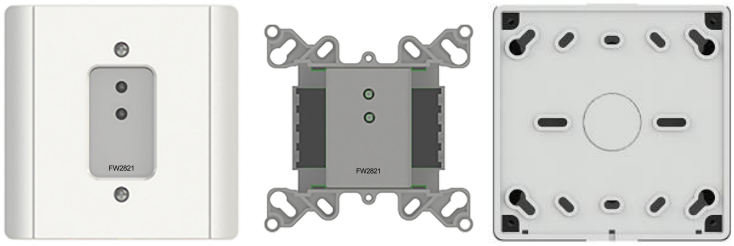
FW2821 SUPERVISED OUTPUT MODULE



DESCRIPTION

The FW2821 supervised output module provides one 24VDC output and one input switch which can be configured to be an alarm, supervisory, trouble, monitor or feedback signal. The input line is monitored for open line faults and ground faults, and the contact must thus be wired with an end-of-line resistor. The output line is monitored for open line, short circuit faults, ground faults, and external 24VDC power source loss. It is a UL listed device according to UL864 and ULC-S527 for Fire Protective Signaling Systems for indoor use. When the output is activated, the device Output LED (lower) will indicate by steady on. When the input is switched, the device Input LED (upper) will indicate by steady on. A return to the normal condition will cause the event to disappear and the device output/input LED indicator will return to the red every 4 seconds. The FW2821 is an intelligent addressable module and takes one address on the Signaling Line Circuit (SLC) or Data Communication Link (DCL) of the fire alarm control panel.

ATTENTION

The products must be installed in accordance with the NFPA 72, the CAN/ULC-S524, and the Canadian Electrical Code depending on the country of installation. Check information of equipment used in the system by other manufacturers for any guidelines or restrictions.

NOTE

Do not paint this device.

Any material extrapolated from this document or from Maple Armor's instructions or other documents describing the product for use in promotional or advertising claims, or for any other use, including a description of the product's application, operation, installation, and testing is the sole responsibility of the user. Maple Armor will not assume any liability for such use. In no case will Maple Armor's liability exceed the purchase price paid for a product.

SPECIFICATION

SLC/DCL Nominal Voltage	24VDC
SLC/DCL Compatibility Voltage Range	13 to 28VDC
Standby Current (SLC/DCL)	⩽0.2mA
Active Current (SLC/DCL)	⩽0.35mA
External Input Power Supply	24VDC (nominal) 15.4VDC to 26.4VDC compatibility range Power Limited
Active Current (Output)	2A, 0.35pF
Output Range	15.1 to 26.4 VDC
Max. Line Impedance (Input)	25 Ω
Max. Line Impedance (Output)	1Ω
Recommended Test Impedance for Open Circuit trouble	5 MΩ
Recommended Test Impedance for Short Circuit trouble	0.1 Ω
Max. Impedance for Grounding	6.6 KΩ
Compatible EOLR	FW421 (10KΩ) or FW422 (10KΩ)
Operating Temperature	32 - 120°F (0 - 49°C)
Operating Humidity	0% to 93% RH Non-condensing
Mounting	FW800 / FW801 base
Dimension	120mm(L) x120mm(W) x 45mm(H)
Weight (with backbox)	9.2 oz (261 g)
Wiring Gauge	12 to 18 AWG

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INSTALLATION

1. Mount the FW800 / FW801 base onto a 2X4 or 4x4 electrical box using the screws provided, as illustrated in Figure 1.

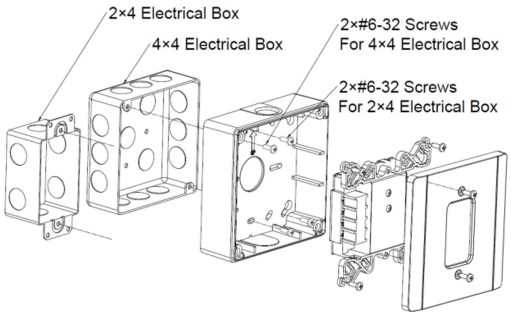
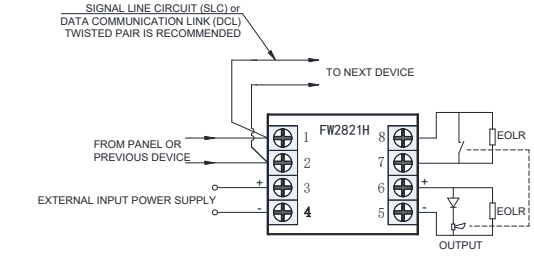
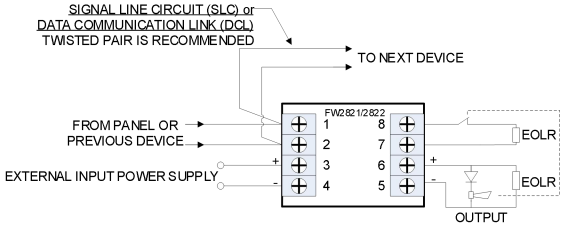


Figure 1. Installation Diagram

2. Connect the wires, see Figure 2. There is non-polarity between terminal 1 and terminal 2. There is polarity sensitive between terminal 3 and 4 and between terminal 5 and 6. All circuits are power-limited. The maximum line impedance for the Feedback input circuit is 25 Ω and the maximum line impedance for the output circuit is 1 Ω. External input power supply is either PCU AUX output of FACP or Listed 24VDC Regulated/power-limited source with ground fault detection.). Example of the compatible device: door strike, Model 0563 from RUTHERFORD CONTROLS IN'L INC., with "Fail secure" mode. Acceptability should be determined by Authorities Having Jurisdiction.



