FineTest

www.finetest.com

Functional ATE & Power Supply Testers

Military and Aerospace Test Systems
Functional ATE Systems
Power Supply Test Systems
Hi-Pot Test Systems
ESS / Burn-In / Vibration Monitoring Systems
Manual Test Systems
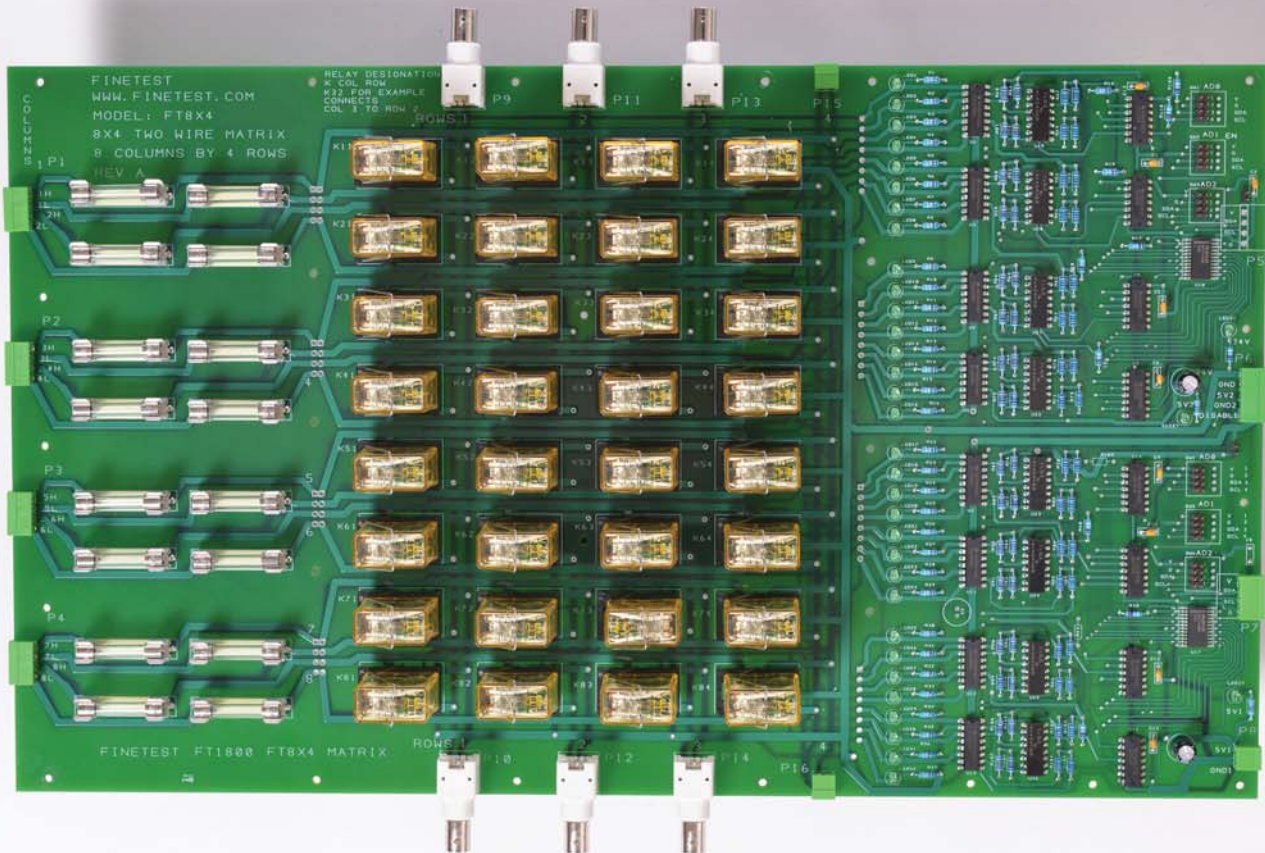Test Fixtures and ITAs
Box Builds and Sub-Assemblies
Switching and I/O Cards
Custom Cabinets and Accessories

KEYSIGHT TECHNOLOGIES
Solutions Partner

FineTest 1 Industry Drive, Palm Coast, FL 32137 Tel: (386) 569-6189 Fax: (386) 446-0463 email: sales@finetest.com

8x4 2-Wire Matrix Card

8 x 4 Matrix Card

Features:

The 8 two-wire Input Columns on the left may be connected to

any of 4 Output Rows (3 BNCs and 1 Header Connector) at top and bottom of the board..

