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Instruction Bulletin

Subject: SY/MAX®

CLASS 8030 TYPE DOM-235
240 VAC, 5 AMP DELUXE OUTPUT MODULE



DESCRIPTION

The Type DOM-235 240 VAC 5 Amp Deluxe Output Module contains two optically isolated outputs, each of which is capable of driving loads such as motor starters, solenoids, or pilot lights.

There are three LED indicators on the front of the module for each output. The "LOGIC" LED (yellow) illuminates when the processor issues a command to energize the output. The "LOAD" LED (red) illuminates when output voltage is provided at the output terminals. The "BLOWN FUSE" LED (red) illuminates when a blown fuse is detected. A properly functioning output will have both the "LOGIC" and "LOAD" LED's illuminated simultaneously or both LED's off simultaneously. Thus, these indicators provide module self-diagnostics. A marking area is provided next to each group of three LED's for output identification by the user.

†SPECIFICATIONS

Outputs per Module 2
Type and Rated Isolation Between Output Terminal and Logic . . . . . Optical- 2500 VRMS
Voltage and Current Characteristics.

	VOLTAGE	CURRENT
Voltage Range	24-250 V 50/60 Hz	—
Maximum Current	—	5 Amp/output (10 Amp/module)*
Minimum Load Current	—	10 mA at 240 V
Maximum On State Voltage Drop Across Output	2.0 V at 5 Amp Load	—
Maximum Off State Leakage Current	—	3.7 mA at 250 V 50/60 Hz
Maximum Surge Current	—	60 Amp for 1 cycle (60 Hz) (non-repetitive)

*see Application Considerations

Turn On Time. . . . . Less than 0.1 msec at 240 V
Turn Off Time . . . . . 8.3 msec at 60 Hz or 10 msec at 50 Hz
Fuse . . . . . MTH-6, 6A 250 V
"LOGIC" LED Operation Indication . . . . . Yellow LED illuminated when receiving "ON" signal from processor.
"LOAD" LED Operation Indication . . . . . Red LED illuminated when output voltage is provided at the output terminal.
"BLOWN FUSE" LED Operation Indication . . . . . Red LED illuminated when a blown fuse is detected
Rated Module Current Draw On SY/MAX Power Supply. 100 mA per Module
Ambient Temperature Rating . . . . . 0 - 60°C
Humidity Rating . . . . . 0 - 95% non-condensing
Weight (unpackaged) . . . . . 1.1 lb./0.5 kg.
Rack Assemblies In Which Module May Be Used . . . DRK-210, DRK-300
Compatibility With Input Modules. CIM-161, DIM-161, HIM-161

TYPICAL WIRING

Output device wiring is done to the terminal block immediately below the slot on the rack assembly into which the module is plugged. Figure 1 illustrates the typical wiring for the Type DOM-235 Deluxe Output Module. If a single voltage supply is used for more than one output module, the "A" terminal of each terminal block may be connected together.

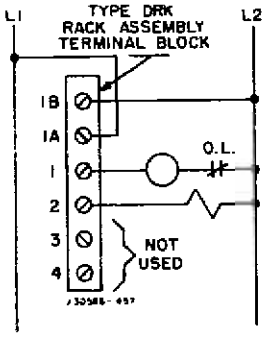


Figure 1 — Typical Wiring.

APPLICATION CONSIDERATIONS

- The Type DOM-235 Deluxe Output Module has one common for both outputs. The "A" terminal is the common terminal for both output circuits.
- The maximum current rating of each output is 5 amps from 0 to 60°C. Total module current rating is 10 amps from 0 to 30°C, 8.75 amps from 30 to 45°C, and 7.5 amps from 45 to 60°C.
- When using the output module at 24 VAC with loads drawing less then 100 ma, consult factory for application assistance.

†Minor Rev. 5/84

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- When the Type DOM-235 Deluxe Output Module is wired in series or in parallel with hard contact switches to control an inductive load (such as a motor starter or a solenoid), additional transient noise suppression should be provided. Figures 2, 3 and 4 show different wiring configurations. In each case, the suppressor should be installed close to the inductive load.

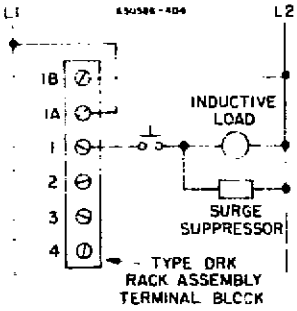


Figure 2
Surge Suppressor Used When Switch is in Series With the Output (After Output).

