

Fused Safety Disconnect Switch in Watertight/Submersible Enclosure

Cat. Nos. LDS30-FAX, Rated: 30A-600VAC/250VDC Max., LDS60-FAX Rated: 60A-600VAC/250VDC Max.
LDS10-FAX Rated: 100A-600VAC/250VDC Max.



PK-A3226-10-00-0B

INSTALLATION INSTRUCTIONS

WARNINGS

- **TO AVOID FIRE, SHOCK, OR DEATH; TURN OFF POWER AT CIRCUIT BREAKER OR FUSE AND TEST THAT POWER IS OFF BEFORE WIRING!**
- **TO AVOID FIRE, SHOCK OR DEATH, DISCONNECT ALL POWER SUPPLIES TO ENCLOSURE BEFORE EXPOSING INTERIOR. MORE THAN ONE SUPPLY DISCONNECT MAY BE REQUIRED TO DE-ENERGIZE THIS EQUIPMENT BEFORE SERVICING.**
- Separate over current protection must be provided in accordance with the NEC® Article 220 or CEC, Section B as appropriate.
- This enclosure includes a lockout provision (in the OFF position) for a suitable padlock. Use up to three (3x) padlocks with a shackle diameter of 1/4 in. (6 mm) only to isolate power from the connected equipment in compliance with OSHA Lockout/Tagout Regulation 29 CFR Part 1910.147.
- **NOTE:** Lockout feature does NOT interrupt the power supplied to the switch within the enclosure.

CAUTIONS

- **For installation only by an electrician** in accordance with the National Electrical Code® (NEC®) or the Canadian Electrical Code® (CEC®), local codes, and the installation instructions.
- Check to see that the rating marked on the device is correct for the intended installation. Connected equipment electrical rating must not exceed the ampere rating of this device.
- This device must be mounted vertically with the line side at the top.

- Use this device with **copper or copper clad wire only**.
- Use of a UL Listed Watertight conduit fitting (*Not provided*) is required to maintain the desired environmental ratings. Rating of the fitting/hub must be equal to or better than the desired installation ingress protection rating.

NOTES: Feed-thru configurations are possible.

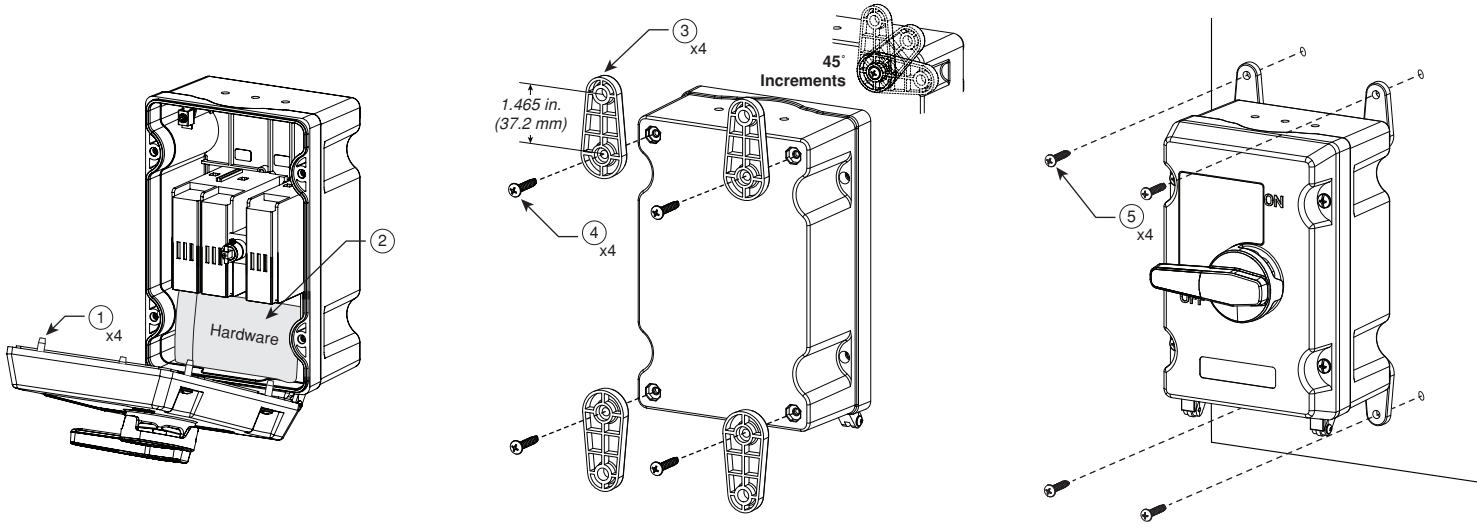
SHORT CIRCUIT RATINGS:

