

Pole-Mounted Racks with Single-Phase Units

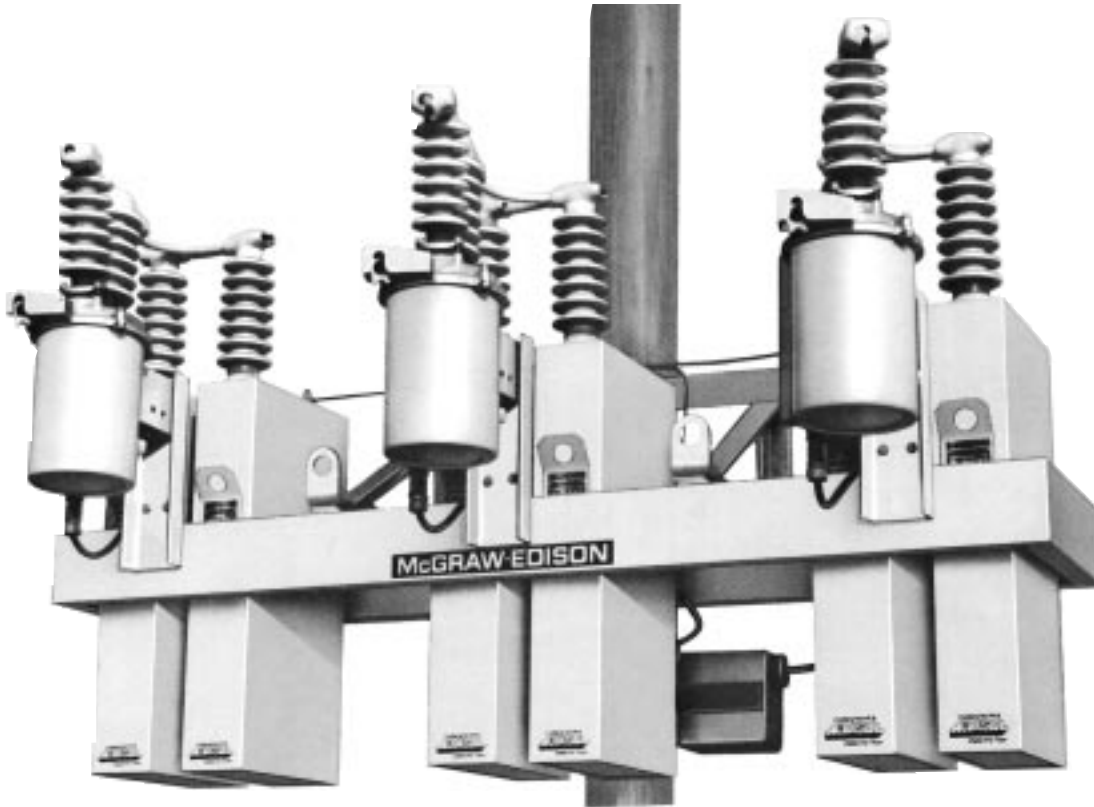


Figure 1. Typical six-unit, 125-kV BIL class Series A capacitor rack with Type NRV oil switches mounted across front side.

Lightweight, all-aluminum construction of the Series A and cantilever-mount capacitor racks makes for easy handling, fast installation, and low maintenance. These racks, with a clean uncluttered profile for today's environment, are standouts among pole-mounted capacitor assemblies.

Series A racks accommodate 75-, 95- or 125-kV BIL class capacitors rated 100, 150, or 200 Kvar in single row assemblies. The 75- and 95-kV BIL racks, designed for phase voltages up to 15 kV, accommodate three, six, or nine single-phase capacitors. The 125-kV BIL rack, designed for phase voltages up to

37.4 kV, also accommodates three, six, or nine single-phase capacitors.

The cantilever-mount racks, available in either the 95- or 125-kV BIL class accommodate three or six 300-Kvar single-phase capacitors in single-row assemblies. These racks are adaptable for use on phase voltages up to 37.4 kV in the appropriate BIL class.

