

Primary Keying

Primary Keying Table

The following table shows the primary module and terminal strip keying for the I/O modules.

Module Class	Module Part Number	Module Coding	Terminal Strip Coding
5 VDC	140 DDI 153 10	ABC	DEF
	140 DDO 153 10		
9 ... 12 VDC	Unassigned	ABD	CEF
24 VDC	140 DDI 353 00	ABE	CDF
	140 DDI 353 10		
	140 DDM 390 00		
	140 DDO 353 00		
	140 DDO 353 10		
	140 HLI 340 00		
	140 SDI 953 00S		
	140 SDO 953 00S		
10 ... 60 VDC	140 DDI 841 00	ABF	CDE
	140 DDI 853 00		
	140 DDO 843 00		
125 VDC	140 DDI 673 00	ACD	BEF
	140 DDM 690 00		
	140 DDO 885 00		
24 VAC	140 DAI 340 00	ACE	BDF
	140 DAI 353 00		
48 VAC	140 DAI 440 00	ACF	BDE
	140 DAI 453 00		
	140 DAO 842 20		
115 VAC	140 DAI 540 00	ADE	BCF
	140 DAI 543 00		
	140 DAI 533 00		
	140 DAM 590 00		
	140 DAO 840 10		

	140 CFA 040 00	140 CFB 032 00	140 CFC 032 00	140 CFD 004 00	140 CFE 032 00	140 CFG 016 00	140 CFH 008 00	140 CFI 008 00	140 CFJ 004 00	140 CFK 004 00
140 DDI 353 00	X	X	X							
140 DDI 353 10	X									
140 DDI 673 00	X									
140 DDI 841 00	X									
140 DDI 853 00	X	X	X	X						
140 DDM 390 00	X									
140 DDM 690 00	X see note 1									
140 DDO 153 10	X									
140 DDO 353 00	X		X		X					
140 DDO 353 01	X		X		X					
140 DDO 353 10	X									
140 DDO 364 00	not compatible with cable fast. See in the related chapter of the I/O reference guide for recommended cables									
140 DDO 843 00						X see note 2				
140 DDO 885 00	X see note 1									
140 DRA 840 00	X see note 1									
140 DRC 830 00	X see note 1									
140 DSI 353 00	X									
140 DVO 853 00	X									
140 SAI 940 00S	not compatible with cable fast.									
140 SDI 953 00S	X									
140 SDO 953 00S	X									
X = Valid Selections.										

NOTE: These are the maximum load current capacities of the 140 CFA 040 00 and 140 CFG 016 00:

1. When using the 140 CFA 040 00 terminal block, the indicated module outputs are limited to 0.5 A/point @ 150 VAC maximum and 0.5 A/point @ 150 VDC maximum.
2. When using the 140 CFG 016 00 terminal block and either the 140 XTS 012 •• or 140 XTS 102 •• high power cable, the indicated module output ratings are 2 A per point, 150 VAC maximum and 2 A per point, 150 VDC maximum.

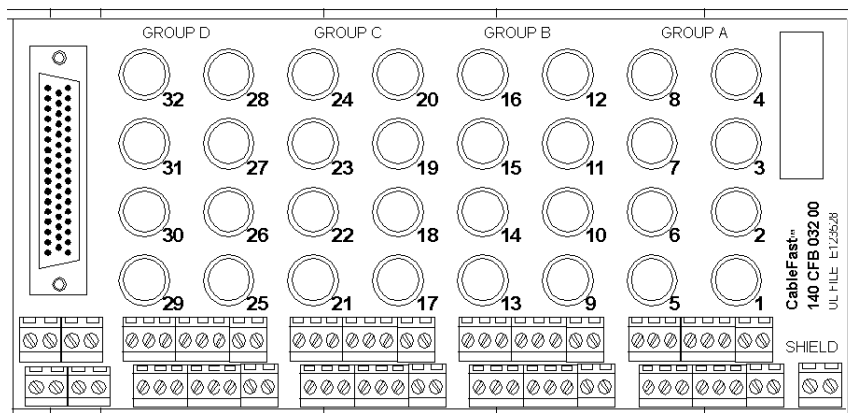
140 CFB 032 00 Quantum CableFast Cabling Block

Overview

The B block is used for individually fused 2-wire digital inputs. This CableFast terminal block is designed to help prevent a single point error from affecting the remaining inputs. It is not recommended for sourced 1-wire inputs (powered from the field).

Terminal Block

The following figure shows the terminal block for the 140 CFB 032 00 module.



