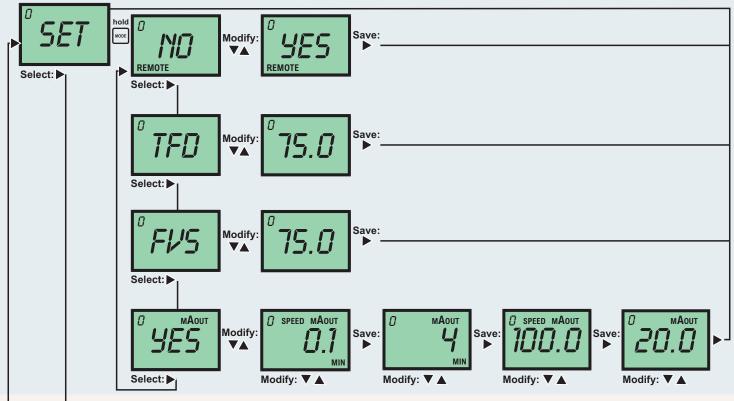
# M-2 Menu Flow Chart

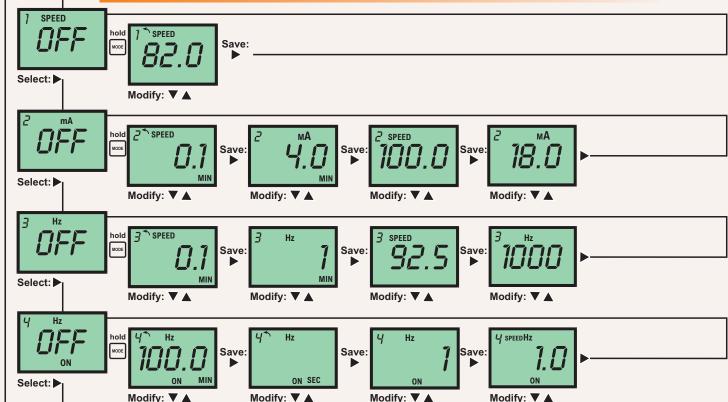
# Mode 0

Mode 0 is used to configure start/stop, TFD, FVS and 4-20mA output



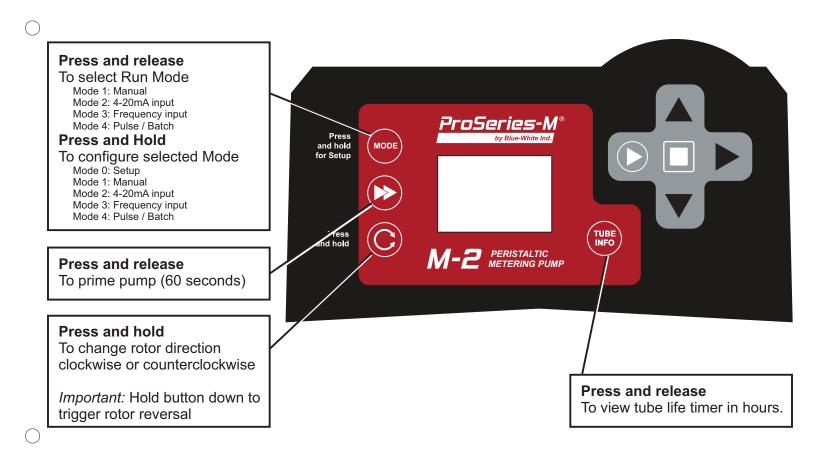
# Modes 1 thru 4

**Modes 1-4 are local and remote operating modes** 



Flex-Pro QUICK START GUIDE

# How to Operate Flex-Pro - Control Pad



#### Press and release

To scroll through menu options in Setup mode.

To increase value while in programming mode.

Press UP arrow to increase pump speed (output) in Manual mode (Mode 1).

#### Press and release

To Start pump.

To begin listening (reacting) to external signals.

# Press and release

To Stop pump.

# Press and release

To scroll through menu options in Setup mode.

To scroll through pump speed (output) and current incoming signals in run modes:

Mode 2, Mode 3, & Mode 4

# Press and release

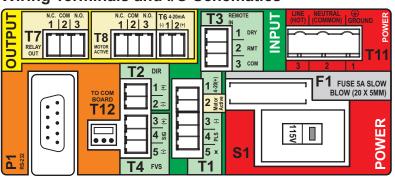
To scroll through menu options in Setup mode.

