

SubDrive75/100/150/300/2W MonoDrive, MonoDriveXT

NEMA 1 / NEMA 4 / NEMA 3R Quick Installation Guide



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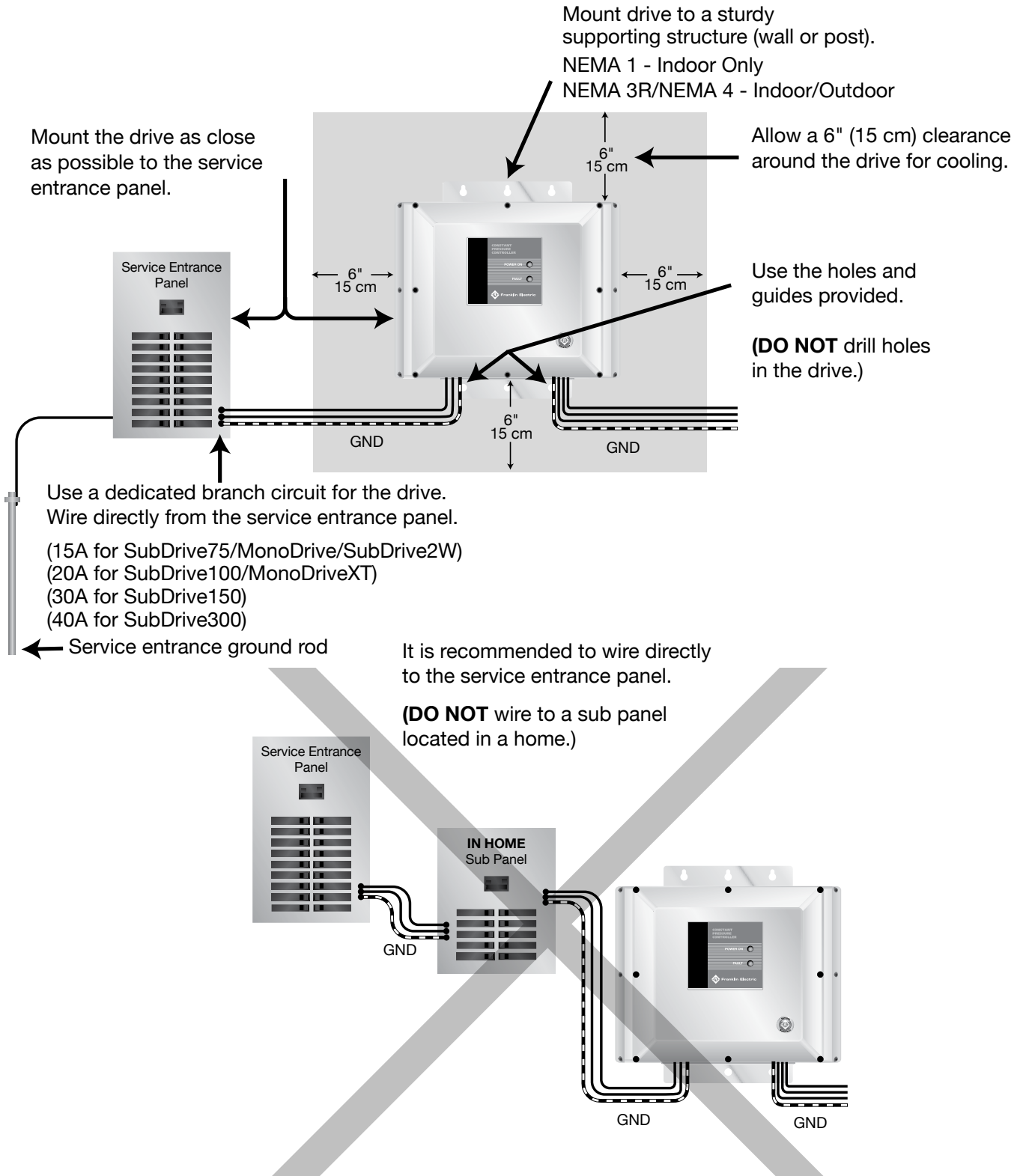
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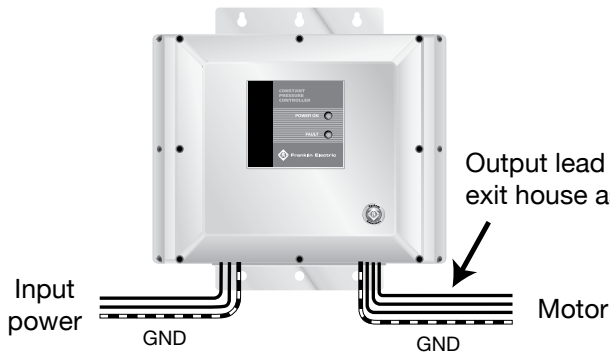
Franklin Electric