Model	Short Circuit Ratings	Required Protection
LDS30-FAX	200 kA RMS Symmetrical 600 VAC; 100 kA 250 VDC	30 A Class J
LDS60-FAX	200 kA RMS Symmetrical 600 VAC; 100 kA 250 VDC	60 A Class J
LDS10-FAX	200 kA RMS Symmetrical 600 VAC; 100 kA 250 VDC	100 A Class J

Step 1A: Mounting - Wall Mount with Mounting Feet (*Feet and hardware provided*)

- **NOTE:** Leviton® Safety Disconnect Switches may be mounted for top or bottom feed of supply wires.
- **NOTE:** When mounting with provided feet drilling through enclosure is not required.
- **NOTE:** Provided mounting hardware ships inside the enclosure.

- Loosen cover screws ① (*See Table 1 for tool selection*), open cover and remove the provided bag of mounting hardware ②.
- Attach mounting feet ③ with provided Plastite® #8-16 x 7/8 in. thread cutting screws ④. Torque to 15 in-lbs. (1.7 N-m).
- Mount unit to the wall using the 0.28" (7.1 mm) diameter clearance holes in the mounting feet. Mounting screws ⑤ not provided.

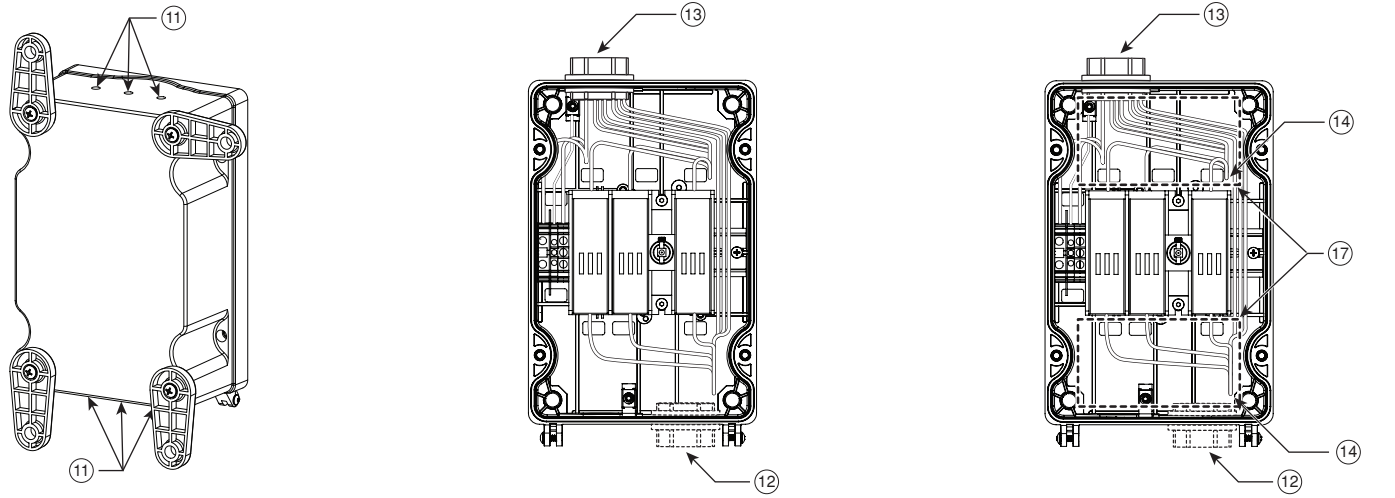


NOTE: LDS30-FAX shown.

