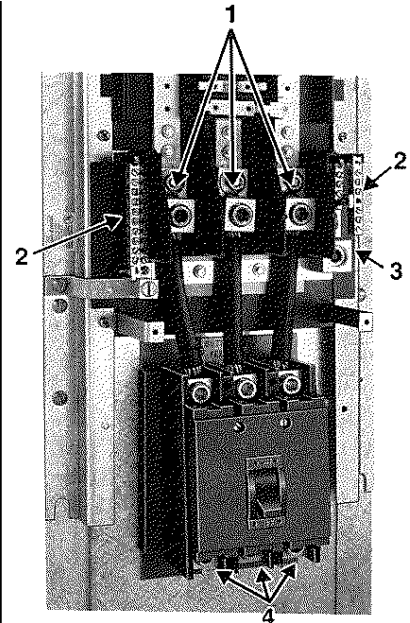


Torque And Cable Information For Panelboards

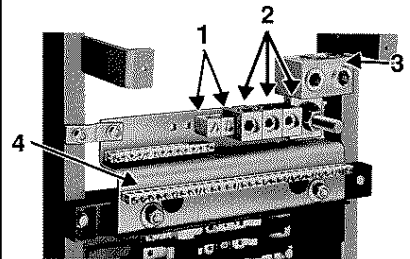
NQOD RECOMMENDED TORQUE SETTINGS				
Mains Ampere Rating	Terminal Description		Connector Maximum Wire Range	Torque (in. lb)
100-225	Terminal	Main Lugs	No. 10-2/0 Cu, No. 6-2/0 Al No. 6-300 kcmil Cu-Al	180 250
		Sub-Feed Lugs	(2) No. 4-1/0 Cu-Al (2) No. 4-300 kcmil Cu-Al	180 340
		Neutral Main Lugs	No. 10-2/0 Cu, No. 6-2/0 Al No. 6-300 kcmil Cu-Al	180 250
	Neutral Branch	Formed Lug—Slotted	No. 14-10 Cu, No. 12-10 Al No. 8-4 Cu-Al No. 3-2 Al	35 40 45
		Box Lug—Slotted	No. 14-1/0 Cu, No. 12-1/0 Al	50
		Box Lug—Socket	No. 1-4/0 Cu-Al	150
	Neutral Bars	Bars With One Hole Size [Ⓢ]	No. 14-10 Cu, No. 12-10 Al No. 8 Cu-Al No. 6-4 Cu-Al	20 25 35
		Bars With Two Hole Sizes [Ⓢ]	Small: No. 14-18 Cu, No. 12-8 Al Large: No. 14-4 Cu, No. 12-4 Al	25 35
		Ground Lug	No. 14-1/0 Cu, No. 12-1/0 Al	50
	400	Terminal	Main Line Lugs	No. 1/0-750 kcmil Cu-Al
Neutral Main Lugs			(2) No. 1/0-300 kcmil Cu-Al	550
Neutral Branch		Large Neutral Lug	No. 4-300 kcmil Cu-Al	250
		Small Neutral Lug	No. 14-10 Cu, No. 12-10 Al No. 8-4 Cu-Al No. 3-2/0 Cu-Al	35 45 50
		Neutral Bar	No. 14-10 Cu, No. 12-10 Al No. 8 Cu-Al No. 6-4 Cu-Al	20 25 35
		Equipment Ground Bar	(2) No. 14 or No. 12 Cu or (2) No. 12 or No. 10 Al	25
600	Terminal	Main Lugs and Neutral Main Lugs	(2) No. 4-500 kcmil Cu-Al	450
		Neutral Branch	Large Neutral Lug	No. 4-300 kcmil Cu-Al
		Small Neutral Lug	No. 14-10 Cu, No. 12-10 Al No. 8-4 Cu-Al No. 3-2/0 Cu-Al	35 45 50
		Neutral Bar	No. 14-10 Cu, No. 12-10 Al No. 8 Cu-Al No. 6-4 Cu-Al	20 25 35
		Equipment Ground Bar	(2) No. 14 or No. 12 Cu or (2) No. 12 or No. 10 Al	25

[Ⓢ] Panelboards manufactured after October, 1990 have one hole size; older panelboards may have two hole sizes.



