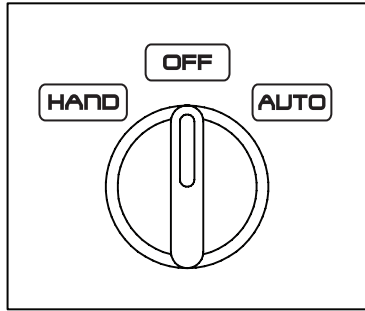


# Operation



- Ensure that all connections are properly torqued and enclosure is closed prior to applying power to the device.
- Ensure all mechanical equipment operated by the starter is clear for safe operation in case of starter activation.
- When in AUTO mode, starter may be activated remotely by the control system



## Operation Modes

### ON (HAND)

Place the switch in the ON position to button to manually engage motor.

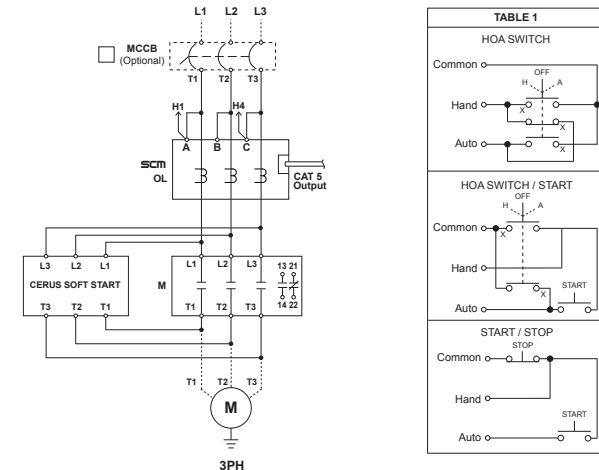
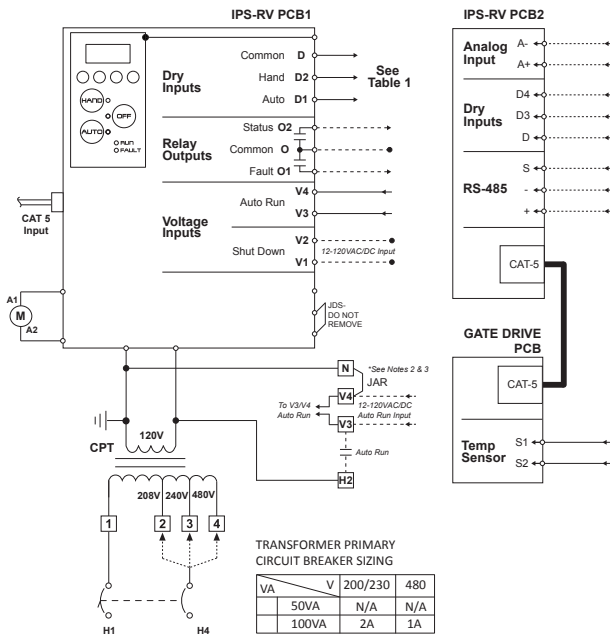
### OFF (RESET)

Placing the switch in the OFF position will manually disengages the motor. Additionally, the OFF position serves as a manual Reset. Place the switch in the OFF position for 5 seconds to Reset the starter after a fault trip.

### AUTO

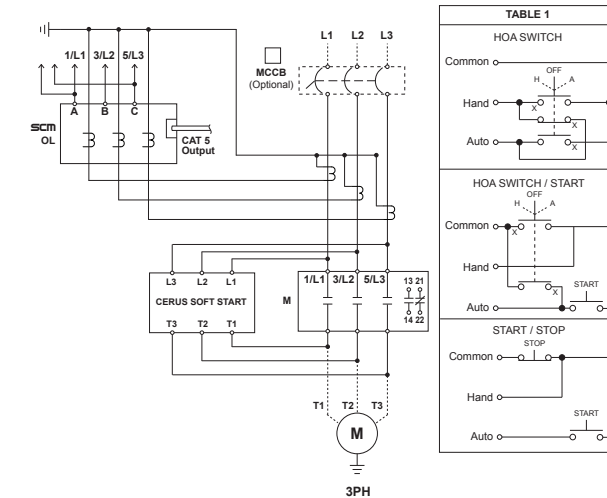
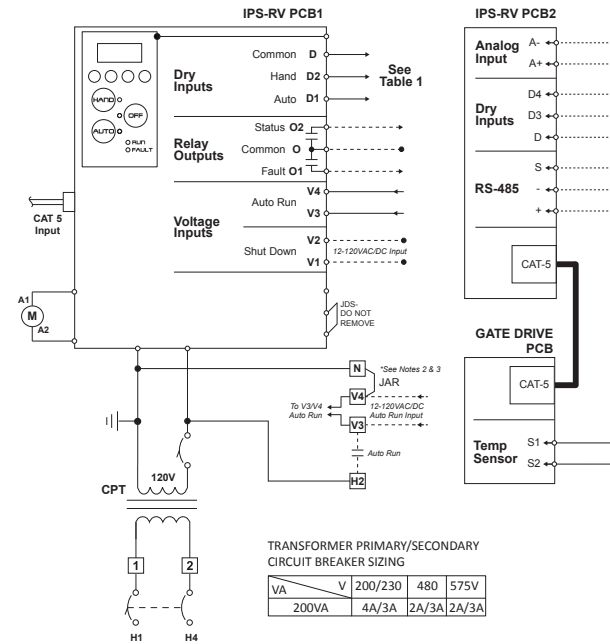
When utilizing AUTO mode, the starter is controlled by a remote Start/Stop command.