Step 2: Conduit Connection (*Top or Bottom feed*)

- **NOTE:** All conduit hubs must be grounded (bonded) to an unused grounding terminal inside the enclosure.
- **NOTE:** For installations subject to condensation and/or non-conforming with above, use of a sealing filling per NEC 300.7 and/or use of a Leviton accessory drain plug (*No. DNPLG*) or equivalent required.
- **NOTE:** Drill points are not provided on model LDS10-FAX.

- Select drill point(s) ⑩ and drill hole(s) for conduit entry. Consult hub manufactures specifications or Table 2 for hole dimensions. Feed-thru ⑪ configurations are possible/optional.
- Install the hub ⑬ and conduit per manufacturer's instructions.
- In top feed installations, use of condensation drip loops ⑭ is recommended. Loops are to be made in the top or bottom bending space ⑮ while maintaining minimum bending radius per NEC.

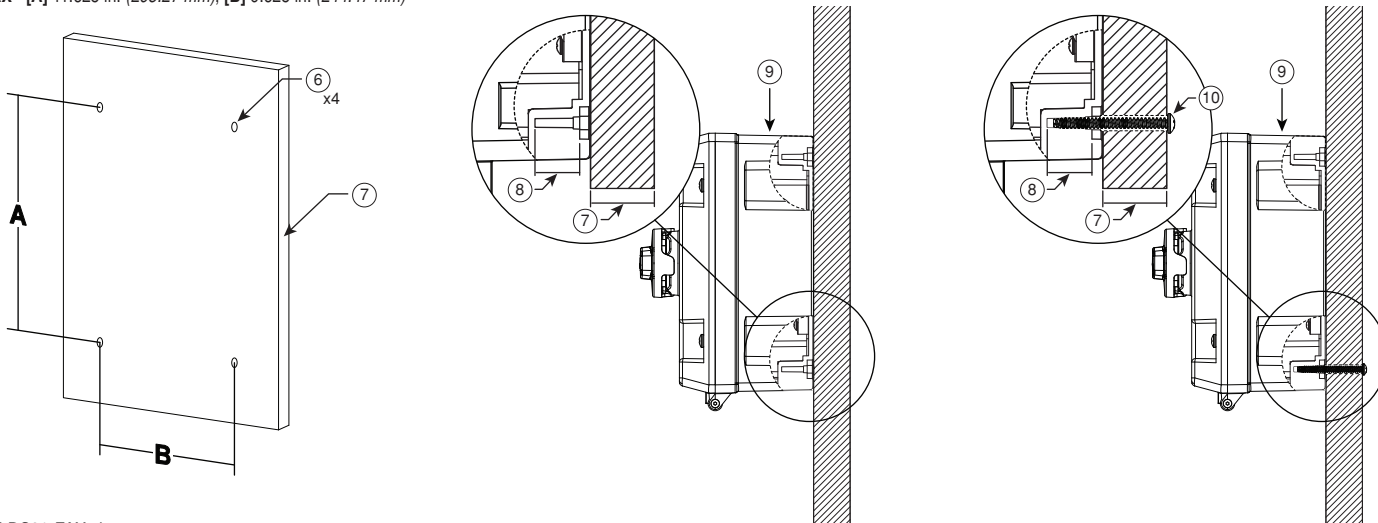


NOTE: LDS30-FAX shown.

Step 1B: Mounting - Thru-Panel without Mounting Feet (*Hardware not provided*)

