

Allen-Bradley relay contact output modules use one of the following relay types:

Relay Type	Catalog Number
Electromechanical	1771-OW
	1771-OW16
	1771-OWN
	1771-OWNA
Dry-Reed	1771-OYL, 1771-OYZ
Mercury-Wetted	1771-OX

Electromechanical Relays

Electromechanical relays contain the most economical design for power applications. These modules typically can handle line surges and noise through closed contacts. Electromechanical relays are not recommended for low voltage/low current applications.

Electromechanical relays are generally slower than dry-reed relays. They are not recommended for use in environments with contaminants such as acid, ammonia, nitrogen, or chlorine (noxious environments) because they are not hermetically sealed.

Allen-Bradley modules that use electromechanical relays include the 1771-OW, 1771-OW16, 1771-OWN, and 1771-OWNA modules.

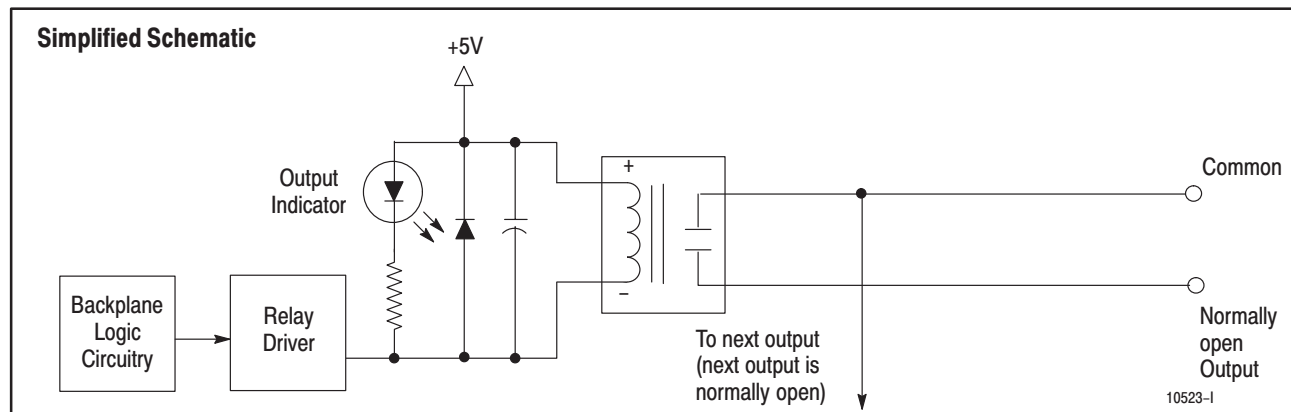
Dry-Reed Relays

Dry-reed relays are noted for their speed. These relays are well-suited for low-voltage, low-power applications. They are hermetically sealed and thus offer protection in noxious environments. Dry reeds, however, cannot handle surge currents due to their low-voltage design. Allen-Bradley modules that use dry-reed relays are the 1771-OYL and 1771-OZL modules.

Mercury-Wetted Relays

The mercury-wetted relay is a power version of the dry-reed switch. These relays feature long life and high contact reliability because the mercury re-coats the contacts on every operation. Mercury-wetted relays are also hermetically sealed and have no bounce on outputs and offer a clean switch. Of the three types of relays, mercury-wetted relays are the slowest (10 ms). **ATTENTION:** The 1771-OX module contains mercury-wetted relays. At the end of the equipment's life, it should be collected separately from any unsorted municipal waste.

0-24V Relay Contact Output Module (Cat. No. 1771-OZL)



Application Notes

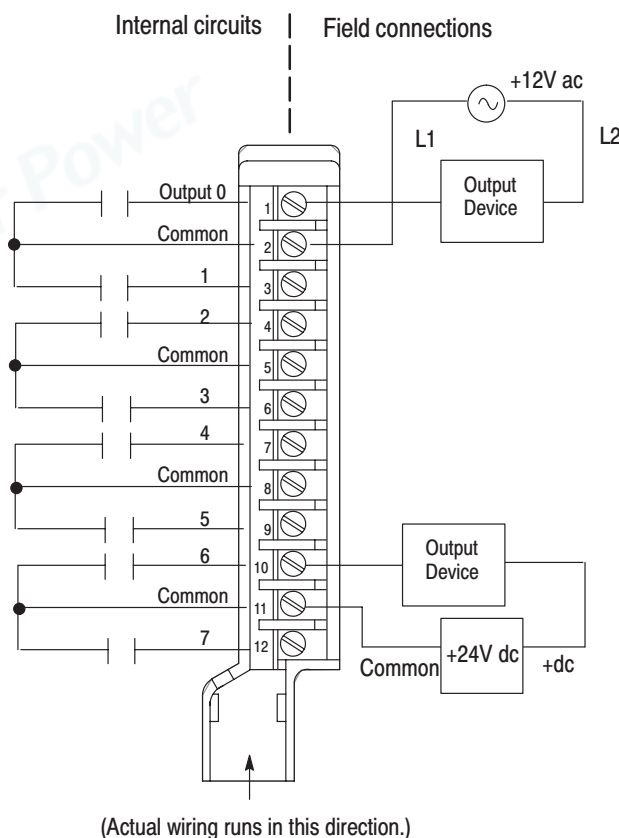
Load Type. 1771-OZL modules do not contain surge limiting circuitry. Use these modules for switching resistive loads only (e.g., lamps, indicators, heating elements). They are not recommended for inductive or capacitive loads (e.g., motor starters, solenoids, relays).

