NF Circuit Breaker Panelboards

Catalog
1670CT0701

2019
Class 1670

CONTENTS

SQUARE D

by Schneider Electric

Standards and Ratings

NF circuit breaker panelboards are for use on AC systems. They are UL® Listed under File E33139 and marked cULus. NF circuit breaker panelboards accept EDB, EGB, and EJB branch circuit breakers.

Standards

NF circuit breaker panelboards are designed, manufactured, and tested to comply with the following standards:

- UL 67—Standard for Panelboards
- UL 50—Enclosures for Electrical Equipment
- UL Listed Class CTL panelboard
- CSA C22.2, No. 29-M1989—Panelboards and Enclosed Panelboards
- CSA C22.2, No. 94-M91—Special Purpose Enclosures
- NEMA PB 1—Panelboards
- NFPA 70—National Electrical Code® (NEC®)
- Federal Specification W-P-115C Type I Class 1—Circuit Breaker Panelboards
- ASCE7-05, ASCE7-10, IBC2009, IBC2012, CBC2010, CBC2013, CBC 2016, NBCC 2015 Seismic Qualification, and OSHPD Special Seismic Certification Pre-approval: OSP-0016-10
- ABS Type Certified

Ratings

- Main lugs: 125–800 A
- Main circuit breaker: 125–600 A

Table 1: North American Voltage System

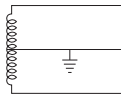
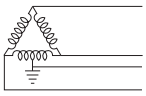
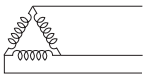
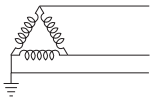
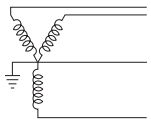
Voltage	System	System Diagram
120/240 Vac	1ϕ3W	
480Y/277 Vac		
240/120 Vac	3ϕ4W Delta	
240 Vac	3ϕ3W Delta	
240 Vac	3ϕ3W Grounded Bϕ Delta	
208Y/120 Vac	3ϕ4W	
480Y/277 Vac		
600Y/347 Vac		

Table 2: International Voltage Systems

220Y/110 Vac	3ϕ4W	50/60 Hz
220Y/127 Vac		
230/115 Vac	3ϕ4W	50/60 Hz
380Y/220 Vac		
400Y/230 Vac	3ϕ4W	50/60 Hz
415Y/240 Vac		
480Y/277 Vac		

Main Lug Interiors

250 A Maximum Main Lugs Interior (Deadfronts Installed)

- Will accept bolt-on branch circuit breakers
- Top or bottom feed
- 65,000 A Short Circuit Current Rating (SCCR) maximum branch circuit breakers at 480Y/277 Vac.
- 25,000 A SCCR maximum branch circuit breakers at 600Y/347 Vac.
- Series rated to 200,000 A SCCR maximum when supplied by PowerPact circuit breaker at 480Y/277 Vac.
- 125 A and 250 A interiors are suitable for use as cULus service entrance with back-fed EDB, EGB, or EJB circuit breakers[1].
- Factory-installed main lugs on all interiors
- 125–400 A main lug interiors are convertible to main circuit breaker interiors by adding a main circuit breaker adapter kit and a main circuit breaker.
- 125 A, 250 A, and 400 A interiors may be suitable for cULus service entrance with vertical main breakers and applicable service entrance barriers.
- Several bus options:
  - — Silver/Tin-plated copper or tin-plated aluminum bus (aluminum is standard)
  - — Tin-plated copper bus and thick silver-plated copper bus are also available
  - — 600 A and 800 A only available with copper
- Branch connector fingers are tin-plated copper:
  - — Silver-plated branch connector fingers are optional
- Line lugs are suitable for 75º C copper or aluminum wire

[1] An EDBS UL Service Entrance barrier is required on each pole of a back-fed main circuit breaker in jurisdictions that have adopted the 2017 National Electric Code.

Main Circuit Breakers

HDL

- 125 A maximum field-installable EDB, EGB, or EJB (100 A max at 600Y/347 Vac)
- 125 A maximum field-installable HDL, HGL, HJL, HLL, or HRL
- 250 A maximum field-installable JDL, JGL, JJL, JLL, or JRL
- 400 A maximum field-installable LAL or LHL
- 400 A or 600 A maximum factory-installed LD, LG, LJ, LL, or LR

Circuit Breaker Kits and Accessories

PowerPact H-, J-, and L-frame circuit breakers are available with shunt trip, ground fault shunt trip, undervoltage trip, time delay, auxiliary switches, and alarm switches.

Field-installable undervoltage release, alarm switch, shunt trip, and auxiliary contacts are available for LAL and LHL main circuit breaker interiors.

NOTE: See Supplemental Digest for additional accessories.

JDL

Table 3: Main Circuit Breaker Adapter Kits (Circuit Breaker Not Included)

Adapter Kit Catalog Number	Ampere Rating	Main Circuit Breaker[1]
N150MH[2]	15–125 A[3]	HDL, HGL, HJL, HLL, HRL
N250MJ	150–250 A	JDL, JGL, JJL, JLL, JRL
N400M	125–400 A	LAL, LHL

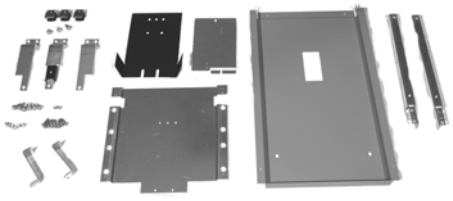
1 Main circuit breakers are not included in the adapter kits. Order them separately.

