

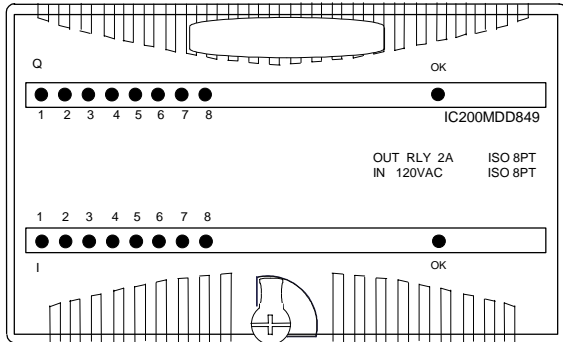
VersaMax 8 Isolated Inputs, 8 Isolated Relay Outputs Module

October 2008

GFK-2531

Product Description

Discrete input/output module IC200MDD849 (shown below) provides 8 isolated discrete inputs and 8 relay outputs. Inputs are positive logic or sourcing-type inputs; they receive current from AC input devices and return the current on the common. Each input has its own return. Outputs are individually-isolated relays which can drive a maximum of 2A per output. These are Form A relay outputs where 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. Output loads must be powered by an external source.

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

LED Indicators

Individual green LEDs indicate the On/Off states of the output points and input points. Operation of the output LEDs is logic driven and independent of the load conditions.

The green OK LEDs are 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.

Module Characteristics

Points	8 Individually-isolated Form A Relay Outputs, 8 Isolated AC Inputs
Module ID	88048040
Isolation:	250VAC continuous; 1500VAC for 1 minute
User input/output to logic (optical) and frame ground	250VAC continuous; 1500VAC for 1 minute
Group to group	Outputs: 250VAC continuous; 1500VAC for 1 minute
Point to point	Inputs: 250VAC continuous; 1500VAC for 1 minute
LED indicators	One LED per point shows individual point on/off state OK LED indicates backplane power is present
Backplane current consumption	5V output: 295mA maximum See graph
Thermal derating	None

Input Characteristics

Input voltage	0 to 132VAC (47 to 63Hz), 120VAC nominal
On state voltage	70 to 132VAC
Off state voltage	0 to 20VAC
On state current	5mA minimum
Off state current	2.5mA maximum
On response time	1 cycle maximum
Off response time	2 cycles maximum
Input impedance	8.6kOhms (reactive) at 60Hz, typical 10.32kOhms (reactive) at 50Hz, typical

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 2.0 Amps for 5 to 265VAC maximum (resistive) 2.0 Amps for 5 to 30 VDC maximum (resistive) 0.2 Amp 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 Information

Rev	Date	Description
IC200MDD849F	October 2008	Updated Power Supply OK signal circuitry.
IC200MDD849E	April 2005	Improvement to latching mechanism
IC200MDD849D	April 2004	Changed to V0 plastic for module housing.
IC200MDD849C	January 2004	ATEX approval for Group 2 Category 3 applications.
IC200MDD849B	May 2002	Improved noise suppression and rejection when driving AC or DC inductive loads
IC200MDD849A	April 2000	Initial product release

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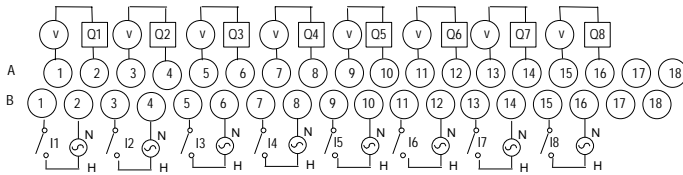
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Field Wiring Terminals

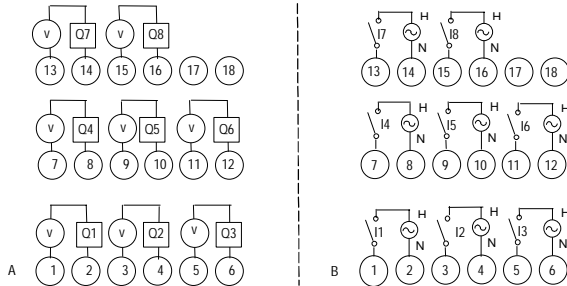
Terminal	Connection	Terminal	Connection
A1	Output 1-1	B1	Input 1
A2	Output 1-2	B2	Input 1 Return
A3	Output 2-1	B3	Input 2
A4	Output 2-2	B4	Input 2 Return
A5	Output 3-1	B5	Input 3
A6	Output 3-2	B6	Input 3 Return
A7	Output 4-1	B7	Input 4
A8	Output 4-2	B8	Input 4 Return
A9	Output 5-1	B9	Input 5
A10	Output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

Outputs are individually isolated. This module should be used with a compact terminal-style carrier (IC200CHS022 or 025) or with a terminal-style carrier. When wiring outputs to inductive loads, use of external suppression circuits is recommended.

Wiring Connections for Carriers with Two Rows of Terminals



Wiring Connections for Carriers with Three Rows of Terminals

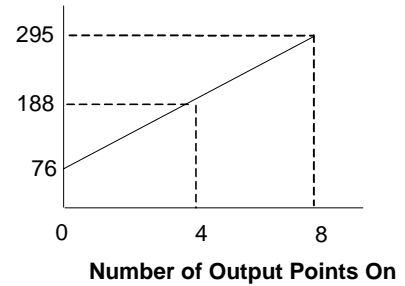


Backplane Power Drain per Point

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

$$mA = 76 + (28 \times \text{number of output points on})$$

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.

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.