



NLAB Panelboards Applications

NLAB0001

P.O. Box 2328 • 227 N. Freedom Ave. • Alliance, OH 44601 • Phone: (330) 821-7667 • Fax: (330) 829-3175 • Website: www.filnor.com • Email: filnor@filnor.com

The NLAB panel provides protection for lightning and appliance circuits in commercial and industrial establishments.

Services:

AC Systems - 240 volt maximum

- 3 Phase 4 Wire with Neutral
- 1 Phase 3 Wire with Neutral
- 1 Phase 2 Wire with Neutral
- 3 Phase 3 Wire

Interior:

- Branch circuit breakers to be bolted to bus
- All bus bar to be copper rated 1000 ampere per square inch
- Standard short circuit bracing for 10,000 AIC
- Underwriters Laboratories Inc. listed

Fronts:

- Door and trim are flat gauge steel per code
- Flush catch and lock
- Continuous piano hinge
- Fronts bolted to box
- Standard painted finish ANSI 61 gray
- Directory card with plastic cover on back of door

Boxes:

- Galvanized sheet steel per code gauge
- 3/4 inch flange for rigidity and fastening trim
- Blank ends
- Wire gutters meet or exceed UL/NEC requirements

Applications:

Filnor, Inc. is a leader in custom and commercial lightning and distribution panels for:

- Aerospace
- Banking
- Communications
- Data Processing
- Electronics
- Government
- Medical
- Military
- Petrochemical
- UPS Power/Distribution
- Utilities
- Waste Water/Sanitation



NLAB Panelboards Specifications

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Furnish factory assembled NLAB panelboards complete with enclosing cabinets as manufactured by Filnor, Inc. where indicated on the drawings. Provide panelboards of dead front, circuit breaker type, 120/240 volt 1 phase 3 wire, 208Y/120 volt 3 phase 4 wire solid neutral, with main lugs or main switch/breaker as indicated.

Circuit breakers shall be bolt-on-type, quick-make quick-break, trip-free, thermal magnetic with a minimum interrupting capacity of 10,000 amperes symmetrical at rated voltage. Tripped indication shall be clearly shown on the breaker handle taking a position between "ON" and "OFF." Circuit breakers shall be equipped with individually insulated, braced and protected connectors. Branch breakers to be connected for sequence phasing, i.e. breakers 1 and 2 connected to phase "a", breakers 3 and 4 to phase "b", etc, to conform to branch circuit numbering system shown on drawing. Polarity or block phasing will not be acceptable. The front faces of all circuit breakers shall be flush with each other. Large permanent individual numbers shall be affixed in a uniform position. Provisions for additional breakers shall be such that field addition of connectors or mounting

hardware will not be required to add breakers to the panelboard. Where spaces are called for, panel bus shall be extended behind the space.

Panelboard bus structure and main lugs, main breaker or main switch shall have current ratings as shown on the panelboard schedule. Such ratings shall be established by heat rise tests with maximum hot spot temperature on any connector or bus bar. Heat rise test shall be conducted in accordance with UL 67. All bus bar shall be copper. Bus bar shall be rated for 1000 amperes per square inch minimum.

The panelboard assembly shall be enclosed in a steel cabinet. The size of the wiring gutters and gauge of steel shall be in accordance with NEMA Standards Publication No. PB1 and UL Standards No. 67 for panelboards. The box shall be fabricated from galvanized steel or equivalent rust resistant steel. Enclosure to be for indoor or outdoor use as indicated. A ground bar is to be furnished in the box.

Fronts shall include a door over the breaker handles with a tumbler-type lock with catch. The inner door shall be over the switch handles only. Doors over 48 inches in height shall be equipped with three-point catch and lock with vault handle. All

panelboard locks to be keyed alike. A circuit directory card with clear plastic covering shall be provided on the inside of the inner door.

Quality Assurance

Reference Latest Standards:

Underwriters Laboratories Inc.
(UL)

- a. Panelboards - UL 67
- b. Cabinets and boxes - UL 50

National Electrical Manufacturers Association (NEMA)

- a. NEMA -PB1 (latest revision)

Federal Specifications

- a. Panelboards WP-115a
- b. Molded Case Circuit Breakers WP-375b

National Fire Protection Association (NFPA)

- a. NFPA 70, National Electrical Code (NEC)

Requirements of Regulatory Agencies:

