

Rackmount Distribution Panel

Models:
DST-100/8

INSTALLATION/OPERATION INSTRUCTIONS



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M-DST100/8
As of 011215

NEWMAR
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I) OVERVIEW

The DST-100/8 panel accommodates 8 circuit breakers (12, 24 or 48 VDC, positive or negative ground) within a compact housing occupying only 2 RU of rack space. The plug-in breakers only require front access for quick, easy installation during initial system configuration, as well as future system expansion.

The panel features a 100 amp single bus, which accept up to 8 circuit breakers.

Input/output wiring is via rear access barrier terminal blocks that accept single hole lugs.

Mounting brackets are provided to adapt the panel for 19" rack installation, flush or center mount (contact Newmar for 23" mounting ears). Snap-in hole covers are provided for unused breaker positions and a clear protective toggle guard is provided to prevent accidental breaker switching.

The panel is shipped standard without breakers. These are sold separately and are plugged into the unit during installation. Refer to the Circuit Breaker Specifications and Ordering Guide section at the end of this manual for available values. The panel contains summary alarm contacts.

Warranty period for the panel is two years, parts and labor.

For questions or comments on Newmar Distribution Panels, please call 800-854-3006 or e-mail techservice@newmarpower.com.

II) IMPORTANT SAFETY INFORMATION

- 1) Never restrict air flow through the vents of the DST panel.
- 2) Reliable Earthing (Grounding) of rackmounted equipment shall be maintained.
- 3) The power connections shall be made with copper conductors. Refer to NEC for proper DC wire gauge.
- 4) For use with Newmar DST-100/8 Series circuit breakers, special purpose, single pole, rated 65V DC, 5-30 amps, Orientated so that the ON position is in the UP position. (Suitable breakers are available from NEWMAR.)

III) MATERIALS LIST

Prior to installation, carefully review the following list to verify all necessary items have been provided. Note: Some items are provided in the hardware accessory package; others are taped to the main DST-100/8 assembly or installed. For any missing items please contact the factory. (Contact information may be found on the bottom of any page of this manual.)

Hardware/parts provided

- (1 ea.) Rackmount Distribution Panel Assembly
- (2 ea.) Mounting Brackets for 19" rack (stamped 13918C)
- (6 ea.) 6-32 X 5/16" Phillips Screws (for mounting bracket installation)
- (1 ea.) Molex-to-6 Wire Pigtail Conn. Assy. (P/N 773-1210-0)
- (1 ea.) Molex-to-Molex 4 Wire Connector Assy. (P/N 773-4000-1)
- (8 ea.) Open Circuit Position hole plugs (factory installed)
- (1 ea.) Clear Protective Toggle Guard
- (2 ea.) Toggle Guard Mounting Screws, 6-32 x 1 3/8"
- (2 ea.) Toggle Guard Nylon Stand-Offs
- (1 ea.) T-Block Cover, 4 position, clear
- (2 ea.) T-Block Cover, 8 position, clear
- (2 ea.) Flat Washers, # 6 (for toggle guard assembly)
- (8 ea.) Lock Washers, # 6 (2 ea. for toggle guard assembly; 6 ea. for mounting bracket installation)
- (2 ea.) Circuit Identification Label
- (1 ea.) White Ink Pen for Circuit Identification Label
- (1 ea.) Pen Holder (adhesive)
- (1 ea.) Installation/Operation Manual

IV) PANEL INSTALLATION

A) Panel Mounting

A set of mounting brackets are provided, and six 6-32 x 5/16" pan head phillips screws with six # 6 lock washers are provided for attaching the brackets to the assembly. Two sets of tapped attachment holes in the assembly sides facilitate either flush or 6" forward mounting.