# Wiring Schematic (S1-S3P)



- NOTES:
1. DASHED LINES INDICATE FIELD WIRING
  2. WHEN JUMPER JAR IS PRESENT, TERMINALS V3 & H2 ACT AS CONNECTIONS FOR A NORMALLY OPEN, DRY CONTACT, AUTO RUN INPUT.
  3. REMOVE JUMPER JAR TO USE V3 & V4 TERMINALS AS A VOLTAGE, AUTO RUN INPUT. APPLY 12-120VAC/DC TO ENERGIZE

# Wiring Schematic (S4 and above)



- NOTES:
1. DASHED LINES INDICATE FIELD WIRING
  2. WHEN JUMPER JAR IS PRESENT, TERMINALS V3 & H2 ACT AS CONNECTIONS FOR A NORMALLY OPEN, DRY CONTACT, AUTO RUN INPUT.
  3. REMOVE JUMPER JAR TO USE V3 & V4 TERMINALS AS A VOLTAGE, AUTO RUN INPUT. APPLY 12-120VAC/DC TO ENERGIZE



# IPS-RV

INTELLIGENT PUMP SOFT STARTER

## Quick-Start Guide

The complete manual is available for download at [www.franklin-controls.com](http://www.franklin-controls.com) or call 800.962.3787.



## Precautions

To prevent injury and property damage, follow these instructions. Failure to adhere to installation/operation procedures and all applicable codes may result in hazards as indicated by warning codes outlined below:



indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.



indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.



This is the safety alert symbol. Read and follow instructions carefully to avoid a dangerous situation.



This symbol alerts the user to the presence of "dangerous voltage" inside the product that might cause harm or electrical shock.

## Safety Instructions



Equipment can start automatically. Lockout/tagout before servicing.



As with all electrical products, read manual thoroughly. Only qualified, expert personnel should perform maintenance and installation. Contact the nearest authorized service facility for examination, repair, or adjustment. Do not disassemble or repair unit unless described in this manual; death or injury to electrical shock or fire hazard may result. Specifications and manual data subject to change. Consult factory for additional information.

# Installation



## HAZARDOUS VOLTAGE

- Disconnect and lock out all power before installing or servicing equipment.
- This equipment may require locking out multiple power sources prior to service
- Install and wire in accordance with all applicable local & national electrical and construction codes

## FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN DEATH OR SERIOUS INJURY

### Mounting

Mount the starter on a vertical surface, with the line terminals facing up.



- To maintain overcurrent, short-circuit, and ground-fault protection, the manufacturer's instructions for selecting current elements and setting the instantaneous-trip circuit breaker must be followed.
- Tripping of the instantaneous-trip circuit breaker is an indication that a fault current has been interrupted. Current-carrying components of the magnetic motor controller should be examined and replaced if damaged to reduce the risk of fire or electric shock.
- Do not locate starter in an environment subject to flammable gases, dusts or materials. Contact arcing can induce explosion or fire.
- Locate starter in a location appropriate to enclosure ratings and operational ratings. (e.g. NEMA 1 should only be located in a dry, protected environment).
- Do not allow any metal shavings or debris from installation to enter enclosure.

### Wiring

Wire main power input and motor leads to the appropriate terminals tightened to specified torques indicated on the panel enclosure. Use only copper conductors rated at least 60°C for applications less than 100A and at least 75°C ≥ 100A. Maintain proper clearances and verify that no possibility of an electrical short exists between the power conductors or enclosure. Ensure that wires are not under stress and all insulation is intact. Verify voltage input matches label and the control power is tapped per schematic.