- a. State Codes
- b. Local Codes and Ordinances



NLAB Panelboards

Catalogue No. & Option

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NLAB-3

1 Phase 3 Wire SN 120/240 Volts AC or DC					2 Pole Main Breaker Boxes 20" Wide				
# of Poles	Catalog #	Mains Ampere Rating	Cabinet Height	Approx. Shipping Weight	# of Poles	Catalog #	Mains Ampere Rating	Cabinet Height	Approx. Shipping Weight
12	NLAB12-3L	100A	23	65	12	NLAB12-3AB	100A	30	85
14	NLAB14-3L	100A	30	78	14	NLAB14-3AB	100A	33	105
16	NLAB16-3L	100A	30	78	16	NLAB16-3AB	100A	33	105
18	NLAB18-3L	100A	30	78	18	NLAB18-3AB	100A	33	105
20	NLAB20-3L	225A	33	95	20	NLAB20-3AB	225A	39	160
22	NLAB22-3L	225A	33	95	22	NLAB22-3AB	225A	39	160
24	NLAB24-3L	225A	33	95	24	NLAB24-3AB	225A	39	160
26	NLAB26-3L	225A	36	107	26	NLAB26-3AB	225A	42	175
28	NLAB28-3L	225A	36	107	28	NLAB28-3AB	225A	42	175
30	NLAB30-3L	225A	36	107	30	NLAB30-3AB	225A	42	175
32	NLAB32-3L	225A	39	119	32	NLAB32-3AB	225A	45	192
34	NLAB34-3L	225A	39	119	34	NLAB34-3AB	225A	45	192
36	NLAB36-3L	225A	39	119	36	NLAB36-3AB	225A	45	192
38	NLAB38-3L	225A	42	130	38	NLAB38-3AB	225A	48	205
40	NLAB40-3L	225A	42	130	40	NLAB40-3AB	225A	48	205
42	NLAB42-3L	225A	42	130	42	NLAB42-3AB	225A	48	205

NLAB-4

3 Phase 4 Wire SN 120/208 Volts					3 Pole Main Breaker Boxes 20" Wide				
# of Poles	Catalog #	Mains Ampere Rating	Cabinet Height	Approx. Shipping Weight	# of Poles	Catalog #	Mains Ampere Rating	Cabinet Height	Approx. Shipping Weight
12	NLAB12-4L	100A	23	65	12	NLAB12-3AB	100A	30	85
14	NLAB14-4L	100A	30	78	14	NLAB14-3AB	100A	33	105
16	NLAB16-4L	100A	30	78	16	NLAB16-3AB	100A	33	105
18	NLAB18-4L	100A	30	78	18	NLAB18-3AB	100A	33	105
20	NLAB20-4L	100A	33	95	20	NLAB20-3AB	225A	39	160
22	NLAB22-4L	100A	33	95	22	NLAB22-3AB	225A	39	160
24	NLAB24-4L	100A	33	95	24	NLAB24-3AB	225A	39	160
26	NLAB26-4L	100A	36	107	26	NLAB26-3AB	225A	42	175
28	NLAB28-4L	100A	36	107	28	NLAB28-3AB	225A	42	175
30	NLAB30-4L	100A	36	107	30	NLAB30-3AB	225A	42	175
32	NLAB32-4L	225A	39	122	32	NLAB32-3AB	225A	45	192
34	NLAB34-4L	225A	39	122	34	NLAB34-3AB	225A	45	192
36	NLAB36-4L	225A	39	122	36	NLAB36-3AB	225A	45	192
38	NLAB38-4L	225A	42	133	38	NLAB38-3AB	225A	48	205
40	NLAB40-4L	225A	42	133	40	NLAB40-3AB	225A	48	205
42	NLAB42-4L	225A	42	133	42	NLAB42-3AB	225A	48	205

Main Switch/Main Circuit Breakers: Mounted vertically.

Branch Circuit Breakers: 20 amp. single pole, 120 volt, AC. 15 thru 60 amp. ratings for single pole breakers can be furnished at the same price when specified.

Space Only or Provisions for Future Breakers: Figure panel for total number of poles, including spaces.



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Mains:

- Increase bus capacity to 400 ampere
- Main breaker to 400 ampere
- Main fused disconnect switch
- Compression lugs
- Sub-feed lugs
- Asco remote control as main

Interiors:

- To fit existing boxes
- Split bus or meter loop
- Remote control switches
- 200% rated neutral
- Time clock
- Sub-feed breakers

Boxes:

- Aluminum
- Stainless steel
- Nema 3R
- Nema 4X
- Nema 12
- Special drilling
- Special knockouts
- Increase gauge
- Increase gutters
- Painted

Fronts:

- Door-in-door construction
- Trim hinged to box
- Special locks
- Metal directory frame
- Special painting
- Split Door
- Common trim over two boxes

Circuit Breakers:

- Handle locking device
- Padlocking devices
- Increase interrupting capacity
- Shunt trip
- Undervoltage trip

Others:

- Metering
- Insulated ground bar
- Ground lug bolted to box
- Nameplates



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Dimensions:

A - Top and Bottom Gutter

- 100 ampere lugs - 6 inches
- 235 ampere lugs - 7 1/2 inches
- 400 ampere lugs - 12 inches
- 600 ampere lugs - 12 inches

B - Branch Circuits

1 inch of height for each double branch circuit.

C - Neutral and Main Lugs

- 100 ampere - 3 inches
- 200 ampere - 3 inches
- 400 ampere - 4 inches
- 600 ampere - 5 inches

D - Main Breaker

- 100 ampere - 10 inches
- 225 ampere - 10 inches
- 400 ampere - 15 inches
- 600 ampere - 15 inches

Notes:

The panelboards shown here are typical of general construction.

Cabinet sizes have been standardized to provide more efficient service and manufacturing processes. Therefore, dimensions shown on the page are approximate and should be used for estimating purposes only - consult the factory for further details.