To decrease value while in programming mode.

Press DOWN arrow to decrease pump speed (output) in Manual mode (Mode 1).

**QUICK START GUIDE** Flex-Pro

# Wiring Terminals and I/O Schematics





WARNING Risk of electric shock - All wiring must be insulated and rated 300V minimum.





Terminals T1 Thru T8 Plug type 16 - 24 AWG

Power Input Terminal T11 Plug type 14 - 30 AWG

### Shielded cables should be used on all input signal wires.

FUNCTION	TERM	PIN#	RATING	ELECTRICAL SP.	BLOCK DIAGRAM			
INPUT: 4-20 mA	T1	1	(+) POSITIVE	120 OHM IMPEDANCE, NON POWERED LOOP	Single or dual pump (series) input.  Loop voltage must not exceed 24 Volts.  ACTIVE 4-20mA TRANSMITTER			
	T1	3	(-) NEGATIVE			SOURCE 3 GND (-)		
INPUT: FREQUENCY, AC SINE WAVE, TTL, CMOS	T1	3	(-) NEGATIVE	0-1000 HZ MAX.	FREQUENCY TRANSMITTER SOURCE TRANSMITTER SOURCE TRANSMITTER SOURCE TRANSMITTER			
	T1	4	(+) POSITIVE		GOORGE	+ 4 2 PULSE T1		
INPUT: FVS SYSTEM (FLOW VERIFICATION SENSOR) FV SENSOR ONLY	T4	3	(+) POSITIVE			BLUE-WHITE RED (+)		
	T4	4	SIGNAL		FVS SENSOR BARE SIGNAL 53 GND (-)			
	T4	5	(-) NEGATIVE	]		BLACK (-)		
INPUT: FVS SYSTEM (FLOW VERIFICATION SENSOR) FS or FP MICRO-FLO FLOW METER ONLY						BLUE-WHITE SIGNAL 32 PWR (+)		
	T4	4	SIGNAL			MICRO-FLO FLOWMETER 55 GND (-)		
	T4	5	(-) NEGATIVE	]		PULSE OUTPUT NEGATIVE (-)		
INPUT: REMOTE START / STOP (DRY CONTACT C.)	Т3	1	(+) POSITIVE	NO VOLTAGE	NOTE: USE ONLY DRY CONTACT FOR	OPEN CIRCUIT IMPEDANCE MUST BE GREATER THAN 50K OHM  (+)  T3 RENOTE N 1 DRY 2 RWIT 3 COM		
	Т3	2	(-) NEGATIVE					
INPUT: REMOTE START / STOP (WET CONTACT C.)	Т3	2	(+) POSITIVE	6 TO 30 VOLT DC 1 AMP MAX.	REMOTE S/S WHEN USING 4-20mA INPUT	EXTERNAL DEVICE (+) T3 REMOTE 1 DRY		
	Т3	3	(-) NEGATIVE			6 TO 30V DC (-) 2 RWT 3 COM		
OUTPUT: 4-20 mA	Т6	2	(+) POSITIVE	120 OHM RESISTANCE ACTIVE LOOP	4-20mA RECEIVER 600 OHM LOAD MAX. (+)			
	Т6	1	(-) NEGATIVE					
OUTPUT: RELAY, 3 AMP	Т7	1	NORM. CLOSED	Form C 3 AMP MAX AT		SWITCH LOAD NC 1/2/3		
	Т7	2	COMMON	250 VAC, 3 AMP MAX AT	3 AMP MAX @ 250V AC 3 AMP MAX @ 30V DC			
	T7	3	NORM. OPEN	30 VOLT DC		NO L		
OUTPUT: OPEN COLLECTOR	T1	2	SIGNAL	5 TO 24 VDC	CLOSED WHILE	4.7K OHM SIGNAL OUT  11 ST ACTIVE		
MOTOR ACTIVE	T1	3	COMMON			NEGATIVE (-)		
OUTPUT: MOTOR ACTIVE	Т8	1	NORM. CLOSED	Form C 1 AMP MAX AT 125 VAC,	MOTOR IS ENERGIZED	T1		
(CONTACT CLOSURE)	T8	2	COMMON	0.8 AMP MAX AT 30 VOLT DC		1 AMP MAX @ 125V AC		
	Т8	3	NORM. OPEN			0.8 AMP MAX @ 30V DC NO NO		
INPUT: POWER	T11	1	GROUND	15V OR 230V AC MANUAL SWITCH	LNE, NEURAL, (8) (HOT) (COMMON) (RROUND III)			
	T11	2	NEUTRAL	50 / 60 HZ 100W	VOLTAGE	OWITOH EXT		
	T11	3	LINE (HOT)	]	, <del>*</del>	FROM SWITCH		
			2.112 (1101)	5A SLOW BLOW		1130 10 2300		