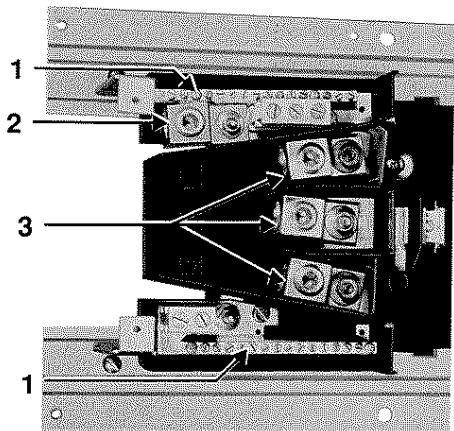
100-225 Amp NQOD Interior

- 1. Interior Main Lugs
- 2. Neutral Bar
- 3. Neutral Main Lugs
- 4. Main Breaker Lugs



400-600 Amp NQOD Interior

- 1. Small Neutral Lugs
- 2. Large Neutral Lugs
- 3. Neutral Main Lugs
- 4. Neutral Bars



225 Amp NEHB Interior

- 1. Neutral Bar
- 2. Neutral Main Lug
- 3. Main Lugs

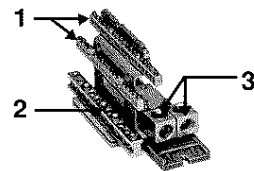
NEHB RECOMMENDED TORQUE SETTINGS				
Mains Ampere Rating	Terminal Description		Connector Maximum Wire Range	Torque (in. lb)
125	Terminal	Main Lugs and Neutral Main Lugs	No. 10-2/0 Cu or No. 6-2/0 Al	180
	Neutral Branch	Large Neutral Bar	No. 14-10 Cu, No. 12-10 Al No. 8-4 No. 3-2/0	35 40 45
		Small Neutral Bar	No. 14-10 Cu, No. 12-10 Al No. 8 No. 6-4	20 25 35
	Equipment Ground Bar		(2) No. 14 or No. 12 Cu or (2) No. 12 or No. 10 Al	25
	Terminal	Main Lugs and Neutral Main Lugs	No. 6-300 kcmil Cu-Al	340
225	Neutral Branch	Large Neutral Bar	No. 14-10 Cu, No. 12-10 Al No. 8-4 No. 3-2/0	35 40 45
		Small Neutral Bar	No. 14-10 Cu, No. 12-10 Al No. 8 No. 6-4	20 25 35
	Equipment Ground Bar		(2) No. 14 or No. 12 Cu or (2) No. 12 or No. 10 Al	25
	Terminal	Main Lugs and Neutral Main Lugs	No. 1/0-750 kcmil (2) No. 1/0-300 kcmil	550
400	Neutral Branch	Large Neutral Lugs	No. 4-300 kcmil	275
		Large Neutral Bar	No. 14-10 Cu, No. 12-10 Al No. 8-4 No. 3-1/0	35 40 45
	Small Neutral Bar	No. 14-10 Cu, No. 12-10 Al No. 8 No. 6-4	20 25 35	
Equipment Ground Bar		(2) No. 14 or No. 12 Cu or (2) No. 12 or No. 10 Al	25	
600	Terminal	Main Lugs and Neutral Main Lugs	No. 3/0-500 kcmil Cu-Al	275
	Neutral Branch	Large Neutral Bar	No. 14-10 Cu, No. 12-10 Al No. 8-4 No. 3-1/0	35 40 45
		Small Neutral Bar	No. 14-10 Cu, No. 12-10 Al No. 8 No. 6-4	20 25 35
	Equipment Ground Bar		(2) No. 14 or No. 12 Cu or (2) No. 12 or No. 10 Al	25



