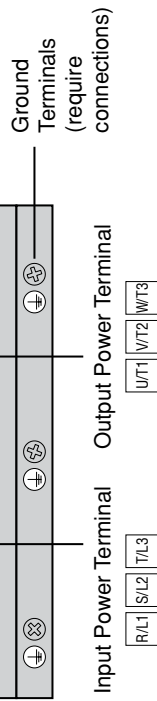
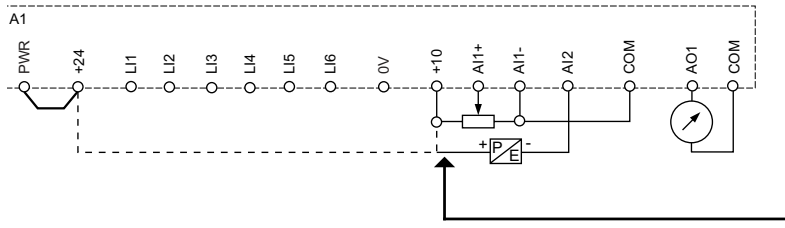
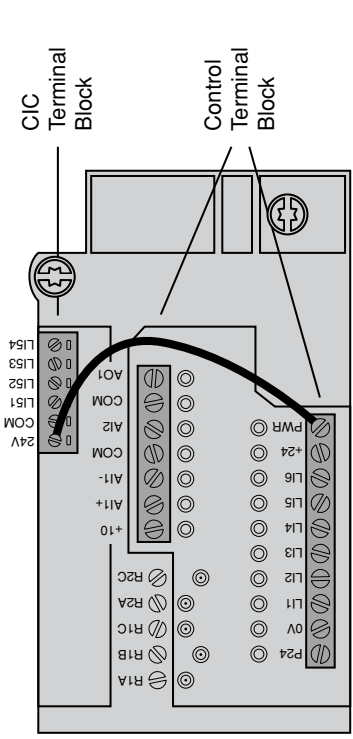


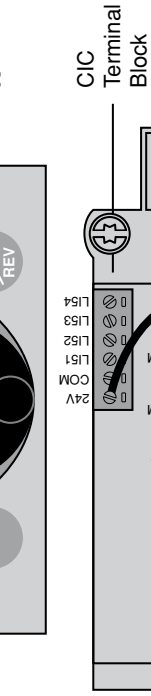
Connect transducer to +24 or +10 terminal depending on sensor rated voltage.



Power Terminals



Control Terminals



Graphic Display Terminal

Connections:

- Power:**
- Connect power leads to the Input Power Terminal at "R/L1", "S/L2", and "T/L3"
 - Connect the ground to one of the ground leads at the bottom of the unit.

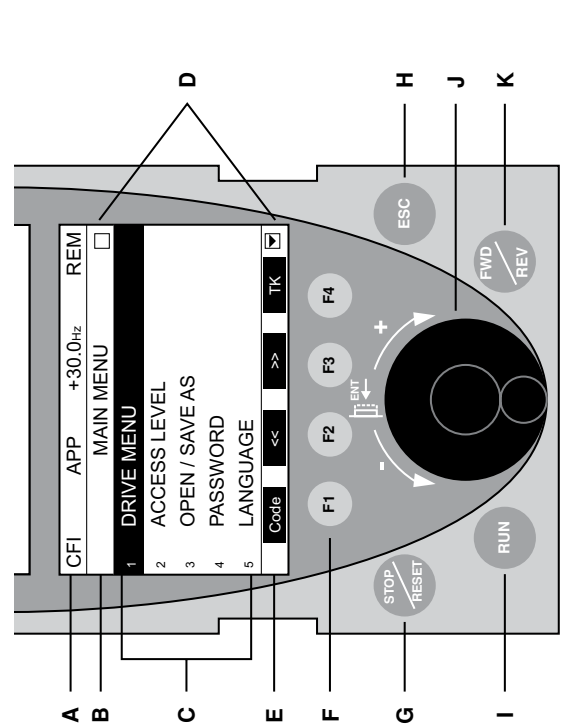
Motor Leads:

- Do not connect motor leads at this time.

Controls/Pilot Device:

- Pressure Transducer**
- For 2-wire with shield (4-20 ma) transducers, connect the black lead (-) to the "AI2" terminal on the Control Terminal Block, and the red lead (+) to:
- The "+10" terminal for 10 volt transducers
 - The "+24" terminal for 24 volt transducers

Note: There will be a jumper between the C/I C Terminal block ("24V") and the Control Terminal Block ("PWR").



Description and Operation:

- A Display Status:** Displays default settings. Display content can be configured.
- B Menu Line:** Displays the name of the current menu or submenu.
- C Submenus:** Lists the submenus of the current menu.
- D Scroll Boxes:** Indicates (by arrow direction) whether there are additional submenus or levels to access. A blank box indicates there are no additional submenus or levels to access.
- E Status Line:** Displays the functions assigned to function buttons F1 to F4.
- F Function buttons:**
 - F1 - Displays the code of the selected parameter or Help info.
 - F2 - Navigate to left or right OR returns to previous menu.
 - F3 - Navigate to left or right OR advances to the next menu.
 - F4 - Command and reference via the terminal.
- G Red Stop/Reset Button:** Using this button will stop the drive. Input power must be cycled to restart the drive.
- H ESC Button:** Exits a menu or parameter, or cancels a value to return to the previous value in memory.
- I Green Run Button/Dial:** Currently disabled. Do not use.
- J Navigation Button/Dial:** "Push and Turn" dial to navigate within menu screens or to change parameters of values.
- K FWD/REV Button:** Currently disabled. Do not use.