2 For single phase applications of HDL and HGL, select a 3-pole main circuit breaker. For single-phase applications of HJL and HLL, select a 2-pole main circuit breaker.

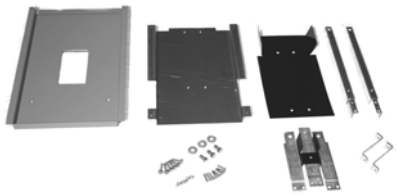
3 RTI kit accepts maximum 125 A H-frame circuit breaker.

NOTE: See “Main Circuit Breaker Terminal Data” on page 21.

LAL



N250MJ Main Circuit Breaker Kit



N400M Main Circuit Breaker Kit

Branch Circuit Breakers (Bolt-on)

Table 4: Standard Branches, 600Y/347 Vac Maximum

Branch Prefix	Availability			Short Circuit Current Rating[1]		
	1-Pole	2-Pole	3-Pole	at 240/120 Vac	at 480Y/277 Vac	at 600Y/347 Vac
EDB	15-70 A	15-125 A[2]	15-125 A[2]	25,000 A	18,000 A	14,000 A
EGB	15-70 A	15-125 A[2]	15-125 A[2]	65,000 A	35,000 A	18,000 A
EJB	15-70 A	15-125 A[2]	15-125 A[2]	100,000 A	65,000 A	25,000 A

1 Series ratings are also available.
In **Canada**: See Series Rating Guide (Data Bulletin #S1600PD0302EP).
In **USA**: See Switchboard/Panelboard Short Circuit Current Ratings (Data Bulletin #2700DB9901) or the Digest.

2 600Y/347 Vac is 100 A maximum.

Table 5: EPD Branches—30 mA Ground Fault Equipment Protection Devices, 277 Vac 60 Hz

Branch Prefix	Availability 1-Pole[1]	Short Circuit Current Rating[2] at 277 Vac
EDB-EPD	15-70A	18,000 A
EGB-EPD	15-70A	35,000 A
EJB-EPD	15-70A	65,000 A

1 EPD branches are single-pole only, and require two pole spaces in the panelboard.

2 Higher available fault current applications may be served via Series Ratings.

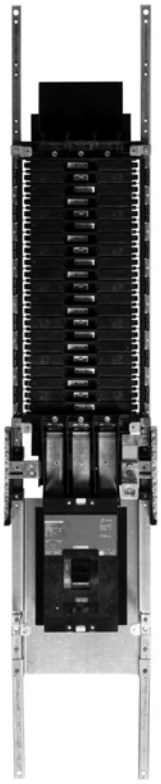
EDB Branch Circuit Breakers

Table 6: Standard and EPD Branches – Terminal Lug Data

Branch Circuit Breaker Prefix	Ampere Rating	Wire Size	
		Aluminum	Copper
EDB, EGB, EJB, EDB-EPD, EGB-EPD, EJB-EPD	15-30 A	#12 - #6	#14 - #6
	35-125 A	#12 - 2/0	#14 – 2/0

Interiors

Main Circuit Breaker Interiors



400 A LAL Main Circuit Breaker Interior

- May be assembled from merchandised main lug interiors, main breaker, and main breaker kits
- Will accept bolt-on branch circuit breakers
- May be top or bottom feed.
- Suitable for use as UL service entrance (statement found on wiring label on back of deadfront); (CSA type service entrance available factory-assembled).
- Barriers must be installed in jurisdictions that have adopted the 2017 National Electric Code.

Table 7: US Service Entrance Barrier Kits[1]

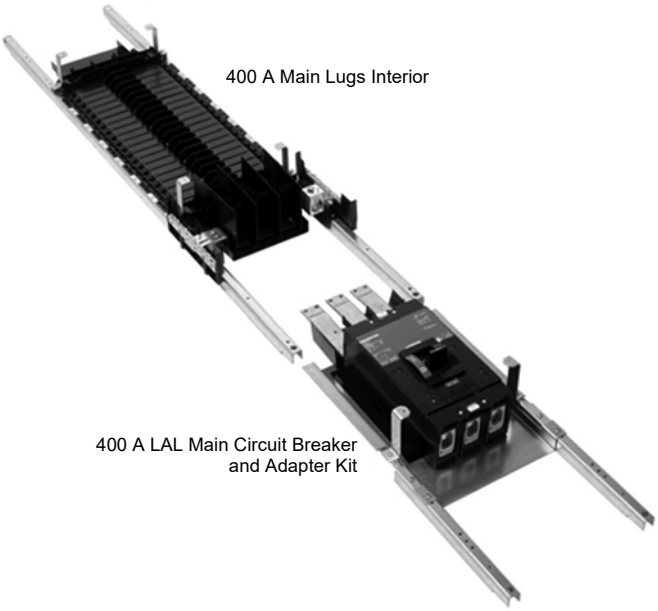
UL Service Entrance Barrier	Description	Applicable Main Breakers
HJQLLC	H/J/Q Line Lug Cover	PowerPact H, J
LALLC	LA/LH Line Lug Cover	LA/LH
PPLLC	PowerPact L Line Lug Cover	PowerPact L
EDBS	E-Frame Line Lug Cover	EDB, EGB, EJB

[1] Main circuit breaker panels are supplied with UL service entrance barriers if "ULService Entrance" is selected as a requirement in SE Advantage.

