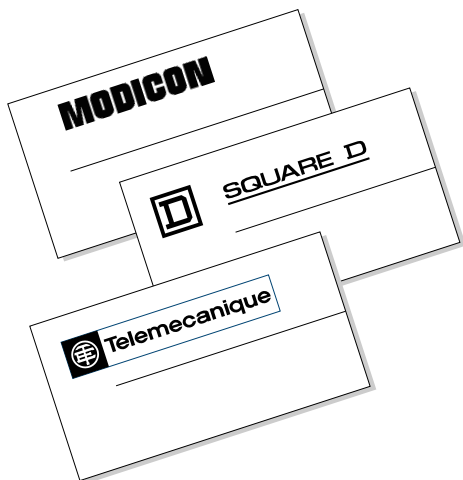


Modicon CableFast Wiring System



A versatile, time saving solution to interface field devices to the Modicon TSX Quantum Automation Series

- DIGITAL INPUTS
- DIGITAL OUTPUTS
- ANALOG INPUTS/RTD
- ANALOG OUTPUTS
- COMBINATION MODULES
- INTELLIGENT MODULES



General Description

Modicon CableFast Wiring System

is an innovative, pre-engineered cable and terminal block solution that replaces traditional panel wiring schemes that use independently wired marshalling blocks and independently wired I/O connectors. Modicon CableFast eliminates the high installation and wiring costs between the I/O connector and terminal block of traditional panel wiring.

Designed for use with the Modicon TSX Quantum Automation Series I/O, CableFast combines the I/O connector to an IEC style terminal block using a system cable. The terminal block comes in a wide range of configurations and is an extension of the functionality offered by the I/O module. Terminal blocks have been designed to be application specific to the I/O module. The system cable is prewired at both ends and is available in various lengths. Optional pigtail cables are available for installations that require customized cable lengths or tailored terminal blocks.

The Modicon CableFast system can reduce control panel wiring costs by up to fifty percent. Not only can you wire the input/output modules faster than with traditional wiring methods, CableFast simplifies your installation with fewer and more accurate power connections. With CableFast, no more point to point wire checkout is required between the I/O module and terminal strip.

A unique innovation offered by CableFast is the two-wire per field device electrical interface offered at the terminal block. This interface allows a single wire to be landed on each terminal point, to reduce the amount of point to point electrical engineering.



GROUPE SCHNEIDER

■ Modicon ■ Square D ■ Telemecanique

Benefits

- Reduces installation time with a prewired system cable between the Quantum I/O module connector and the terminal block. CableFast provides quick connection and disconnection methods at both ends of the cable system.
- Reduces engineering time because terminal blocks are pre-engineered to interface with field devices appropriate to specific module types.
- Digital blocks support 2 and 3 wire connections with grouped power supply interfaces.
- Analog blocks are designed to support a single power supply interface for loop power, yet still offer users the ability to have separate field power supplies.
- Reduces the point to point panel check out time with a high integrity system cable connecting the terminal block and I/O connector.
- Simplifies field device interfacing. Users only land the field device to the terminal block in its natural 2 or 3 wire connection method. No more power and jumpering requirements traditionally associated with most PLC I/O connectors.
- Supports a wide range of Quantum TSX Automation Series I/O modules while eliminating the difficulty of wiring high density I/O module connectors with heavy gauge wire.
- Engineered with the functionality most requested by OEMs, system integrators, and end users.
- Modular system design supports easy maintenance and reduced Mean Time to Repair (MTTR).

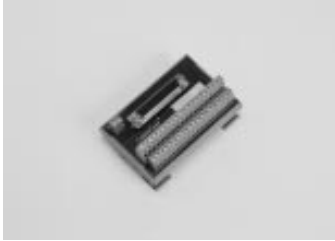
Features of the CableFast solution include:

- Power supply distribution designed into pre-engineered terminal blocks.
- Individual fusing per point available on both analog and digital terminal blocks.
- A simple cable design engineered to work with both digital and analog I/O modules.
- High power cable supports up to 2A per point for outputs.
- Voltage range covers from 5 V TTL to 150 volt with required regulatory approvals.
- DIN rail mounted terminal blocks fit all standard DIN rail sizes.
- Electrical checkout can occur at either the I/O connector or at the terminal block.
- Color coded wires for custom projects and wire discrimination.