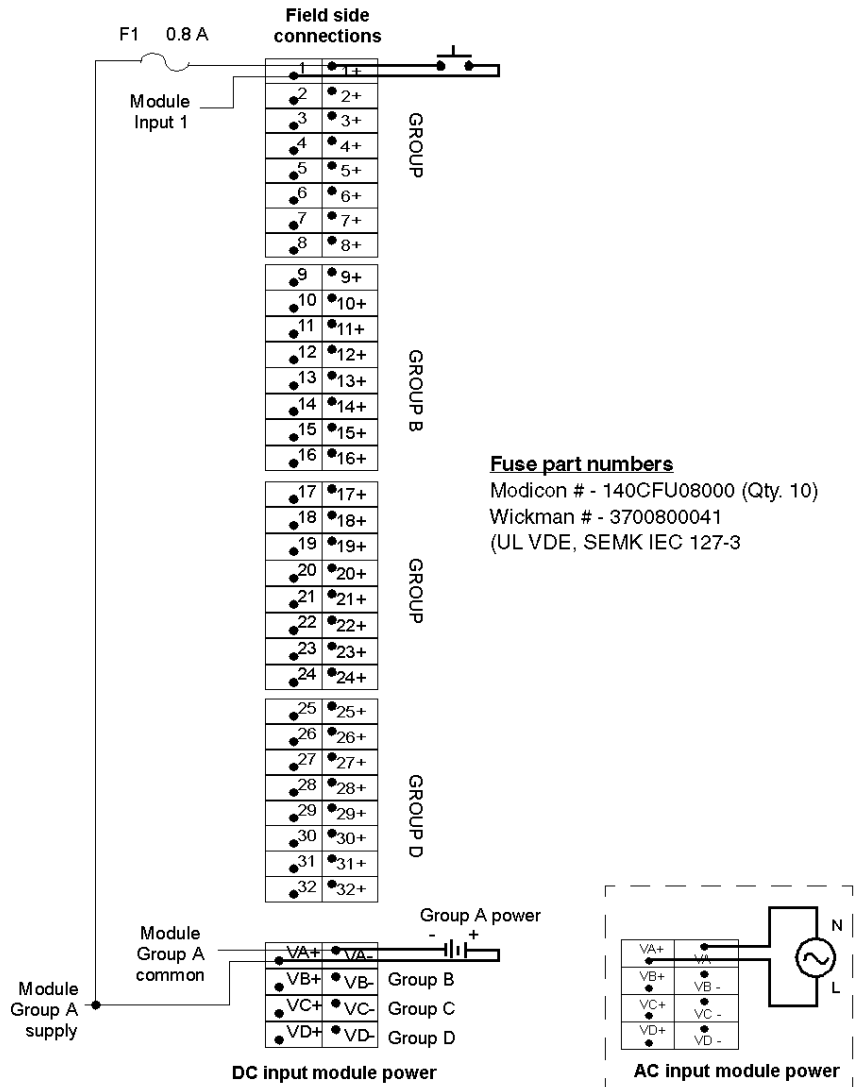
Application Notes

The following are the application notes for the 140 CFB 032 0 terminal block.

- 1. Configuration** – arranged in four groups of eight I/O points. Two terminals per point help prevent disruption of service due to a single point error.
- 2. Compatibility** – this terminal block provides individual 32 point 0.8 A fusing for the following input modules: 140 DAI 353 00, 140 DAI 453 00, 140 DAI 553 00, 140 DDO 153 10, 140 DDI 353 00, and 140 DDI 853 00.

Wiring of Input Modules

The following figure shows the 140 CFB 032 00 wiring for the following input modules:
140 DAI 353 00, 140 DAI 453 00, 140 DAI 553 00, 140 DDI 353 00, and 140 DDI 853 00.



NOTE: The terminal block commoning strip, Modicon # 140 CFX 001 10 (Qty. 10) can be used to jumper the power between groups.

Application Notes

The following are the application notes for the 140 CFC 032 00 module.

- 1. Configuration** – arranged in four groups of eight I/O points (two terminals per point). This block may be used for one- and two-wire inputs or outputs. The input and output mode is selected via four switches located on the block.
- 2. Compatibility** – this terminal block provides 0.8 A group fusing for the following discrete modules:

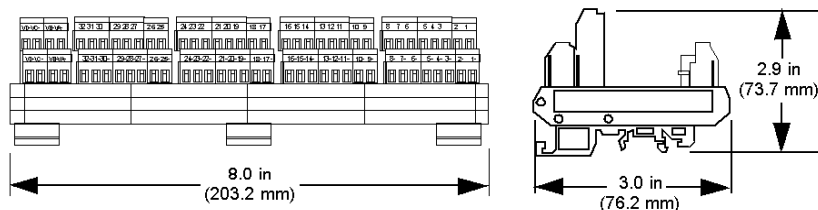
The following table shows the modules provided with 0.8 A group fusing.