- 65 k AIR[2] maximum branch circuit breakers at 480Y/277 Vac
- 25 k AIR maximum branch circuit breakers at 600Y/347 Vac
- Series rated up to 200 k AIR maximum when supplied by PowerPact circuit breaker at 480Y/277 Vac.
- Series rated up to 100 k AIR maximum when supplied by PowerPact circuit breaker at 600Y/347 Vac.
- Available with silver-plated copper or tin-plated aluminum bus (aluminum is standard). Tin-plated copper bus and thick silver-plated copper bus are available as an option; 600 A only available with copper.
- Branch connector fingers are tin-plated copper; silver-plated branch connector fingers are optional.
- 125 A at 480Y/277 Vac (100 A at 600Y/347 Vac) main circuit breaker interiors may contain branch mounted EDB, EGB, or EJB main circuit breakers
- 125–250 A main circuit breaker panelboards may be assembled from:
  - Standard main lug interiors
  - Main circuit breaker adapter kit (N150MH, N250MJ)
  - Appropriate PowerPact H- or J-Frame circuit breakers
  - Line lugs suitable for 75º C copper or aluminum wire
- Merchandised 400 A main circuit breaker panelboard consists of:
  - 400 A 3-phase or single phase main lug interior
  - Main circuit breaker adapter kit (N400M) and
  - appropriate LAL or LHL circuit breaker, or
- Factory assembled 400 A main circuit breaker interiors are available with LA, LH, or PowerPact L[3] main circuit breakers.
  - Factory-assembled only
  - Use PowerPact L main circuit breakers

[2] AIR = Ampere Interrupting Rating

[3] Requires 8.75 in. deep NEMA Type 1 enclosure



400 A Main Lugs Interior with 400 A Main Circuit Breaker and Adapter Kit

Options for Main Lugs and Main Circuit Breaker Interiors

Optional Main Lugs

NFCUV4 400A Lug Kit

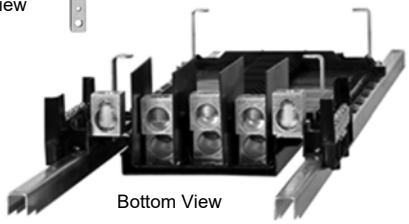
Compression lugs, or copper mechanical lugs, are available for 125–600 A main lug interiors and 100–400 A main circuit breaker interiors.

Table 8: Main Lug Kits

Ampacity	Al Compression Lug Kit Catalog Number	Cu Mechanical Lug Kit Catalog Number	Cu Compression Lug Kit Catalog Number
125	NFALV1	NFCUM1	NFCUV1
250	NFALV2	NFCUM2	NFCUV2
400	NFALV4	NFCUM4	NFCUV4
600	NFALV6	NFCUM6	NFCUV6

Front View

400 A MainLug Interior with Sub-Feed Lugs



Bottom View

Sub-Feed Lugs (on the Mains)

NOTES:

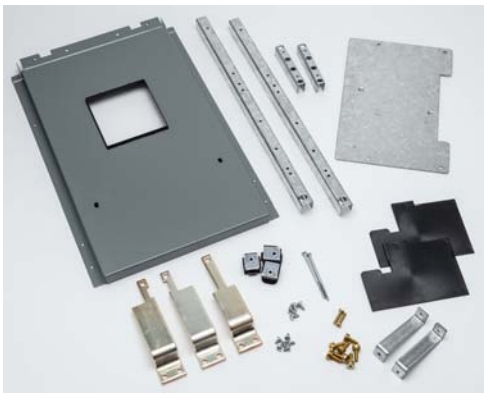
- Copper mechanical lugs available on 125–800 A main lug interiors
- Copper compression lugs available on 125–400 A main lug interiors

NF400SFL Sub-Feed Lug Kit

Table 9: Sub-Feed Lug Kits (Aluminum Mechanical)

Amperes	Catalog Number
125 A	NF125SFL
250 A	NF250SFL
400 A	NF400SFL

NF400FTL (400A Feed-Through Lug Kit)



NF250FBJ Sub Feed Breaker Kit

Feed-Through Lugs (end opposite the Mains)

NOTE: Mechanical or compression lugs available on 1Ø or 3Ø, 125–800 A main lug or 100–600 A main circuit breaker interiors

- Aluminum or Copper lugs available for interiors rated to 600 A
- Copper lugs available for 800 A interiors

Table 10: Field-Installable Sub-Feed Lugs

Mains Rating	Added Length[1]	Catalog No.
125A	6 Inches	NF125FTL
250 A	12 Inches	NF250FTL
400 A	6 Inches	NF400FTL[2]

1 Increase in enclosure length to add kit

2 Not for use with PowerPact L main circuit breaker

Sub-Feed Circuit Breakers

NOTE: Available on 1Ø or 3Ø, 125–800 A main lug or 250–600 A main circuit breaker interiors.