Remote capacitor switching is provided by Type NR or Type NRV oil switches depending upon the system voltage rating. Switches can be mounted across the front of the rack (Series A only) or, more commonly, along the pole side.

Racks are completely prewired at the factory, and all high-voltage wiring and bushing terminals are bird-proofed.

ORDERING INFORMATION

To order, specify the following:

1. Rack Kvar
2. Line-to-line voltage and capacitor connection. See circuit applications table below.
3. Specify whether rack is switched or unswitched, and switch location preference (front or pole side).
4. Special features required, if any.

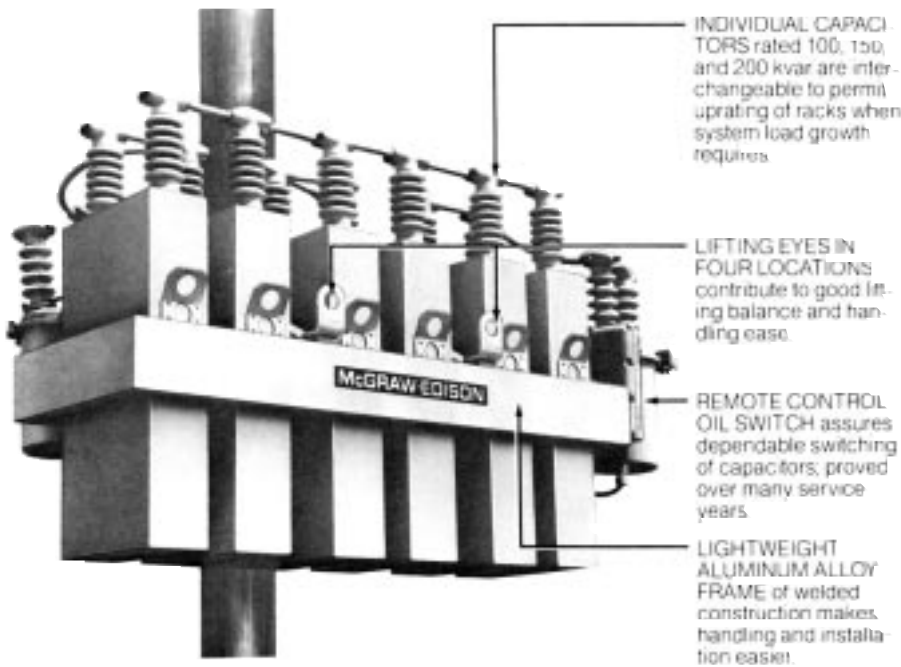


Figure 2.



Figure 4.

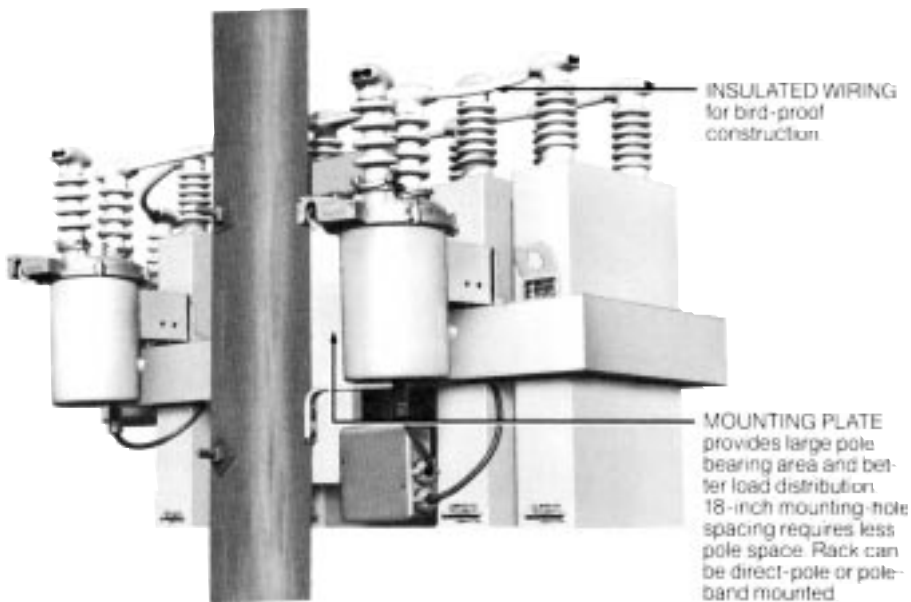


Figure 3.