Module	Mode	Switch setting	Fuse rating
140 DAI 353 00	Input	+	0.8 A
140 DAI 453 00	Input	+	0.8 A
140 DAI 553 00	Input	+	0.8 A
140 DDI 153 10	Input	-	0.8 A
140 DDI 353 00	Input	+	0.8 A
140 DDI 853 00	Input	+	0.8 A
140 DDO 153 10	Output	+	4 A
140 DDO 353 00	Output	-	4 A

NOTE: Select input or output mode with the four switches located on the terminal.

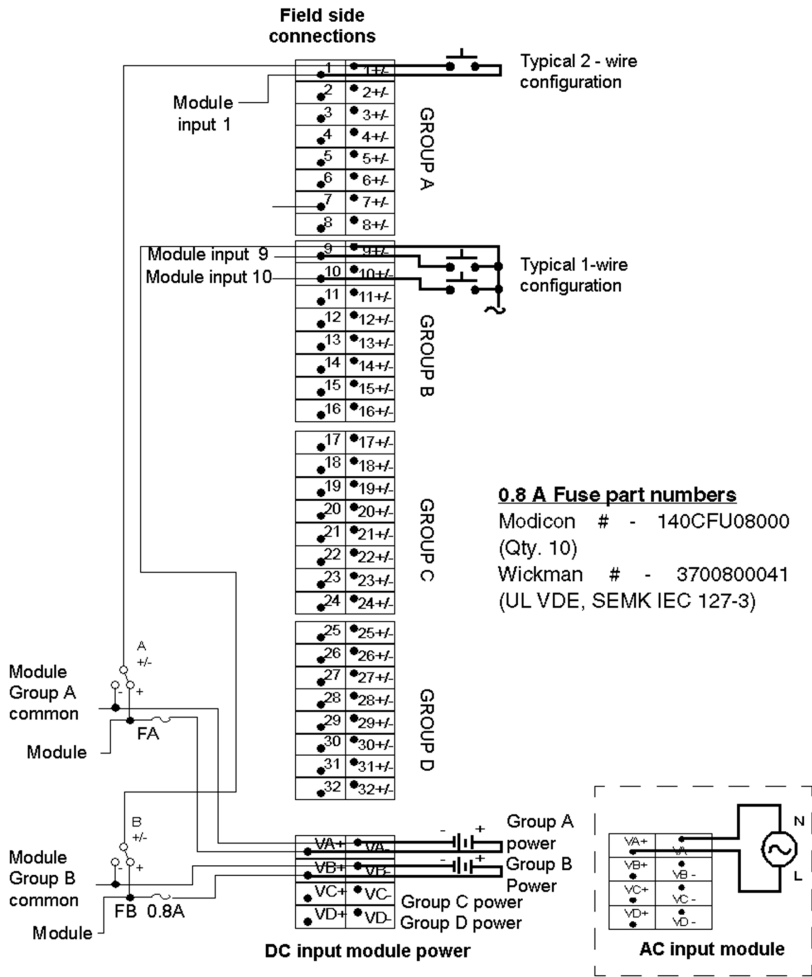
Dimensions

The following figures show the dimensions for the 140 CFC 032 00 terminal block block. All four switches must be set to the same position.



Wiring for Input Modules

The following shows the 140 CFC 032 00 wiring for the following input modules: 140 DAI 353 00, 140 DAI 453 00, 140 DAI 553 00, 140 DDI 353 00, and 140 DDI 853 00.



NOTE: The terminal block commoning strip, Modicon # 140 CFX 001 10 (Qty. 10), can be used to jumper the power between groups.

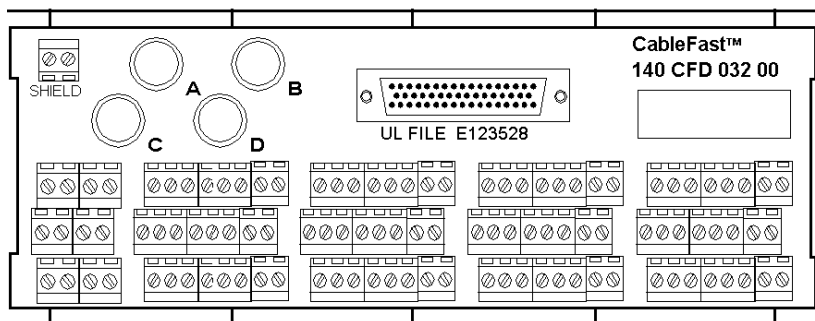
140 CFD 032 00 Quantum CableFast Cabling Block

Overview

The CableFast cabling D block is used for sensors requiring either 2- or 3-wire electrical interfaces. A fuse per group is supplied to accommodate the I/O module (4) groups.

Terminal Block

The following figure shows the 140 CFD 032 00 terminal block.



Application Notes

The following are the application notes for the 140 CFD 032 00 module.