Table 11: Sub-Feed Circuit Breaker (SFB) Kits

Catalog Number	Interior Amperes	PowerPact Breaker Frame / Max. Amps	Number of SFBs
NF250SFBH	250	H / 150	1
NF250SFBJ	250	J / 250	1
NF600SFBH	400, 600	H / 150	2
SF600SFBJ	400, 600	J / 250	2

- One factory assembled sub-feed LA or LH circuit breaker (up to 400A), or one or two PowerPact H or J frame sub-feed circuit breakers may be installed in 400–800 A panelboards.

Lighting Contactors

Lighting Contactors are available as an option in factory-assembled panelboards. 2-pole and 3-pole contactors are available for 30 A, 60 A, 75 A, 100A, 150A, 200 A, or 225 A branch applications. For more information please review Lighting Contactor Catalog 8903CT9701.

Neutrals

Neutral Assembly

- All lugs are suitable for copper or aluminum wire.
- 125–250 A interiors have a split neutral located on the same end as the mains.
- 400–800 A interior neutrals can be located on either end depending on the configuration.
- Neutral may be bonded for use as a UL service entrance.
- Branch terminals are suitable for #14-2/0 copper or aluminum and #14-#6 copper or aluminum.
- Provisions for larger branch terminal lug kits are available as options.
- All unused neutral terminals may be used to terminate equipment grounding conductors when the panelboard is used as UL service equipment.
- 100% rated neutrals are standard; one neutral termination provided per circuit in the panelboard.
- 200% rated neutrals are optional see, “Ground Bar Kits” on page 12; (not available on column width interiors).

NFNL2—250A Neutral Kit

Neutral Kits

Table 12: 200% Neutral Kits

Amperage	125 A	250 A	400 A	600 A	800 A
Catalog Number	NFNL1	NFNL2	NFNL4[1]	Kit not available, Factory-assembled only	

[1] Not to be used with SFL, FTL or SFB. These combinations are factory-assembled only.

Table 13: Copper 100% Neutral Kits for Use with Single or Three Phase 125-600 A Interiors

Amperage	125 A	250 A	400 A	600 A	800 A
Catalog Number	NFN1CU	NFN2CU	NFN6CU	NFN6CU[1]	Kit not available, Factory-assembled only

[1] Not to be used with SFL, FTL or SFB. These combinations are factory-assembled only.

Neutral Bonding Provisions

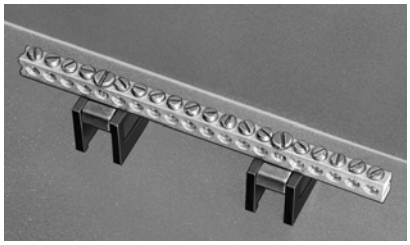
The bonding strap may be field installed for UL service equipment requirements on 125–800 A interiors. Not applicable for CSA service entrance panels in Canada.

Ground Bar Kit

Table 16: Optional Ground Bar / Neutral Bar Lugs[1]

QO70AN	#10–#2 Al or #14–#4 Cu lug
Q1100AN	#4–#1/0 Al/Cu lug
Q1150AN	#41–#4/0 Al/Cu lug

[1] Up to 5 lugs may be added to NF neutrals or ground bars.



Ground Bar with Insulator Kit

PKGTAB Insulated Ground Bar Kit

Ground Bar Kits

- Field installable in all panelboards.
- Wire size of terminals (refer to the technical information below)
- Order enough ground bar kits to accommodate all the ground conductors used in the panel

Table 14: Ground Bar Kits

Catalog Number	Terminal			Approx. Overall Length In. (mm)	Distance Between Mounting Holes In. (mm)
	Number of Terminal	Quantity Available for Each Size			
		Material	I/II		
PK12GTA	12	AL	12/0	4.700 (119)	3.125 (79)
PK12GTACU	12	CU	12/0	4.700 (119)	3.125 (79)
PK18GTA	18	AL	18/0	6.560 (167)	3.125 (79)
PK18GTACU	18	CU	18/0	6.560 (167)	3.125 (79)
PK23GTA	24	AL	23/1	9.125 (232)	3.125 (79)
PK23GTACU	24	CU	23/1	9.125 (232)	3.125 (79)
PK27GTA	27	AL	24/1	9.125 (232)	3.125 (79)
PK27GTACU	27	CU	27/0	9.125 (232)	3.125 (79)

Table 15: Wire Range

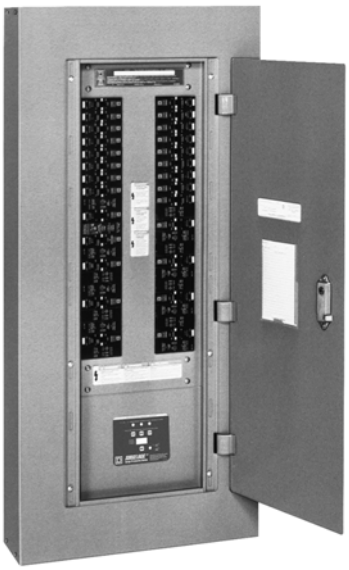
Size	Cu	Al
I	(1) #14 to #4 or (2) #14 or #12	(1) #12 to #4 or (2) #12 or #10
II	(1) #1 to 4/0	(1) #1 to 4/0

Ground Bar Insulator Kits

- The PKGTAB insulator kit isolates the standard panelboard ground bar from the panelboard.
- The insulator kit is field installable, and panelboard enclosures have ground bar mounting provisions in all four corners.

