SubDrive

CONSTANT PRESSURE CONTROLLERS

SUBDRIVE CONNECT & SUBDRIVE

Franklin Electric's SubDrive and SubDrive Connect constant pressure controllers provide constant pressure by continually adjusting the speed of the pump to match water demand. Instead of draining and filling a large tank, a SubDrive system pumps more or less water as you need it. Finally, you'll be able to run the dishwasher, do laundry, and water the lawn – all at the same time!

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DESCRIPTION

BENEFITS

- Constant water pressure with a wide range of settings
- Single-phase input power
- FE Connect smartphone app for advanced settings and monitoring*
- User-configurable motor frequency range*
- Pressure transducer input with system pressure display*
- Easy installation
- Soft-start feature prevents water hammer and increases motor life
- Works with small pressure tanks or existing larger tanks
- Advanced filtering to remove radio frequency interference
- UL and cUL listed
- Built-in diagnostics and protection (surge protection, short circuit, underload, overheat controller, undervoltage, broken-pipe detection*, locked pump, user-configurable underload off-time*, open circuit, optional moisture/wet-floor sensor protection)

** Functionality for Connect models only*

APPLICATIONS

- Residential homes
- Restaurants
- Farms
- Schools
- Car washes
- Landscape irrigation systems

THREE-PHASE SYSTEMS

SubDrive Connect 1100, SubDrive Connect 2200 and SubDrive300 are designed for three-phase 230V 60Hz motors to provide constant pressure with three-phase performance using single-phase input power.

- Single-phase input, three-phase motor control
- 1–5 hp performance
- Smooth running
- Easy, plug-and-play installation
- Easily replaceable fan kit
- High starting torque
- UL and cUL listed
- NEMA 3R and NEMA 4 enclosures (indoor/outdoor)

FE CONNECT MOBILE APP

SUBDRIVE CONNECT MODELS

Wi-Fi connectivity is included in the drive to enable a connection to be made between the drive and a single mobile device (smartphone and tablet). This connection can be used to monitor drive characteristics, adjust advanced settings, and view and email fault history and configuration changes.

CONNECTING TO WI-FI

- Cycle power – Wi-Fi radio can only be connected within the first 15 minutes of power up.
- The FE Connect light will illuminate solid to indicate that a connection is available.
- Open the Wi-Fi connection settings on the mobile device you wish to use to connect to the drive.
- Select the "FECNCT_XXXXX" hotspot ("XXXXX" is the end portion of the serial number of the drive being connected to).
- The FE Connect light on the drive will flash to indicate that a connection is being made. Only one (1) mobile device can be connected to a drive at any given time.
- After making a successful connection, launch the FE Connect App on your mobile device. App can be downloaded from the Apple App Store or Google Play depending on the device being used.
- This connection will stay active until the connection is broken or device is out of range.
- Connection can be re-established for up to one hour following a disconnection.

MONITORING

This page allows for real-time monitoring of the system including:

- System Status
- System Pressure (requires pressure transducer)
- Output Current
- Input Voltage
- Motor Speed
- System Info (Drive Model, Hardware/Software Ver.)

SETUP

The Setup page allows for the setup of additional features of the drive including:

- Underload Off Time
- System Pressure Setpoint*
- Duplex Alternator Function
- Auxiliary Input
- Moisture/Wet-Floor Sensor
- Cut-in Pressure Setpoint/Drawdown**
- Drive Output*
- Minimum/Maximum Frequency
- Aggressive Bump
- Motor Size*
- Broken Pipe Detection
- Pump Size*
- Bump Mode
- Steady Flow*
- Underload Sensitivity*
- Tank Size Mode
- Units (hp or kW)
- Motor Overload Current***
- Prime Delay***

** In order to change and use app settings for the Drive Output, Motor Size, Pump Size, Underload Sensitivity, and Steady Flow, the FE Connect DIP switch (SW1, Position 1) on the drive must be on (up). Otherwise, the drive will default to the settings made via the DIP switches and Underload Sensitivity rotary knob on the drive itself.*
*** Requires pressure transducer*
**** Surface pumping applications*

LOGS

This page allows for viewing and emailing fault history and configuration changes with real date and time stamps.