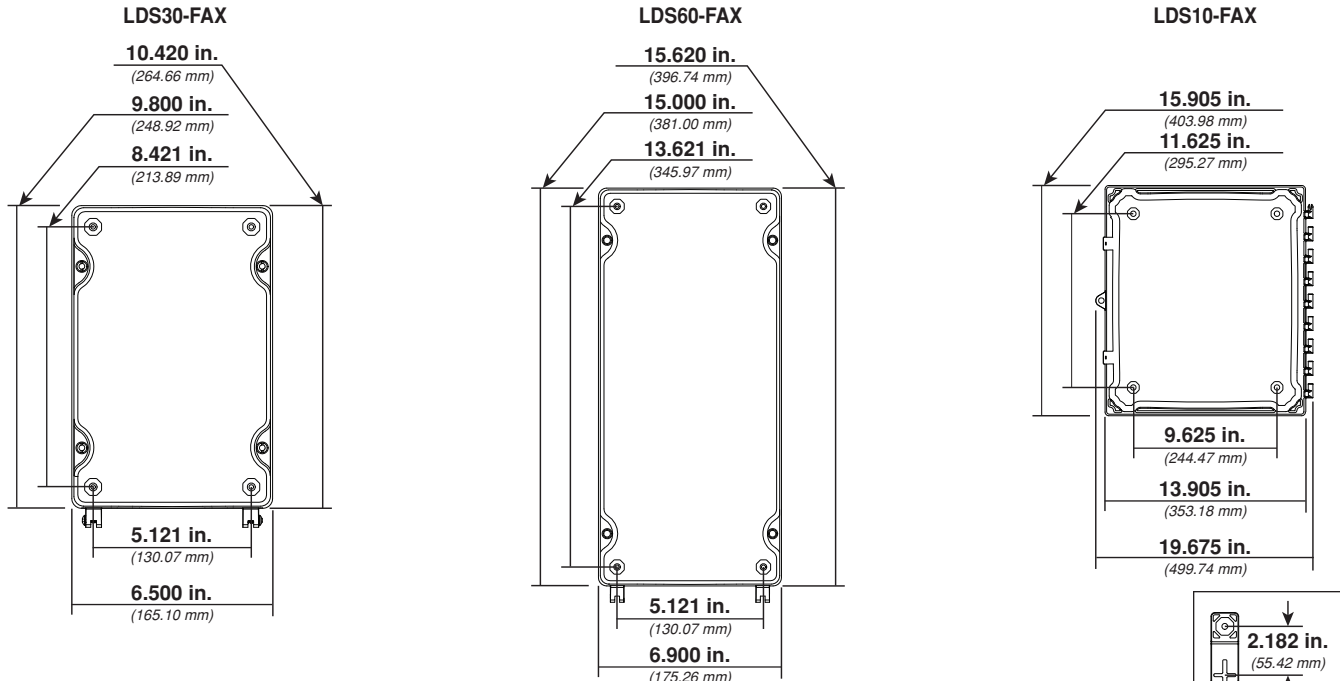
- **NOTE:** Leviton® Safety Disconnect Switches may be mounted for top or bottom feed of supply wires.

- Drill holes ⑥ in the board/wall ⑦.
- To calculate mounting screw length, add the board/wall ⑦ thickness to the thread engagement ⑧. Thread engagement into enclosure ⑨ must be between 0.5 in. and 1.0 in.
- Mount unit to the board/wall ⑦ with four #8-16 Plastite® thread forming screws ⑩ (*not provided*). Torque to max. of 15 in-lbs. (1.7 N-m).



NOTE: LDS30-FAX shown.

Dimensions



WEB VERSION

Step 3: Wiring

WARNING: TO AVOID FIRE, SHOCK, OR DEATH; TURN OFF POWER AT CIRCUIT BREAKER OR FUSE AND TEST THAT POWER IS OFF BEFORE WIRING!

NOTE: All Leviton Disconnects are rated "Break all Lines" configurations and are suitable for motor circuits.

NOTE: Select conductor in accordance with ampacity of Table 310-15 of the National Electrical Code or Table 2 of the Canadian Electrical Code.

NOTE: Reference Table 3 for the recommended wire gauge for ampacity compliance with NEC®.

NOTE: For bending radius refer to specific UL standard and NEC® article.