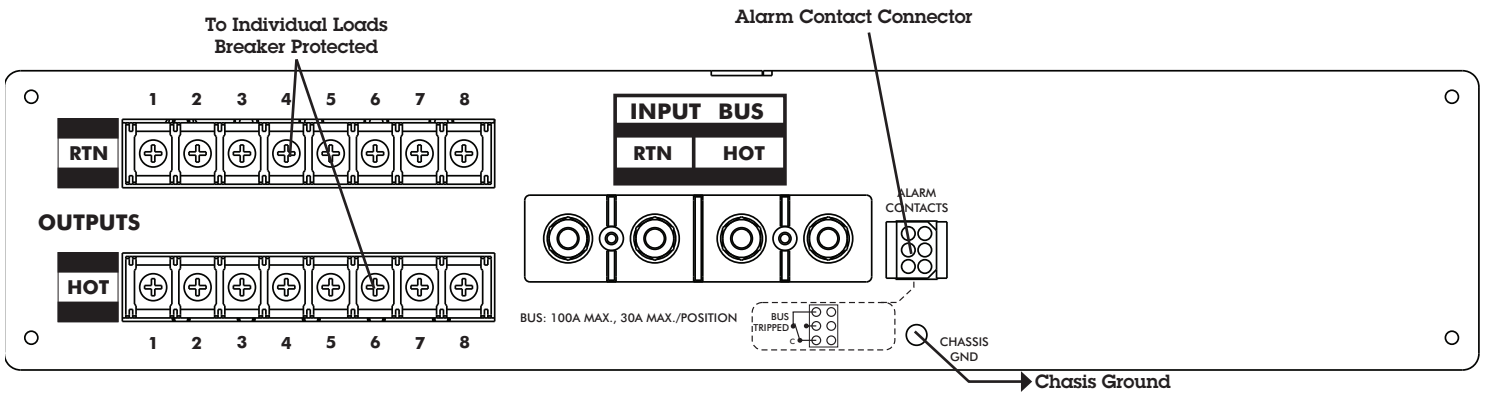
B) Input Wiring

See **Figure 1** for Input and Output Load Wiring. Hot and Return input bus power is connected to the 1/4" stud terminals located near the center of rear panel. The bus is rated at 100 amps.

Wiring should be terminated with 1/4" ring lugs to ensure a safe installation.

Recommended torque for all 1/4 inch hardware is 50 inch-pounds.

Figure 1: Input & Output/Load Wiring - Rear Panel View



C) Output/Load Wiring

(Refer to N.E.C. or local codes for any questions regarding proper d.c. wire gauges and color codes.)

Eight pairs of output terminal screws are provided. Use of any of the outputs requires installation of a plug-in DST-FB breaker at that position.

Load wires are attached to the numbered output terminal block positions on panel rear.

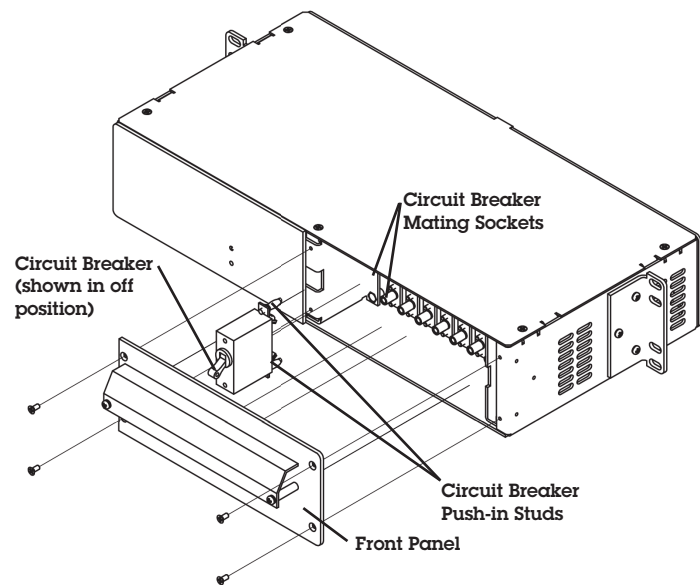
Polarity Note:

System Voltage	Hot	RTN
-48 VDC	-	+
+24 VDC	+	-
+12 VDC	+	-

Note: The DST-100/8 is polarity in-sensitive.

V) CIRCUIT BREAKER AND SUMMARY ALARM INSTALLATION

Figure 2: Circuit Breaker Installation



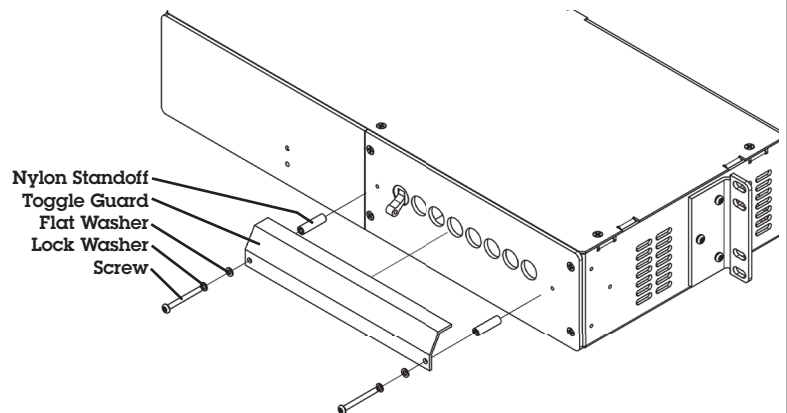
A) Breaker Installation

The DST accepts only specially designed plug-in circuit breakers which are available from NEWMAR. Refer to the Circuit Breaker Ordering Guide at the end of this manual for available values.