All PK equipment grounding kits are supplied with mounting screws, installation instructions, and an “Equipment Grounding Terminal” self-adhesive label.

Surge Protection



NF Main Lugs Panelboard with Integral SPD

The Surgelogic® IMA series surge protective device (SPD) is a modular parallel transient voltage surge suppressor (TVSS). The IMA device is a multi-stage suppression circuit consisting of field-proven, fast-acting, 34 mm metal oxide varistors (MOVs).

A surge suppression path is provided for each mode, line-to-neutral (L-N), line-to-line (L-L), line-to-ground (L-G), and neutral-to-ground (N-G). Each surge suppression mode is individually fused and uses circuitry with thermal cutouts to isolate the TVSS and ensure shutdown in the event of MOV damage during severe overvoltages, even when operated on high fault current power systems.

The suppression elements are encapsulated in a UL recognized potting material—another performance element that provides additional protection. A filter provides a high level of EMI/RFI noise attenuation. On-line diagnostics continuously monitor the device status, and LEDs signal loss of a suppression circuit. An audible alarm with an enable/disable feature and dry contacts are included in the standard diagnostic package.

NF442L2TVS416C

Table 17: Ready to Install NF Interiors with SPD

Mains Rating	Max Circuit Breaker Spaces	SPD Rating		Interior Catalog Number[1]	Components for Adding a Vertical Main Circuit Breaker	
		Voltage (Vac)	Surge Current Rating (kA)		Main Circuit Breaker Kit	Main Circuit Breaker Frames
250 A	42	480Y/277	160	NF442L2TVS416C	N150MH[2] N250MJ	HD, HG, HJ, HL, or HR JD, JG, JJ, JL, or JR
		600Y/347	120	NF442L2TVS812C		
400 A	42	480Y/277	160	NF442L4TVS416C	N400M	LA, LH
		600Y/347	120	NF442L4TVS812C		

1 These interiors are available as catalog numbered devices. SPDs are not available as a field-installable kit.

2 RTI kit accepts maximum 125 A H-frame circuit breaker.

Table 18: IMA Series Voltage Specifications

Service Voltage[1]	UL Suppression Voltage Rating (SVR)				
	L–N	L–G	N–G	L–L	MCOV [2]
120/240 Vac, 1-phase	400	400	400	800	150
208Y/120 Vac, 3-phase, 4-wire	400	400	400	800	150
240/120 Vac, 3-phase, high-leg delta	800/400	800/400	400	1500/800	275/150
480Y/277 Vac, 3-phase, 4-wire	800	800	800	1600	320
600Y/347 Vac, 3-phase, 4-wire	1200	1200	1200	2000	420

1 For additional information, refer to Document Number 9990-0116.

2 MCOV: maximum continuous operating voltage.

Table 19: Performance Features

Surge Capacity	L–N	L–G	N–G (3-Phase Rating)
100 kA / phase	50 kA	50 kA	100 kA
120 kA / phase	60 kA	60 kA	120 kA
200 kA / phase	100 kA	100 kA	200 kA
160 kA / phase	80 kA	80 kA	120 kA
240 kA / phase	120 kA	120 kA	120 kA

Design Features

- Individually fused suppression modules
- Thermal cutout
- Inline, copper bus bar connection
- Solid state bi-directional
- Push-to-Test on-line diagnostic display
- Audible alarm with enable/disable switch, provides audible indication that there is a loss of protection
- LED indicators indicate loss of protection, or fully operational circuit
- High-energy parallel design for IEEE C62.41 category A, B, and C3 applications
- Available in main circuit breaker and main lug only panelboards with sub-feed circuit breakers, feed-through lugs, or sub-feed lugs
- AC tracking filter with EMI/RFI filtering up to -50 dB from 100 kHz to 100 MHz
- Dry Contacts provide remote indication of the SPD device's operating status to a computer interface board or emergency management system.

Table 20: Other Options

Option	Description
Surge Counter	Displays the combined total number of transient voltage surges detected from L–G, L–L, L–N, and N–G since the counter was last reset.
Remote Monitor	Displays the alarm status of the surge protective device up to 1,000 ft. (305 m) away from the unit. This option uses the dry contacts.

Split Bus and Separated Distribution Panelboards

Square D NF Separated Distribution and Split Bus Panelboards come Factory Assembled with copper bus, with or without an integral Main Circuit Breaker. Multiple branch section configurations (pole spaces per section):
Split Bus: 18–30; 30–18; 30–30; 30–18–18.
Separated Distribution: 30–18–18; 18–18–18. Up to 250 A mains rating.

Table 21: Split Bus and Separated Distribution Interiors[1]

Interior Type (3Ø Only)	Spaces (Poles per Section)[2]	Split Amps[3]	
		Cabled Split	Backfed Mains
Split Bus	18–30	NA	125
	30–18		
	30–30		
	30–30		
Separated Distribution	30–18–18	250 A	125 A
	18–18–18		

1 Please refer to Document Number 1600HO1701.

2 Pole Spaces: Main-Split; or Main-Split1–Split2.

3 Maximum split ampere cannot exceed mains rating for cabled splits.

Power and Energy Management Options

Several Power Meters and Circuit Monitors are available factory-assembled in most NF panelboards. Basic Energy Metering at the Mains is possible with PowerLogic EM3500 series circuit monitors. Power Quality Monitoring is available with the selection of PM5563 or PM8244 power meters. These are typically installed with an LCD display in a 7 inch (178 mm) wide side gutter. Communications from these meters is avaiable via Ethernet Modbus TCP/IP.