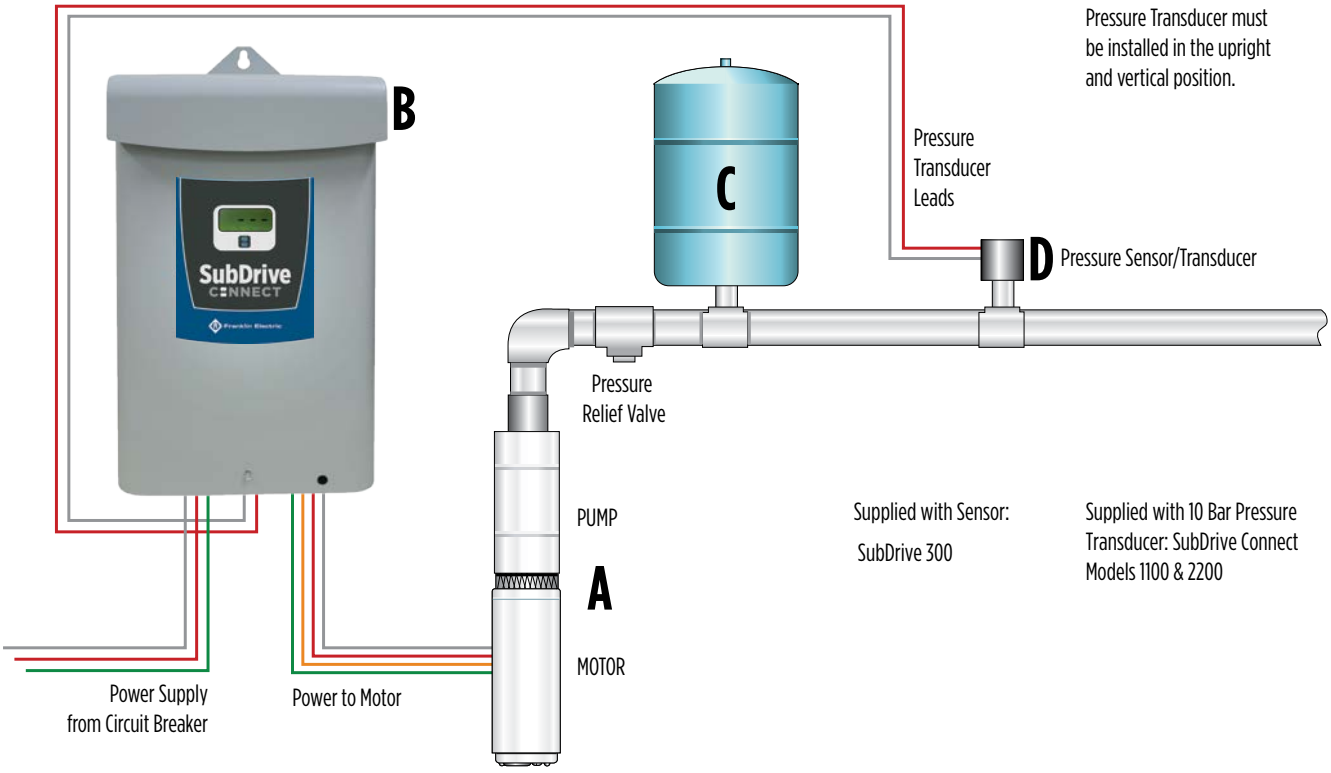
- View drive power up time
- View motor run time
- View/email Fault History events
- View/email Configuration Changes

