

Allen-Bradley 1397 400-600HP AC Line Disconnects Cat. Nos. 1397-DS500 1397-DS600

What This Option Provides

When installed, the AC line disconnect is designed to provide branch circuit disconnect switch requirements.

Where This Option Is Used

Each DS500 or DS600 AC Line Disconnect is sized to a 1397 drive as detailed below.

Catalog Number	460V AC Drive Rating	
	HP	(kW)
1397-DS500	400	298
	500	373
1397-DS600	600	448

What This Kit Contains

Each 1397-DS500 AC Line Disconnect includes:

- (1) 800A Disconnect Switch
- (4) M8 × 130mm SHCS Bolts
- (4) M8 Split Lockwashers
- (12) 7/16 × 1" HHCS Bolts
- (12) 7/16" Split Lockwashers
- (12) 7/16" Flat Washers
- (3) Bus Bars
- (1) Spacer
- (1) Adapter
- (1) M5 × 20mm Phillips Head Screw
- (1) M5 Toothed Lockwasher
- (1) Plastic AC Line Input Cover

Each 1397-DS600 AC Line Disconnect includes:

- (1) 1000A Disconnect Switch
- (4) M8 × 130mm SHCS Bolts
- (4) M8 Split Lockwashers
- (12) 7/16 × 1" HHCS Bolts
- (12) 7/16" Split Lockwashers
- (12) 7/16" Flat Washers
- (3) Bus Bars
- (1) Spacer
- (1) Adapter
- (1) M5 × 20mm Phillips Head Screw
- (1) M5 Toothed Lockwasher
- (1) Plastic AC Line Input Cover

What These Instructions Contain

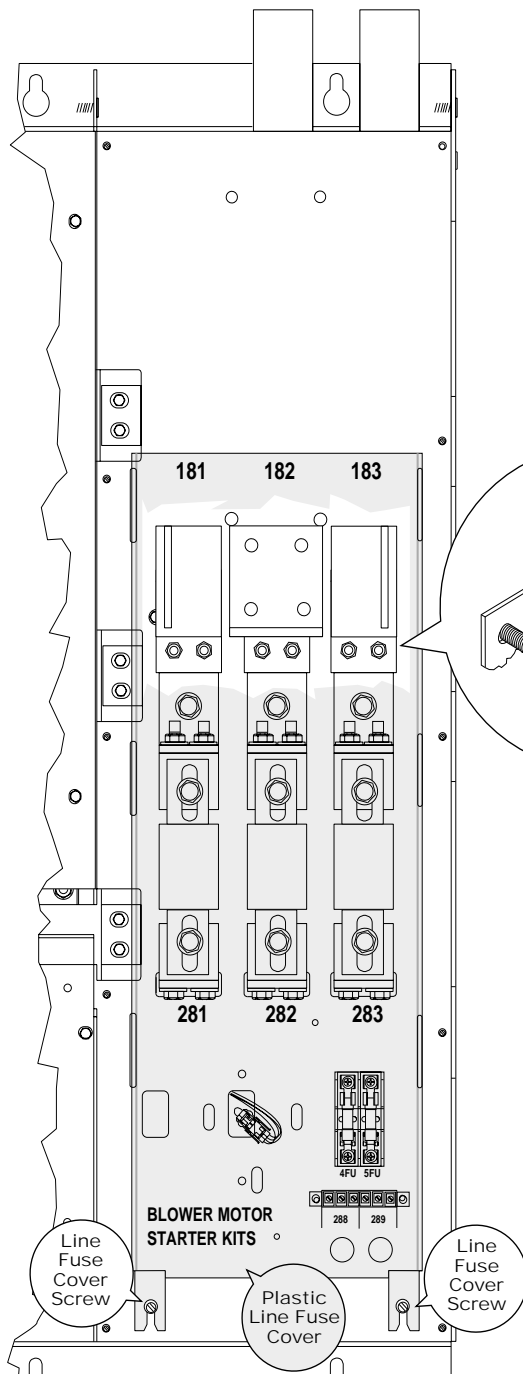
These instructions and any accompanying instructions contain the necessary information to install a 1397 DS500 or DS600 AC Line Disconnect.