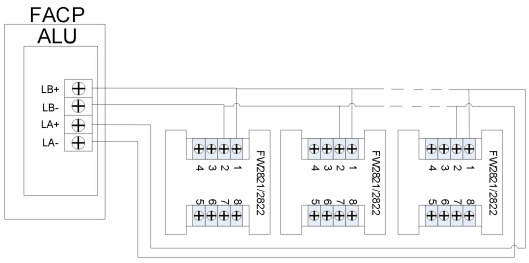
(a) Normally Open Circuit-Feedback when short



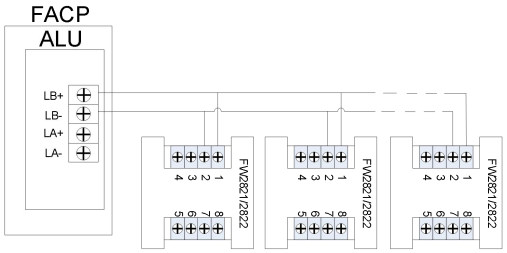
(b) Normally Closed Circuit- Feedback when open

Figure 2. Wiring Diagram (SLC/DCL)

3. Wire the SLC/DCL to the module, as illustrated in Figure 3.



(a) Class A or DCLA Circuit



(b) Class B or DCLB Circuit

Figure 3. SLC/DCL Wiring Diagram

4. Combine the assembled unit to the base using the screws provided.
5. Apply power to FACP.

PROGRAMMING

The module must be programmed to a valid address before use. A valid must be in 1~252 and cannot be duplicated with other devices in the same loop. Refer to the manual of hand-held programmer FW2411 and panel FW2105 to set the device address. Disconnect wire at terminal 1, 2, 3, and 4 before programming.

NOTICE TO USERS, INSTALLERS, AUTHORITIES HAVING JURISDICTION, AND OTHER INVOLVED PARTIES				
This product incorporates field-programmable software. In order for the product to comply with the requirements in the Standard for Control Units and Accessories for Fire Alarm Systems, UL 864, certain programming features or options must be limited to specific values or not used at all as indicated below.				
Program feature or option	Permitted in UL864 (Y/N)	Possible settings	Permitted in UL 864 (Y/N)	Note
Mod. Type	Y	Sup. Mod	Y	For control and status monitoring of external devices
		Interf. Mod	N	For mating with flame detectors, manual pull station and other non-addressable

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				devices
In. Mon.	Y	Mon.	Y	Wirings are supervised
		Unmon.	N	Wirings not supervised
In. Invert.	Y	Normal	Y	Feedback when short
		Inverting	N	Feedback when open
Turn Ring	Y	Disable	Y	Receiving SDR/BRD R TBT
		Enable	N	Not receiving SDR/BRD R TBT
Out. Mon.	Y	Mon.	Y	Wirings are supervised
		Unmon.	N	Wirings not supervised
Sig. Shape	Y	Steady	Y	Output continuous
		1s Pulse	N	Output 1s then stop
		2s Pulse	N	Output 2s then stop
		3s Pulse	N	Output 3s then stop
		5s Pulse	N	Output 5s then stop
		10s Pulse	N	Output 10s then stop
		15s Pulse	N	Output 15s then stop
		20s Pulse	N	Output 20s then stop

NOTICE TO USERS, INSTALLERS, AUTHORITIES HAVING JURISDICTION, AND OTHER INVOLVED PARTIES				
This product incorporates field-programmable software. In order for the product to comply with the requirements in CAN/ULC-S527, Standard for Control Units for Fire Alarm Systems, certain programming features or options must be limited to specific values or not used at all as indicated below.				
Program feature or option	Permitted in CAN/ULC-S527 (Y/N)	Possible settings	Permitted in CAN/ULC-S527 (Y/N)	Note
Mod. Type	Y	Sup. Mod	Y	For control and status monitoring of external devices
		Interf. Mod	N	For mating with flame detectors, manual pull station and other non-addressable devices
In. Mon.	Y	Mon.	Y	Wirings are supervised
		Unmon.	N	Wirings not supervised
In. Invert.	Y	Normal	Y	Feedback when short
		Inverting	N	Feedback when open
Turn Ring	Y	Disable	Y	Receiving SDR/BRD R TBT
		Enable	N	Not receiving SDR/BRD R TBT
Out. Mon.	Y	Mon.	Y	Wirings are supervised
		Unmon.	N	Wirings not supervised
Sig. Shape	Y	Steady	Y	Output continuous
		1s Pulse	N	Output 1s then stop
		2s Pulse	N	Output 2s then stop
		3s Pulse	N	Output 3s then stop
		5s Pulse	N	Output 5s then stop
		10s Pulse	N	Output 10s then stop
		15s Pulse	N	Output 15s then stop
		20s Pulse	N	Output 20s then stop

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TESTING

1. Before testing, inform the proper authorities that the system is undergoing maintenance and will temporarily be put out of service. Disable the system to prevent unwanted alarms.
2. Make sure the indicator two LEDs on the module's surface is flashing every 4 seconds. Failure to flash indicates a non-functioning module. Flashing every 1 second on Input LED indicate faulty wiring on input circuit. Flashing every 1 second on Output LED indicate faulty wiring on output circuit. Check the wiring and remount the module.
3. Trigger the input switch to activate a feedback signal. The input LED should turn to red steady on. Check the event occurrence displayed on the LCD of the controller and verify it.
4. Restore the Input switch to the normal position. The Input LED should return to red every 4 seconds.
5. Activate the output (you may need to first make a related control logic on the control panel). The Output LED should return to red steady on.
6. Deactivate the output. The Output LED should return to red every 4 seconds.
7. Once the testing is completed, set the system back to normal operation and inform proper authorities.

MAINTENANCE

Return the module for repair if it fails to flash or alarm during testing. Do not disassemble the module without permission.

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