Isolation. The 1771-OZL module has 8 normally-open (Form A) relays. The outputs are arranged in 4 groups of 2, each with its own common. Each output is electrically isolated from module logic circuitry. The module can simultaneously switch all 8 outputs to separate loads, each conducting a maximum load of 100mA continuously, at rated power. AC loads switched by the modules should have a power factor of 1.0.

Connection to Input Modules. You can use the 1771-OZL module to drive an ac input module up to 24V ac. The 1771-OYL module can drive an input of the following dc modules: 1771-IB, -IBD, -IBN, -IG, -IGD, -IH, -IN, -IND, -IQ, -IQ16, -IT, -IV, and -IVN.

No Increase from Parallel Operation. Do not attempt to increase load current or wattage capability beyond the rating by connecting two or more outputs in parallel. The slightest variation in output relay switching time may cause one set of the contacts to switch the total load current.

Connection Diagram



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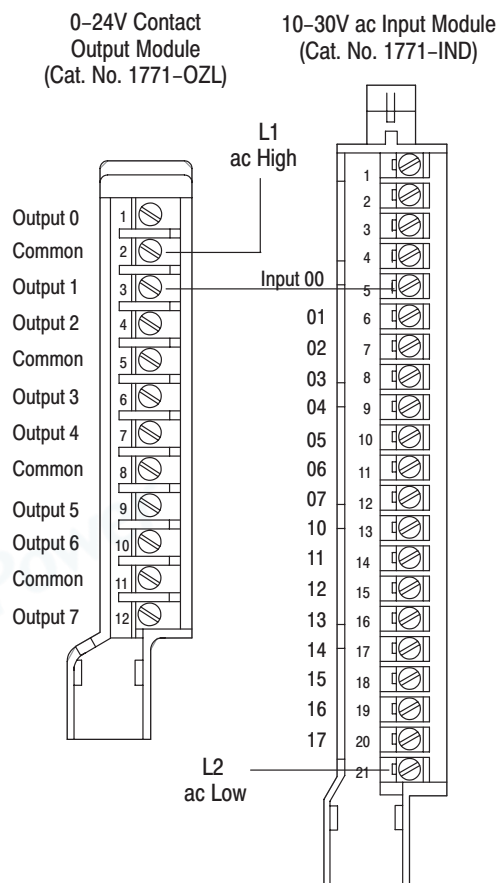
Specifications (Cat. No. 1771-OZL)		
Outputs per Module	8 (4 groups of 2)	
Module Location	1771 I/O chassis	
Contact Configuration	8 Form A (N.O.)	
Voltage Rating	0–24V ac rms 0–24V dc	
Current Rating ¹	100mA per output (maximum)	
Surge Current	100mA maximum per output ² (at rated power)	
Power Rating	dc: 2.4W per output (resistive) ac (suppressed) ² : 2.4W per output (resistive)	
Minimum Contact Load	dc: 1mA @ 0–24V ac: 1mA @ 0–24V	
Operate/Release Time	1ms maximum	
Bounce Time	1ms maximum	
Switching Frequency	10Hz maximum	
Power Dissipation	2.2 Watts (max.), 2 Watts (min.)	
Thermal Dissipation	7.6 BTU/hr (max.), 6.9 BTU/hr (min.)	
Backplane Current	420mA maximum	
Isolation Voltage	1000V between open contacts 1500V between coil and contact	
Conductors	Wire Size	14 gauge (2mm ²) stranded maximum 3/64 inch (1.2mm) insulation maximum ¹ ₃
	Category	
Environmental Conditions		
Operating Temperature	0 to 60°C (32 to 140°F)	
Storage Temperature	–40 to 85°C (–40 to 185°F)	
Relative Humidity	5 to 95% (without condensation)	
Keying	Between 6 and 8 Between 16 and 18	
Field Wiring Arm	1771-WD	
Wiring Arm Screw Torque	7-9 inch-pounds	
Agency Certification (when product or packaging is marked)	• CSA certified • CSA Class I, Division 2, Groups A, B, C, D certified • UL listed • CE marked for all applicable directives	
Installation Data	1771-2.129	

¹ Spikes, peaks, and surges must be within the power rating. Resistive loads only.
ac or dc power = 2.4W max

² Surge limiting circuitry is not provided in the module. For reliable operation, the user must ensure that surges do not exceed either the voltage or current rating of the module.

³ You use this conductor category information for planning conductor routing as described in the system level installation manual.

Sample Connection Diagram for the 1771-OZL Module Driving an ac Input Module



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