

SubDrive System Filter

SubDrive System Filter Model
225650901 Install Guide



SUBDRIVE SYSTEM FILTER INSTALL GUIDE

⚠ WARNING

CAPACITORS INSIDE A SUBDRIVE CAN STILL HOLD A LETHAL VOLTAGE EVEN AFTER POWER HAS BEEN REMOVED. THIS VOLTAGE MAY APPEAR AT POINTS IN THE SUBDRIVE SYSTEM FILTER, AS WELL. ALLOW 10 MINUTES FOR DANGEROUS INTERNAL VOLTAGE TO DISCHARGE.

CAUTION

This product should be used with only the Franklin Electric SubDrive line of drives. Internal labeling reflects its original design for use with the SD300, but it may be used with any Franklin Electric SubDrives and MonoDrives of lesser hp rating.

⚠ WARNING

Serious or fatal electrical shock may result from failure to connect the motor, the SubDrive, the SubDrive System Filter, any metal plumbing, and all other metal near the motor or cable to the power supply ground terminal, using wire no smaller than motor cable wires. To reduce the risk of electrical shock, disconnect power before working on or around the water system. Capacitors inside a SubDrive can still hold a lethal voltage even after power has been removed. Allow 10 minutes for dangerous internal voltage to discharge. Do not use motor in swimming areas.

ATTENTION

This equipment is intended for installation only by technically qualified personnel. Failure to install it in compliance with national and local electrical codes and within Franklin Electric's recommendations may result in electrical shock or fire hazard, unsatisfactory performance, and equipment failure.

ATTENTION

This product is intended to reduce electromagnetic interference (EMI) at installations using especially susceptible equipment, such as livestock rfid systems. Its use should be considered only if interference remains after best wiring and grounding practices have been implemented at the location. Because of the variety of equipment locations, power wiring methods, and grounding practices, it is impossible to ensure a specific amount of interference suppression. Although Franklin Electric has performed laboratory tests that show significant EMI reduction with this filter, it cannot predict performance of this product in the field.

Tools and Hardware Required

Installation of the SubDrive System Filter requires a screwdriver, a metal hole punch or similar tool to create wiring holes in the metal enclosure, tools to insert cable fittings in the enclosure holes, and four fasteners for mounting the SubDrive System Filter to the wall.

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SubDrive System Filter Location

The SubDrive System Filter provides filtering between the electrical power source and the SubDrive input, and between the SubDrive output and the motor cable, ie. input and output filtering.

The installer must provide appropriate types and lengths of single-phase input cable and three-phase output cable to connect the SubDrive System Filter to the SubDrive. The SubDrive System Filter is supplied in a NEMA 4 enclosure. Appropriate cables and cable fittings must be used in the installation if it is in an environment requiring the NEMA 4 rating.

Mount the SubDrive Filter to a flat surface using fasteners provided by the installer through both top and bottom flanges. See Figure 1.



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1. Create holes in the SubDrive System Filter enclosure for wiring. Four cables must enter the enclosure: two are for single-phase input cables and two are for three-phase output cables. To simplify wiring inside the enclosure and to help prevent unwanted material from entering the enclosure, the holes to accommodate these cables should be created in the bottom of the enclosure.

Note: For safety, the metal cover of the SubDrive System Filter is attached to the enclosure with a ground wire, so the cover cannot be lifted freely from the enclosure, but must remain tethered.