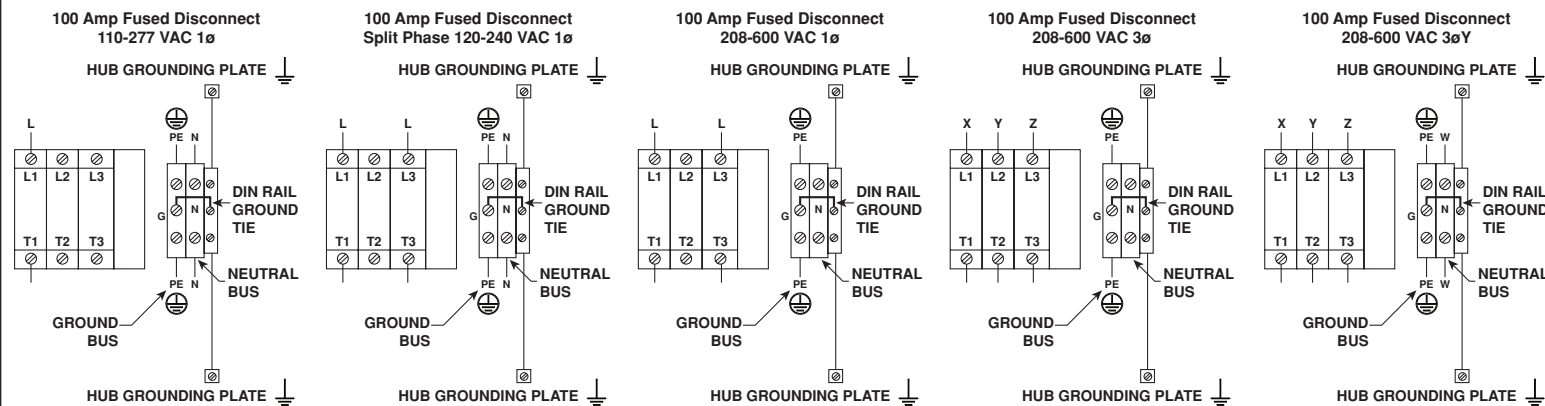
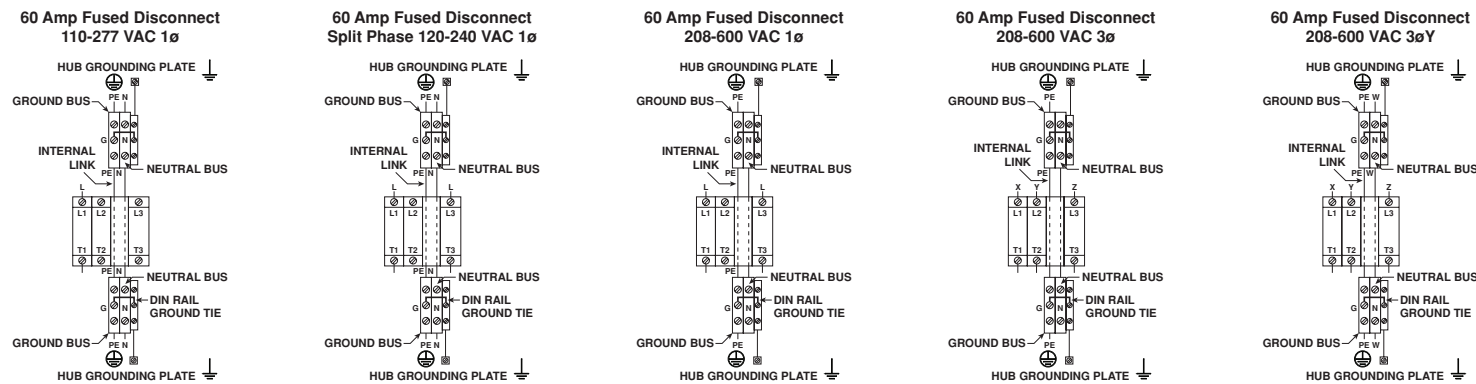
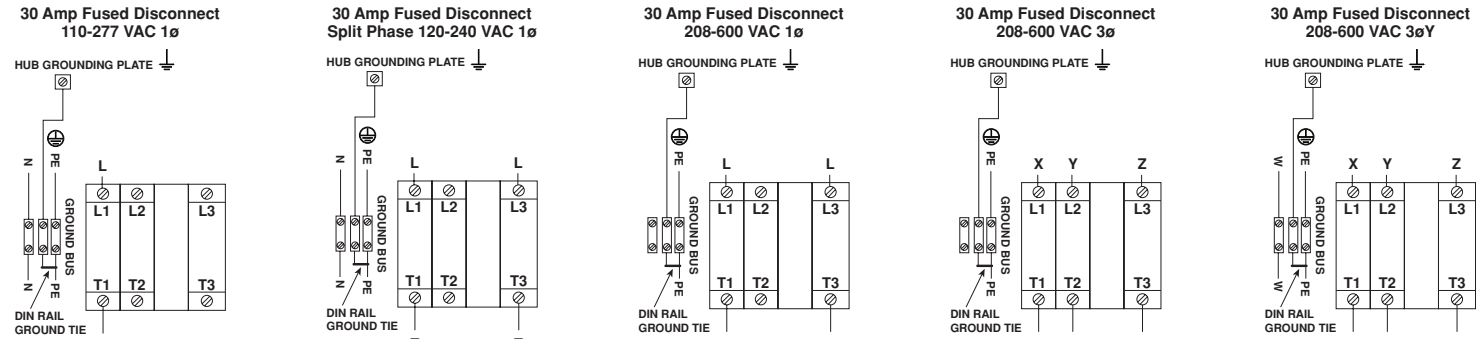
NOTE: DO NOT tin conductors.

