Description

The Holjeron Motor Starter Controller for DeviceNet provides a convenient method to distribute motor control in an installation.

The Motor Starter Controller provides four (4) inputs and two (2) outputs.

The Motor Starter Controller can be DIN rail mounted, or mounted directly to a back panel. Its compact size keeps required panel space to a minimum.
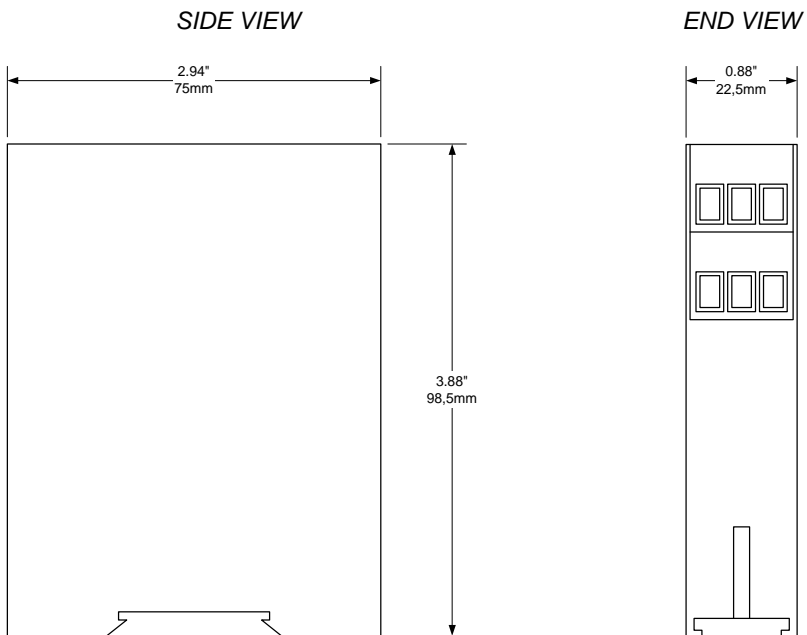
Warranty/Remedy

Seller warrants its products to be free from defects in design, material and workmanship under normal use and service. Seller will repair or replace without charge any such products it finds to be so defective on its return to Seller within 18 months after date of shipment by Seller. **The foregoing is in lieu of all other expressed or implied warranties (except title), including those of merchantability and fitness for a particular purpose.** The foregoing is also purchaser's sole remedy and is in lieu of all other guarantees, obligations, or liabilities or any consequences incidental, or punitive damages attributable to negligence or strict liability, all by way of example.
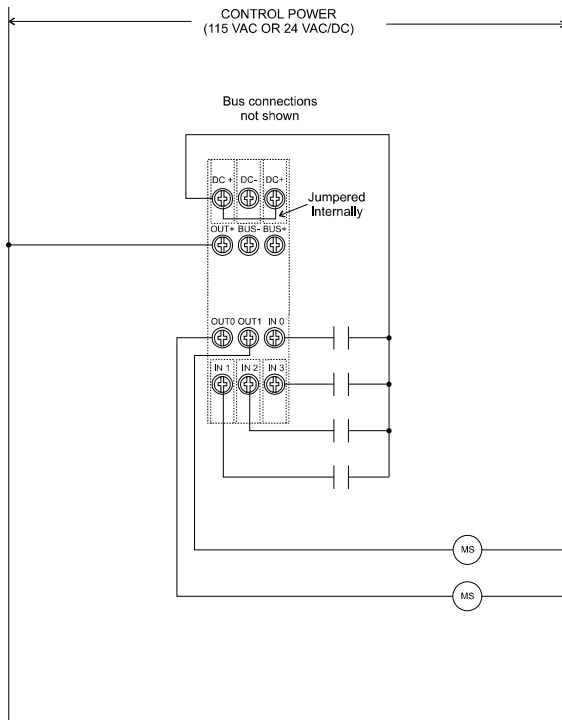
While Holjeron provides application assistance, personally and through our literature, it is up to the customer to determine the suitability of the product in the application.

All information contained herein, including illustrations, specifications and dimensions, is believed to be reliable as of the date of publication, but is subject to change without notice.

Specifications

Part Number	Motor Starter Controller		MSC-DNT142
DeviceNet	Voltage Range		12-24 VDC
	Current Consumption		60 mA plus inputs
	Data Rates		125, 250 and 500 kbps
Inputs	Type		Open collector
	Number		Four (4)
	Voltage Range		12-24 VDC
	Maximum Current		20 mA per input
Outputs	Type		Relay
	Number		Two (2)
	Voltage Range		10-30 VDC, 24-240 VAC
	Maximum Current		500 mA
Environmental	Temperature	Storage	-30° to 70° C (-22° to 158° F)
		Operating	0° to 60° C (32° to 140° F)
	Humidity		5-95% RH, non-condensing
	Vibration		2G at 10 to 500 Hz
	Shock		10G
Physical	Dimensions		3.82" H x 3.25" W x 0.89" W
	Weight		8 oz
	Color		Light Gray
	Case Material		Polycarbonate and ABS
	Mounting		DIN rail or back panel mount
	Terminations		Captive screws, finger-safe
	Indication	Status	Red/Green
		Activity	Green
		Inputs (4)	Green
		Outputs (2)	Green

Dimensions

SIDE VIEW   *END VIEW*

2.94"
75mm

0.88"
22,5mm

3.88"
98,5mm

Wiring

Configuration

The Motor Starter Controller can be configured using several tools. Consult the configuration manual for the tool being used.