Location



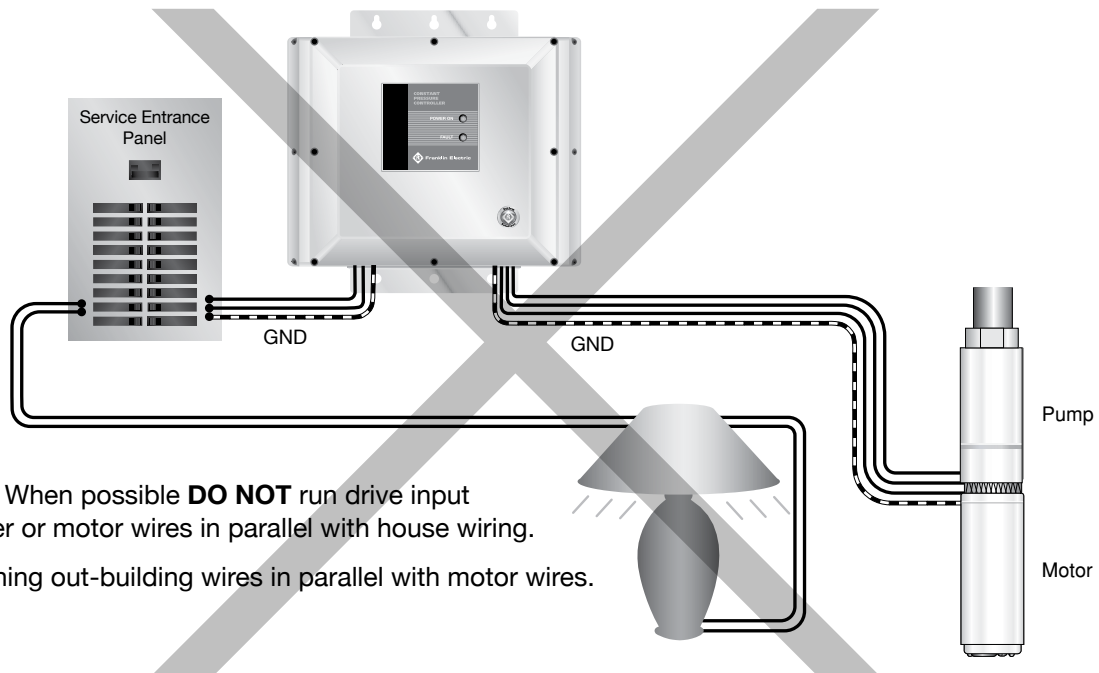
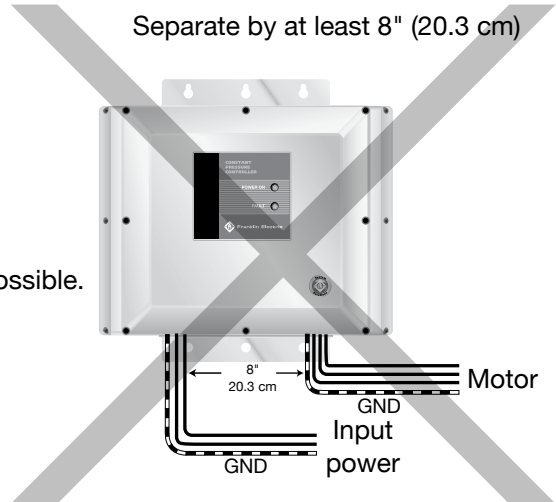
Wire Routing

Separate input power and motor wiring by at least 8" (20.3 cm)



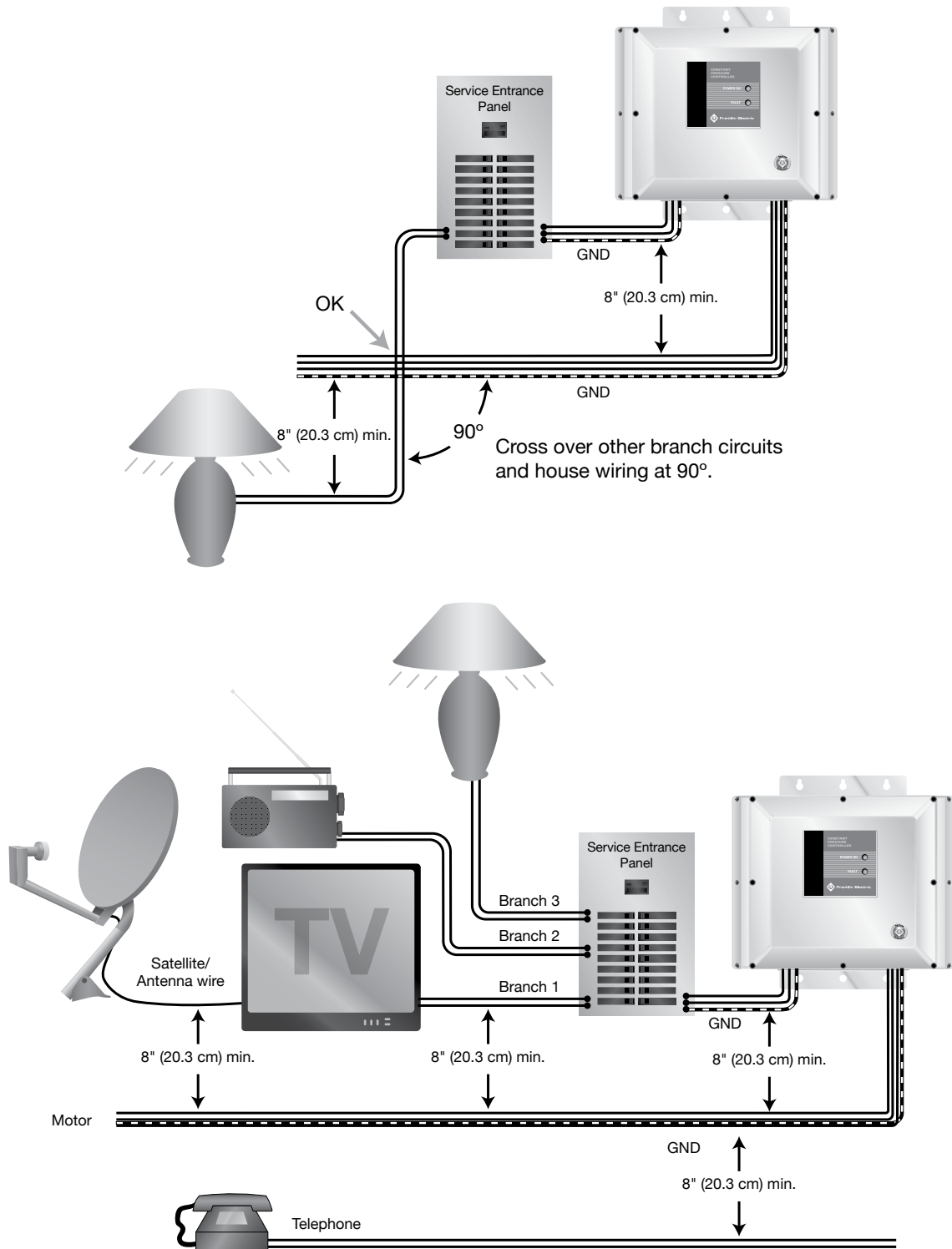
DO NOT run input power and motor wires together.

