IEC 309 Plugs and Connectors, Receptacles, and Inlets

Installation & Maintenance Information

COOPER Crouse-Hinds

IF 1534

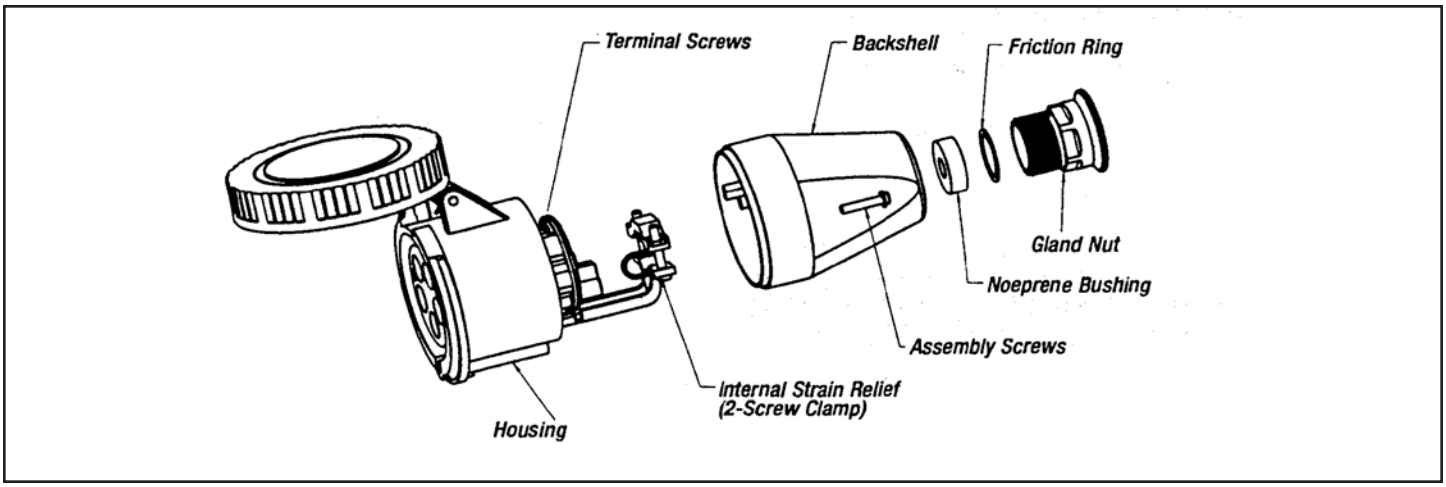
SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE

⚠ CAUTION

To prevent electrical shock, disconnect power until installation is complete.

⚠ WARNING

Do not use on circuits other than the specified ratings shown on product label.
All wiring must conform to local and national electrical codes and ordinances.
Do not exceed specification ratings.
Use copper conductors only.



INSTALLATION - PLUGS AND CONNECTORS

1. Trim cable cleanly - do not strip cable jacket or conductor insulation at this time.

2a. For plugs and connectors with cable sleeve, cut the sleeve to fit snug around the cable and proceed to Step 5. Be careful not to cut more than necessary.

2b. For plugs and connectors with cable gland, remove gland nut, friction ring, and neoprene bushing from backshell.

3. Prepare the neoprene bushing by removing the inner sections to fit the cable diameter. Be careful not to remove any more sections than necessary; the bushing should fit snug around the cable.

4. Slide the gland nut, friction ring, and bushing over the cable end.

5. Remove the backshell by loosening the two screws (4 screws on 100/125 amp. devices). Slide the backshell up the cable.

6. Remove the two screws from the internal strain relief.

7. Strip the cable jacket and each conductor per Table I. (Be careful not to "nick" conductors when removing jacket).

   NOTE: The ground terminal is elevated which allows for a "slack," not taut, ground conductor. In the unlikely event the cable becomes separated from the device, the ground will be the last to detach.

8. Twist strands of each conductor together.

9. Position the housing so that the terminal location corresponds to the conductor color coding. This may prevent unnecessary maneuvering of conductors.

10. Insert the conductor into the marked terminal hole according to Table II and torque the terminal screws per Table III.

11. Replace and tighten the two screws on the internal strain relief onto cable jacket.

12. Slide the backshell down the cable and secure it to the housing by tightening the assembly screws.

13. Slide the neoprene bushing, friction ring, and gland nut down the cable. Screw the gland nut into the backshell. Firm tightening by hand is sufficient.