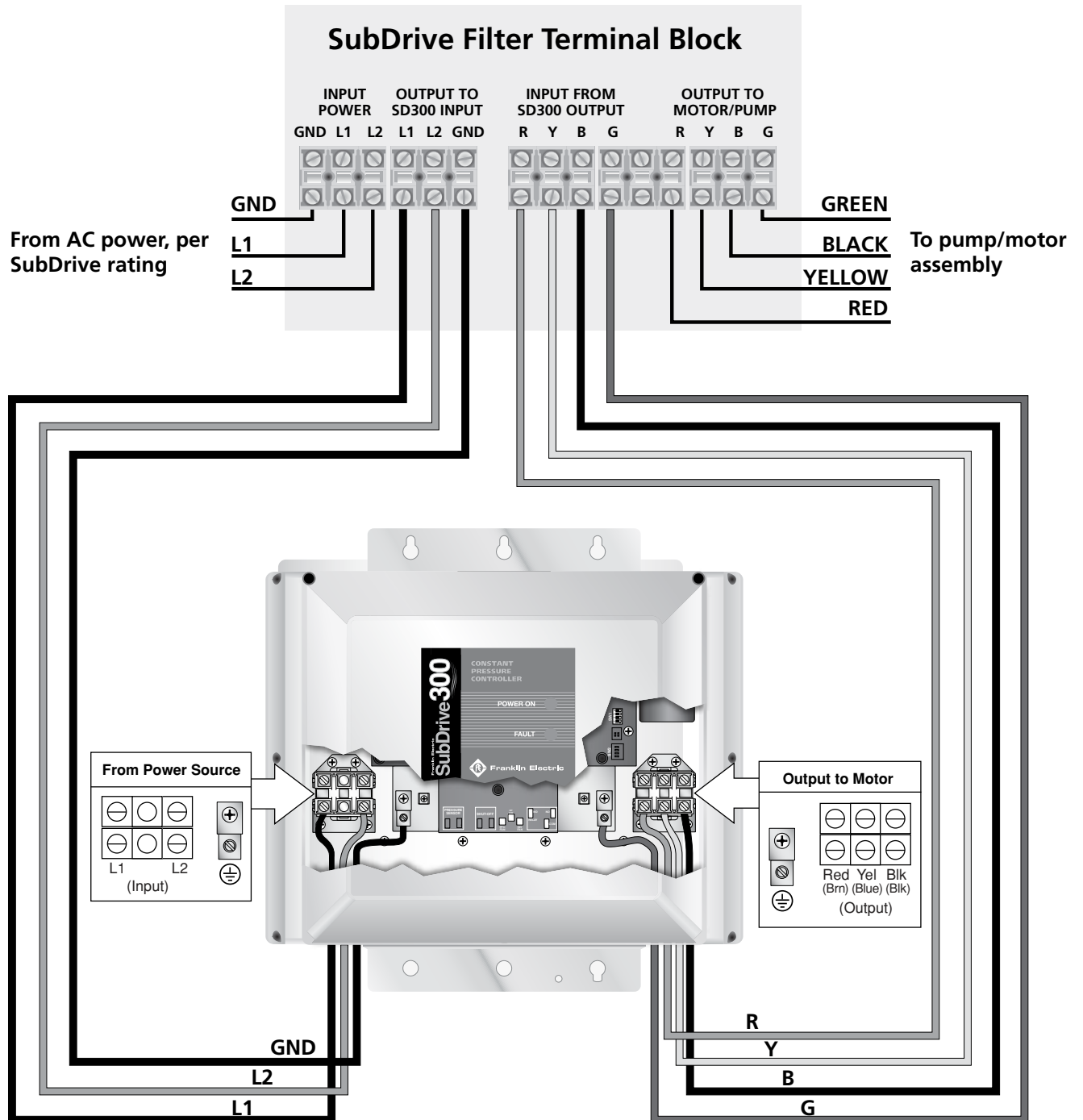
2. Install cable fittings as needed in the new holes in the SubDrive System Filter enclosure.
3. Disconnect electrical power to the SubDrive at the main breaker. Wait ten (10) minutes for dangerous internal voltages within the SubDrive to discharge.
4. Remove the SubDrive lid.
5. Attach the SubDrive System Filter to a flat surface using four fasteners.

See Figure 2 for the terminals described in steps 6-10.

6. Disconnect the input power wires from the SubDrive and route them to the SubDrive System Filter "input power" terminal block, GND, L1 and L2.
7. Disconnect the output power wires from the SubDrive and route them to the SubDrive System Filter "output to motor/pump" terminal block, R, Y, B, and GND.
8. Install a separate length of single-phase wires to connect the SubDrive System Filter "output to SD300 input" terminals to the input power connections of the SubDrive.
9. Install a separate length of three-phase wires to connect the SubDrive System Filter "input from SD300 output" terminals to the output connections of the SubDrive. Note that there is one pair of screw terminals, deliberately unused, in the right-hand side output block of screw terminals in the SubDrive System Filter, as shown in Figure 2.
10. Re-check the tightness of the screw terminals for the connections installed, tightening to 25 -- 30 in-lb.
11. Reattach the SubDrive System Filter cover and the SubDrive lid.
12. Upon completion of the installation, refer to the SubDrive Manual for start-up and operation procedures.

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Figure 2.





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