a. Select wire gauge per Table 3. To ensure compliance with UL/NEC wire bending space requirements, use wire sizes and strip lengths per Table 4.

b. Tighten terminal screws per Table 5.

c. Close cover and tighten cover screws per Table 6.

NOTE: Handle must be in the "OFF" position to install cover.



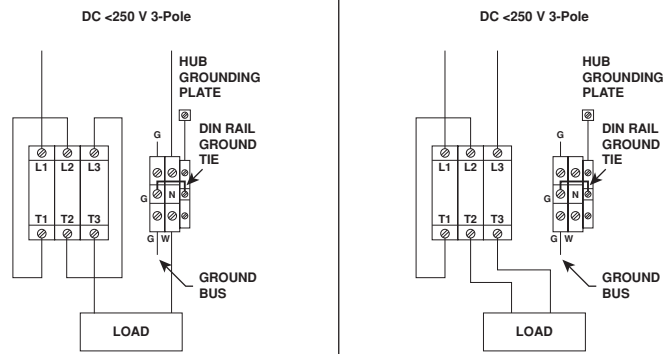
DC CONNECTION DIAGRAM
(DC RATED UNITS <250V, USE ALL POLES IN SERIES)

Fuses (not included)

CAUTION: Ampere rating of fuses must not exceed the maximum ampere rating of this device. Continuous load current not to exceed 80% of the rating of fuses employed in other than motor circuits. Refer to front cover for device's maximum ampere rating.

• Use UL "J" type or CSA HRC I-J listed; with ratings suitable for application. Common Industrial suitable fuses for most applications are:

- Cat. No. LDS30-FAX: Littelfuse JTD30 or Mersen AJT30.
- Cat. No. LDS60-FAX: Littelfuse JTD60 or Mersen AJT60.
- Cat. No. LDS10-FAX: Littelfuse JTD100 or Mersen AJT100.



Tables

Table 1 - Tools for opening cover

Cover Screws	Tools (Only one tool shown below required)
LDS30-FAX	Flat head screwdriver wider than 1/4", Phillips #3,
LDS60-FAX	Robertson #3
LDS10-FAX	Flat head screwdriver, Phillips #2

Table 2 - Recommended conduit hub size & hole diameter

Model	Fitting/Hub (Trade size)	Hole Diameter	Max Hub Size
LDS30-FAX*	3/4 in.**	1 in. (25.4 mm)	2" Trade Size
LDS60-FAX*	1-1/4 in.**	1.625 in. (41.3 mm)	2" Trade Size
LDS10-FAX*	1-1/4 in.**	1.625 in. (41.3 mm)	2" Trade Size

* **NOTE:** Refer to NEC Annex C for additional information.

** **NOTE:** Leviton provides hub grounding brackets for these sizes. All others use grounding hub.

Table 3 - Wiring Size

Model	Rated Current	UL Rating	Min. Wire (AWG) copper conductors to meet NEC table 310-15 (Phase and Neutral Wires)		Min. Wire (AWG) copper conductors to meet protective earth requirements***
			(60°C) Wire (AWG)*	(>75°C) Wire (AWG)**	
LDS30-FAX	30A	UL 98	#10	#10	#10
LDS60-FAX	60A	UL 98	N/A	#6	#10
LDS10-FAX	100A	UL 98	N/A	#3	#8