TABLE I

DEVICE RATING

North American / International		20A 16A	30A 32A	60A 63A	100A 125A
Outer Jacket	inch	2	2 1/2	3	4
Strip Length	mm	50	63	76	102
Conductor	inch	1/2	1/2	3/4	1 1/8
Strip Length	mm	12	12	19	28
Pilot Conductor	inch			7/16	5/8
Strip Length	mm			11	16

TABLE II

Termination Identification	Use For
G, Green, ⏚	Equipment Grounding Conductor
N, W, White	Grounded Circuit Conductors (Neutral)
L1, L2, L3 or R1, S2, T3, or X, Y, Z or Blank	Ungrounded Circuit Conductors (Line, Hot)
Pilot	Control Circuit Conductor

IMPORTANT SAFETY INSTRUCTIONS
This brochure contains important instructions that should be followed during installation. Please read all wiring instructions carefully and follow all safety precautions.

TABLE III

DEVICE RATING

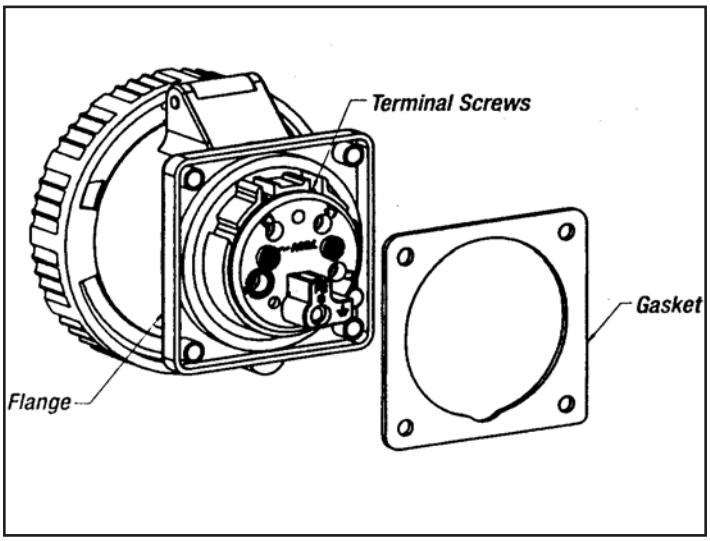
North American / International		20A 16A	30A 32A	60A 63A	100A 125A
Torque	lb. - in.	7.1	7.1	17.6	35.3
Terminal Screw	N - m	0.8	0.8	2	4
Torque	lb. - in.			7.1	7.1
Pilot Terminal Screw	N - m			0.8	0.8