SubDrive HPX Quick Reference Guide

For Constant Pressure Operations Standalone (5 - 200 - 5)

Set Up Directions

SubDrive HPX Quick Reference Guide

1. Follow these steps before starting set up:

1. Disconnect motor leads
2. Connect Transducer
3. Power up the drive
4. Status Screen will be displayed, push Navigation Button/Dial to get into the **Main Menu**

“>” means to scroll to the proper item (rotate the navigation dial) and enter the selection (push down the round navigation dial)

“ESC” means press the ESC button on the terminal

2. Set Date and Time

- ▶ **Main Menu** ▶ **Drive Menu** ▶ **Franklin Elec** ▶ **Date/Time Settings**

Set time and date (FORMAT = day/month/year), move to the right or left using F2 and F3 buttons, and push Navigation Button/Dial to set the number or **ESC**

3. Choose Desired Motor

- ▶ **Main Menu** ▶ **Drive Menu** ▶ **Franklin Elec**

Verify **Menu Select** is set to Motors

- ▶ **Motor Type**

Submersible 60 Hz (SubM 60 Hz)

Surface 60 Hz (SurF 602Hz)

Submersible 50 Hz (SubM 50 Hz)

Surface 50 Hz (SurF 50 Hz)

- ▶ **Motor Size**

Enter horsepower (hp) or kilowatts (kW) [50 Hz only] of the motor

- ▶ **Motor Volts**

Enter the rated Motor Voltage

- ▶ **N/P Amps**

Enter the rated Motor Amps. For Submersible 60 Hz applications use the Service Factor (SF) amps on the motor nameplate or from the AIM manual.

For all other motors use nameplate full load amps.

Note: The unit has been setup with a minimum and maximum values viewable at the bottom of the SF Amps screen.

4. Set Up for Constant Pressure Operations

(Consult "SubDrive HPX Menu Screen Map" for other modes of operation.)

- ▶ **Franklin Elec** ▶ **Menu Select** ▶ **Ctrl Mode**

Choose desired control configuration (here we use constant pressure as an example)

- ▶ **Control Mode** ▶ **Press Reg**

▶ **Xducer** – Enter pressure rating for transducer (default = 100 psi)

▶ **PSI Target** – Enter desired pressure target (default = 50 psi)

▶ **Limit Lvl** – Enter desired psi drop before restart (default = 5 psi)

5. Connect Motor Leads

Connect motor leads to the Output Power Terminal at "U/T1", "V/T2", and "W/T3"

Connect the ground to one of the ground leads at the bottom of the unit.

6. Activate Switch

- ▶ **Drive Menu** ▶ **Franklin Elec** ▶ **Menu Select** ▶ **Ctrl Mode** ▶ **Switch 1 Mode** ▶ **Run Open**

Pump will start if Switch 1 is open (e.g. for constant pressure, pressure in the system is above or below the target pressure)



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M1579 Rev. 0 02-11



Franklin Electric

400 East Spring St., Bluffton, IN 46714

Tel: 260.824.2900 • Fax: 260.824.2909

www.franklin-electric.com

MAIN MENU
DRIVE MENU
ACCESS LEVEL
OPEN/SAVE AS
PASSWORD
LANGUAGE
MONITORING CONFIG.

DRIVE MENU
SIMPLY START
MONITORING
SETTINGS
MOTOR CONTROL
INPUTS/OUTPUTS CFG
COMMAND
APPLICATION FUNCT.
FAULT MANAGEMENT
COMMUNICATION
DIAGNOSTICS
IDENTIFICATION
FACTORY SETTINGS
Franklin Elec

Franklin Elec
Control Type : Franklin
Pressure or Flow : 0 PSI or 0%
Menu Select : Motors
Cntl Mode
Parameter
Data Log

Motors
Control Type : Franklin
Pressure or Flow : 0 PSI or 0%
Menu Select : Motors
Motor Type : SubM 60Hz
Motor Size
Motor Volts
SF Amps
Motor Confirm
SurF 60Hz
Motor Size
Motor Volts
SF Amps
RPMs
Motor Confirm
SubM 50Hz
Motor Size
Motor Volts
N/P Amps
Motor Confirm
SurF 50Hz
Motor Size
Motor Volts
N/P Amps
RPMs
Motor Confirm
Modbus add Prg C. : OFF
DATE/TIME SETTINGS :