Note: It is recommended that only breakers obtained from NEWMAR be used with this panel to assure proper fit and operation. Consult NEC for assistance in sizing breaker or fuse amperage to the load.

- 1) Remove the front panel of the assembly (held in place with four flat-head phillips screws) and remove the plastic hole plug for the circuit breaker position being installed.
- 2) Install each circuit breaker by lining up the push-in studs of the breakers with the internal mating sockets and pushing firmly into place, see **Figure 2**.
- 3) Align the front panel into position over the breakers and onto the assembly.
- 4) Replace the front panel mounting screws.
- 5) Re-install plastic hole plugs in any unused breaker positions.
- 6) Remove the plastic film from the clear protective breaker toggle guard and install as shown in **FIGURE 3**.
- 7) Write in the breaker amperage and load powered on the self stick circuit I.D. label and affix to front panel.

FIGURE 3: Toggle Guard Installation



B) Breaker Removal

The front panel must be removed in order to remove any breaker. It is not necessary to remove the toggle guard in order to remove the front panel. Grip the top and bottom of the breaker with two fingers and pull breaker outwards while rocking up and down.

C) Remote Summary Alarm Wiring

A connector at the rear of the panel enables optional installation of a remote summary alarm to indicate when any breaker has been over-current tripped. The alarm contacts are configured Form C: N.O. and N.C. Diagrams on the side of the connector (labeled "Alarm Contacts") in the center of the rear panel illustrate the contactor positions when any breaker in the bus is in a TRIPPED state.

Two alarm connector harnesses are provided for remote alarm indication - see **Fig. 1**.

Wiring Options: Two molex connector assemblies are provided. Choose one depending upon your application

1) Molex-to-6 wire pigtail connector assembly (P/N 773-1210-0): Provides full wire connectivity to Form C contacts on the DST-100/8. Connect panel alarm contacts into site alarm/monitoring system.

Note: Three wires are un-used on the DST-100/8, so they can be cut off.

2) Molex-to-Molex 4 wire connector assembly (P/N 773-4000-1): Designed to interface the normally open alarm contacts to the Newmar Power Function Manager (PFM-400). Plugs into any unused input Status Contact Molex connector on PFM-400 rear panel. DST-100/8 circuit breaker alarm becomes a part of the PFM-400 'Check System'/Summary Alarm.

Note: On the later model PFM-500, the Molex connector that normally plugs into the earlier model PFM-400 'Status Contacts' mating Molex connector will have to be cut off and wired to the PFM-500's pluggable terminal block.

Power through the alarm contacts must not exceed the following:
1 amp @ 125 VAC
5 amps @ 30 VDC

VII) Front Panel Status LEDs

LED	Function
POWER OK	GREEN when power is available on input
'BREAKER TRIPPED/OFF'	RED when load connected but circuit breaker is in OFF position

VIII) SPECIFICATIONS

Electrical:

Nominal Input/Output:

48, 24 or 12 VDC; positive or negative ground

Total Circuit Capacity:

Input Bus: 8 Circuit Breakers, 30 amps max. per position, 100A max. total

Maximum Circuits per Bus: 8

Environmental:

Temperature Rating: 0 - 50° C ambient

Alarm/Indicator:

Tripped Fuse/Breaker Contacts via **Rear Panel Connector;** Form C

Maximum power through the alarm contacts:

1 amp @ 125 VAC

5 amps @ 30 VDC

Mechanical:

Terminal Blocks: Input: 1/4-20 studs. Use 1/4" single hole ring lugs. Output: M-4 nickel-plated brass; accepts single No. 8 hole or fork lugs or striped wire end placed beneath clamping plate

Front Panel: Powder coated aluminum

Cover and Rear Panel: Vinyl-laminated aluminum

Dimensions: 3.5" H x 17" W x 11.75" D; Occupies 2 RU *19" rack mounting brackets provided

Weight (without breakers): 5.5 lbs.

Warranty: Two Years

IX) CIRCUIT BREAKER SPECIFICATIONS AND ORDERING GUIDE

Current Ratings: See list below (breaker value stamped beside toggle)

Voltage Rating: 65 VDC max.

Type: Magnetic-Hydraulic Plug-in

3,000 Amp Interrupt Capacity

To order additional or replacement breakers for the DST-100/8 refer to the following NEWMAR model part numbers:

Rating	NEWMAR Model
5 amp	DST-FB-5
10 amp	DST-FB-10
15 amp	DST-FB-15
20 amp	DST-FB-20
25 amp	DST-FB-25
30 amp	DST-FB-30

Note: Other circuit breaker values less than 30 amps are available on a special order basis. Typical lead time is 4 - 6 weeks.



X) OUTLINE AND MOUNTING DRAWINGS - DST-100/8