Typical application connects the 3 BNCs to an Oscilliscope, and the Header to a DMM.
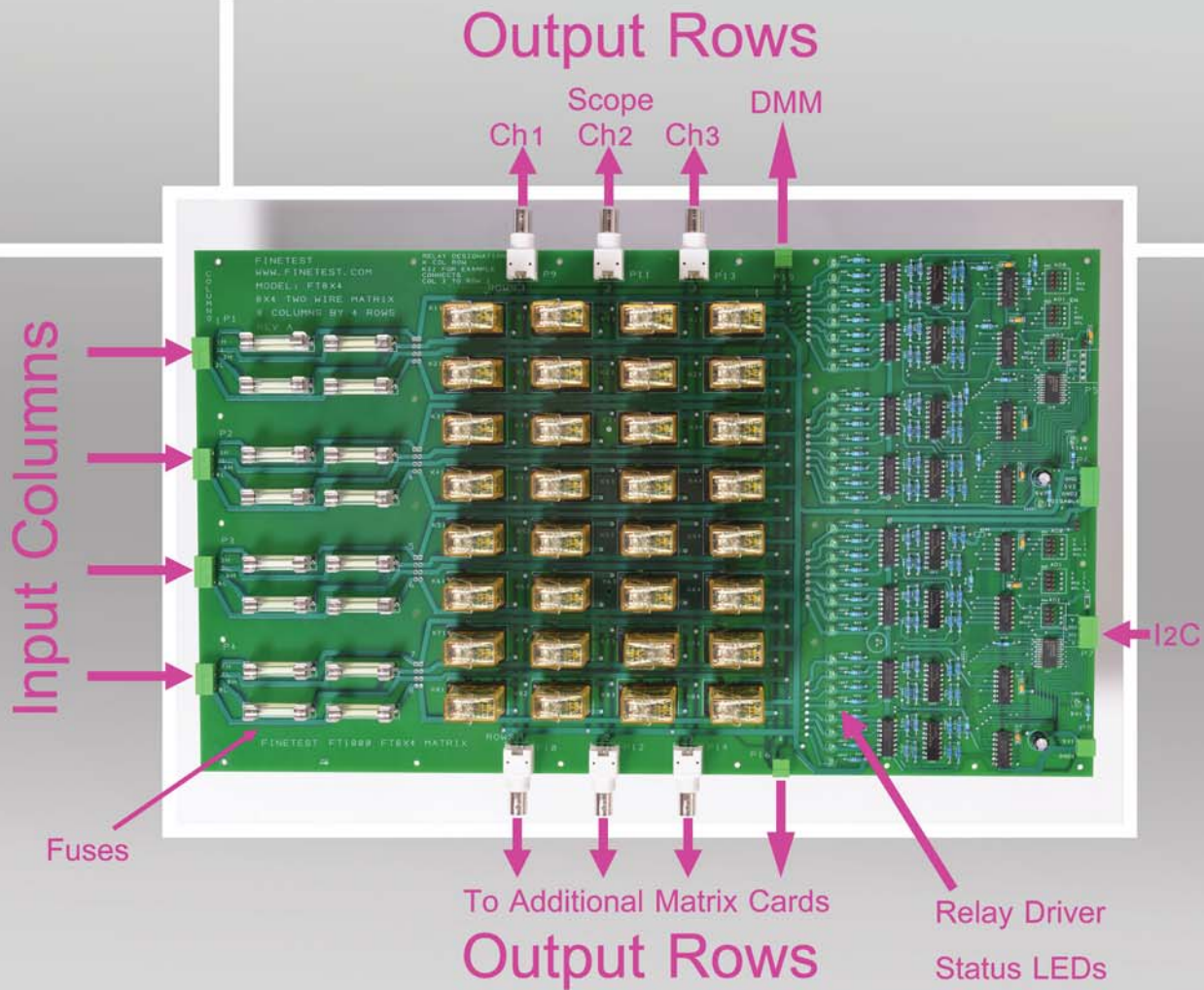
All Inputs are fused on the high and low lines.

All relays have built-in protective diode and status LED.

All relay drivers have status LED for ease of checkout.

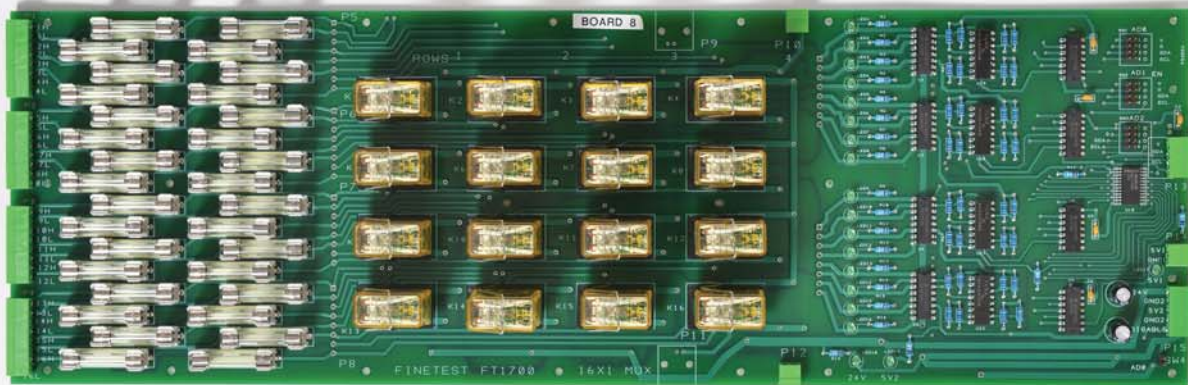Communicate directly to the board with I2C, or with USB-I2C or RS232-I2C adapter.