Installation



ATTENTION: Electric Shock can cause injury or death. Remove all power before working on this product.

The drive is at line voltage when connected to incoming AC power. Before proceeding with any installation or troubleshooting activity, disconnect, lockout and tag all incoming power to the drive. Verify with a voltmeter that no voltage exists at input terminals 181 (L1), 182 (L2) and 183 (L3).



- ❑ 1 Remove and lockout all incoming power to the drive. Remove the plastic line fuse cover. The cover is held in place by tabs inserted in slots and by two screws at the bottom of the cover.

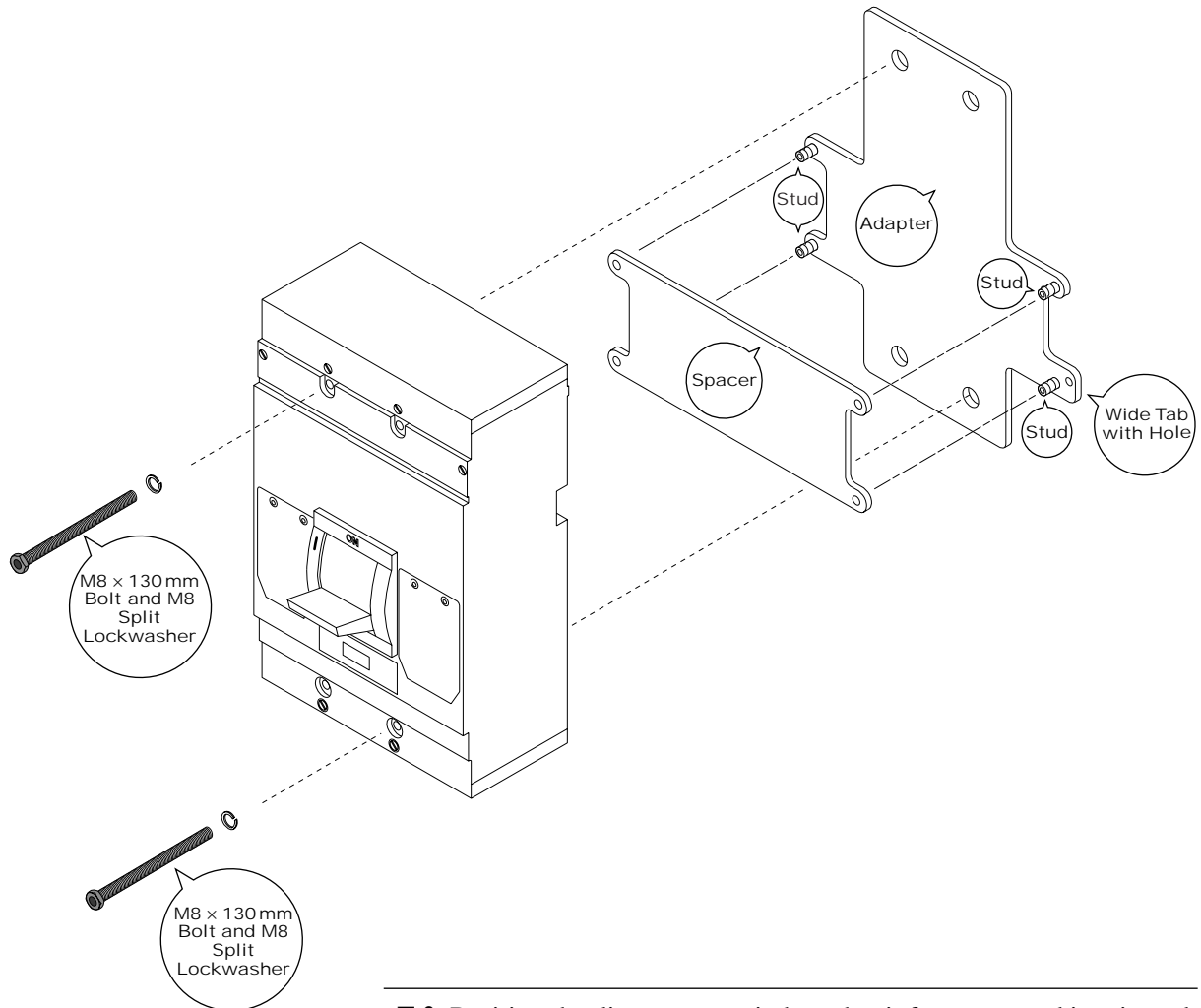
- ❑ 2 If drive power has already been installed, disconnect the incoming power lines from the drive at AC line terminals 181, 182 and 183 and set the hardware aside for later.