Separate by at least 8" (20.3 cm)



When possible **DO NOT** run drive input power or motor wires in parallel with house wiring. Avoid running out-building wires in parallel with motor wires.

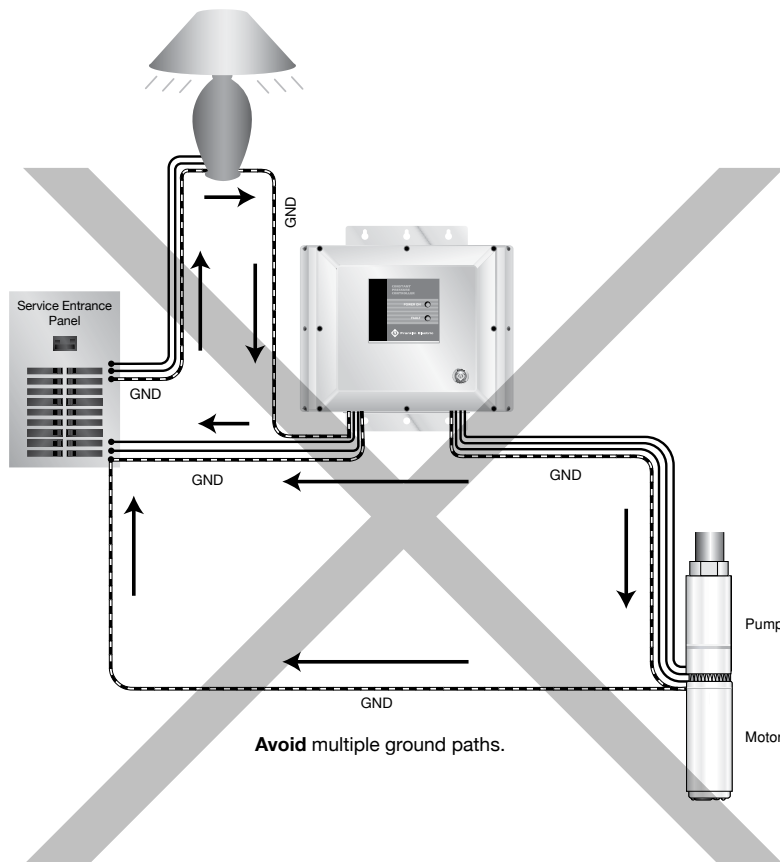
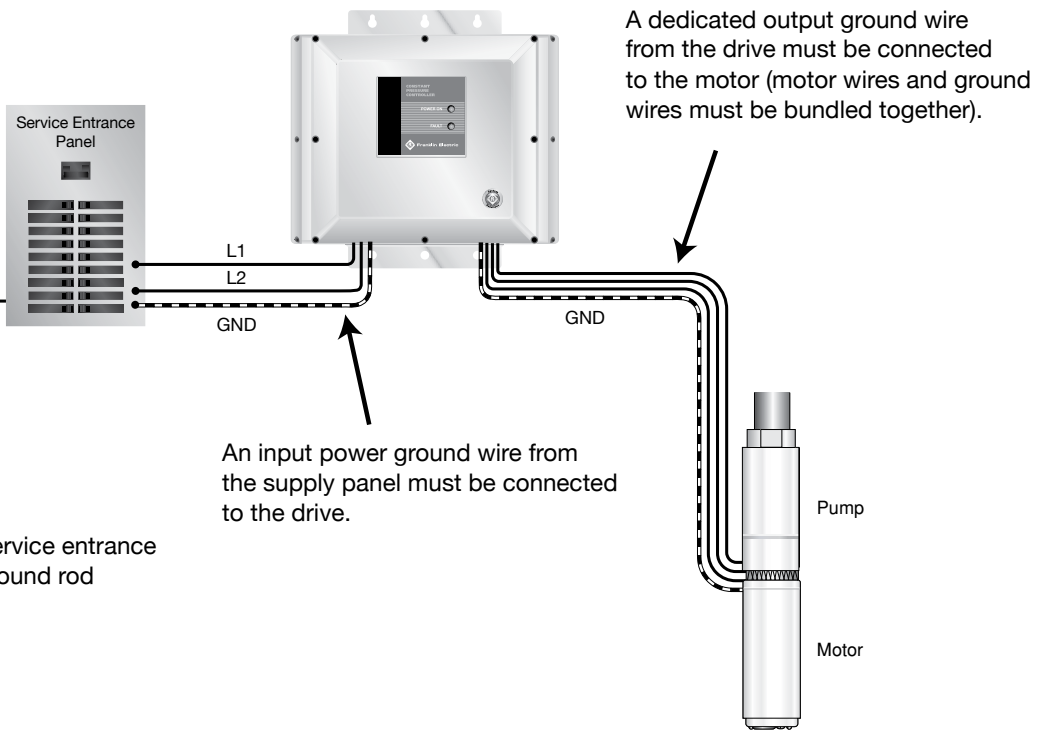
Wire Routing



