

VersaMax 2.0Amp Isolated Form A Relay Output Module

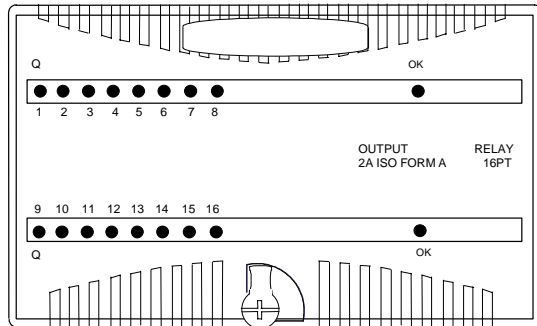
October 2008

GFK-2539

Relay output module IC200MDL930 provides 8 individually-isolated Form A relay outputs.

Relay Output Modules IC200MDL940 (shown below) and BXIOOR162 provide 16 individually-isolated Form A relay outputs.

The contact is closed when the host CPU is active and the corresponding output logic bit is "1".



Power for module operation comes from the backplane. Loads must be powered by an external source.

Intelligent processing for this module is performed by the CPU or NIU.

LED Indicators

Individual green logic-side LEDs indicate the On/Off status of each output point. The output LEDs are logic-driven and independent of load conditions.

The green OK LED is ON when backplane power is present to the module.

Preinstallation Check

Carefully inspect all shipping containers for damage. If any equipment is damaged, notify the delivery service immediately. Save the damaged shipping container for inspection by the delivery service. After unpacking the equipment, record all serial numbers. Save the shipping containers and packing material in case it is necessary to transport or ship any part of the system.

Installation in Hazardous Locations

- EQUIPMENT LABELED WITH REFERENCE TO CLASS I, GROUPS A, B, C & D, DIV. 2 HAZARDOUS LOCATIONS IS SUITABLE FOR USE IN CLASS I, DIVISION 2, GROUPS A, B, C, D OR NON-HAZARDOUS LOCATIONS ONLY
- WARNING - EXPLOSION HAZARD - SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2;
- WARNING - EXPLOSION HAZARD - WHEN IN HAZARDOUS LOCATIONS, TURN OFF POWER BEFORE REPLACING OR WIRING MODULES; AND
- WARNING - EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NONHAZARDOUS.

Module Characteristics

Points	IC200MDL930: 8 individually isolated Form A relay outputs IC200MDL940, BXIOOR162: 16 individually isolated Form A relay outputs
Module ID	IC200MDL930: FFFF8040 IC200MDL940, BXIOOR162: 80408040
Isolation:	User input to logic (optical) and frame ground: 250VAC continuous; 1500VAC for 1 minute
	IC200MDL930: Group to Group: not applicable
	IC200MDL940, BXIOOR162: Group to group: 250VAC continuous; 1500VAC for 1 minute
	Point to point:: 250VAC continuous; 1500VAC for 1 minute
LED indicators	One green LED per point shows individual point on/off state OK LED indicates backplane power is present
Backplane current consumption	IC200MDL930: see graph IC200MDL940, BXIOOR162, 5V output:: 490mA maximum
External power supply	0 to 125VDC, 5/24/125VDC nominal 0 to 265VAC (47 to 63Hz), 120/240VAC nominal
Thermal derating	None

Output Characteristics

Output voltage	0 to 125VDC, 5/24/125VDC nominal 0 to 265VAC (47 to 63Hz), 120/240VAC nominal
Output voltage drop	0.3V maximum
Load current	10mA per point minimum 2.0A for 5 to 265VAC maximum (resistive) 2.0A for 5 to 30 VDC maximum (resistive) 0.2A for 31 to 125 VDC maximum (resistive)
Output leakage current	Not applicable (open contact)
On response time	10ms maximum
Off response time	10ms maximum
Protection	No internal fuses or snubbers
Switching frequency	20 cycles per minute (inductive load)
Relay type	Fixed coil, moving armature
Contact type	Silver alloy

Product Revision History

Rev	Date	Description
IC200MDL930F IC100MDL940F BXIOOR162F	October 2008	Updated Power Supply OK signal circuitry.
IC200MDL930E IC100MDL940E BXIOOR162E	April 2005	Improvement to latching mechanism
IC200MDL930D IC100MDL940D	April 2004	Changed to V0 plastic for module housing.
BXIOOR162D	January 2004	Changed to V0 plastic for module housing. ATEX approval for Group 2 Category 3 applications.
IC200MDL930C IC100MDL940C	January 2004	ATEX approval for Group 2 Category 3 applications.
IC200MDL930B IC100MDL940B BXIOOR162B	May 2002	Improved noise suppression and rejection when driving AC or DC inductive loads.
IC200MDL930A IC100MDL940A BXIOOR162A	September 1998	Initial product release.