- ❑ 3 Remove the AC line terminal connectors by removing the (6) M12 nuts as shown. Set the terminals and nuts aside for reinstallation later.

- ❑ 4 If drive power has not already been installed, determine whether your wiring application calls for the existing compression terminals on the line side of the disconnect switch, or the AC line bus bar terminals removed in Step 3. Each compression terminal can accept three (3) wires in the range from 3/0 to 500 MCM. Each AC line bus bar terminal can accept up to four (4) user-supplied 1/2 inch ID wire lugs. If you will be using the AC line bus bar terminals, you must remove the compression terminals before mounting the disconnect switch.

Installation

- 5 (10) screws fasten the red insulating mounting panel to the metal frame of the drive. Remove and discard the second screw down from the right top. It will be replaced later with hardware included with the kit.



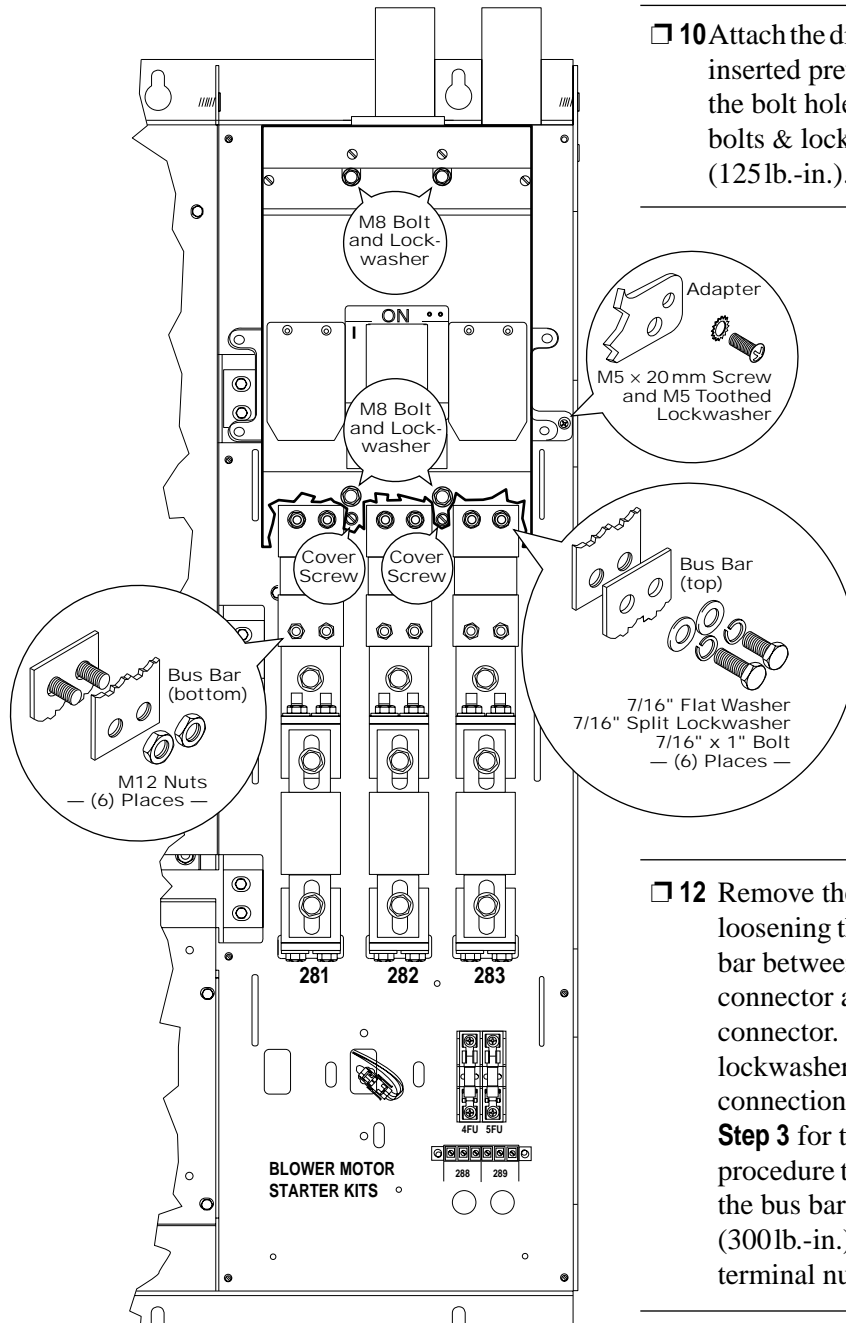
- 6 Position the disconnect switch so that it faces you and is oriented as it will mount on the drive. Put (1) M8 split lockwasher onto each of the M8 x 130mm bolts.