CableFast System Specifications		Terminal Block Details	
Max. Voltage Supported	150V AC, 125V DC	Terminal Block Wire Sizes	#12 AWG to #24 AWG (3.3 mm ² to 0.25 mm ²)
Max. Current Supported	2 Amp per point max.	Number of Wires per Terminal	One #12 or two #16 AWG wires (One 3.3 mm ² or two 1.4 mm ² wires)
Dielectric Withstanding Voltage	1060V AC, 1500V DC	Terminal Screw Size	M3 (Uses screw driver head size of 0.130 flat head)
Creepage and Clearance	per IEC 1131, UL 508, CSA22.2 #142-1987	Flammability	94V-2 Rated on terminal blocks, 94V-0 on terminal block PCB
Operating Temperature	0 to 60°C	Mounting Configuration	DIN rail mount NS35/7.5 and NS32
Storage Temperature	-40 to +65°C		
Humidity	0% - 95% Non-condensing		
Altitude, Operating	2000m		
Shock	± 15 G, 11ms, 3 pulses/axis		
Vibration	10 – 57Hz @.075 mm displacement		
Agency Approvals	UL, CSA		
		Cable Details	
		Bend Radius, High Power	15 inch min. I.D.
		Bend Radius, Standard Power	0.75 inch min. I.D.
		Diameter, High Power	0.545 inches
		Diameter, Standard	0.43 inches
		Voltage Max.	300V DC
		Jacket Material	Flexible PVC
		Temperature Rating	105°C

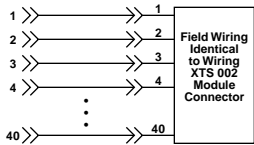
Terminal Block Field Device Interfacing

140 CFA 040 00



Length 4.5 in/115mm
Height 3.0 in/77mm

Typical Wiring
 (Only first four points shown.)



Block Type
 Universal

Application

A block is a straight through point to point connection on the terminal block. Wiring of this block is identical to wiring the Quantum I/O connector, 140 XTS 002 00.

Max. Current/Circuit 0.5 A

Fuse Rating N/A

Module Compatibility

All modules *except*
 140 ATI 030 00, T/C

Cable Compatibility

140 XTS 002 xx *
 140 XCA 102 xx

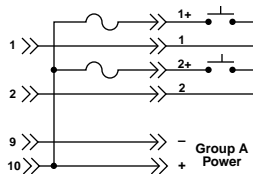
* Recommended

140 CFB 032 00



Length 9.25 in/237mm
Height 4.4 in/112mm

Typical Wiring
 (Only first two points shown.)



Block Type
 Digital 32 pt.

Application

B block is used for 2 wire digital inputs requiring individual fusing. This terminal block is not recommended for field sourced 1 wire inputs.

Max. Current/Circuit 0.5 A

Fuse Rating 0.8 A

Module Compatibility

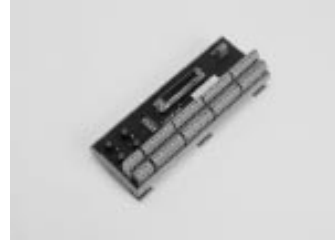
140 DDO 153 10, TTL Out
 140 DDI 353 00, 24V DC
 140 DDI 853 00, 10 - 60V DC
 140 DAI x53 00, AC Inputs

Cable Compatibility

140 XTS 002 xx *
 140 XCA 102 xx

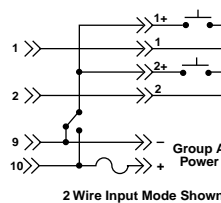
* Recommended

140 CFC 032 00



Length 8.0 in/204mm
Height 3.0 in/77mm

Typical Wiring
 (Only first two points shown.)



Block Type
 Digital 32 pt. In/Out

Application

C block is used for both digital inputs and outputs. The block may be used for 1 or 2 wire inputs or outputs, and features a fuse per group, 4 groups total. Users select input or output mode via 4 switches located on the module. (Default is input mode.)

Max. Current/Circuit 0.5 A

Fuse Rating 0.8 A

Module Compatibility

140 DDI 153 10, TTL In
 140 DDI 353 00, 24V DC
 140 DDI 853 00, 10 - 60V DC
 140 DAI x53 00, AC Inputs
 140 DDO 153 10, TTL Out
 140 DDO 353 x0, 24V DC

Cable Compatibility

140 XTS 002 xx *
 140 XCA 102 xx

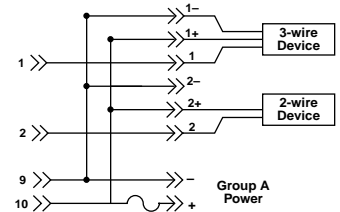
* Recommended

140 CFD 032 00



Length 8.0 in/204mm
Height 3.0 in/77mm

Typical Wiring
 (Only first two points shown.)