Circuit Applications

Capacitor Rating		Circuit Application
Voltage	BIL (kV)	Line-to-Line Voltage
		Capacitors Connected Wye
2400	75	4160
2770	75	4800
4160	75	7200
4800	75	8320
6640	95	11500
7200	95	12470
7620	95	13200
7960	95	13800
9960	95	17250
12470	95	21600
	125	21600
13280	95	22900
	125	22900
13800	95	23900
	125	23900
14400	95	24900
	125	24900
19920	125	34500
21600	125	37400

Special Features for Pole Mounted Racks

- Omission of switches: Switched rack assemblies having only two Type NR or Type NRV switches can be furnished.
- Potential transformers: Switched rack assemblies can be furnished with a potential transformer mounted.
- Socket control mounting: Switched rack assemblies can be furnished with junction box having control socket wired to standard junction box.
- Surge arresters: Rack assemblies can be furnished with three surge arresters mounted and wired.

Recommended Maximum Kvar for Proper Group Fusing of Racks Applied on Lower Voltage Systems

Line-to-Line Voltage	Maximum Kvar			
	100-Kvar Units	150-Kvar Units	200-Kvar Units	300-Kvar Units
2400	300	450	600	—
4160	900	900	600	—
4800	900	900	600	—
7200	1500	1350	1800	1800
8320	1800	1800	1800	1800

ORDERING INFORMATION

Rack Configurations, Dimensions, Kvar Capacities, and Weights Capacitor Rack Assemblies—75 or 95 kV BIL with 100-, 150, or 200-Kvar Units