### Low Voltage Wiring

Control wiring should be run in a separate conduit. The control terminals accept 26-14AWG wire torqued to 3.5 in-lbs.

### Power Wiring

Terminals should be torqued to in-lbs. specified on the starter.

### Control Terminals

Automations inputs are provided for customer use (see below). For additional detail see the full manual.

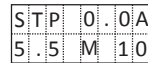
INTELLIGENT PUMP SOFT STARTER															
VOLTAGE INPUTS 12-120VAC/DC			RELAY OUTPUTS			DRY INPUTS			GATE DRIVE BOARD						
N/A	N/A	N/A	V1	V2	V3	V4	O1	O	O2	D1	D2	D			
			SHUT DOWN	AUTO RUN			FAULT	COM	RUN	AUTO	HAND	COM			
			RS-485				DRY INPUTS	ANALOG IN.	TERM. RES.						
			+ - S				D D3 D4	A- A+	OFF ON						

# Startup

1. Before applying power, ensure that the transformer is tapped to the appropriate voltage terminal block (208/230/480V). (Defaulted to 480V)
2. Connect input power to terminals L1-L2-L3, located on the circuit breaker or input terminal blocks if no circuit breaker is present.
3. Connect motor leads to terminals T1-T2-T3, located on the contactor or output terminal blocks.
4. Apply power to the starter (display screen will be illuminated).
5. Adjust the overload FLA (NOT SFA) to match the nameplate of the motor. (Standard lockout feature must be disabled, see below)

### Standard Lockout Feature

In order to make adjustments to the overload, voltage and HP settings, the standard lockout feature must first be disabled. See below for instructions.



Default Display Screen



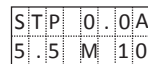
Press and hold the UP and DOWN buttons for 2 seconds until the display screen matches the display at left.



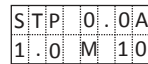
Press the ENTER button to change the menu from "LOCKED" to "UNLOCKED."



The lockout feature is now disabled. Press the ESC key to return to the Default Display screen.



Adjustments may now be made to the overload, voltage and HP settings (see below). The standard lockout feature will automatically re-enable itself after 2 minutes.



Default Display Screen



Press the DOWN arrow once



Edit FLA Screen



Press ENTER



Use the UP and DOWN keys to make adjustments



Press ENTER to save setting.

6. Adjust the nominal voltage setting to match the incoming voltage. (Standard lockout feature must be disabled)



Edit FLA Screen



Press the DOWN arrow 2 times



Edit VLT Screen



Press ENTER



Use the UP and DOWN keys to make adjustments



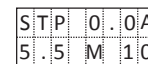
Press ENTER to save setting.

Soft starter and motor protection features other than overload are pre-configured to protect submersible motors. Changes to soft starter settings may need to be done for surface motor applications (see below).

7. Adjust soft starter features to desired settings (Advanced lockout feature must be disabled, see below).

### Advanced Lockout Feature

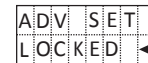
In order to make adjustments to the soft starter settings, the advanced lockout feature must first be disabled. See below for instructions.



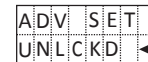
Default Display Screen



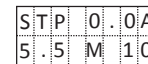
Press and hold the UP and DOWN buttons for 8 seconds until the display screen matches the display at left.



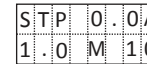
Press the ENTER button to change the menu from "LOCKED" to "UNLOCKED."



The lockout feature is now disabled. Press the ESC key to return to the Default Display screen.



Adjustments may now be made to the soft starter settings. The advanced lockout feature will automatically re-enable itself after 2 minutes.



Default Display Screen



Press ENTER



Advanced Settings Scree



Press ENTER. Press DOWN 2 times



Edit Soft Start Screen



Press ENTER

Adjustments to soft starter features are located here. Use the UP and DOWN keys to make adjustments. Press enter to save a parameter setting.

8. Motor rotation verification: Apply power to the starter and place the starter in hand mode using the HOA keypad located on the door. If rotation is opposite of desired, two of the motor leads connected to the contactor will need to be switched.

### Soft Starter Defaults

Soft Starter	IPS-RV	
	Default Settings (Submersible Motor)	Recommended Settings for Surface Motor
Application		
Start Mode	Voltage Ramp	Voltage Ramp
Start Voltage	70%	50%
Start Current	400%	300%
Start Time	3 seconds	10 seconds
Stop Mode	Coast to Stop	Coast to Stop
Stop Voltage	70%	50%
Stop Time	3 seconds	10 seconds