Block Type
 Sensor Input, 32 pt.

Application

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

Max. Current/Circuit 0.5 A

Fuse Rating 0.8 A

Module Compatibility

140 DDI 353 00, 24V DC
 140 DDI 853 00, 10 - 60V DC
 140 DAI x53 00, AC Inputs

Cable Compatibility

140 XTS 002 xx *
 140 XCA 102 xx

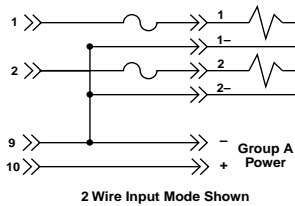
* Recommended

140 CFE 032 00



Length 9.25 in/237mm
Height 4.75 in/121mm

Typical Wiring
 (Only first two points shown.)



Block Type
 Digital 32 pt. DC Out

Application
E block is designed for 24V DC outputs, requiring individual fusing. 1 wire or 2 wire interfacing may be selected. Field power must be supplied to the four groups.

Max. Current/Circuit 0.5 A

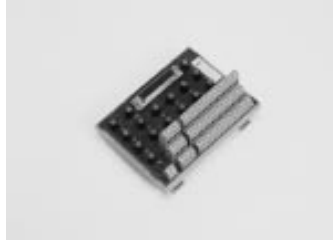
Fuse Rating 0.8 A

Module Compatibility
 140 DDO 353 00, 24V DC

Cable Compatibility
 140 XTS 002 xx *
 140 XCA 102 xx

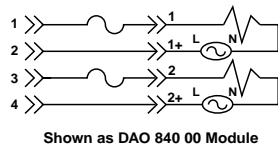
* Recommended

140 CFG 016 00



Length 5.75 in/146mm
Height 4.4 in/112mm

Typical Wiring
 (Only first two points shown.)



Block Type
 Digital 16 pt.

Application
G block is a high power output block used on both AC and DC circuits requiring up to 2 amps (max. 115V AC.) Individual fusing is provided and may be used in both a one wire and two wire installation. Also supports isolated AC input modules.

Max. Current/Circuit 2.0 A

Fuse Rating 4.0 A

Module Compatibility
 140 DAI 340 00, 24V AC
 140 DAI 440 00, 48V AC
 140 DAI 540 00, 115V AC
 140 DAO 840 00, 115V AC
 140 DAO 842 x0, 24/115V AC
 140 DDO 843 00, 10 - 60V DC

Cable Compatibility
 140 XTS 012 xx *
 140 XCA 102 xx

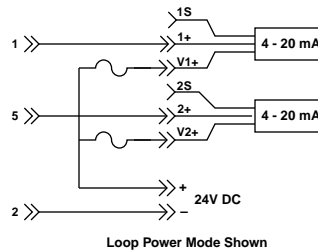
* Recommended

140 CFH 008 00



Length 5.0 in/127mm
Height 3.0 in/76mm

Typical Wiring
 (Only first two channels shown.)



Block Type
 Analog In, Fused

Application
H block is used for analog inputs, with individual fusing provided per channel. This interface provides plus, minus, shield, and power supply interface for both field and loop power configurations.

Max. Current/Circuit 0.5 A

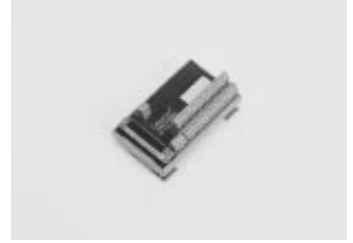
Fuse Rating 0.06 A

Module Compatibility
 140 ACI 030 00, 4 - 20 mA
 140 AVI 030 00, multirange

Cable Compatibility
 140 XTS 002 xx *
 140 XCA 102 xx

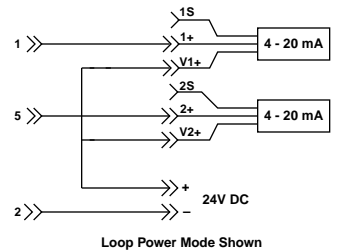
* Recommended

140 CFI 008 00



Length 5.0 in/127mm
Height 3.0 in/76mm

Typical Wiring
 (Only first two channels shown.)



Block Type
 Analog In

Application
I block is used for analog inputs. This interface provides plus, minus, shield, and power supply interface for both field and loop power configurations.

