

Important! Read this first!

The manuals (IOM's) supplied with all Emech products contain important installation and operating instructions. Adhere to ALL the product specifications, safety tips, cautions and warnings appearing throughout the manual. Failure to do so may result in reduced product performance. More seriously, it may cause property damage, personal injury, production down-time and other losses.



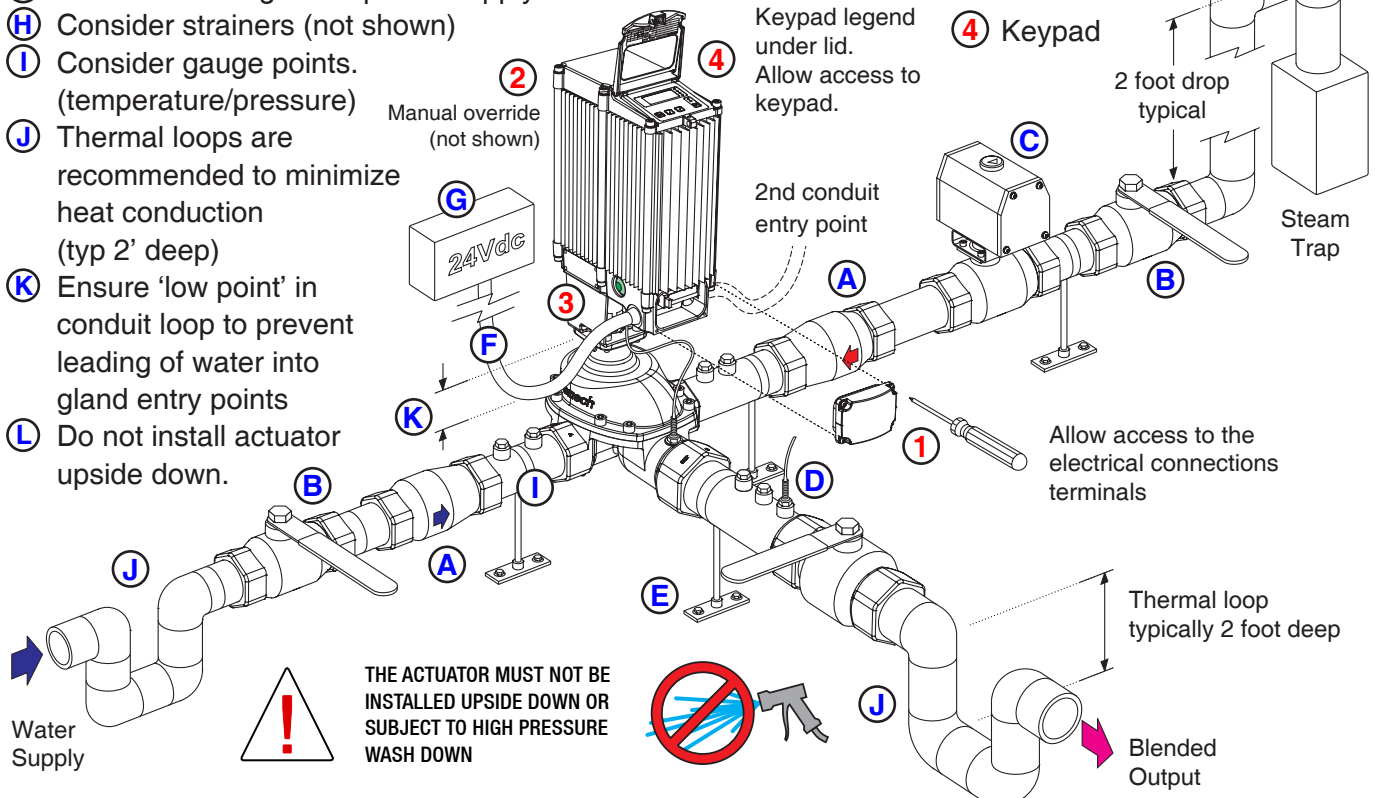
All valves and actuators are shipped factory set to the customers requirements specified at time of purchase. Shipping notes attached to valve and actuator assemblies describe port configuration and valve zero positions. Warranty registration offers many benefits to the end customer, visit http://www.emechcontrol.com/warranty_registration.html for more information.

Step 1: Location considerations

Ensure the installation location offers suitable access to ① the electrical connection terminals, ② manual override handle, ③ actuator power switch, ④ display and keypad. Do not install the actuator near or in high pressure wash down areas. The units must NOT be installed upside down.

Step 2: Recommended installation

- Ⓐ Check valves (poppet style for steam, swing style for water) MUST be fitted upstream of the valve inlet ports.
- Ⓑ Isolation valves are RECOMMENDED on the supply lines.
- Ⓒ Unless other options exist a fail-safe solenoid operated spring to close isolation valve is highly RECOMMENDED for over temperature failure modes. Triggered via thermostatic switch Ⓓ.
- Ⓔ Ensure pipe work is adequately supported.
- Ⓕ Ensure mechanical protection of the wiring to the unit. It is RECOMMENDED to use screened conduit or cables.
- Ⓖ Use a 24Vdc regulated power supply.
- Ⓗ Consider strainers (not shown)
- Ⓘ Consider gauge points. (temperature/pressure)
- Ⓝ Thermal loops are recommended to minimize heat conduction (typ 2' deep)
- Ⓚ Ensure 'low point' in conduit loop to prevent leading of water into gland entry points
- Ⓛ Do not install actuator upside down.