- 7 Insert (1) bolt and lockwasher into one of the disconnect's upper bolt holes, then insert another bolt and lockwasher into the bottom bolt hole diagonally opposite it.

- 8 Orient the adapter plate so that the wide tab with the hole is on the right as shown. Place the spacer over the adapter plate studs, then push the spacer and adapter plate flush against the back of the disconnect. The adapter plate mounting holes should go over the ends of the bolts inserted in **Step 7**.

Installation

- **9** While holding the spacer and adapter plate in place, pick up the disconnect and position it over the threaded holes on the drive's mounting panel.



- **10** Attach the disconnect by hand tightening the (2) bolts inserted previously. After the bolt threads catch in the bolt holes, insert the remaining (2) mounting bolts & lockwashers. Tighten all bolts to 14N-m (125lb.-in.).

- **11** Install the M5 × 20mm phillips head screw and M5 toothed lockwasher where the screw was removed in **Step 4**. Torque to 2.8 N-m (25 lb.-in.). This establishes a ground connection for the disconnect switch.

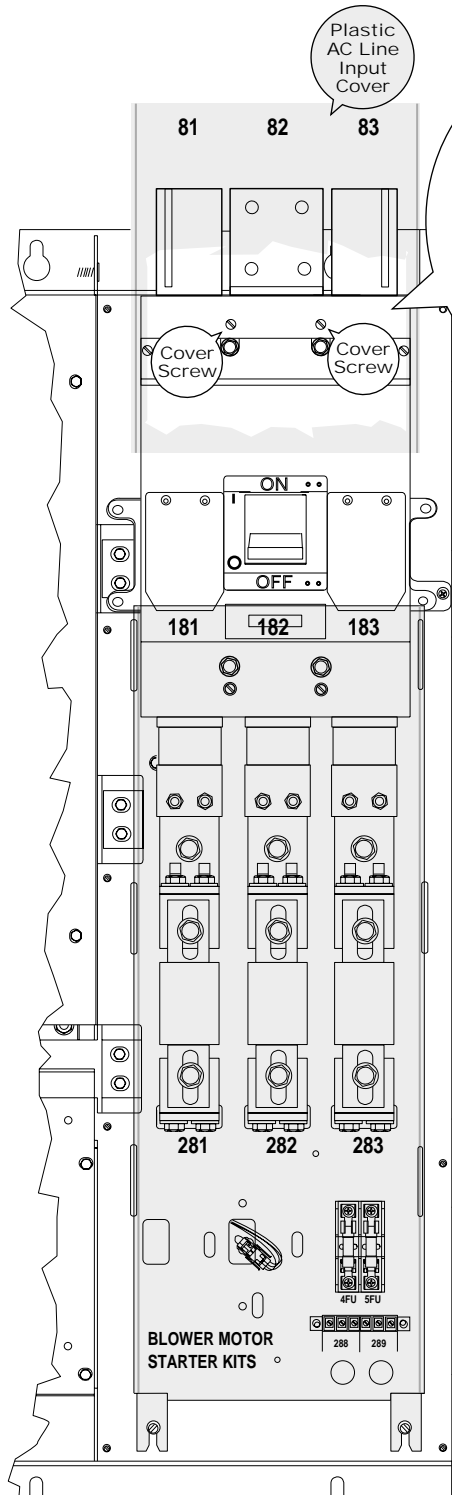
- **12** Remove the disconnect's lower lug cover by loosening the (2) captive cover screws. Attach a bus bar between the drive's right-side line fuse connector and the disconnect's right-side load connector. Use (2) 7/16" flat washers, (2) split lockwashers & (2) 1" bolts for the disconnect connection. Use two of the M12 nuts removed in **Step 3** for the line fuse connection. Repeat this procedure to attach the remaining bus bars. Tighten the bus bar to disconnect bolts to 34N-m (300lb.-in.). Tighten the bus bar to line fuse terminal nuts to 24 Nm (210 in-lb).

- **13** Replace the disconnect's bottom lug cover and tighten the (2) captive screws to secure it in place.

- **14** Replace the plastic line fuse cover removed in **Step 1** and tighten the (2) screws at the bottom to secure it in place.

Installation