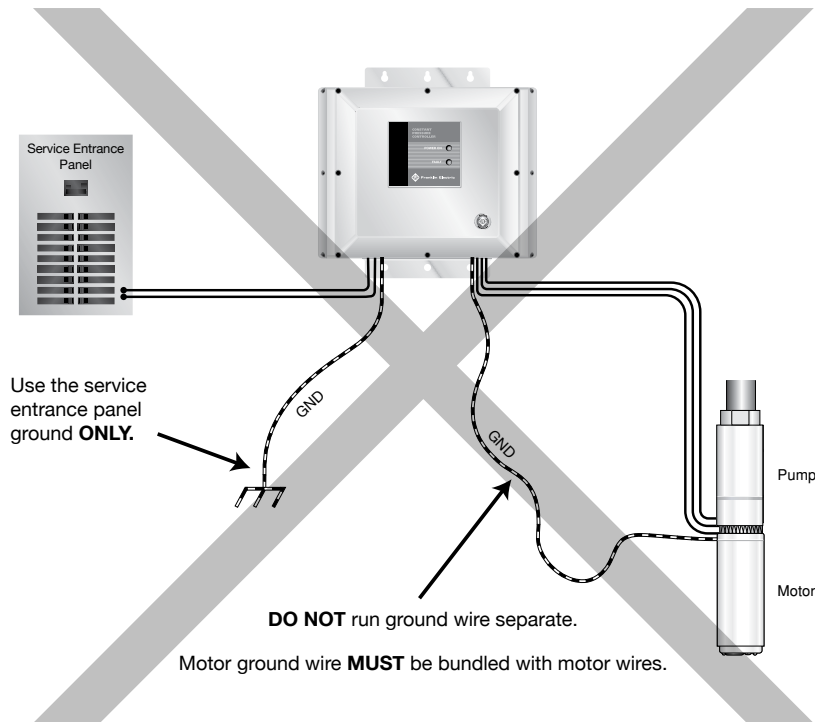
If it is necessary to run wiring in parallel, keep drive input power and motor wires at least 8" (20.3 cm) from other house wiring.

Grounding

Ensure that a proper utility ground rod is present & connected.



Grounding/Generator Sizing



Generator Sizing for SubDrive/MonoDrive

Basic generator sizing for the Franklin Electric SubDrive/MonoDrive system is 1.5 times maximum input watts consumed by the drive, rounded up to the next normal sized generator.

Recommended minimum generator sizes:

MonoDrive

1/2 hp = 2000 Watts (2 kW)

3/4 hp = 3000 Watts (3 kW)

1 hp = 3500 Watts (3.5 kW)

MonoDriveXT

1.5 hp = 4000 Watts (4 kW)

2 hp = 5000 Watts (5 kW)

SubDrive75 = 3500 Watts (3.5 kW)

SubDrive100 = 5700 Watts (6 kW)

SubDrive150 = 7000 Watts (7 kW)

SubDrive300 = 11000 Watts (11 kW)