Enclosures

NEMA Type 1 Enclosure with Mono-Flat Cover for 125–250 A Interiors

Table 22: NEMA Enclosure Types

NEMA Type	Environment	Protects Against
NEMA Type 1	Indoor	Contact with the enclosed equipment, falling dirt
NEMA Type 2	Indoor	Type 1, plus • Dripping and light splashing of non-corrosive liquids
NEMA Type 3R	Outdoor	Type 2, plus • Rain, snow, and sleet
NEMA Type 4	Indoor/outdoor	Type 3R, plus • Circulating dust, lint, fibers • Settling airborne dust, lint, fibers • Windblown dust • Hosedown and splashing water
NEMA Type 4X	Indoor/outdoor	Type 4, plus • Corrosive agents
NEMA Type 5	Indoor	Type 2, plus • Settling airborne dust, lint, fibers, and flyings
NEMA Type 12	Indoor	Type 2, plus • Circulating dust, lint, fibers, and flyings • Settling airborne dust, lint, fibers, and flyings • Oil and coolant seepage

NEMA Type 1 Enclosure for 400-800 A Interior with Vented Mono-Flat Cover

Indoor Enclosures (Types 1 and 2)

MH type Box

- Standard enclosures are 20 in. (508 mm) wide by 5.75 in. (148 mm) deep. (26 in. (1887 mm) wide enclosures available for Factory Assembled panelboards).
- NF interiors with a PowerPact L main circuit breaker or with an 800 A MLO interior require an 8.75 in. (223 mm) deep box—they are available factory-assembled only.
- Boxes are galvanized steel with removable endwalls. On standard depth boxes, one endwall is provided with knockouts, and the other endwall is blank. On deeper boxes, both are blank. Endwalls are removable and interchangeable.
- Enclosure and interior mounting instructions are included in the documentation shipped with the interior.
- Keyhole slots are located in the box backwall to ease installation.

  NOTE: Interiors mount directly to studs in MH boxes. No interior mounting brackets are required.

  NOTE: 800 A interiors and interiors that have PowerPact L main circuit breakers require elevating brackets, which are included in 8.75 in. (223 mm) deep boxes.
- Type 2 boxes include a drip hood (available with surface mounted trim only).
- Double (tub) Type 1 enclosures are available in 20 in. (508 mm) and 26 in. (1887 mm) widths from 38 in. (965 mm) to 92 in. (2337 mm) high.
- Enclosures with an 18 in. tall equipment space are available factory-assembled for 125-400 A interiors.

Type 1 and 2 Trim Fronts

- Finished with gray baked enamel over cleaned, phosphatized steel (ANSI 49).
- May be ordered flush or surface mounted.
- Door comes with flush lock; uses NSR-251 key.
- Directory card is located on the inside of the door.
- Mono-Flat® trim fronts on 100–250 A interiors mount to the interior trim with trim screws. Both trim mounting screws and door hinges are concealed; fronts are not removable with the door closed and locked.
- Trim fronts for 400–800 A interiors are ventilated and mount to the enclosure with trim screws; door hinges are concealed.
- Trim fronts 56 in. (1422 mm) high or more on 250 A interiors or 68 in. (1880 mm) high or more on 400 A, 600 A, and 800 A interiors have two flush locks.
- Trim fronts 44 in. (1119 mm) high or more on interiors with PowerPact L main circuit breakers use 3-point latching.

Key NSR-251
(Catalog No. LP9618)

Concealed Hinge for 125–800 A Trim Fronts

Interiors Mount Directly to Enclosure Studs

Standard Flush Lock
(Catalog No. PK4FL)

Optional Sliding Vault Lock (Catalog No. PK5FL)

MH Box

Type 3R, 5, and 12 Enclosures

Rainproof (Type 3R) Dust Resistant (Type 5 and 12)

- Finished with gray baked enamel over cleaned, phosphatized galvanized steel (ANSI 49)
- Gasketed door with lockable vault handle (PK4NVL); uses NSR-251 key
- Directory card located on the inside of the door
- No knockouts in endwalls
- Trim kit included for end and side gutters
- Provisions for two ground bars
- 125 A, 250 A, 400 A main lug and main circuit breaker interiors
- 600 A and 800 A main lug only

Vault Handle with Lock
(Catalog No. PK4NLV)

Type 4X Enclosure

Corrosion-Resistant Fiberglass-Reinforced Polyester (Type 4X)

- Watertight and dust-resistant
- Gasketed door with trunk latches
- Directory card located on the inside of the door

Stainless Steel (Type 4 and 4x)

- Water and dust-resistant
- Gasketed door
- Directory card located on inside of door

Single Row (Column-Width) Panelboards

Column-Width Panelboard

NF Column Width 225A Main Breaker 3Phase, 42 circuit Panelboard, without Trim Cover