Quick Start

The following steps are the minimum configuration steps required to install a Motor Starter Controller.

Device MAC Id

Set the MAC Id of the device. All units are shipped from the factory as **address 63**.

Note: Set the MAC Id before attaching a Motor Starter Controller to a complete bus. Otherwise, multiple devices may reside at the default address of 63.

Motor Starter Controller
for DeviceNet

Configuration Options

The following steps are a guide to help the commissioning process to ensure the product will function as desired.

Input NO/NC

[Object 8, Instances 1-4, Attribute 100]

Each of the four inputs can be inverted by setting the value to 1 in the NO/NC attribute of the corresponding instance. The attribute is a Boolean variable with a default value of 0.

Output Interlock Mask

[Object 9, Instances 1-2, Attribute 100]

The Output Interlock Masks allows the user to determine which inputs should be interlocked with an output. Each bit in the Interlock Mask attribute corresponds directly with a physical input (see the Input Variable description in the Operation section).

Instance 1 is associated with Output 0 and instance 2 with Output 1.

An interlock is cleared by writing a value of 0 to the output variable.

Output Interlock Timer

[Object 9, Instances 1-2, Attribute 101]

The Output Interlock Timers are used to delay the interlock function described above. This allows time for a contactor to engage and a system to become stable before being shut down by a input.

The value in the Output Interlock Timer is in 10 millisecond increments (100 = 1 second).

Reversing Mode

[Object 30, Instances 1, Attribute 100]

When Reversing Mode is disabled **(0)**, the outputs are be controlled independently. When Reversing Mode is enabled (1) and the host controller attempts to energize both outputs simultaneously an illegal data error will be returned by the motor starter controller.

Dwell Timer

[Object 30, Instances 1, Attribute 101]

The Dwell Timer is also active when the Reversing Mode is enabled. The Dwell Timer prevents the host controller from instantaneously reversing a motor by delaying a command to energize an output by the time entered in the Dwell Timer attribute (in 0.10 millisecond increments). When the Dwell Timer expires, the Motor Starter Controller will execute the change of output command automatically.

Operation

The Motor Starter Controller is a general purpose discrete I/O device functioning as a "Group 2 Only Server". In addition to explicit messaging, polled I/O is supported for the transfer of input and output information. Once a polled connection is established, the module expects a poll at least every 10 seconds, otherwise the module will time out and take action as specified in the watchdog timeout action attribute(consult Connection Object Attribute 12). The connection timeout can be altered by changing the Expected Packet Rate (EPR) for the polled connection.

Input Variable

Bit	Name	Description
0	Input 0	State of physical input 0
1	Input 1	State of physical input 1
2	Input 2	State of physical input 2
3	Input 3	State of physical input 3
4	Fault 0	Output 0 interlock fault
5	Fault 1	Output 1 interlock fault
6	Dwell 0	Output 0 in dwell
7	Dwell 1	Output 1 in dwell

Output Variable

Bit	Name	Description
0	Output 0	Controls the state of physical output 0
1	Output 1	Controls the state of physical output 1

ID Object

[Object 1, Instance 1]

Attribute	Description
1	Vendor ID
2	Device Type
3	Product Code
4	Revision
5	Status
6	Serial Number
7	Product Name

DeviceNet Object

[Object 3, Instance 1]

Attribute	Description
1	MAC ID (0-63)
2	Baud Rate (0=125K, 1=250K, 2=500K)
3	BOI
4	Bus-Off Counter
5	Allocation Information

Connection Objects

[Object 5, Instance 1 & 2]

Attribute	Description
1	State
2	Instance Type
3	Transport Class Trigger
4	Produced Connection ID
5	Consumed Connection ID
6	Initial Communication Characteristics
7	Produced Connection Size
8	Consumed Connection Size
9	Expected Packet Rate
12	Watchdog Timeout Action
13	Produced Connection Path Length
14	Produced Connection Path
15	Consumed Connection Path Length
16	Consumed Connection Path

Parameter Objects

	Attribute	Description
[Object 8, Instance 1-4]	100	Input NO/NC
[Object 9, Instance 1 & 2]	100	Output Interlock Mask
	101	Output Interlock Timer
[Object 30, Instance 1 & 2]	100	Reverse Mode
	101	Dwell Timer