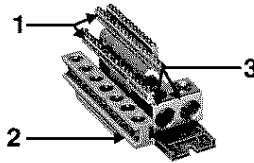
I-LINE® RECOMMENDED TORQUE SETTINGS

Mains Ampere Rating	Terminal Description	Connector Maximum Wire Range	Torque (in. lb)	Illus. Ref. No.
225	Main Lugs and Neutral Main Lugs	No. 6–300 kcmil Cu-Al	250	3
	Neutral Bars with One Hole SizeⓄ	No. 14–10 Cu or No. 12–10 Al	20	1
		No. 8 Cu-Al	25	
	Neutral Bars with Two Hole SizesⓄ	Small Hole: No. 14–8 Cu or No. 12–8 Al	25	
		Large Hole: No. 14–4 Cu or No. 12–4 Al	35	
Neutral Bars With Slotted Head Screw	No. 14–8 Cu-Al	36	45	
Neutral Bars With Hex Socket Screw	No. 14–1/0 Cu-Al	100	2	
400	Main Lugs and Neutral Main Lugs	No. 2–600 kcmil Cu-Al 3/8" socket 1/2" socket	340 450	3
	Neutral Bars with One Hole SizeⓄ	No. 14–10 Cu or No. 12–10 Al	20	1
		No. 8 Cu-Al	25	
	Neutral Bars with Two Hole SizesⓄ	Small Hole: No. 14–8 Cu or No. 12–8 Al	25	
Large Hole: No. 14–4 Cu or No. 12–4 Al		35		
Socket Head Only	No. 14–1/0 Cu-Al	100	4	
600	Main Lugs and Neutral Main Lugs	No. 2–600 kcmil Cu-Al 3/8" socket 1/2" socket	340 450	3
	Neutral Bars with One Hole SizeⓄ	No. 14–10 Cu, No. 12–10 Al	20	1
		No. 8 Cu-Al	25	
	Neutral Bars with Two Hole SizesⓄ	Small Hole: No. 14–8 Cu or No. 12–8 Al	25	
		Large Hole: No. 14–4 Cu or No. 12–4 Al	35	
Neutral Bars With Slotted Head Screw	No. 14–8 Cu-Al	36	45	
Neutral Bars With Hex Socket Screw	No. 14–1/0 Cu-Al	100	2	
800	Main Lugs and Neutral Main Lugs	No. 3/0–750 kcmil Cu-Al	340	3
	Neutral Bars With One Hole SizeⓄ	No. 14–10 Cu or No. 12–10 Al	20	1
		No. 8 Cu-Al	25	
	Neutral Bars With Two Hole SizesⓄ	Small Hole: No. 14–8 Cu or No. 12–8 Al	25	
		Large Hole: No. 14–4 Cu or No. 12–4 Al	35	
Neutral Bars With Slotted Head Screw	No. 14–8 Cu-Al	36	45	
Neutral Bars With Hex Socket Screw	No. 14–1/0 Cu-Al	100	2	
1200	Main Lugs and Neutral Main Lugs	No. 3/0–750 kcmil Cu-Al	340	3
	Neutral Bars With One Hole SizeⓄ	No. 14–10 Cu, No. 12–10 Al	20	1
		No. 8 Cu-Al	25	
	Neutral Bars With Two Hole SizesⓄ	Small Hole: No. 14–8 Cu or No. 12–8 Al	25	
		Large Hole: No. 14–4 Cu or No. 12–4 Al	35	
Neutral Bars With Slotted Head Screw	No. 14–8 Cu-Al	36	45	
Neutral Bars With Hex Socket Screw	No. 14–1/0 Cu-Al	100	2	

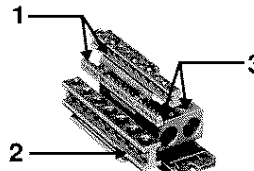
Ⓞ Panelboards manufactured after October, 1990 have one hole size; older panelboards may have two hole sizes.