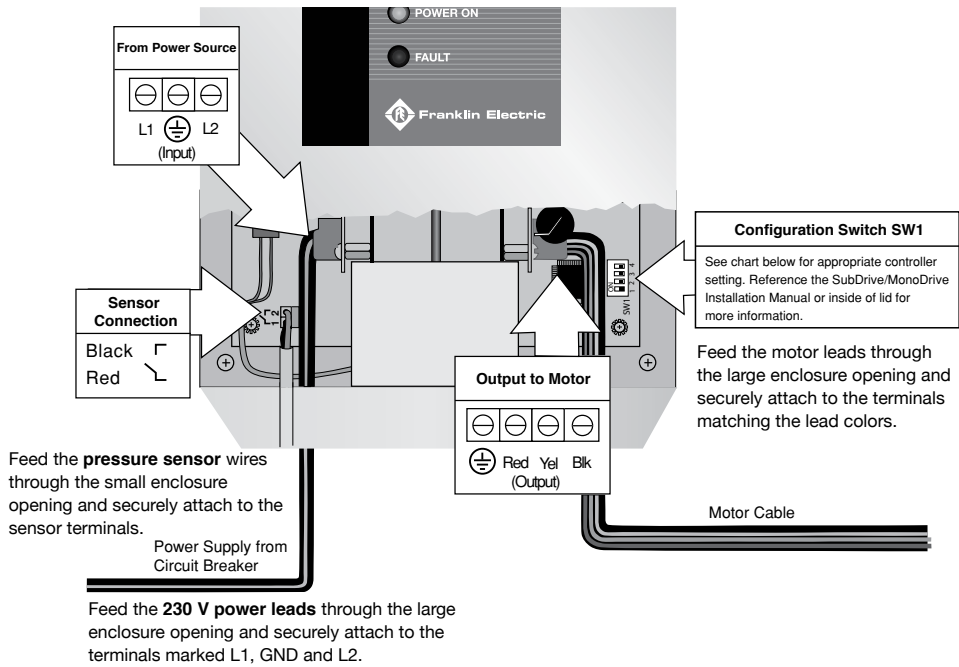
SubDrive2W = 6000 Watts (6 kW)

Note: Not to be used on GFI circuit or externally regulated generators.
Verify voltage, hertz and idle speed are appropriate to supply drive.

Wiring/Configuration-NEMA 1

SubDrive75, SubDrive100, SubDrive150, MonoDrive & MonoDriveXT

To operate a different pump size, a Configuration Switch (SW1) must be positioned to select the correct pump rating. Reference the chart below for appropriate Configuration Switch setting.

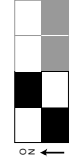


Configuration Switch SW1

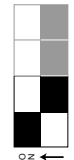
MonoDrive	MonoDriveXT	SubDrive75	SubDrive100	SubDrive150
1/2 hp (motor)	1.5 hp (motor)*	3/4 hp (pump)*	1 hp (pump)*	1.5 hp (pump)*



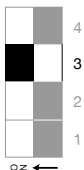
MonoDrive	MonoDriveXT	SubDrive75	SubDrive100	SubDrive150
3/4 hp (motor)*	N/A	1 hp (pump)	1.5 hp (pump)	2 hp (pump)



MonoDrive	MonoDriveXT	SubDrive75	SubDrive100	SubDrive150
1 hp (motor)	2 hp (motor)	1.5 hp (pump)	2 hp (pump)	3 hp (pump)

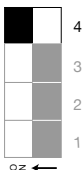


*(default)



#3 Switch

Underload sensitivity selection
OFF Position - Normal(default) ON Position - Low
See SubDrive/MonoDrive Installation Manual for more information.



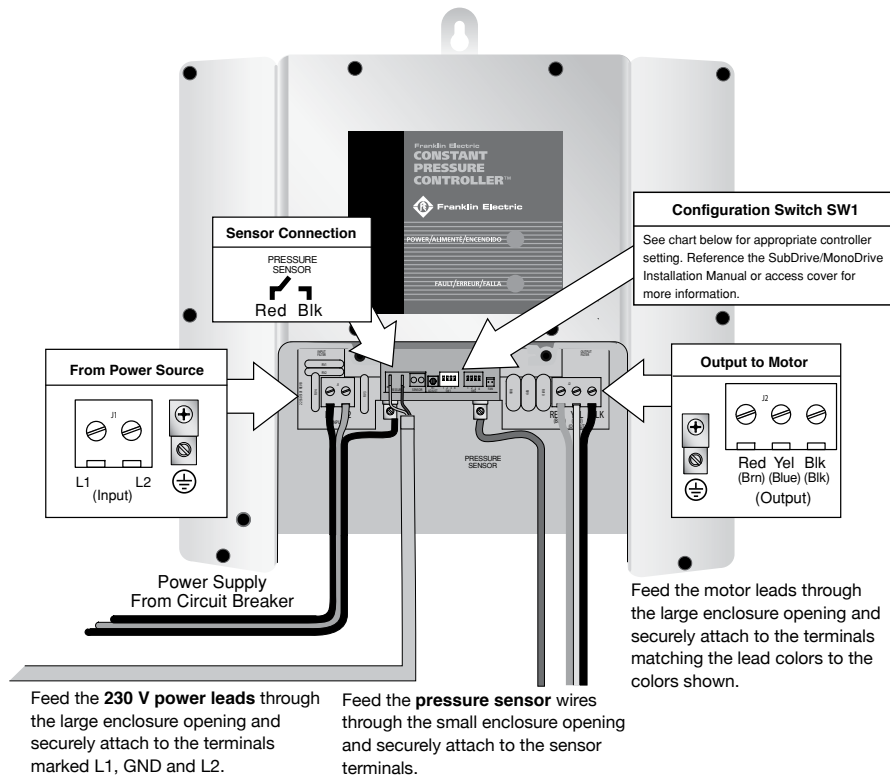
#4 Switch

Steady Flow - Control selection
OFF Position - Standard(default) ON Position - Steady Flow
See SubDrive/MonoDrive Installation Manual for more information.

