



FIGURE A

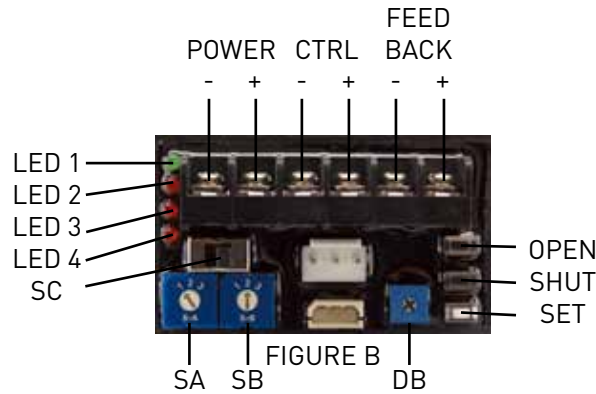


FIGURE B



FIGURE C

The SF-LB control pack, if shipped together with a Series 1000-X actuator, is factory calibrated and set for 90° rotation and no adjustment should be needed. However, if you are replacing the SF-LB or the factory settings do not conform to your actuator/valve application, some adjustment may be necessary.

INITIAL SETUP

If the SF-LB is not installed – install in the actuator by plugging in the two cables into the unit. Connect the appropriate power to terminals 1&2. Connect the control signal to terminals 3&4 and note that the **polarity must be positive and negative**.

If feedback is being used connect the wiring to terminals 5&6. The SF-LB provides position feedback of 4-20mA.

At this point the Green LED “L1” should be illuminated. If red LED “L2” is illuminated then the control signal is faulty or SC is not set correctly for your control signal. Ensure that SC is set for your application control signal (2-10V or 4-20mA). See the chart below for failure mode conditions on the SF-LB control pack. Your actuator should be ready to operate.

SF-LB CONTROL PACK LED'S		
LED	CAUSE DESCRIPTION	REMEDY
LED-1 (GREEN)	POWER IS PRESENT ON INPUT TERMINALS	ALL IS NORMAL - NONE NEEDED
LED-2 (RED)	CONTROL SIGNAL IS WRONG OR NOT PRESENT	CHECK SC SWITCH TO ENSURE PROPER CONTROL SIGNAL IS SELECTED - CHECK TO ENSURE SIGNAL IS PRESENT
LED-3 (RED)	POTENTIOMETER IS NOT CALIBRATED WITH ACTUATOR OUTPUT	RE-CALIBRATE POTENTIOMETER PROCEDURE IN IOM (CALL FOR ASSISTANCE)
LED-4 (RED)	OVERTORQUE CONDITION PRESENT - VALVE BINDING, OR MANUAL OVERRIDE HAS BEEN USED AND ACTUATOR IS OUT OF SYNC WITH CONTROLLER	CHECK TO MAKE SURE VALVE IS NOT BINDING. RESET CONTROL PACK BY ROTATING S-A FROM 1 TO 2 AND BACK TO 1, or REMOVE POWER TO THE ACTUATOR AND REPLACE

NOTE: THE ACTUATOR WILL NOT OPERATE WHEN MANUAL OVERRIDE PUSH BUTTON IS DEPRESSED



FIGURE D

MANUAL OVERRIDE PUSH BUTTON

The Series 1000-X units are equipped with a manual override power button which disconnects the power to the actuator motor so that the unit can be rotated using the provided hand crank or the optional hand wheel. Although SF-LB LED's are operating, the motor power is disconnected internally. If manual operation of unit is performed, the unit will need to be re-set by switching SA from 1 to 2 and back to 1 again.

SWITCH SETTINGS

SA is used for setting the “direct acting” (2V=closed and 10V=open) or “reverse acting” (2V=open and 10V=closed) rotation of the actuator. SA is also used for placing the actuator in “set mode”. Set mode is used to stroke the actuator using the “open” and “shut” buttons and used for setting the stroke limit position of the actuator. SB is used for setting the positioning of the actuator in the case of a control signal loss. Figure C shows the side of the controller with the options using SA and SB. Actuators are shipped with the SF-LB control packs set to “direct acting” and fail “in place”. SC is used for selecting the control signal (2-10V or 4-20mA). DB is used for setting the sensitivity on the “dead band” – rotate clockwise for less sensitive, rotate CCW for more sensitive. Units are set to mid-range sensitivity from factory.

SETTING THE POSITION LIMITS

NOTE: ACTUATOR IS EQUIPPED WITH MECHANICAL STOPS. THESE ARE FOR SAFETY ONLY AND SHOULD NOT BE USED TO SET THE POSITION LIMITS ON THE ACTUATOR.

Position limits are factory set to 90° rotation. If desired, the position limits can be re-configured to rotate less than 90°. To re-set the position limits of the unit, **SA should be placed in “set mode” by switching to “2”**. At this point, the open and shut buttons can be used to stroke the actuator to the desired position. To set the closed limit, make sure the control signal is applied with the proper setting. For example – 2V is need for closed. Rotate the valve to the closed position. While holding the white “set button” also press the “shut” (middle) button and hold until the LED flashes – then release both buttons. This sets the closed limit. To set the open limit, rotate the actuator to the open position using the “open” (top) push button. Place 10V control signal on input. While holding the white “set button”, press and hold the “open” button until the LED flashes – then release both buttons. This sets the open limit. Finally, switch SA back to 1 or 3 depending on the operation of the unit (1 is direct acting and 3 is reverse acting).

For the complete IOM on the Series 1000-X actuators, please visit www.valvesolutions.com or if technical support is needed during setup or troubleshooting, please call 770-740-0800.