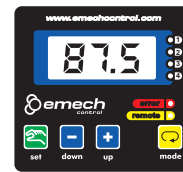
Step 3: Operation

DO NOT EXCEED THE RATED VALVE BODY PRESSURE or TEMPERATURE LIMITS:

Valve	Temperature		Pressure (g)	
	° C	° F	Bar	psi
F2, F3	-25* to 125*	-13* to 257*	10	145
F5	-29* to 232*	-20* to 450*	10	145
F4	-25*	-13*	19	276
	93	200	16.2	235
	125*	257*	15.4	223
F8T	-25* to 38	-13* to 100	15.9	230
	93	200	13.4	195
	125*	257*	12.7	183

(See IOMs for specific trim limitations)
 (* is standard trim temperature limits)

Steam or Hot Water Supply



④ Keypad

Keypad legend under lid. Allow access to keypad.

2 foot drop typical

Steam Trap

Allow access to the electrical connections terminals

Thermal loop typically 2 foot deep

Blended Output

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Always consider environmental and mechanical conditions of the installation, such as ambient temperatures, chemicals, moisture and exposure to mechanical impacts, shock and vibration. For mechanical protection of the wiring as well as to comply with EMC (Electro Magnetic Compatibility) standards it is recommended to place the wiring in screened conduit or to use screened cables.

Step 1: Location considerations

Consider the voltage drop of the power supply wires. Locate the power supply sufficiently close to the actuator to ensure a genuine 24 Vdc is available at the actuator terminals when the actuator is operating. See section 3.2.2 of the actuator manual (IOM) for wire gauge vs. max cable length table.

Step 2: Installation

- ISOLATE the power before installation.
- The power supply **MUST** be regulated to 24Vdc.
- Remove the terminal enclosure cover of the actuator. Wire the power to the supply as shown in Figure 1. Use one of the cable entry points located either side of the actuator.
- Use a cable gland to ensure a water tight seal around the power cable or conduit.
- BOTH** ends of the screen **MUST** be grounded. When placing the wiring in metal conduit, which is grounded, shielded cable is not required, but the conduit **MUST** be grounded at both ends.
- Ensure the conduit or screened wiring will **NOT** lead water into the actuator via the cable entry points.
- All actuators are shipped factory set to the customer's requirements specified at time of purchase.
- If an actuator needs to be re-configured use the CD supplied to install the configuration software on to a PC and then connect a serial cable between the actuator and PC. 95% of all applications can be set by selecting a "Standard Config" from the "Tools > Standard Config" menu of the Config software.

Step 3: Operation

- Press and hold the power switch for 2 seconds to turn the unit ON or OFF.
- When in local mode the actuator is operated from the keypad, located under the lid of the actuator. The keypad uses "dual press" functionality meaning either SET or MODE is held ON and then modified by pressing UP (+) or DOWN (-). Refer keypad legend (Fig 5) located on the underside of the keypad lid. E.g. to increase the temperature control set point HOLD SET and press UP (+).
- The normal display on the keypad is the present process value (e.g. temperature). Pressing SET will display the control set point.
- Refer manual for remote operation with current loop or selector switch.

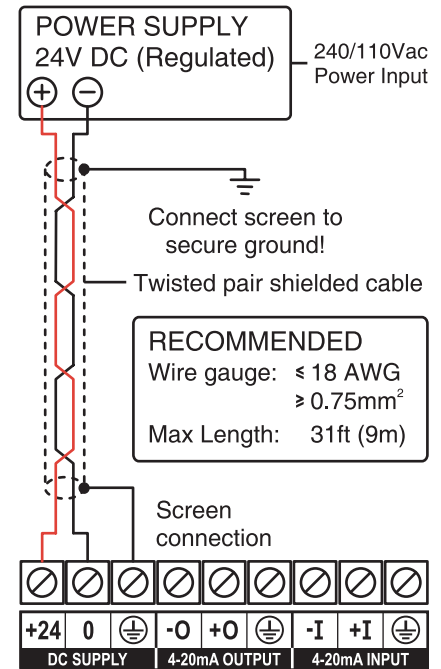


Figure 1: Electrical connection terminal (Located under the terminal cover)



HOLD 2 Seconds
Figure 2: Powering ON the actuator

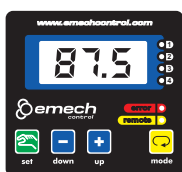


Figure 3: Actuator Keypad & Display



Figure 4: Emech Support CD-Rom

UNIT INDICATOR		
LED	Temperature	Position
1		ON
2		ON
UNITS	°C	°F
		%

Figure 5: Actuator keypad operation & LED indicator legend. (Located under the lid of the actuator)

	+ up	Increase Control Set Point
	- down	Decrease Control Set Point
set	Pressing 'set' displays Set Point. Normal display is 'present value'.	
	set	Remote or Local Mode Toggle
	+ up	Temperature Units: °C or °F
mode	- down	Position or Temperature Toggle
HOLD	PRESS	KEY OPERATION