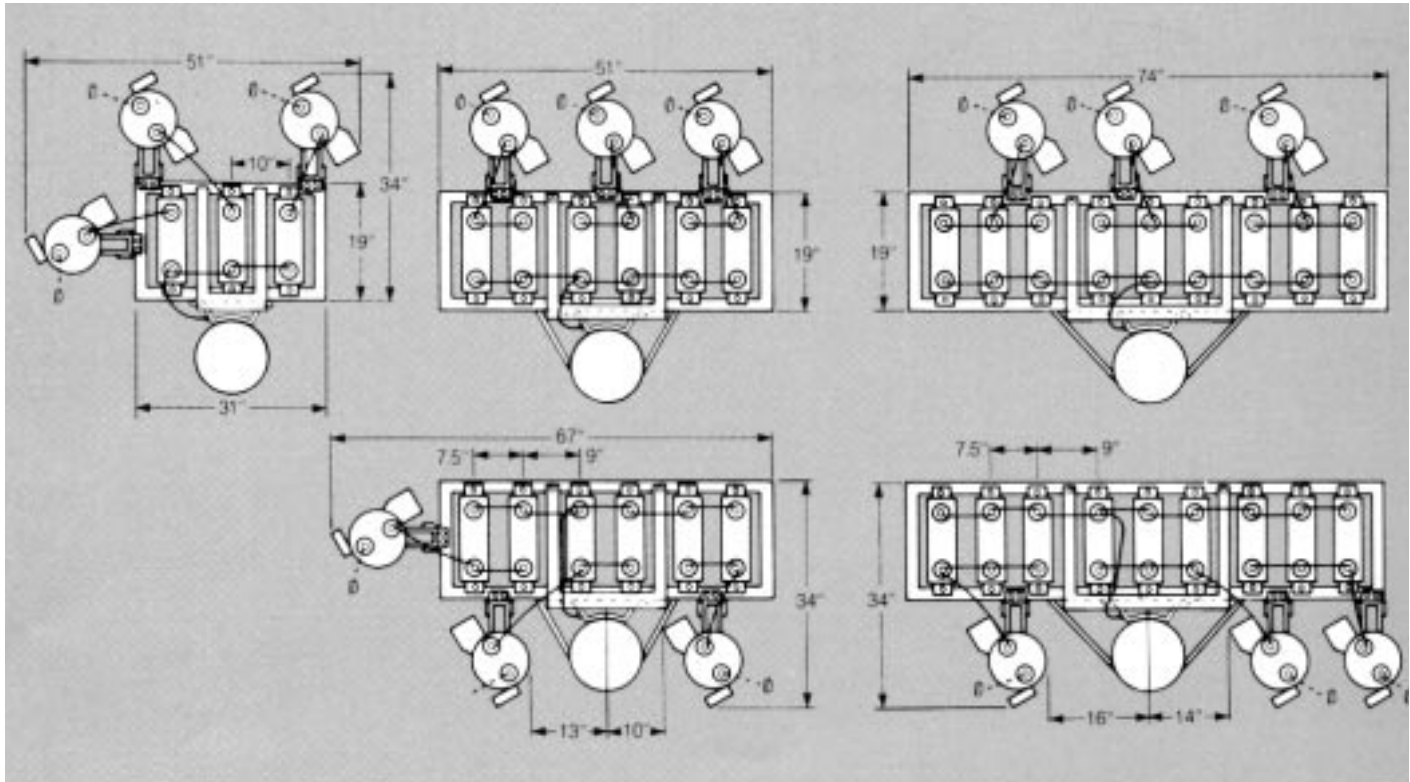


Figure 5.
Three-unit rack.

Figure 6.
Six-unit rack.

Figure 7.
Nine-unit rack.

Notes:

1. Drawings show location of Type NR switches on switched racks.
2. Ground connector accommodates .080-.355 diameter wire (No. 12 solid—No. 1 stranded AWG).
3. NR switched terminals accommodate No. 8—No. 2/0 copper or aluminum in horizontal or vertical position.
4. Pole mounting bolts are 18 in. on centers.

Rack Capacity (Kvar)	100 Kvar	150 Kvar	200 Kvar
	Reference Weight (lb)*	Reference Weight (lb)*	Reference Weight (lb)*
300	Figure 5 343	—	—
450	—	Figure 5	— 409
600	Figure 6 525	—	Figure 5 469
900	Figure 7 707	Figure 6 657	—
1200	—	—	Figure 6 777
1350	—	Figure 7	— 905
1800	—	—	Figure 7 1085

*Weights are approximate and represent switched rack configurations. To obtain an unswitched rack weight, subtract 135 lb from weight shown.

ORDERING INFORMATION

**Rack Configurations, Dimensions, Kvar Capacities, and Weights
Capacitor Rack Assemblies—125 kV BIL with 100-, 150- or 200-Kvar Units**