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Field Wiring Terminals

Terminal	Connection	Terminal	Connection
A1	Output 1-1	B1	Output 9-1 *
A2	Output 1-2	B2	Output 9-2 *
A3	Output 2-1	B3	Output 10-1 *
A4	Output 2-2	B4	Output 10-2 *
A5	Output 3-1	B5	Output 11-1 *
A6	Output 3-2	B6	Output 11-2 *
A7	Output 4-1	B7	Output 12-1 *
A8	Output 4-2	B8	Output 12-2 *
A9	Output 5-1	B9	Output 13-1 *
A10	Output 5-2	B10	Output 13-2 *
A11	Output 6-1	B11	Output 14-1 *
A12	Output 6-2	B12	Output 14-2 *
A13	Output 7-1	B13	Output 15-1 *
A14	Output 7-2	B14	Output 15-2 *
A15	Output 8-1	B15	Output 16-1 *
A16	Output 8-2	B16	Output 16-2 *
A17	No connection	B17	No connection
A18	No connection	B18	No connection

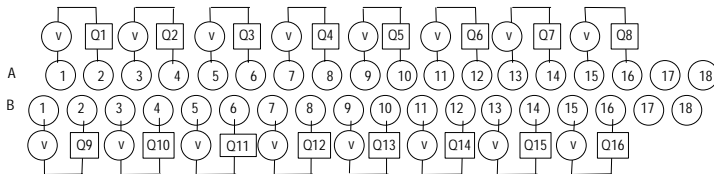
Outputs are individually isolated.

For module IC200MDL930, if additional bussed terminals are needed, the B terminals can be made available by using a shorting bar. The shorting bar has a maximum current-carrying capacity of 2 Amps per point. See chapter 2 of the *VersaMax I/O System Manual, GFK-1504*, for more information

When wiring outputs to inductive loads, use of external suppression circuits is recommended. See chapter 2, "Installing Wiring for I/O Devices-Wiring to Inductive Loads" in the *VersaMax I/O System Manual, GFK-1504*, for more information.

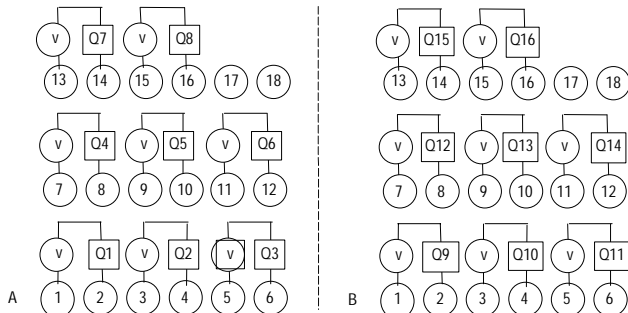
Wiring Connections for Carriers with Two Rows of Terminals

Row B connections are for 16-point modules only.



Wiring Connections for Carriers with Three Rows of Terminals

Side B connections are for 16-point modules only.

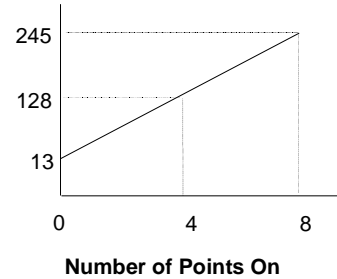


Backplane Power Drain per Point

The module's backplane 5 volt power requirement increases as the number of points that are simultaneously on increases. The chart below shows the relationship between the number of points on and the maximum current required.

$$\text{mA} = 13 + (28 \times \text{number of points on})$$

Maximum Current Drawn from Backplane (mA)



Operating Note

If hot insertion of a module is done improperly, the operation of other modules on the same backplane may be disrupted. See *Installing a Module on a Carrier* in the *VersaMax Modules Manual, GFK-1504*.