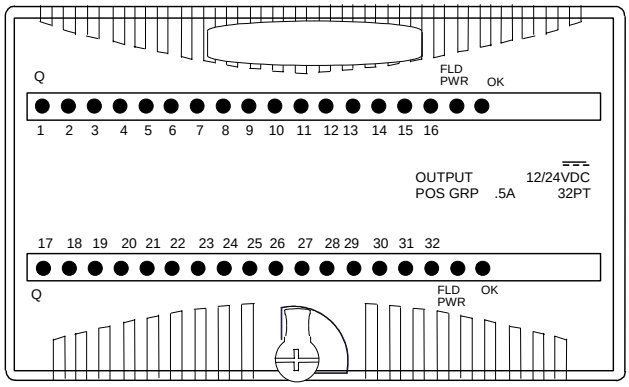
# VersaMax 12/24VDC 0.5Amp Positive Logic Output Module

October 2008 GFK-2537

Discrete output modules IC200MDL740 and BXIOOD1624 provide one group of 16 discrete outputs.

Discrete output modules IC200MDL750 (shown below) and BXIOOD3224 provide two groups of 16 discrete outputs.

The outputs are positive or sourcing type outputs. They switch the loads to the positive side of the DC supply and thus supply current to the loads.




Note: 12V output functionality requires module version -B or higher.

An external DC power supply must be provided to switch power to the loads.

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

## LED Indicators

Individual green LEDs indicate the on/off state of the output points. Operation of these LEDs is dependent on field power but independent of load conditions.

The green FLD PWR LED is on when field power is applied to the module.

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.

## Product Revision History

| Rev | Date | Description |
|---|---|---|
| IC200MDL740F / BXIOOD1624F<br>IC200MDL750F / BXIOOD3224F | October 2008 | Updated Power Supply OK signal circuitry. |
| IC200MDL740E / BXIOOD1624E<br>IC200MDL750E / BXIOOD3224E | April 2005 | Improvement to latching mechanism |
| IC200MDL740D<br>IC200MDL750D | April 2004 | Changed to V0 plastic for module housing. |
| IC200MDL740C<br>IC200MDL750C | January 2004 | ATEX approval for Group 2 Category 3 applications. |
| BXIOOD1624D<br>BXIOOD3224D | January 2004 | Changed to V0 plastic for module housing. ATEX approval for Group 2 Category 3 applications. |
| IC200MDL740B / BXIOOD1624B<br>IC200MDL750B / BXIOOD3224B | November 1999 | Added output operation at 12VDC, and negative logic inputs. |
| IC200MDL740A BXIOOD1624A<br>IC200MDL750A BXIOOD3224A | September 1998 | Initial product release. |

## Module Characteristics

| | |
|---|---|
| Points | IC200MDL740, BXIOOD1624: 1 group of 16 outputs<br>IC200MDL750, BXIOOD3224: 2 groups of 16 outputs |
| Module ID | IC200MDL740, BXIOOD1624: FFFF8080<br>IC200MDL750, BXIOOD3224: 80808080 |
| Isolation: | User input to logic (optical) and frame ground: 250VAC continuous; 1500VAC for 1 minute |
| | IC200MDL740, BXIOOD1624: Group to group: not applicable |
| | IC200MDL750, BXIOOD3224: Group to group: 250VAC continuous; 1500VAC for 1 minute |
| | Point to point: none |
| LED indicators | One LED per point shows individual point on/off state<br>FLD PWR LED indicates field power is present<br>OK LED indicates backplane power is present |
| Backplane current consumption | IC200MDL740, BXIOOD1624: 5V output: 45mA maximum<br>IC200MDL750, BXIOOD3224: 5V output: 90mA maximum |
| External power supply | +10.2 to +30VDC, +12/24VDC nominal |
| Thermal derating | See diagrams |

### Output Characteristics

| | |
|---|---|
| Output voltage | +10.2 to +30VDC, +12/24VDC nominal |
| Output voltage drop | 0.3V maximum |
| Load current | 0.5A at 30VDC maximum (resistive)<br>2.0A maximum for 100ms inrush |
| Output leakage current | 0.5mA at 30VDC maximum |
| On response time<br>Off response time | 0.2ms, maximum<br>1.0ms maximum |
| Protection | No internal fuses |

