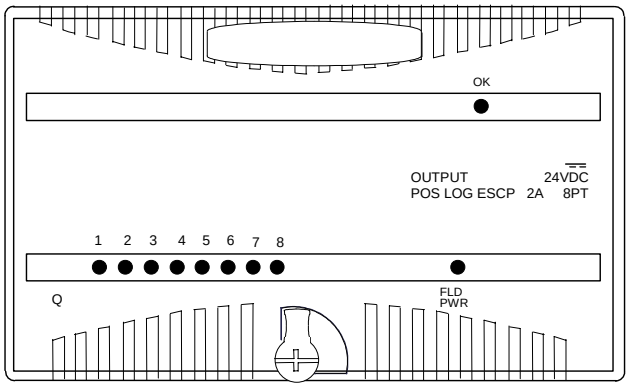
VersaMax 24VDC 2.0Amp Output Module with ESCP

October 2008 GFK-2529

Discrete output modules IC200MDL730 and BXIOODP824 provide one group of 8 discrete outputs. Each point has electronic overcurrent protection and short circuit protection, and generates a fault if either condition exists. 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.



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

At powerup, the backplane power supply must be on and stable for 1 second before field power is applied to the module. Failure to follow this sequence could result in false output point faults. These faults can be cleared as described below.

Intelligent processing for this module is performed by the CPU or NIU. The module receives 8 bits of discrete output data.

LED Indicators

Individual green LEDs indicate the on/off state of the output points. The LEDs are dependent on field power, but independent of load conditions. Individual amber LEDs indicate overload or short circuit conditions on each output.

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.

Diagnostics

The module provides point-level diagnostics (fault detection) of overload and short circuit conditions. Each point fault is identified both at the CPU/NIU and by means of an amber LED. Once an overload/short circuit condition is reported, the fault is latched. It remains latched until a Clear Fault is issued or user power to the module is cycled.

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.

Module Characteristics

Points	1 group of 8 outputs
Module ID	FFFF8140
Isolation:	User input to logic (optical) and frame ground: 250VAC continuous; 1500VAC for 1 minute
	Group to group: not applicable
	Point to point: none
LED indicators	One green LED per point shows individual point on/off state One amber LED per point shows individual point overloads/short circuits. FLD PWR LED indicates field power is present OK LED indicates backplane power is present
Backplane current consumption	5V output: 50mA
External power supply	+18 to +30VDC, +24VDC nominal
Thermal derating	None

Output Characteristics

Output voltage	+17.5 to +30VDC, +24VDC nominal
Output voltage drop	0.5V maximum
Load current	2.0A at 30VDC maximum (resistive) per point, 8.0A max per module
Output leakage current	0.5mA at 30VDC maximum
On response time Off response time	0.5ms, maximum 0.5ms, maximum
Protection (each output)	Short circuit protection, overcurrent protection

External Power Supply Requirements

The external power supply used to power the loads must provide sufficient field power for the module during short circuit events. When a load is shorted, an inadequate external power supply may allow field power to drop below the specified operating range, causing mis-operation of the module. The external power supply must be capable of providing short circuit energy without degradation of output voltage levels. The amount of energy required depends on the number of simultaneously-shorted points that might occur. Refer to power supply short circuit operation specifications when selecting the power supply to be used with the loads. Local energy storage (either batteries or capacitors) can be used to compensate for insufficient power supply characteristics. Additional best practices including minimizing wiring resistance from the external power supply to the module must be observed.

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Product Revision History

Rev	Date	Description
IC200MDL730F BXIOODP824F	October 2008	Updated Power Supply OK signal circuitry.
IC200MDL730E BXIOODP824E	April 2005	Improvement to latching mechanism
IC200MDL730D	April 2004	Changed to V0 plastic for module housing.
IC200MDL730C	January 2004	ATEX approval for Group 2 Category 3 applications.
BXIOODP824D	January 2004	Changed to V0 plastic for module housing. ATEX approval for Group 2 Category 3 applications.
IC200MDL730A BXIOODP824A	November 1999	Initial release

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.

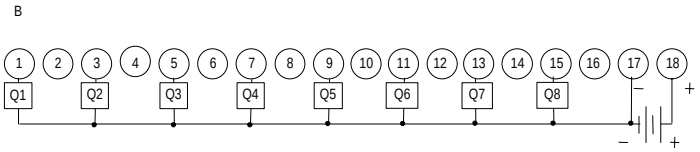
Field Wiring Terminals

Terminal	Connection	Terminal	Connection
A1	No connection	B1	Output 1
A2	No connection	B2	No connection
A3	No connection	B3	Output 2
A4	No connection	B4	No connection
A5	No connection	B5	Output 3
A6	No connection	B6	No connection
A7	No connection	B7	Output 4
A8	No connection	B8	No connection
A9	No connection	B9	Output 5
A10	No connection	B10	No connection
A11	No connection	B11	Output 6
A12	No connection	B12	No connection
A13	No connection	B13	Output 7
A14	No connection	B14	No connection
A15	No connection	B15	Output 8
A16	No connection	B16	No connection
A17	No connection	B17	Common (Return)
A18	No connection	B18	+24VDC

The 8 outputs form one group with 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.

Wiring Connections for Carriers with Two Rows of Terminals



Wiring Connections for Carriers with Three Rows of Terminals