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85000-118 Rev 5, 10142019



# **ProSeries-M® M-2 Peristaltic Metering Pump QUICK START GUIDE**

# **Mounting Location**

- ✓ Choose an area located near the chemical supply tank, chemical injection point, and electrical supply. Install the pump where it can be easily serviced.
- ✓ Mounting brackets are included. Mount the pump to a secure surface using the enclosed mounting hardware.
- ✓ Mount the pump close to the injection point. Keep the inlet (suction) and outlet (discharge) pipe or tubing as short as possible. Longer discharge tubing increases back pressure at pump head.
- ✓ Keep the suction lift height as low as possible. Increased suction lift heights can decrease the pump's efficiency.
- ✓ A back flow prevention check valve is recommended at the injection point to prevent system fluid from flowing back through the pump during tube replacement or if the tube should rupture. The check valve internals must be kept clean. Any build up in the valve will increase the pressure at the pump reducing the life of the pump tube. Back flow check valves are available from the factory.
- ✓ The Flex-Pro does not require back pressure. Pressure regulator valves should **NOT** be used as back-flow prevention valves unless adjusted to the minimum possible opening pressure. Any additional pressure at the pump will reduce the life of the pump tube.
- ✓ A pressure relief valve is recommended at the discharge of the pump to prevent excessive pressure resulting in premature wear and damage to the pump tube in the event the discharge line becomes blocked.

#### Maximum working pressure (excluding pump tubes):

125 psig (8.6 bar)

Note: see individual pump tube assembly maximum pressure ratings.

## **Maximum Fluid temperature (excluding pump tubes):**

3/8" OD x 1/4" ID tubing connections: 130° F (54° C)

M/NPT connections: 185° F (85° C)

Note: see individual pump tube assembly maximum temperature ratings.

## **Ambient Operating Temperature**

14°F to 115°F (-10°C to 46°C)

#### **Ambient Storage Temperature** -40°F to 158°F (-40°C to 70°C)

**Operating Voltage:** 

115VAC/60Hz, 1ph (1.5 Amp Maximum) 230VAC/60Hz, 1ph (0.7 Amp Maximum)

220VAC/50Hz, 1ph (1.0 Amp Maximum) 240VAC/50Hz, 1ph (1.0 Amp Maximum)

**Mounting Hole Spacings** (for standard and extended type brackets) 2.5" (6.35 cm) M-2 Series 7.75" (19.7 cm) Maximum bolt hole size 0.200" diameter (4 places)

## Risk of electric shock – cord connected models are supplied with a grounding conductor and grounding-type attachment plug. To A reduce risk of electric shock, be certain that it is connected only to a properly grounded, grounding-type receptacle. WARNING Electrical connections and grounding (earthing) must conform to local wiring codes. Be certain that a grounding conductor is

4 WARNING Risk of electric shock - Disconnect electricity before removing the wiring compartment cover. 4

connected to terminal T11-1 located in the wiring compartment.

CAUTION Risk of chemical overdose. Be certain pump does not overdose chemical during backwash and periods of no flow in circulation

CAUTION Always wear protective clothing, face shield, safety glasses and gloves when working on or near your metering pump. Additional precautions should be taken depending on solution being pumped. Refer to MSDS precautions from your solution supplier.

All diagrams are strictly for guideline purposes only. Always consult an expert before installing metering pump on specialized systems. Metering pump should be serviced by qualified persons only.