Wiring/Configuration-NEMA 4

SubDrive75, SubDrive100, SubDrive150, MonoDrive & MonoDriveXT

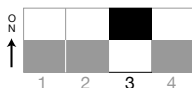
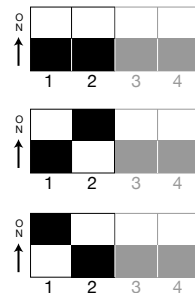
To operate a different pump size, a Configuration Switch (SW1) must be positioned to select the correct pump rating. Reference the chart below for appropriate Configuration Switch setting.



Configuration Switch SW1

MonoDrive	MonoDriveXT	SubDrive75	SubDrive100	SubDrive150
1/2 hp (motor)	1.5 hp (motor)*	3/4 hp (pump)*	1 hp (pump)*	1.5 hp (pump)*
3/4 hp (motor)*	N/A	1 hp (pump)	1.5 hp (pump)	2 hp (pump)
1 hp (motor)	2 hp (motor)	1.5 hp (pump)	2 hp (pump)	3 hp (pump)

*(default)



#3 Switch

Underload sensitivity selection
OFF Position - Normal(default) ON Position - Low
See SubDrive/MonoDrive Installation Manual for more information.



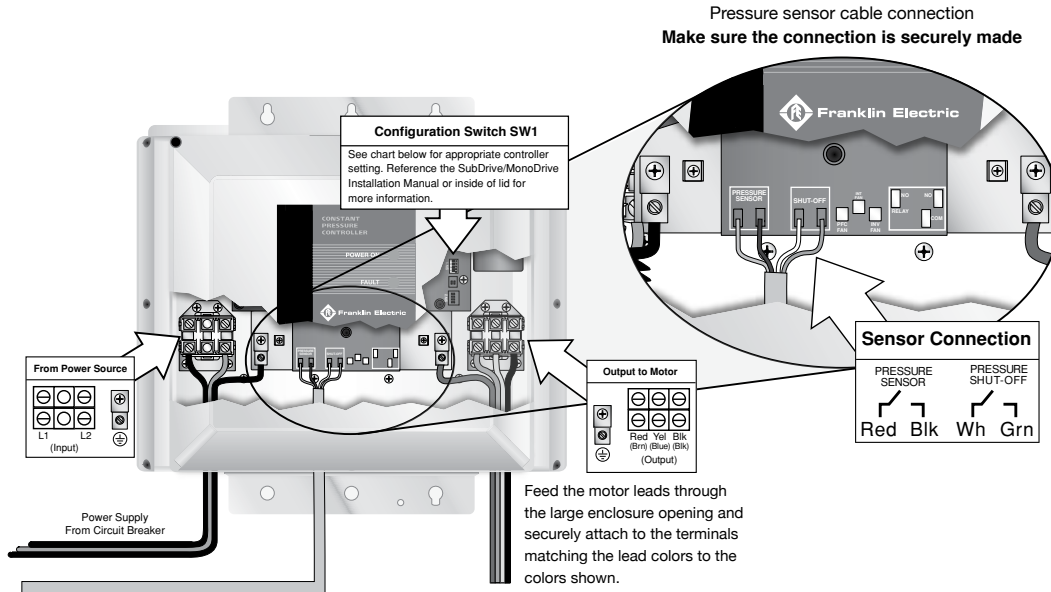
#4 Switch

Steady Flow - Control selection
OFF Position - Standard(default) ON Position - Steady Flow
See SubDrive/MonoDrive Installation Manual for more information.

Wiring/Configuration-NEMA 4

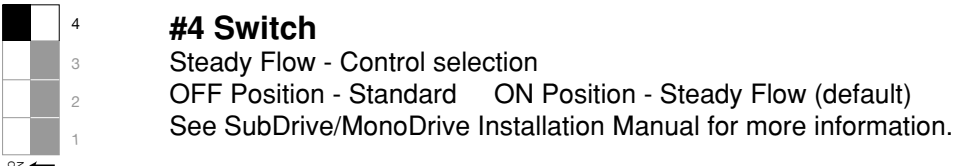
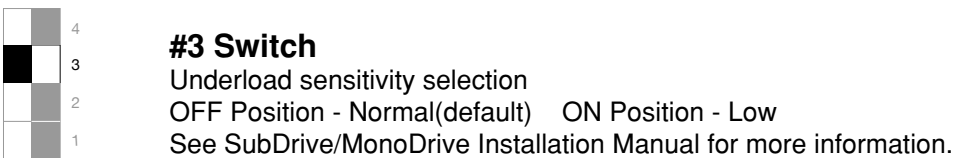
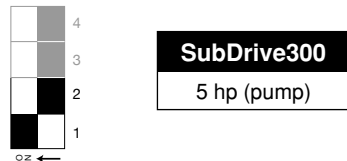
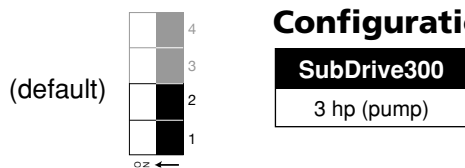
SubDrive300

To operate a different pump size, a Configuration Switch (SW1) must be positioned to select the correct pump rating. Reference the chart below for appropriate Configuration Switch setting.