Application Data

Ratings

- Main lugs: 125 A, 225 A
- Main circuit breaker: 100 A, 225 A

Interiors

- 60 A maximum branch circuit breaker
- Bolt-on EDB/EGB/EJB circuit breakers. See “Standard Branches, 600Y/347 Vac Maximum” on page 6, and “EPD Branches—30 mA Ground Fault Equipment Protection Devices, 277 Vac 60 Hz” on page 6.
- Solid neutral opposite mains

Enclosures

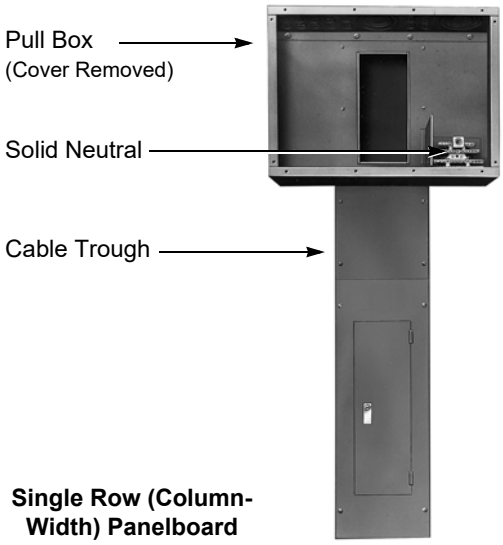
- 8-5/8 in. (219 mm) wide by 5-5/8 in. (143 mm) deep for 10 in. (254 mm) H- or I-beam
- Galvanized steel
- Removable endwalls

Trim Fronts

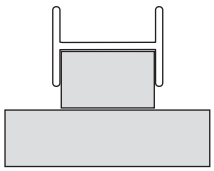
- Screw mounted
- Door with two flush latches
- Finish: gray baked enamel over cleaned, phosphatized steel

Line Lugs

- All lugs are suitable for 75° C copper or aluminum wire



Single Row (Column-Width) Panelboard



Cable Trough Top View with I-Beam

Cable Trough

- Cable trough is stackable
- 8-5/8 in. (219 mm) wide by 5-5/8 in. (143 mm) deep for 10 in. (254 mm) I-beam or H-beam
- Galvanized steel trough uses enclosure endwall
- Screw-mounted two-piece front
  - — 15 in. (381 mm) long top piece of front removable for pull box mounting
  - — Finish: gray baked enamel over cleaned, phosphatized steel

Table 23: Column-Width Cable Trough

Length of Cable Trough	Catalog No.
36 in. (914 mm)	NTX836
48 in. (1219 mm)	NTX848
56 in. (1422 mm)	NTX856
66 in. (1676 mm)	NTX866

Pull Box
(catalog number MPX81542)

- Mounts on cable trough
- 20 in. (508 mm) wide by 5-3/4 in. (146 mm) deep by 15 in. (381 mm) high
- Screw-mounted front
- Finish: gray-baked enamel over cleaned, phosphatized steel
- Removable top endwall with knockouts
- Solid neutral included

Terminal Data

Main Lugs Terminal Data

Table 24: Standard Aluminum and Copper Lug Kits[1]

Amperes	Aluminum				Copper			
	Aluminum Mechanical		Aluminum Compression		Copper Mechanical		Copper Compression	
	Cat. #	Lug Wire Range	Cat. #	Lug Wire Range	Cat. #	Lug Wire Range	Cat. #	Lug Wire Range
125	NFALM1	(1) #6 - 2/0 [2]	NFALV1	(1) #4-300 kcmil	NFCUM1	(1) #6 - 350 kcmil	NFCUV1	(1) #6 - 1/0
250	NFAML2	(1) #6 - 350 kcmil	NFALV2	(1) 250-350 kcmil	NFCUM2	(1) #6 - 350 kcmil	NFCUV2	(1) 2/0 - 300 kcmil
400	NFALM4	(1) 1/0-750 kcmil or (2) 1/0-350 kcmil	NFALV4	(2) 2/0-500 kcmil	NFCUM4	(1) 1/0-750 kcmil or (2) 1/0-350 kcmil	NFCUV4	(1) 400-750 kcmil
600	NFALM6	(2) 1/0-600 kcmil	NFALV6	(2) 2/0-500 kcmil	NFCUM6	(2) 1/0-750 kcmil	NFCUV6	(2) 250-750 kcmil
800	Contact the Technical Applications Group (TAG)							

1 NF MLO interiors are supplied with lugs. No selection is required if Aluminum Mechanical lugs are acceptable.

2 Neutral accepts #6-2/0 Al/Cu.

Main Circuit Breaker Terminal Data

See Digest section 7 for copper lugs.

Table 25: Standard Aluminum Mechanical Lugs Kits

S/N = Solid Neutral

Panelboard Type	Ampere Rating	Circuit Breaker Type	Lug Wire Range
NF	125 A[1]	EDB, EGB, EJB	(1) #14-2/0 Al/Cu
	150 A	HDL, HGL, HJL, HLL	(1) #14-3/0 Al/Cu
	250 A	JDL, JGL, JJL, JLL, KI	(1) 3/0-350 kcmil Al/Cu
	400 A	LAL, LHL	(1) #1-600 kcmil Al/Cu or (2) #1-250 kcmil Al/Cu
	600 A	LD, LG, LJ, LL, LR	(2) 4/0-500 kcmil Al/Cu
	800 A	800 A main breaker panelboard not available.	

1 100 A maximum at 600Y/347 Vac.