MODEL OVERVIEW

NEMA 3R - SubDrive Connect - 1100 & 2200

NEMA 4 - SubDrive 300

CONSTANT PRESSURE SYSTEM



SPECIFICATIONS

Model No.	Indoor/Outdoor	SubDrive 1100 Model 5870205103C	SubDrive 2200 Model 5870205453C
Input from Power Source	Voltage	208/230 VAC	208/230 VAC
	Phase In	Single-phase	Single-phase
	Frequency	60/50 Hz	60/50 Hz
	Current (max)	12 Amps	23 Amps
	Power Factor	~ 0.95	~ 0.95
	Power (idle)	4 Watts	5 Watts
	Power (max)	2500 Watts	4200 Watts
	Wire Gauge Size(s)	Consult Federal, State, and Local codes for branch circuit installations	Consult Federal, State, and Local codes for branch circuit installations
Output to Motor	Voltage	Adjusts with Frequency	Adjusts with Frequency
	Phase Out	Three-phase	Three-phase
	Frequency Range	30-77 Hz (3/4 hp, 0.55 kW) pump 30-72 Hz (1 hp, 0.75 kW) pump 30-60 Hz (1.5 hp, 1.1 kW) pump	30-78 Hz (1.5 hp, 1.1 kW) pump 30-70 Hz (2 hp, 1.5 kW) pump 30-60 Hz (3 hp, 2.2 kW) pump
	Current (max)	5.9 A / phase	10.9 A / phase
	Wire Gauge Size(s)	As per page 21 in installation Manual	As per page 21 in installation Manual
Pressure Setting	Factory Preset	73 psi (5 bar)	73 psi (5 bar)
	Adjustment Range	7.3 - 137.8 psi (0.5 - 9.5 bar)	7.3 - 137.8 psi (0.5 - 9.5 bar)
Operating Conditions (A)	Temperature (at 230 VAC input)	-13 °F to 122 °F (-25 °C to 50 °C)	-13 °F to 122 °F (-25 °C to 50 °C)
	Relative Humidity (NEMA 3R)	20-95%, non-condensing	20-95%, non-condensing
Controller Size (B) (approximate)	Outer Dimensions	9-3/4" x 19-3/4" x 5-1/4" (25 x 50 x 13 cm)	9-3/4" x 19-3/4" x 5-1/4" (25 x 50 x 13 cm)
	Weight	26 lbs (11.8 kg)	26 lbs (11.8 kg)
For Use With (C)	Pump (60 Hz)	0.75 hp (0.55 kW), 1.0 hp (0.75 kW), or 1.5 hp (1.1 kW) pump with 234514-Series motor	1.5 hp (1.1 kW), 2.0 hp (1.5 kW), or 3.0 hp (2.2 kW) pump with 234316-Series motor
	FE Motor	234514-Series (1.5 hp, 1.1 kW) three-phase	234316-Series (3.0 hp, 2.2 kW) three-phase

NOTES: Refer to Franklin Electric's SubDrive/MonoDrive Installation Manual.
(A) Operating temperature is specified at full output power when installed as described in Controller Location Selection.
(B) Refer to detailed Mounting Dimensions.
(C) If a pump other than the default rating is used, refer to Drive Configuration.

SPECIFICATIONS

Model No.	Indoor/Outdoor	SubDrive300 Model 5870206300
Input from Power Source	Voltage	220-260 VAC
	Phase In	Single-phase
	Frequency	60/50 Hz
	Current (max)	36 Amps (RMS)
	Power Factor	1.0 (constant)
	Power (idle)	65 Watts
	Power (max)	7200 Watts
	Wire Gauge Size(s)	Consult Federal, State, and Local codes for branch circuit installations
Output to Motor	Voltage	Adjusts with Frequency
	Phase Out	Three-phase (3-wire)
	Frequency Range	30-80 Hz (3 hp, 2.2 kW) pump 30-70 Hz (5 hp, 3.7 kW) pump
	Current (max)	17.8 Amps (RMS, each phase)
	Wire Gauge Size(s)	#2 - #18 * ga.
Pressure Setting	Factory preset	50 psi (3.4 bar)
	Adjustment Range	25-80 psi (1.7 - 5.5 bar)
Operating Conditions (A)	Temperature (at 230 VAC input)	-13 °F to 125 °F (-25 °C to 50 °C)
	Relative Humidity	0-100%, condensing
Controller Size (B) (approximate)	Outer Dimensions	19-7/8" x 17-1/2" x 14-1/4" (50.48 x 44.45 x 36.20 cm)
	Weight	35.15 lbs (15.94 kg)
For Use With (C)	Pump (60 Hz)	3 hp (2.2 kW) [default] 5 hp (3.7 kW)
	FE Motor	234317-Series (5 hp, 3.7 kW)
	Surface Pumps	-

NOTES: Refer to Franklin Electric's SubDrive/MonoDrive Installation Manual.
(A) Operating temperature is specified at full output power when installed as described in Controller Location Selection.
(B) Refer to detailed Mounting Dimensions.
(C) If a pump other than the default rating is used, refer to Drive Configuration.
** Refer to detailed Circuit Breaker and Wire Sizing charts.*

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