

## D77A-AI8AQ8

### 120V AC Input/Relay Output Installation Leaflet

#### Installation of the D77A-AI8AQ8

The D77A-AI8AQ8 is designed to be used in industrial applications and installed in accordance with this document. The intended use of the D77A-AI8AQ8 is for use in clean, dry environments.

#### Mount the D77A-AI8AQ8 to the DIN Rail

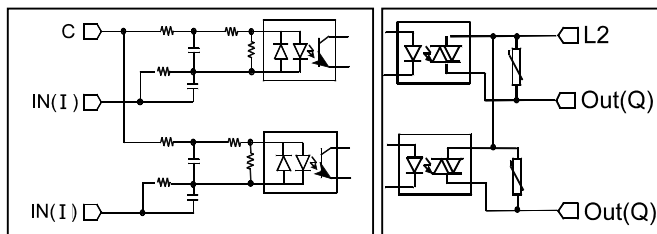
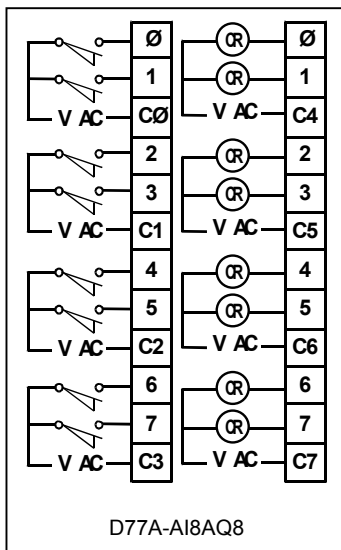
To mount the D77A-AI8AQ8 to a DIN rail the following procedure must be performed.

- Rotate the orange locking cams to unlock the customer wiring terminal from the D77A-AI8AQ8 module.
- Remove the terminal from the D77A-AI8AQ8.
- Using a screwdriver or fingernail, gently pull out the locking tab located at the right side center of the D77A-AI8AQ8 module.
- Insert the D77A-AI8AQ8 module on to the DIN rail.
- Depress the locking tab to secure the D77A-AI8AQ8 to the DIN rail.
- Reassemble the customer wiring terminal to the D77A-AI8AQ8.

#### Install the Field Wiring on the D77A-AI8AQ8

The customer wiring terminal is used to connect the field wiring to the D77A-AI8AQ8 module. Each terminal accepts two wires of the following size.

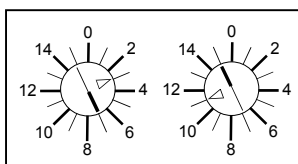
Wire Type	Wire Size	Terminal Torque
Solid Cu-90°C	#14 - # 22 AWG	4.5 in.-lbs.
Stranded Cu-90°C	#16 - # 22 AWG	4.5 in.-lbs.



#### Set the Group ID of the D77A-AI8AQ8

The Group ID is set using the rotary switch located at the top face of the D77A-AI8AQ8 module.

The example to the right has the group ID switch set to 3 on the left and 11 on the right.



#### Setup and Configuration of the D77A-AI8AQ8

The IT. D77A-AI8AQ8 requires no extra setup or configuration for normal operation than setting the Group ID. There are extended parameters that can be set to control the safe state of each output point and input debounce for each input point. For more information on the parameters and how to modify them refer to the user manual MN05002001E.

#### Input Specifications of the D77A-AI8AQ8

	AC Input	AC Output
Nominal Voltage	120V AC	
Operating Voltage	80 – 140V AC	
Number of Points	8	8
Points Per Common	2	2
Signal Delay	1/2 Cycle (programmable to 250 ms)	
Off State Voltage	< 30V AC	
On State Voltage	> 80V AC	
Nominal Current	15 mA	
Signal Delay		1/2 cycle
Max Cur Per Point*		0.5 A @ 30°C 0.1 A @ 55°C
Max Cur Per Module*		4 A @ 30°C 0.8 A @ 55°C
Surge Current (10 ms)		10 A
Off State Leakage		2 mA
Isolation		1500V
Module Current Draw		104 mA

\* Resistive current at 55°C

#### Environmental Ratings of the D77A-AI8AQ8

Transportation and Storage	Temperature	-50°C to 80°C [-58°F to 176°F]
	Humidity	5 – 95% non-condensing
Operating	Temperature	-25°C to 55°C [-13°F to 131°F]
	Humidity	5 – 95% non-condensing
	Altitude	Above 2000 meters [6600 feet] consult factory
	Shock IEC 68-2-27	15G any direction for 11 milliseconds
	Vibration IEC 68-2-6	5 – 150 Hz, 5G, 0.7 mm maximum peak-to-peak

#### Approvals/Certifications of the D77A-AI8AQ8

Electrical/EMC	
•ESD Immunity (IEC61000-4-2)	+/- 8kV air, +/- 4kV contact
•Radiated Immunity (IEC61000-4-3)	10V/m 80-1000 MHz, 80% amplitude modulation @ 1kHz
•Fast Transient (IEC61000-4-4)	+/- 2kV supply and control +/- 1kV communications
•Surge (IEC61000-4-5)	+/- 1kV line-to-ground +/- 2kV line-to-line
•RF Conducted (IEC61000-4-6)	10V, 0.15 – 80MHz
•Magnetic Field (IEC61000-4-8)	30 A/m, 50Hz
Ingress Protection Code	IP20
Radiated and Conducted Emissions	EN5011 Class A
Agency Certifications	UL 508 CUL (CSA C22.2 No. 14) CE (Low Voltage Directive)

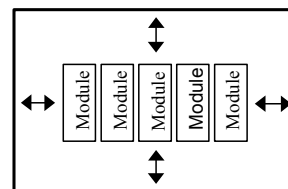
#### Default Output Data for the D77A-AI8AQ8

Byte	7	6	5	4	3	2	1	0
0	Q7	Q6	Q5	Q4	Q3	Q2	Q1	Q0

#### Default Input Data for the D77A-AI8AQ8

Byte	7	6	5	4	3	2	1	0
0	I7	I6	I5	I4	I3	I2	I1	I0

#### Spacing Requirements for the D77A-AI8AQ8



Allow a minimum of 50mm (2 in) of ventilation space on the top and bottom of each module and to each side of a grouping of modules