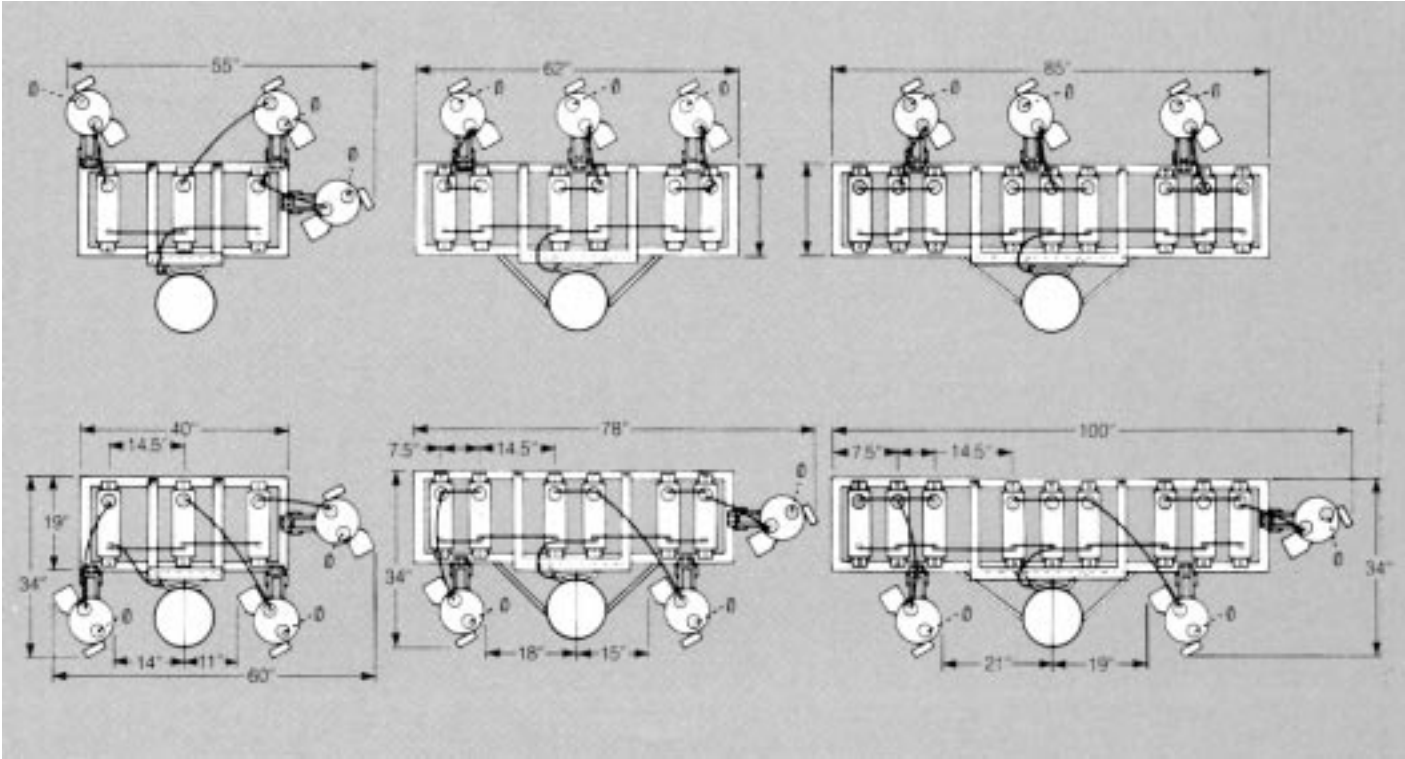


Figure 8.
Three-unit rack.

Figure 9.
Six-unit rack.

Figure 10.
Nine-unit rack.

Notes;

1. Drawings show location of Type NR or Type NRV switches on switched racks.
2. Ground connector accommodates .080-.355 diameter wire (No. 12 solid—No. 1 stranded AWG).
3. Pole mounting bolts are 18 in. on centers.

Rack Capacity (Kvar)	100 Kvar†	150 Kvar	200 Kvar
	Reference Weight (lb)*	Reference Weight (lb)*	Reference Weight (lb)*
300	Figure 8 348	—	—
450	—	Figure 8 414	—
600	Figure 9 529	—	Figure 8 474
900	Figure 10 710	Figure 9 661	—
1200	—	—	Figure 9 781
1350	—	Figure 10 908	—
1800	—	—	Figure 10 1088

*Weights are approximate and represent switched rack configurations. To obtain an unswitched rack weight, subtract 135 lb from weight shown.

†Available up to 24.9-kV phase voltage only.