Max. Current/Circuit 0.5 A

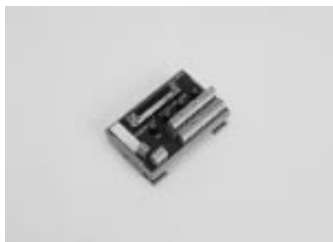
Fuse Rating N/A

Module Compatibility
 140 ACI 030 00, 4-20 mA
 140 AVI 030 00, multirange

Cable Compatibility
 140 XTS 002 xx *
 140 XCA 102 xx

* Recommended

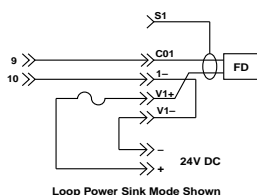
140 CFJ 004 00



Length 4.25 in/108mm
Height 3.0 in/76mm

Typical Wiring

(Only first channels shown.)



Loop Power Sink Mode Shown

Block Type

Analog Out, Fused

Application

J block is used for analog outputs, with individual fusing provided per channel. This interface provides plus, minus, shield, and power supply interface for both field and loop power configurations.

Max. Current/Circuit 0.5 A

Fuse Rating 0.06 A

Module Compatibility

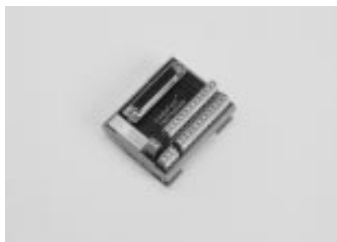
140 ACO 020 00, Current

Cable Compatibility

140 XTS 002 xx *
140 XCA 102 xx

* Recommended

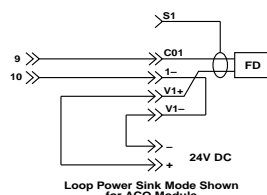
140 CFK 004 00



Length 3.5 in/89mm
Height 3.0 in/76mm

Typical Wiring

(Only first channels shown.)



Loop Power Sink Mode Shown
for ACO Module

Block Type

Analog Out

Application

K block is used for analog outputs. This interface provides plus, minus, shield, and power supply interface for both field and loop power configurations.

Max. Current/Circuit 0.5 A

Fuse Rating N/A

Module Compatibility

140 ACO 020 00, Current
140 AVO 020 00, Voltage

Cable Compatibility

140 XTS 002 xx *
140 XTS 022 xx
140 XCA 102 xx

* Recommended

System Cables and Accessories

Cable Selections

Part Number	Description
140 XTS 002 03	CableFast system cable with Quantum I/O connector, 0.9 m /3 foot
140 XTS 002 06	CableFast system cable with Quantum I/O connector, 1.8 m /6 foot
140 XTS 002 09	CableFast system cable with Quantum I/O connector, 2.7 m /9 foot
140 XTS 002 12	CableFast system cable with Quantum I/O connector, 3.7 m /12 foot
140 XTS 012 03	CableFast high power cable with Quantum I/O connector, 0.9 m /3 foot
140 XTS 012 06	CableFast high power cable with Quantum I/O connector, 1.8 m /6 foot
140 XTS 012 09	CableFast high power cable with Quantum I/O connector, 2.7 m /9 foot
140 XTS 012 12	CableFast high power cable with Quantum I/O connector, 3.7 m /12 foot
140 XTS 102 06	CableFast high power system cable with Quantum I/O connector and pigtail, 1.8m/6 foot
140 XTS 102 15	CableFast high power system cable with Quantum I/O connector and pigtail, 4.6m/15 foot
140 XCA 102 06	CableFast high power cable, 50 pin D sub and pigtail, 1.8m/6 foot
140 XCA 102 15	CableFast high power cable, 50 pin D sub and pigtail, 4.6m/15 foot

140 XTS 102 xx



140 XCA 102 xx



**140 XTS 002 xx
140 XTS 012 xx**



Accessories

140 CFX 001 10	Terminal Block Common Strip Kit	Qty. 10
140 CFX 002 10	Fuse Replacement Disconnect Kit	Qty. 10
140 CFU 400 00	Fuse Kit, Wickmann, 4.0 Amp, UL/VDE	Qty. 10
140 CFU 080 00	Fuse Kit, Wickmann, 0.8 Amp, UL/VDE	Qty. 10
140 CFU 006 00	Fuse Kit, Wickmann, 0.06 Amp, UL/VDE	Qty. 10