TABLE IV

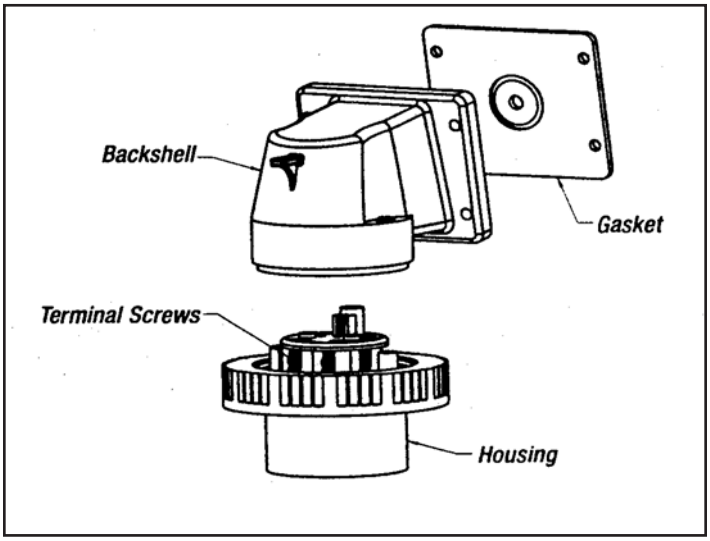
Amps N.A.	Amps Intl.	Poles and Wires	From AWG	From Type	To AWG	To Type		Cord Grip Range: With Cable Gland, North American	Cord Grip Range: With Cable Gland, International	Cord Grip Range: With Cable Sleeve, North American	Cord Grip Range: With Cable Sleeve, International
20	16	2P3W	16	S	10	S	inch	0.275 - 0.530	0.275 - 0.530	0.275 - 0.675	0.275 - 0.675
							mm	7 - 13.5	7 - 13.5	7 - 17	7 - 17
		3P4W	16	S	10	S	inch	.395 - .825	0.275 - 0.630	0.315 - 0.800	0.315 - 0.800
							mm	10 - 21	7 - 16	8 - 20	8 - 20
		4P5W	16	S	10	S	inch	.395 - .825	0.275 - 0.630	0.315 - 0.800	0.315 - 0.800
							mm	10 - 21	7 - 16	8 - 20	8 - 20
30	32	2P3W	12	S	8	S	inch	.395 - .825	.395 - .825	0.590 - 0.950	0.435 - 0.950
							mm	10 - 21	10 - 21	15 - 24	11 - 24
		3P4W	12	S	8	S	inch	0.650 - 1.10	.395 - .825	0.590 - 0.950	0.435 - 0.950
							mm	16.5 - 28	10 - 21	15 - 24	11 - 24
		4P5W	12	S	8	S	inch	0.650 - 1.10	.395 - .825	0.590 - 0.950	0.435 - 0.950
							mm	16.5 - 28	10 - 21	15 - 24	11 - 24
60*	63*	2P3W	8	S	4	S or W	inch	.650 - 1.50	.650 - 1.50	0.635 - 1.30	0.600 - 1.30
							mm	16.5 - 38	16.5 - 38	16 - 33	15 - 33
		3P4W	8	S	4	S or W	inch	.650 - 1.50	.650 - 1.50	0.635 - 1.30	0.600 - 1.30
							mm	16.5 - 38	16.5 - 38	16 - 33	15 - 33
		4P5W	8	S	4	S or W	inch	.650 - 1.50	.650 - 1.50	0.635 - 1.30	0.600 - 1.30
							mm	16.5 - 38	16.5 - 38	16 - 33	15 - 33
100*	125*	2P3W	6	S or W	2/0	S or W	inch	.950 - 1.90	.950 - 1.90		
							mm	24 - 48	24 - 48		
		3P4W	6	S or W	2/0	S or W	inch	.950 - 1.90	.950 - 1.90		
							mm	24 - 48	24 - 48		
		4P5W	6	S or W	2/0	S or W	inch	.950 - 1.90	.950 - 1.90		
							mm	24 - 48	24 - 48		

* Pilot conductor 16 to 8 AWG

INSTALLATION - RECEPTACLES AND INLETS



ONE-PIECE CONSTRUCTION



TWO-PIECE CONSTRUCTION

1. Check to see that the rating shown on the device is correct for the installation.
2. Select conductors of a size having suitable ampacity in accordance with the 60°C column of Table 310-16 of the National Electrical Code, NFPA 70 and Table 2 of the Canadian Electrical Code, Part 1. Use copper conductors only.
3. For ONE-PIECE construction types feed conductors through gasket and proceed to Step 5.
4. For TWO-PIECE construction types remove the backshell by loosening the two screws.
   a. Feed the conductors through the gasket and backshell.
5. Strip cable jacket and each conductor per Table I (be careful not to “nick” conductors when removing jacket).
6. Twist the strands of each conductor together.
7. Insert the conductors into the marked terminal hole according to Table II.
8. Torque terminal screws per Table III.
9. For TWO-PIECE construction types secure the backshell to the housing by tightening the assembly screws.

TABLE I

North American International		DEVICE RATING 20A 16A	30A 32A	60A 63A	100A 125A
Outer Jacket	inch	2	2 1/2	3	4
Strip Length	mm	50	63	76	102
Conductor	inch	1/2	1/2	3/4	1 1/8
Strip Length	mm	12	12	19	28
Pilot Conductor	inch			7/16	5/8
Strip Length	mm			11	16

TABLE II

Termination Identification	Use For
G, Green, ⏚	Equipment Grounding Conductor
N, W, White	Grounded Circuit Conductors (Neutral)
L1, L2, L3 or R1, S2, T3, or X, Y, Z or Blank	Ungrounded Circuit Conductors (Line, Hot)
Pilot	Control Circuit Conductor

TABLE III

North American International		DEVICE RATING 20A 16A	30A 32A	60A 63A	100A 125A
Torque	lb. - in.	7.1	7.1	17.6	35.3
Terminal Screw	N - m	0.8	0.8	2	4
Torque	lb. - in.			7.1	7.1
Pilot Terminal Screw	N - m			0.8	0.8

IMPORTANT SAFETY INSTRUCTIONS
This brochure contains important instructions that should be followed during installation. Please read all wiring instructions carefully and follow all safety precautions.

COOPER Crouse-Hinds

Cooper Industries, Inc.
Crouse-Hinds Division
P.O. Box 4999, Syracuse, New York 13221 • U.S.A.

IF 1534
Revision 1
New 08/07