ORDERING INFORMATION (continued)

**Rack Configurations, Dimensions, Kvar Capacities, and Weights
Capacitor Rack Assemblies—95 or 125 kV BIL with 300-Kvar Units**

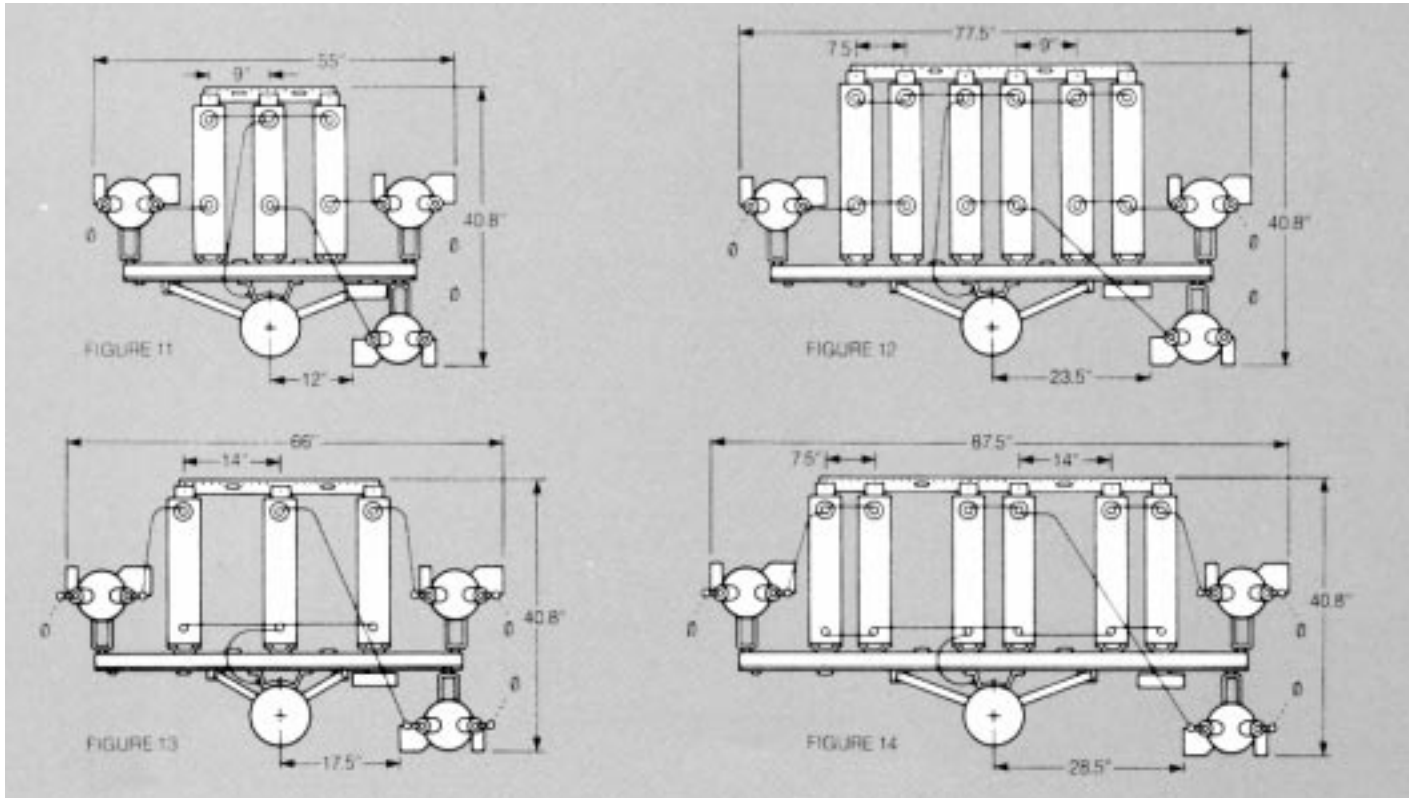


Figure 11.
Three-unit cantilever-mounted 95-kV BIL capacitor rack assembly.

Figure 12.
Six-unit cantilever-mounted 95-kV BIL capacitor rack assembly.

Figure 13.
Three-unit cantilever-mounted 125-kV BIL capacitor rack assembly.

Figure 14.
Six-unit cantilever-mounted 125-kV BIL capacitor rack assembly.