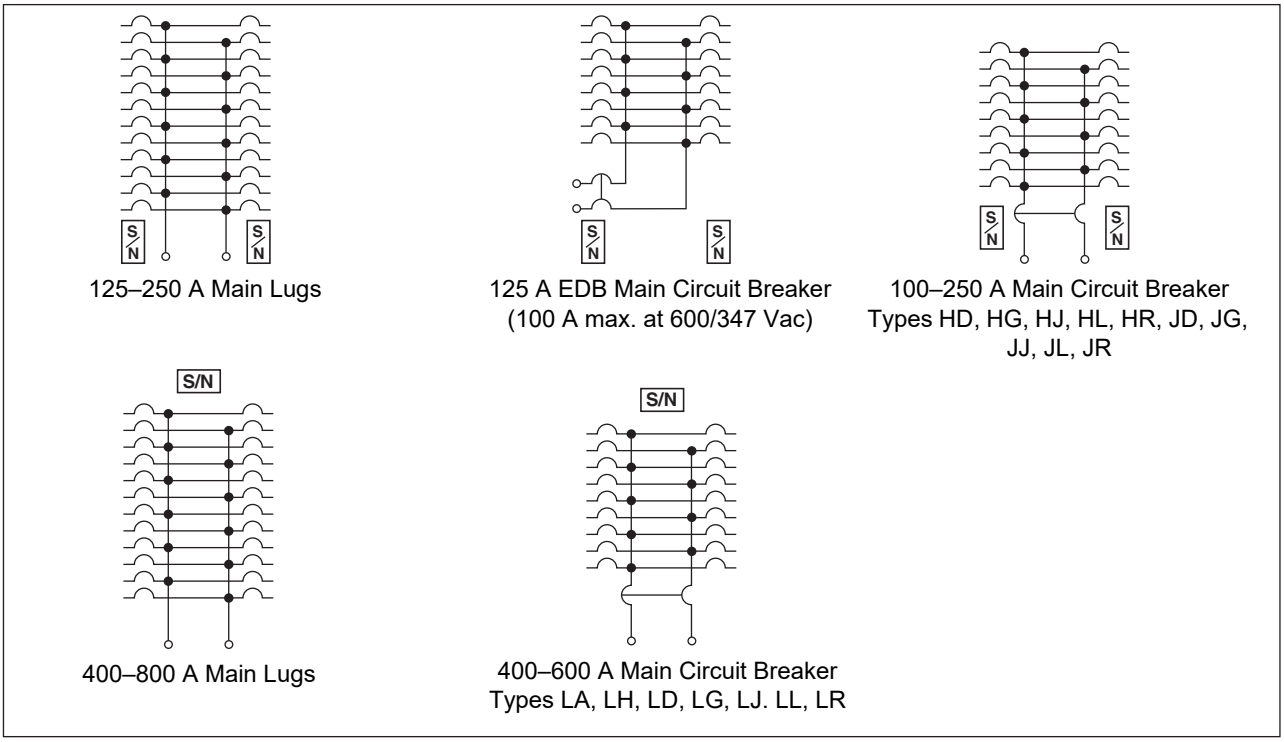
Table 26: Aluminum Compression Lugs Kits

Panelboard Type	Ampere Rating	Circuit Breaker Type	Catalog No.	Lug Wire Range
NF	125 A[1]	ED, EG, EJ	VC100FD	(1) #8-1/0 Al/Cu
	150 A	HD, HG, HJ, HL	YA150HD	(1) #1–4/0 Al/Cu
	250 A	JD, JG, JJ, JL	YA250J35	(1) 3/0–350 kcmil Al/Cu
	400 A	LA, LH	VC400LA5[2]	(1) 2/0-500 kcmil Al/Cu
	600 A	LC, LG, LJ, LL, LR	Factory Assembled Only	(1) 2/0-500 kcmil Al/Cu
	800 A	800 A main breaker panelboard not available.		

1 100 A maximum at 600Y/347 Vac.

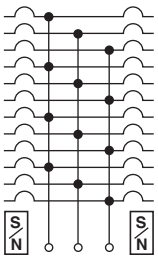
2 Other lug sizes available.

Typical Wiring Diagrams

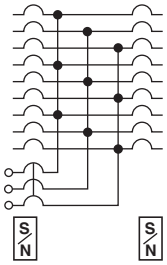


S/N = Solid Neutral

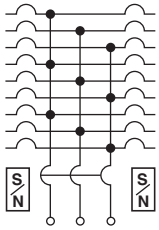
1-Phase, 3-Wire



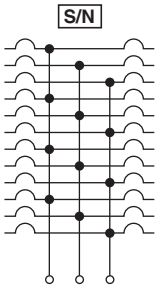
125–250 A Main Lugs



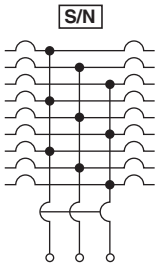
125 A EDB Main Circuit Breaker
(100 A max. at 600/347 Vac)



100–250 A Main Circuit Breaker
Types HD, HG, HJ, HL, HR, JD, JG, JJ, JL, JR



400–800 A Main Lugs



400–600 A Main Circuit Breaker
Types LD, LG, LJ, LL, LR

S/N = Solid Neutral

3-Phase, 4-Wire

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