1. **Configuration** – arranged in four groups of eight I/O points. Each input is allocated three terminals.
2. **Compatibility** – this terminal block provides 0.8 A group fusing connection points for 3- and 2-wire proximity switches and is used with the following modules: 140 DAI 353 00, 140 DAI 453 00, 140 DAI 553 00, 140 DDI 353 00, and 140 DDI 853 00.

Quantum Part Numbers	Availability of a conformal coated version	Agency Approval Status				
		UL 508	c-UL (UL for Canada)	CSA 22.2-142	FM Class I, Div 2	CE
140 DDI 353 00	y	y	y	y	n	y
140 DDI 353 10	y	y	y	y	y	y
140 DDI 673 00	y	y	y	y	y	y
140 DDI 841 00	y	y	y	y	n	y
140 DDI 853 00	y	y	y	y	n	y
140 DDM 390 00	y	y	y	y	y	y
140 DDM 690 00	y	y	y	y	y	y
140 DDO 153 10	y	y	y	y	y	y
140 DDO 353 00	y	y	y	y	y	y
140 DDO 353 01	y	y	y	y	y	y
140 DDO 353 10	y	y	y	y	y	y
140 DDO 364 00	y	y	y	y	y	y
140 DDO 843 00	y	y	y	y	y	y
140 DDO 885 00	y	y	y	y	y	y
140 DII 330 00	y	y	y	y	y	y
140 DIO 330 00	y	y	y	y	y	y
140 DRA 840 00	y	y	y	y	y	y
140 DRC 830 00	y	y	y	y	y	y
140 DSI 353 00	y	y	y	y	y	y
140 DVO 853 00	y	y	y	y	y	y
140 SAI 940 00S	y	Scheduled	Scheduled	Scheduled	Scheduled	Scheduled
140 SDI 953 00S	y	Scheduled	Scheduled	Scheduled	Scheduled	Scheduled
140 SDO 953 00S	y	Scheduled	Scheduled	Scheduled	Scheduled	Scheduled

I/O Module Specifications

I/O Modules with Operating Voltages Less than 24 V

Fast transients (IEC 1000-4-4)	0.5 kV common mode
Damped oscillatory transients	1 kV common mode
	0.5 kV differential mode
Surge withstand capability (transients) (IEC 1000-4-5)	1 kV common mode
	0.5 kV differential mode

I/O Modules with 24 to 48 V Operating Voltages

Fast transients (IEC 1000-4-4)	1 kV
Damped oscillatory transients	2 kV common mode
	1 kV differential mode
Surge withstand capability (transients) (IEC 1000-4-5)	1 kV common mode
	0.5 kV differential mode

I/O Modules with Operating Voltages Greater than 48 V

Fast transients (IEC 1000-4-4)	2 kV
Damped oscillatory transients	2 kV common mode
	1 kV differential mode
Surge withstand capability (transients) (IEC 1000-4-5)	2 kV common mode
	1 kV differential mode

Operating and Storage Conditions

Operating Conditions

Temperature	0 ... 60 °C (32 ... 140 °F)
Humidity	90 ... 95% RH non-condensing at 6 °C
Chemical interactions	Enclosures and terminal strips are made of polycarbonates. This material can be damaged by strong alkalis and various hydrocarbons, esters, halogens and ketones in combination with heat. Common products containing these include detergents, PVC products, petroleum products, pesticides, disinfectants, paint removers, and spray paints.
Altitude	2,000 m. When the altitude exceeds this, reduce the 60 °C maximum operating temperature by 6 °C/1000 m of additional elevation.
Vibration	10 ... 57 Hz at 0.075 mm constant displacement amplitude 57 ... 150 Hz at 1 g
Shock	+/-15 g peak, 11 ms, half-sine wave

Storage Conditions

Temperature	-40 ... 85 °C. C -40 ... 185 °F
Humidity	0 ... 95% RH noncondensing at 60 °C
Free Fall	1 m (3 ft)

Gas Resistance in Conformally Coated Modules

This table shows the results of the mixed flowing gas test, 22 days exposure

Standard	Gas	Test Requirement	Actual Exposure
EIA364-65 Level III	CL2 (chlorine)	20 PPB, +/- 5 PPB	20 PPB
	NO2 (nitric oxide)	200 PPB, +/- 50 PPB	1250 PPB
	H2S (hydrogen sulfide)	100 PPB, +/- 20 PPB	100 PPB
	SO2 (sulfur oxide)	N/A	300 PPB
ISA-S71.04 (GX Severe)	CL2 (chlorine)	10 PPB	20 PPB
	NO2 ((nitric oxide)	1250 PPB	1250 PPB
	H2S (hydrogen sulfide)	50 PPB	100 PPB
	O2 (sulfur oxide)	300 PPB	300 PPB