Notes;

1. Drawings show location of Type NR or Type NRV switches on switched racks.
2. Ground connector accommodates .080-.355 diameter wire (No. 12 solid—No. 1 stranded AWG).
3. Pole mounting bolts are 18 in. on centers.

Rack Kilo-var Capacities, Weights, Configurations

Rack Capacity (Kvar)	Weight (lb)*	BIL (kV)	Reference
900	685	95	Figure 11
		95	Figure 12
1800	1185	125	Figure 13
		125	Figure 14

*Weights are approximate and represent switched rack configurations. To obtain an unswitched rack weight, subtract 135 lb from weight source.

ACCESSORIES

Junction Box Assemblies

Description	Basic Catalog Number
With cables and plugs, entrance bushings, and crossarm mounting bracket	CM1J*
With entrance bushings and crossarm mounting bracket (cables not supplies)	CM2J
Assembly for converting Cooper Power Systems unswitched racks to switched racks; specify rack catalog number	—

*Specify cable lengths and number of cables desired.

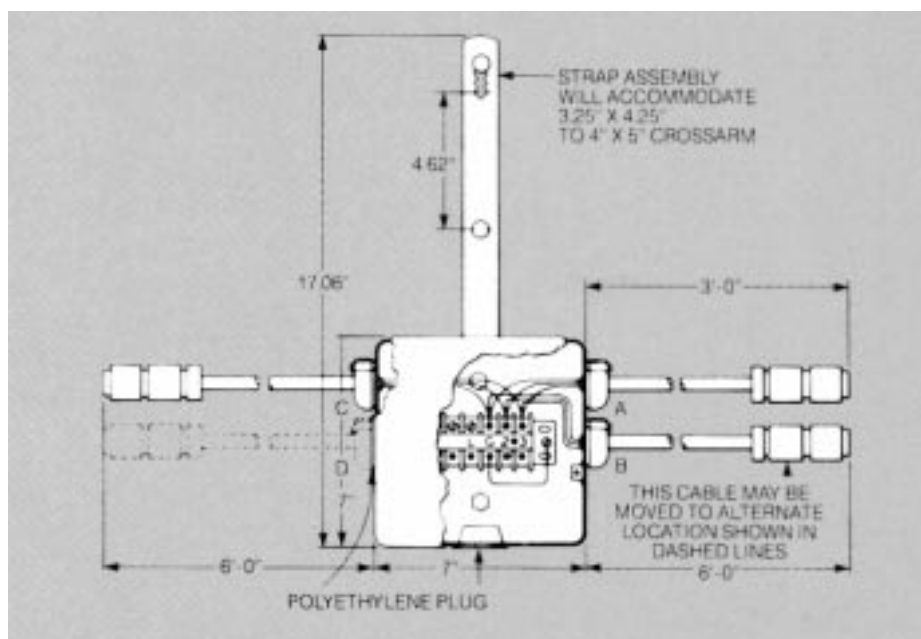


Figure 15. CM1J1 junction box dimensions (Standard cable lengths shown, three conductors per cable; box depth—2.75 in.)

Pole-Band Mounting Kits

Pole-band kits, consisting of two pole bands with cone-head bolts, eliminate drilling of holes to mount capacitor racks.

Catalog Number	Diameter of Pole (in.)
CM8B3	6 to 10
CM8B4	9 to 15

Entrance Bushings

Compression-type bushings can be supplied to facilitate entrance of purchaser's cable to the junction box.

Catalog Number	Diameter of Pole (in.)
CM7B1	0.370 to 0.500
CM7B2	0.495 to 0.625
CM7B3	0.620 to 0.750
CM7B4	0.750 to 0.885

Accessories Listed in Other Sections

Description	Refer to Catalog Section
Protective equipment	240-20 235-20 230-60
Open or enclosed fuse cutout	
Surge arrester	
Capacitor switch control	
For field conversion of unswitched rack to switch rack	
Capacitor switch	260-20


COOPER Power Systems

P.O. Box 1640
Waukesha, WI 53187