## 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.

## 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.

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## Field Wiring Terminals

| Terminal | Connection | Terminal | Connection |
|---|---|---|---|
| A1 | Output 1 | B1 | Output 17 * |
| A2 | Output 2 | B2 | Output 18 * |
| A3 | Output 3 | B3 | Output 19 * |
| A4 | Output 4 | B4 | Output 20 * |
| A5 | Output 5 | B5 | Output 21 * |
| A6 | Output 6 | B6 | Output 22 * |
| A7 | Output 7 | B7 | Output 23 * |
| A8 | Output 8 | B8 | Output 24 * |
| A9 | Output 9 | B9 | Output 25 * |
| A10 | Output 10 | B10 | Output 26 * |
| A11 | Output 11 | B11 | Output 27 * |
| A12 | Output 12 | B12 | Output 28 * |
| A13 | Output 13 | B13 | Output 29 * |
| A14 | Output 14 | B14 | Output 30 * |
| A15 | Output 15 | B15 | Output 31 * |
| A16 | Output 16 | B16 | Output 32 * |
| A17 | DC - | B17 | DC - * |
| A18 | DC + | B18 | DC + * |

* Inputs for 32-point modules only.

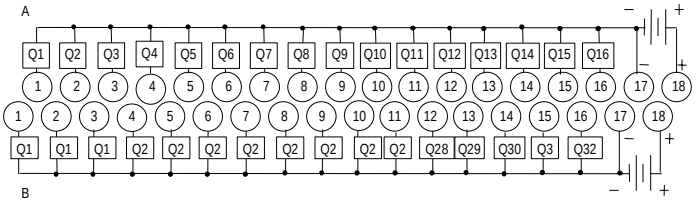
Each group of 16 outputs has a DC+ and a DC- terminal.

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.

For modules IC200MDL740 and BXIOOD1624, 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 2A per point. See chapter 2 of the *VersaMax I/O System Manual,* for additional information about the shorting bar.

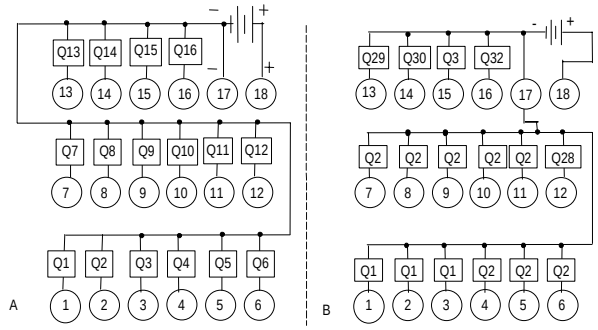
### Wiring Connections for Carriers with Two Rows of Terminals

Row B connections are for 32-point modules only.




### Wiring Connections for Carriers with Three Rows of Terminals

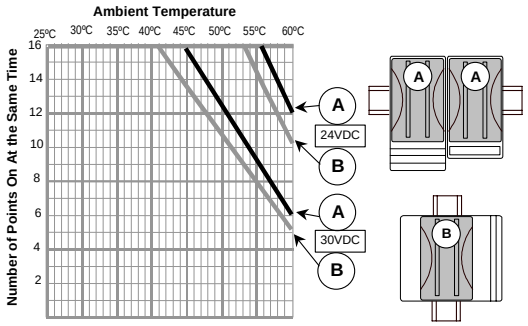
Side B connections are for 32-point modules only.

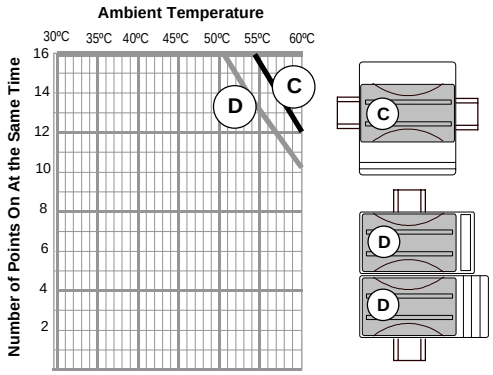



## Thermal Derating

The number of points that can be on at the same time depends on the ambient temperature, the external voltage, and the orientation of the module and DIN rail. The charts below show example thermal deratings for the modules at 24VDC and 30VDC with the maximum output current per point.

### Thermal Derating Charts for Modules IC200MDL740, BXIOOD1624




### Thermal Derating Charts for Modules IC200MDL750, BXIOOD3224