Feed the **230 V power leads** through the large enclosure opening and securely attach to the terminals marked L1, GND and L2.

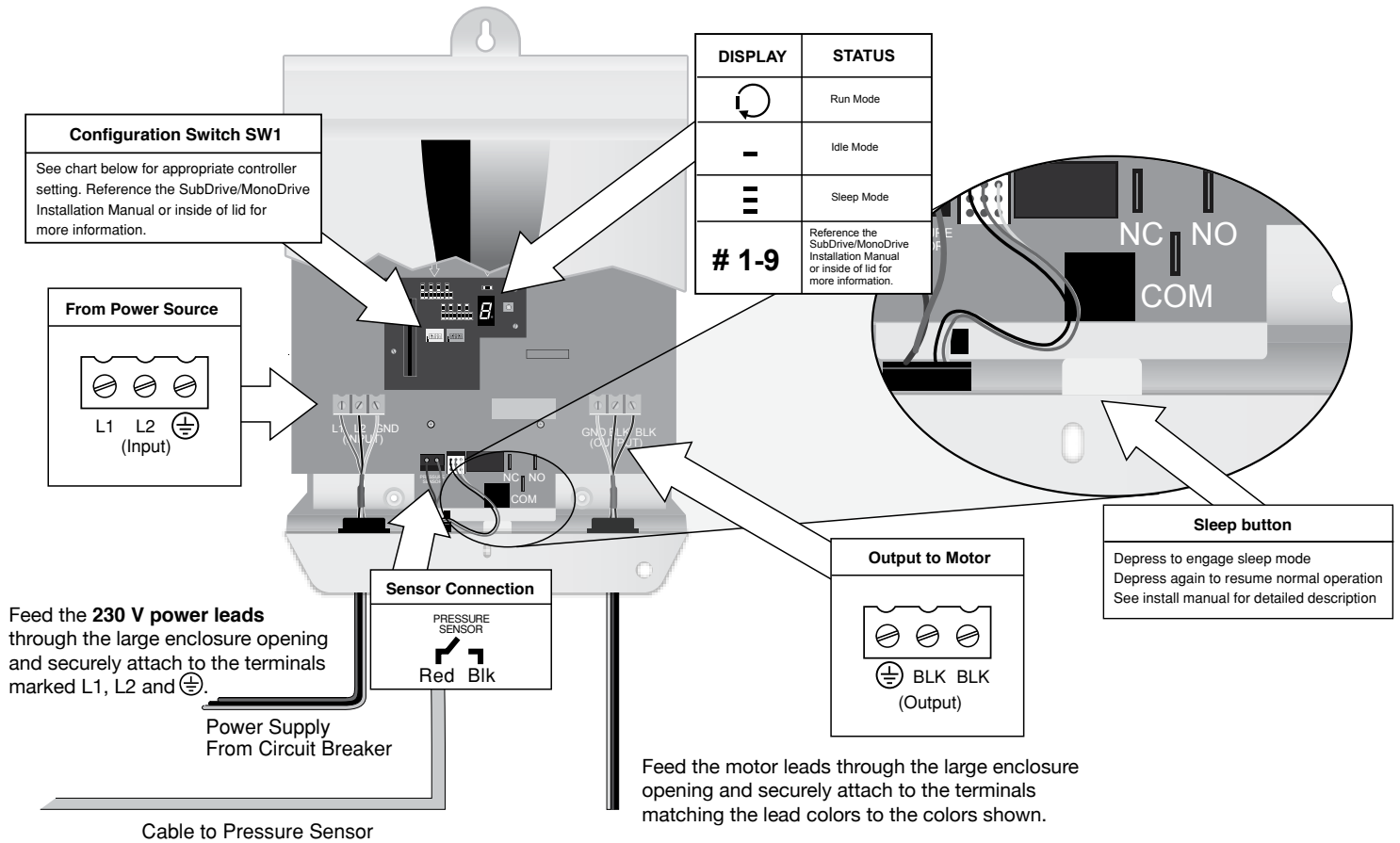
Feed the **pressure sensor wires** through the small enclosure opening and securely attach to the sensor terminals.



Wiring/Configuration-SubDrive2W

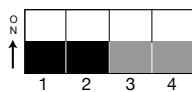
SubDrive2W

To operate a different pump size, a Configuration Switch (SW1) must be positioned to select the correct pump rating. Reference the chart below for appropriate Configuration Switch setting.



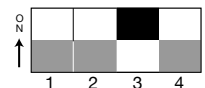
Configuration Switch SW1

SubDrive2W
1/2 hp (motor)

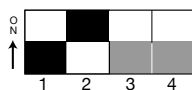


#3 Switch

Underload sensitivity selection
OFF Position - Normal (default) ON Position - Low
See SubDrive/MonoDrive Installation Manual for more information.



