify product design and specifications without notice.

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