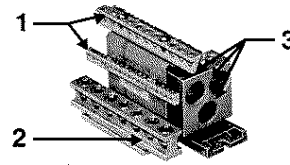
225 Amp I-LINE



400 Amp I-LINE
(Large Neutral Bar: Socket Head Only)



600 Amp I-LINE

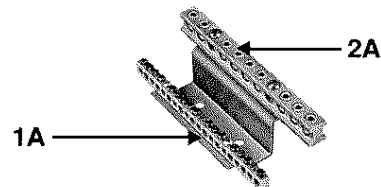


800 Amp I-LINE

Legend:

- 1. Small Neutral Bars
- 2. Large Neutral Bar
- 3. Main Neutral Lugs

PK32DGTA GROUND BAR TORQUE SETTINGS			
Screw Type	Connector Maximum Wire Range	Torque (in. lb)	Illustration Ref. No.
Slotted Head	No. 14–4 Cu	35	1A
	or No. 12–4 AL		
	(2) No. 14 or No. 12 Cu		
Socket Head	(2) No. 12 or No. 10 AL	20	2A
	No. 6–300 kcmil Cu-Al	275	



PK32DGTA

Legend:

- 1A. Small Ground Bar
- 2A. Large Ground Bar







QMB RECOMMENDED TORQUE SETTINGS			
Mains Ampere Rating	Terminal Description	Lug Wire Range	Torque (in. lb)
225	Main Lugs and Neutral Main Lugs	No. 6–300 kcmil Cu-Al No. 10–2/0 Cu, No. 6–2/0 Al	340 180
	Neutral Bars	No. 14–10 Cu, No. 12–10 Al No. 8 Cu–Al No. 6–4 Cu–Al	20 25 35
400–1200	Main Lugs and Neutral Main Lugs	No. 3/0–750 kcmil Cu-Al No. 3/0–500 kcmil Cu-Al No. 6–300 kcmil Cu-Al No. 10–2/0 Cu, No. 6–2/0 Al	340 340 340 180
	Neutral Bars	No. 14–10 Cu, No. 12–10 Al No. 8 Cu–Al No. 6–4 Cu–Al	20 25 35

BREAKER RECOMMENDED SCREW TORQUE				
Breaker	Ampere Rating	Wire Range	Line Side Screw Torque (in. lb) (Bolt-On Breakers Only)	
			Connector Screw Torque	Wire Binding Screw Torque
QO, QO-H, QOB, QOB-H QO-VH, QOB-VH	15–30	(2) No. 12–8 AWG Al or (2) No. 14–8 AWG Cu	18–21	36
	35–50	No. 8–4 AWG Cu-Al		45
	60–70	No. 6–2 AWG CU-Al		45
	80–150	No. 4–2/0 AWG Cu-Al		50
QH, QHB	15–30	No. 8–12 Al, No. 8–14 Cu or (2) No. 10–14 Cu	18–21	36
EH, EHB	15–30	(2) No. 12–8 Al or (2) No. 14–8 Cu	20–30	36
	40–60	No. 12–2 Al or No. 14–2 Cu		120
	70–100	No. 4–2/0 Cu-Al		120
FA, FH, IF	15–30	No. 12–4 Al or No. 14–4 Cu	—	35
	35–100	No. 12–1/0 Al or No. 14–1/0 Cu	—	35
FC	20–30	No. 14–10 Cu	—	35
	35–100	No. 12–1 Al or No. 14–3 Cu	—	65
FY	15–30	No. 14–4 AWG Cu-Al	—	50
Q2, Q2-H, Q2H	100–225	No. 4–300 kcmil Cu-Al	—	250
KA, KH	70–250	No. 6–350 kcmil	—	250
KC, IK	110–175	No. 6–350 kcmil	—	250
KC, IK	200–250	No. 1/0–350 kcmil	—	250
IL	250–400	(2) No. 4–300 kcmil (AL400IL3 kit)	—	250
		No. 350–750 kcmil (AL400IL7 kit)	—	300
Q4, LA, LH	125–400	No. 1–600 kcmil or (2) No. 1–250 kcmil	—	300
MA, MH	300–800	(3) No. 3/0–500 kcmil	—	300
NA, NC, NX	600–1200	(4) No. 3/0–600 kcmil	—	330
ME, MX	100–250	No. 6–350 kcmil	—	250
	300–800	(3) No. 3/0–500 kcmil	—	300