* - Wire types TW, UF

** - Wire types RHW, THHW, THW, THWN, XHHW, USE, ZW, TBS, SA, SIS, FEP, FEPB, MI, RHH, RHW-2, THHN, THHW, THW-2, THWN-2, USE-2, XHH, XHHW, XHHW-2, ZW-2

*** - NEC table 250.122 for unit rated ampacities. For other types/styles refer to NEC.

Table 4 - Terminal Wiring Size & Strip Length

Model	Switch		Neutral		Protective Earth		Shield Ground	
	Terminal	Terminal	Terminal	Terminal	Terminal	Terminal	Terminal	Terminal
LDS30-FAX	AWG #14-8	Strip length 0.5"(12mm)	AWG #24-8	Strip length 0.4"(10mm)	AWG #26-8	Strip length 0.4"(10mm)	AWG #24-12	Strip length 0.3"(7mm)
LDS60-FAX	#14-00(2/0)	0.5"(12mm)	#16-1/0	0.7"(18mm)	#16-2	0.7"(18mm)	#24-8	0.4"(10mm)
LDS10-FAX	#14-00(2/0)	0.7"(18mm)	#16-2/0	0.9"(24mm)	#16-2	0.7"(18mm)	#20-6	0.4"(10mm)

Table 5 - Terminal Screw Torque Ratings

Model	Switch	Neutral	Earth	Shield Ground
LDS30-FAX	18 in.-lbs (2 N-m)	15 in.-lbs (1.7 N-m)	15 in.-lbs (1.7 N-m)	5 in.-lbs (0.6 N-m)
LDS60-FAX	35 in.-lbs (4 N-m)	30 in.-lbs (3.4 N-m)	30 in.-lbs (3.4 N-m)	15 in.-lbs (1.7 N-m)
LDS10-FAX	120 in.-lbs (13.6 N-m)	60 in.-lbs (6.8 N-m)	30 in.-lbs (3.4 N-m)	15 in.-lbs (1.7 N-m)

Table 6 - Cover Screw Torque Ratings

LDS30-FAX	LDS60-FAX	LDS10-FAX
18 in.-lbs. (2 N-m)	18 in.-lbs. (2 N-m)	18 in.-lbs. (2 N-m)

Table 7 - Horsepower Ratings

LDS30-FAX		LDS60-FAX		LDS10-FAX	
600 VAC	30 A	600 VAC	60 A	600 VAC	100 A
110 VAC 1Ø	2 Hp	110 VAC 1Ø	2 Hp	110-120 VAC 1Ø	5 Hp
208-240 VAC 1Ø	3 Hp	208-240 VAC 1Ø	7.5 Hp	220-240 VAC 1Ø	15 Hp
480 VAC 1Ø	7.5 Hp	480 VAC 1Ø	7.5 Hp	277 VAC 1Ø	15 Hp
600 VAC 1Ø	10 Hp	600 VAC 1Ø	7.5 Hp	440-480 VAC 1Ø	15 Hp
240 VAC 3Ø	7.5 Hp	208-240 VAC 3Ø	15 Hp	550-600 VAC 1Ø	30 Hp
480 VAC 3Ø	15 Hp	480 VAC 3Ø	30 Hp	110-120 VAC 3Ø	60 Hp
600 VAC 3Ø	20 Hp	600 VAC 3Ø	50 Hp	220-240 VAC 3Ø	75 Hp

Cleaning Procedures

WARNING: RISK OF ELECTRIC SHOCK. TURN OFF POWER AT CIRCUIT BREAKER OR FUSE. DO NOT clean this product while undergoing electrical maintenance or service.

CAUTION: Use only chemicals and cleaning solutions that are safe for use with plastics and rubber gaskets.

CAUTION: DO NOT direct or concentrate high pressure water or cleaning solution on the enclosure gasket seams, switch handle area or exterior labels.

NOTE: Follow general cleaning procedures established by your facility

NOTE: This product is certified by NSF® International to NSF/ANSI/3-A 14159-1

- Use hose directed water or cleaning solution to remove any collected contaminants from behind the enclosure.
- Use hose directed water or cleaning solution to remove soil and contaminants from the exterior surfaces of the enclosure.
- Use a dry clean cloth to wipe away any excess water.

Statements

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