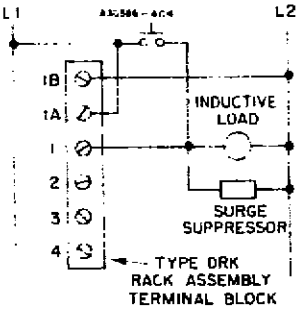


Figure 3
Surge Suppressor Used When Switch is in Parallel With the Output

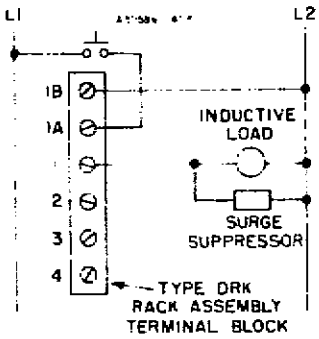


Figure 4 — Surge Suppressor Used When Switch is in Series With the Output (Before Output)

A typical suppressor for 240 VAC operation consists of a 0.027 or 0.05 mfd, 270 V RMS capacitor and a 220 ohm, 1 watt resistor in series.

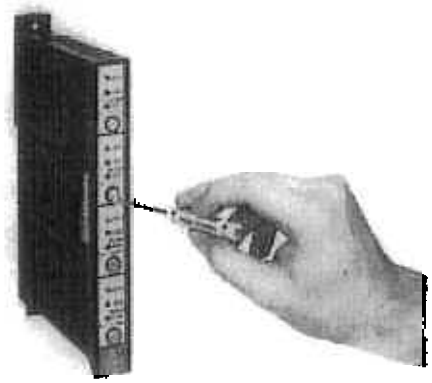


Figure 5 — Using Screwdriver to Remove Fuse Holder

- Both of the output circuits are individually fused. Each fuse is rated 6 amps. Lower rated fuses may be installed depending on the output devices being controlled. Fuses are front accessible. To replace fuse, use a small blade screwdriver (or similar device) and insert the blade into the slot in the front of the fuse holder (see Figure 5). Turn counter-clockwise one quarter turn. Remove and replace fuse. Reinstall fuse holder.

- To obtain proper illumination of the "LOAD" and "BLOWN FUSE" LED indicators, the "A" and "B" terminals must be connected as shown in Figure 1. At voltages below 90 V, the "LOAD" and "LOGIC" LED's will become increasingly dimmer as the voltage decreases down to 24 V.

MODULE KEYING

Each socket on the I/O rack assembly may be keyed to accept only one type of module. A keying pin kit, Class 8030 Type CBP-104, is available for this purpose. The correct position of the keying pin for the Type DOM-235 Deluxe Output Module is between pins 60 and 62. See Figure 6. The keying pin is simply inserted manually into the appropriate slot in the rack connector using the keying pin insertion tool provided with the kit. See Figure 7.

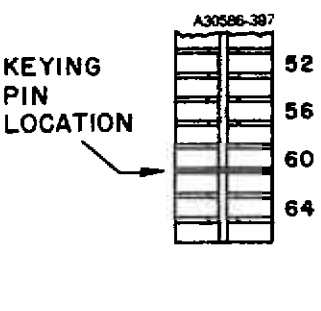


Figure 6
Keying Pin Location

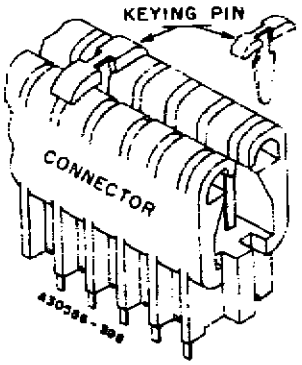


Figure 7
Keying Pin Insertion

CAUTION: When inserting or removing the keying pins, use care to avoid touching the contact fingers within the connector. Improper insertion removal may damage the connector.

INSTALLATION INSTRUCTIONS

Insert the output module into the slot and tighten the two captive screws. If desired, label the marking area on the front of the module to identify the field device connected to that particular output.

SIMPLIFIED SCHEMATIC OF MODULE

Figure 8 illustrates one of the two circuits within the module. The terminals marked "1A" and "1B" are common to both outputs within the module.

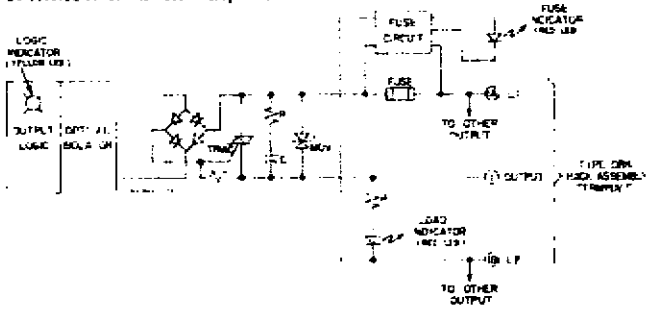


Figure 8
Simplified Schematic of One Output Module Circuit

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