- ❑ **15** Remove the disconnect's top lug cover by loosening the (2) captive cover screws. Install the AC line terminals removed in **Step 3** onto the disconnect's line connections. Use (2) 7/16" flat washers, (2) split lockwashers & (2) 1" bolts for each AC line terminal. Tighten all bolts to 34Nm (300lb.-in.).



- ❑ **16** If you are using AC line compression terminals, proceed to step 17. If you are using the AC line bus bar terminals (removed in step 3) connect them to the disconnect switch line connections using a 7/16 x 1" bolt, 7/16" split washer and 7/16" flat washer. Tighten to 39 Nm (346 in-lb).

- ❑ **17** If you are using the AC line compression terminals, connect the incoming power cables. Use a 1/4 inch Allen wrench to tighten the screws on the compression terminals to 33.9 Nm (300 in-lb).

- ❑ **18** Replace the disconnect's top lug cover and tighten the (2) captive screws to secure it in place.

- ❑ **19** If the disconnect is the main disconnect, attach a label reading MAIN.

- ❑ **20** Install the plastic AC line input cover by inserting its feet into the slots on the mounting panel. Squeeze the cover slightly to seat the upper feet, then pull down to secure cover in place.

Installation

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- 21** With the disconnect in the OFF position, remove the lockout and tag and restore incoming power to the drive. The motor should not be operating at this time.

Set the line disconnect switch to the ON position. To set the switch, first move it into position 0 (down) and then move it to position 1 (up). The drive should power up.

- Test the installation by setting the disconnect to OFF (position 0) and measuring the voltage at terminals 181, 182 and 183. All three terminals should be at 0V AC, line-to-line and line-to-ground. If not, remove power to the drive and recheck all disconnect connections.
 - Reset the disconnect switch by moving it to the ON position.
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