

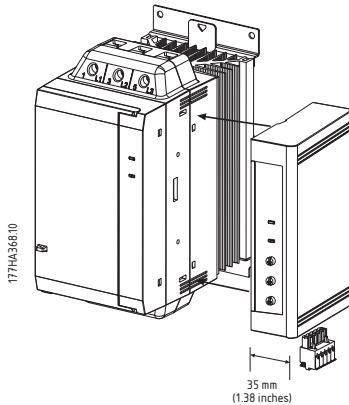
### INSTALLATION INSTRUCTIONS MCD DEVICENET MODULE

Order Code: 175G9002

#### ■ Installation

Install the DeviceNet Module using the following procedure:

1. Remove control power and mains supply from the soft starter.
2. Attach the DeviceNet Module to the soft starter as illustrated below.
3. Set the DeviceNet Module Node Address (MAC ID) and Data Rate.
4. Apply control power to the soft starter.
5. Insert the network connector into the module and power up the DeviceNet network.



#### CAUTION

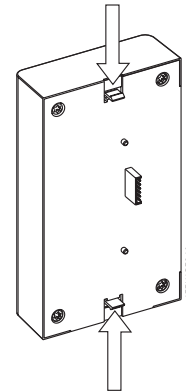
Network designs must decrease the maximum allowable dropline length by 400 mm for every MCD DeviceNet Module installed on the network. Failure to do so may result in network communication errors and decreased reliability.

Example:

ODVA specifies a maximum dropline length of 156 m on a network operating at 125 kbps. If six MCD DeviceNet Modules were installed on this network, the maximum dropline length would decrease to 153.6 m.

Remove the DeviceNet Module using the following procedure:

1. Take the interface off-line and remove the DeviceNet connector.
2. Remove control power and mains supply from the soft starter.
3. Push a small flat-bladed screwdriver into the slots at the top and bottom of the module and depress the retaining clips.
4. Pull the module away from the soft starter.



#### CAUTION

Remove control power and mains supply from the soft starter before attaching or removing accessories. Failure to do so may damage the equipment.

#### ■ Configuration

The DeviceNet Module is a Group 2 slave device, using a predefined master/slave connection set. I/O data is produced and consumed using polled I/O messaging.

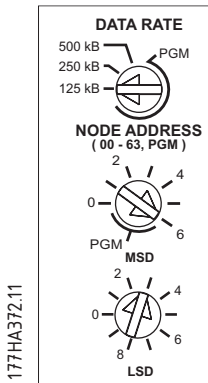
The soft starter must be added to the DeviceNet manager project using the EDS file and configuration/management software tool. The file is supplied with the module on a floppy disk, or can be downloaded from the website [www.danfoss.com/drives](http://www.danfoss.com/drives). In order to operate successfully, the correct EDS file must be used.

For MCD 200 Series soft starters, the EDS filename is SSDM04\_11.edc.

An on-screen graphics bitmap file is included on the installation disk and is available from the website [www.danfoss.com/drives](http://www.danfoss.com/drives). This bitmap filename is device.bmp.

### ■ Adjustment

The factory default settings for the rotary adjustment switches are:



Changes to the rotary switch settings take effect when the DeviceNet network is next powered up.

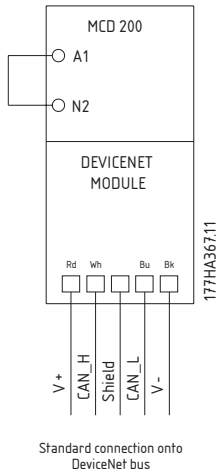


#### N.B.!

The Data Rate and Node Address (MAC ID) must be set locally on the module. These cannot be set using DeviceNet management software.

When the Data Rate and MSD Node Address (MAC ID) rotary switches are set on PGM position, the module uses the previously used valid on-line Data Rate and Node Address (MAC ID).

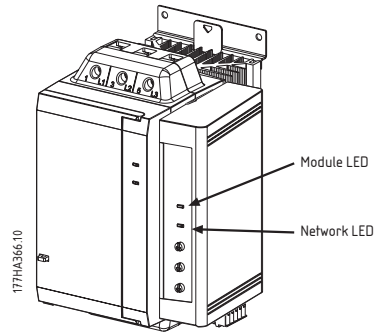
### ■ Connection



### ■ Module and Network LEDs

The Module LED indicates the condition of the power supply and module operation.

The Network LED indicates status of the communication link between the DeviceNet Module and the network. LED operation is as follows:



LED	State	Description
Module	Off	Network power off
	Green	Normal operation
	Red	Unrecoverable fault
	Red/Green flashing	Self Test mode
Network	Off	Duplicate MAC ID test has not been completed
	Green flashing	Online but no connection with Master
	Green	Online and allocated to a Master
	Red flashing	One or more timed out I/O connections
	Red	Failed communication between module and Master
	Red/Green flashing	Communication faulted and received an Identity communication faulted request



#### N.B.!

When a communications failure occurs, the soft starter will trip if the Communication Timeout parameter for the network is set greater than zero. When communication is restored, the soft starter must be reset.

### ■ DeviceNet Polled I/O Structure

Once the EDS file has been loaded, the DeviceNet Module must be added to the scanner list with parameters shown in the following table:

Parameter	Value
I/O connection type	Polled
Poll receive size	14 bytes
Poll transmit size	2 bytes

Once the soft starter, module and Master have been set up, configured and powered up, the Master will transmit 2 bytes of data to the module and receive 14 bytes of data from the module.

## MCD DeviceNet Module

Master> Slave polled I/O output data is as follows:

Byte	Bit	Function
0	0	0 = Stop command 1 = Start command
	1	0 = Enable Start or Stop command 1 = Quick Stop (i.e. coast to stop) and disable Start command
	2	0 = Enable Start or Stop command 1 = Reset command and disable Start command
	3 to 7	<i>Reserved</i>
1	0 to 7	<i>Reserved</i>

Slave > Master polled I/O input data is as follows:

Byte	Bit	Function	Value
0	0	Trip/Fault	1 = Soft starter trip
	1	<i>Reserved</i>	
	2	Running 1	0 = Unknown, ready to start or tripped 1 = Starting, running or stopping
	3	<i>Reserved</i>	
	4	Ready	0 = Start or stop command not acceptable 1 = Start or stop command acceptable
	5	Control from Net	1 (Always = 1)
	6	<i>Reserved</i>	
	7	At reference	1 = Running (full voltage)
1	0 to 7	Status	0 = Unknown 2 = Not ready (restart delay) 3 = Ready to start 4 = Starting or running 5 = Soft stopping 7 = Trip/Fault
2	0 to 7	Trip/Fault code	See trip code table below
3	0	Initialised	1 = Phase rotation bit is valid (bit 1) after 1 <sup>st</sup> start
	1	Phase rotation	1 = Positive phase rotation detected
	2 to 7	<i>Reserved</i>	
4 *	0 to 7	Motor current (low byte)	Current (A)
5 *	0 to 7	Motor current (high byte)	
6 *	0 to 7	Current %FLC (low byte)	Current as a percentage of soft starter FLC setting (%)
7 *	0 to 7	Current %FLC (high byte)	
8 *	0 to 7	% Motor temperature	Thermal model
9 to 13	0 to 7	<i>Reserved</i>	

\* = MCD 202 models only.

### DeviceNet Identity Attributes

Attribute Name	Attribute ID	Comments
Vendor identification number	01	204
Device type	02	17h (soft starter)