Notes:
-
A readout of the pressure or flow transducer
-
Size, in hp (5 - 200 hp)
Motor Voltage 200-575V
Service Factor Amps: 4-500A
No/Yes: set to "Yes" to enforce motor settings
Size, in HP (5 - 200 hp)
Motor Voltage 200-575V
Service Factor Amps: 4-500A
Motor RPM Rating
No/Yes: set to "Yes" to enforce motor settings
Size, in kW (3.7-250 kW)
Motor Voltage 200-575V
Nameplate Amps: 4-500A
No/Yes: set to "Yes" to enforce motor settings
Size, in kW (3.7-250 kW)
Motor Voltage 200-575V
Nameplate Amps: 4-500A
Motor RPM Rating
No/Yes: set to "Yes" to enforce motor settings
Do not adjust
Adjust date and time

Cntl Mode
Control Type : Franklin
Pressure or Flow : 0 PSI or 0%
Menu Select : Cntl Mode
Switch 1 Mode : Not Used ✓
Trp-Open
Trp-Close
Run Open
Run Close
FLW Open
FLW Close
Sec Targt
Switch 2 Mode : Not Used ✓
Trp-Open
Trp-Close
Run Open
Run Close
FLW Open
FLW Close
Sec Targt
Control Mode :
Switch Cn
Press Cyc* Xducer
PSI Targt1
PSI Targt2
Limit Lvl
Flow Cntl* FL Targt1
FL Targt2
Press Reg* Xducer
PSI Targt1
PSI Targt2
Limit Lvl
Pipe Fill Ena
Pipe Fill Tgt
Pipe Fill Spd
Pipe Fill Tim
Level Cnt
Modbus add Prg C. : OFF
DATE/TIME SETTINGS :

Notes:
-
A readout of the pressure or flow transducer
-
Switch 1 Mode is selected using a check mark (default is "Not Used")
Switch 2 Mode is selected using a check mark (default is "Not Used")
-
Dial in the transducer range (in psi)
Dial in the Targt1 pressure target (in psi)
Dial in the Targt2 pressure target (in psi)
Dial in the Lvl Limit (in psi)
Dial in the flow target 1 (in % of the flow meter full scale rating - i.e. at the max 20 mA output)
Dial in the flow target 2 (in % of the flow meter full scale rating - i.e. at the max 20 mA output)
Dial in the transducer range (in psi)
Dial in the Targt1 pressure target (in psi)
Dial in the Targt2 pressure target (in psi)
Dial in the Lvl Limit (in psi)
Enable/Disable Pipe Fill Feature
Pipe Fill Pressure Target
Pipe Fill Fixed Motor Speed
Time that Pipe fill remains active
-
Do not adjust
Adjust date and time

Data Log
Control Type : Franklin
Pressure or Flow : 0 PSI or 0%
Menu Select : Data Log
Run Time :
Lst Prm Chg : -----
04/10 - 13:16 : Mtr Typ
Cntrl. Faults : -----
Clear Log :
04/10 - 13:18 : Restart E
04/10 - 13:18 : Drive Fault
etc. :
Modbus add Prg C. : OFF
DATE/TIME SETTINGS :

Notes:
-
A readout of the pressure or flow transducer
-
Dial in the run time (in minutes)
-
-
-
Choose "Yes" or "No"
-
-
Do not adjust
Adjust date and time

Parameter
Control Type : Franklin
Pressure or Flow : 0 PSI or 0%
Menu Select : Parameter
Undrload Trip : -----
Trip Point :
Idle Time :
Restarts :
Other Trps : -----
Idle Pst Trp :
Restarts :
Enables : -----
Dip Test :
Bump :
Quick Stp :
Timers : -----
Idle :
SW1 Delay :
SW2 Delay :
NFD Timer :
Hertz : -----
Max :
Min :
Hand :
Accel :
Cntrl Loop : -----
Proportionl :
Rst Rate :
EFlex Ctrl : -----
EFlex Ctrl Enble :
Software Ver : -----
HPX V1.1 : HPX 1.1.1
Reset Timers :
Modbus add Prg C. : OFF
DATE/TIME SETTINGS :

Notes:
-
A readout of the pressure or flow transducer
-
Dial in the trip point (in %)
Dial in the idle time (in minutes)
Dial in the number of restarts after underload trip
-
Dial in the idle time post trip (in minutes)
Dial in the number of restarts after all other trips (other than underload)
-
Choose "Yes" or "No" ("Yes" defeats Bump)
Choose "Yes" or "No" ("Yes" defeats Dip Test)
Choose "Yes" or "No"
-
Dial in the idle time after shutdown (in minutes)
Dial in the SW1 delay (time-out in seconds)
Dial in the SW2 delay (time-out in seconds)
Dial in the NFD timer (in seconds)
-
Dial in max Hertz
Dial in min Hertz
Dial in manual speed control limit
Dial in acceleration (in Hz/s)
-
Dial in proportional gain (in %)
Dial in rst rate (in minutes)
-
Choose "Yes" or "No"
-
S/W Version Number, DateCode for release
Choose "Yes" or "No" ("Yes" clears equipment timers to allow equipment to restart immediately for test purposes. Must be set to "Yes" each time.)
Do not adjust
Adjust date and time

*Display option depends on mode selected