SWITCHBOARD TORQUE VALUES

To ensure proper electrical operation of a Square D switchboard, all lugs and hardware securing electrical joints must be torqued per the tables below.

HARDWARE SECURING ELECTRICAL JOINTS MUST BE TORQUED TO VALUES SHOWN IN TABLE.								
JOINT CONFIGURATION								
DESCRIPTION OF HARDWARE	CARRIAGE BOLT GRADE 5, STANDARD OR HEAVY HEX NUT, ONE CONICAL WASHER		CARRIAGE BOLT GRADE 5, NUT AND CONICAL WASHER ASSY.		SQUARE HEAD BOLT GRADE 5		HEX BOLT GRADE 5, STANDARD OR HEAVY HEX NUT, TWO CONICAL WASHERS	
	WASHER O.D. (INCHES)	INCH-LBS	INCH-LBS	NUT AND CONICAL WASHER ASSY. (INCHES)	WASHER O.D. (INCHES)	INCH-LBS	WASHER O.D. (INCHES)	INCH-LBS
BOLT DIAMETER (INCHES)								
.25 (1/4)			50-75					
.31 (3/16)			80-125				.90	145-160
.38 (3/8)			175-225	175-225	.87	250-280	.87	250-280
					1.00	130-150	1.00	130-150
.50 (1/2)	1.25	840	250-350	250-350	1.25	500	1.25	840
	2.25	(70 FT-LBS)			2.25	(42 FT-LBS)	2.25	(70 FT-LBS)
	3.00						3.00	840

RECOMMENDED WIRE BINDING SCREW TORQUE VALUES FOR FIELD INSTALLED WIRING

TERMINAL	SOCKET SIZE ACROSS FLATS (INCHES)	TORQUE (INCH-POUNDS)
INCOMING LUGS	1/4	180
	5/16	250
BRANCH LUGS	3/8	340
NEUTRAL LUGS	1/2	450

MULTIPLE CONDUCTOR NEUTRAL AND/OR GROUND BAR		CONDUCTOR SIZE	TORQUE (INCH-POUNDS)
SCREW TYPE	LUG WIRE RANGE		
SLOTTED HEAD	#14-4	#14-10 CU, #12-10 AL	20
		#8 CU-AL	25
		#6-4 CU-AL	35
	#14-1/0	#14-8 CU-AL	36
#6-1/0 CU-AL		45	
SOCKET HEAD	#14-1/0	ALL	100
	#6-300 MCM	ALL	275

ALUMINUM LUGS ARE SUITABLE FOR USE WITH COPPER OR ALUMINUM CONDUCTORS. COPPER LUGS ARE SUITABLE FOR USE WITH COPPER CONDUCTORS ONLY.

CONDUCTOR TEMPERATURE RATING. (UNLESS OTHERWISE NOTED.)

110A OR LESS AND ALL BRANCH NEUTRAL TERMINALS-SUITABLE FOR USE WITH 60°C OR 75°C RATED COPPER OR ALUMINUM CONDUCTORS. OVER 110A-SUITABLE FOR USE WITH 75°C RATED COPPER OR ALUMINUM CONDUCTORS.