SubDrive2W
3/4 hp (motor)*

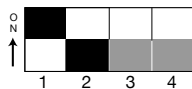


#4 Switch

Reserved - Do not use.



SubDrive2W
1 hp (motor)

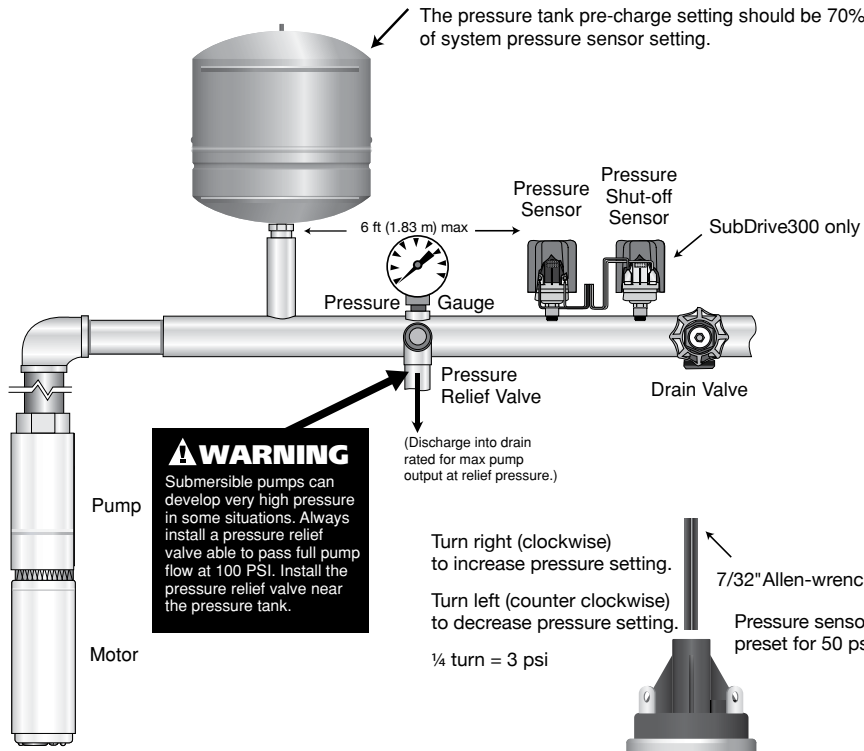


*(default)

Plumbing

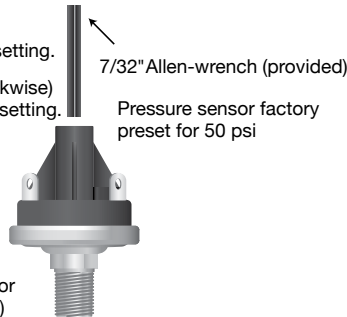
Minimum Pressure Tank Size (Total Capacity)

Pump Flow Rating	Controller Model	Minimum Tank Size
Less than 12 gpm	SubDrive75 or MonoDrive	2 gallons (8 L)
	SubDrive100	4 gallons (8 L)
	SubDrive150 or MonoDriveXT	4 gallons (18 L)
	SubDrive300	8 gallons (35 L)
12 gpm and higher	SubDrive75 or MonoDrive	4 gallons (18 L)
	SubDrive100	8 gallons (35 L)
	SubDrive150 or MonoDriveXT	8 gallons (35 L)
	SubDrive300	20 gallons (80 L)
All flows	SubDrive2W	20 gallons (80 L)



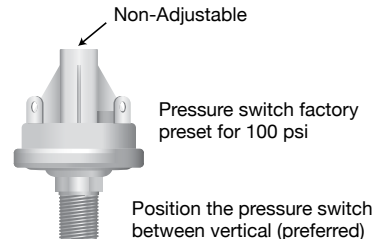
Pressure Setting Guide	
Pressure Sensor Set Point (PSI)	Pressure Tank Pre-charge (± 2 PSI)
25	18
30	21
35	25
40	28
45	32
50 (Factory set)	35
55	39
60	42
65	46
70	49
75	53
80	56

Turn right (clockwise) to increase pressure setting.
 Turn left (counter clockwise) to decrease pressure setting.
 ¼ turn = 3 psi



Position the pressure sensor between vertical (preferred) and horizontal.

PRESSURE SENSOR



Position the pressure switch between vertical (preferred) and horizontal.

CUT-OFF SWITCH
SubDrive300 only

Accessories

Pressure Sensor Kit - replacement sensor with 10 ft of 22 AWG cable and sensor adjustment tool: **223 995 901**

(SubDrive75/100/150, MonoDrive, MonoDriveXT, SubDrive2W)

Sensor Cable Kit - 100 feet of 22 AWG pressure sensor cable: **223 995 902**

(SubDrive75/100/150, MonoDrive, MonoDriveXT, SubDrive2W)

Pressure Sensor Kit - replacement sensor, pressure shut-off switch with 10 ft of 22 AWG cable and sensor adjustment tool: **225 495 901** (SubDrive300)

Sensor Cable Kit - 100 ft of 22 AWG pressure sensor and pressure shut-off switch cable: **225 495 902** (SubDrive300)

Fan Replacement Kit - refer to Installation Manual, Franklin Electric hotline or www.franklin-electric.com for additional information.