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Output Rows

Scope
Ch1   Ch2   Ch3   DMM

Input Columns

Switching and I/O Cards

I2C

Fuses

To Additional Matrix Cards

Output Rows

Relay Driver
Status LEDs

3 Matrix cards configured as a 24x4

The outputs can be connected in parallel
with additional matrix cards to expand
to larger matrices.

For Example, 3 matrix cards in parallel
will form a 24X4 matrix
as shown in the photo to the left.

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16x1 2-Wire 5A Multiplexer Card

Switching and I/O Cards


16 x 1 Mux Card

Features:

Any one of the 16 two-wire Input Columns on the left may be connected to

the Output on the Header Connectors at top and bottom of the board.

All Inputs are fused on the high and low lines.

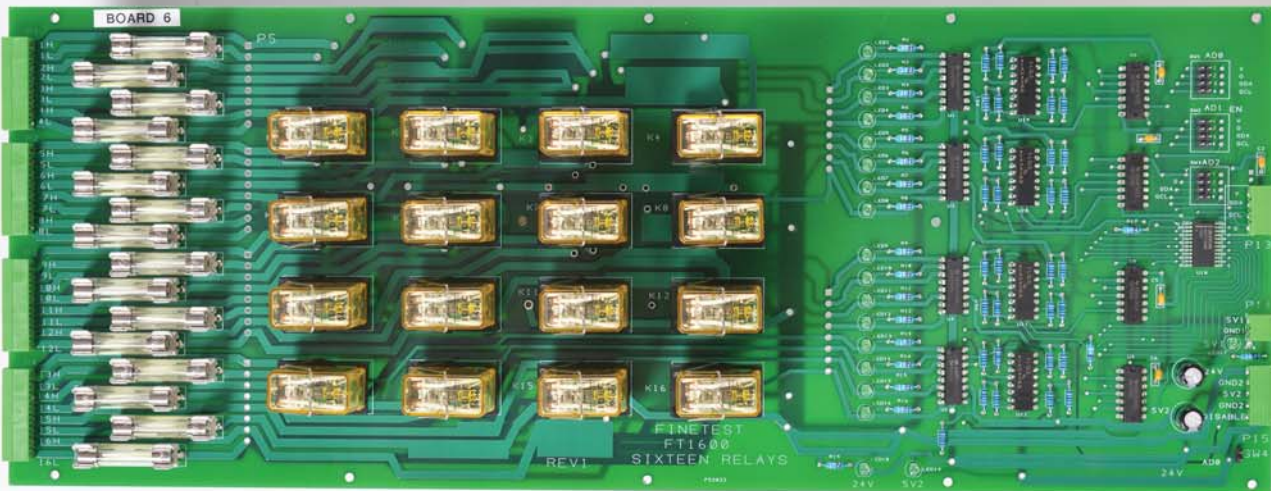All relays have built-in protective diode and status LED.

All relay drivers have status LED for ease of checkout.

Communicate directly to the board with I2C,

or with USB-I2C or RS232-I2C adapter.

Fuses
OUT
Relay Driver
Status LEDs
16 INPUTS
I2C
OUT

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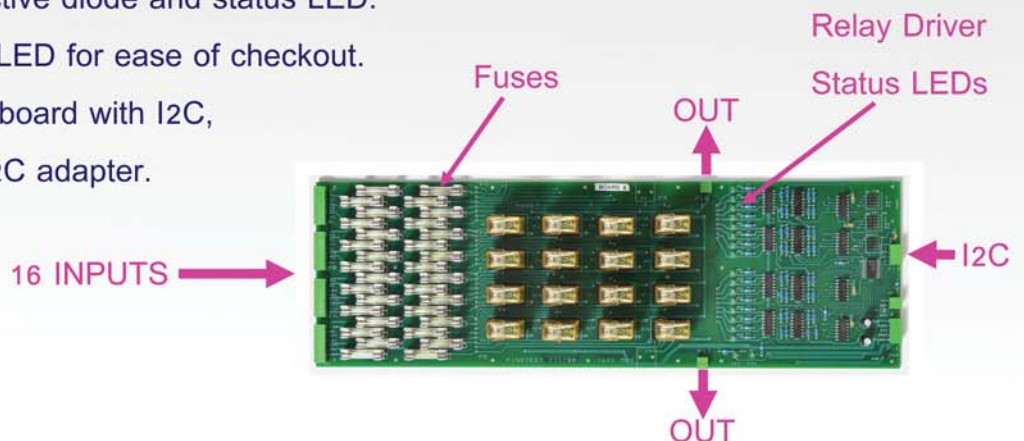
# 16 General Purpose Form-A 10A Relay Card

16 General Purpose Relay Card

Features:

16 Form A Relays Rated for 10A each.

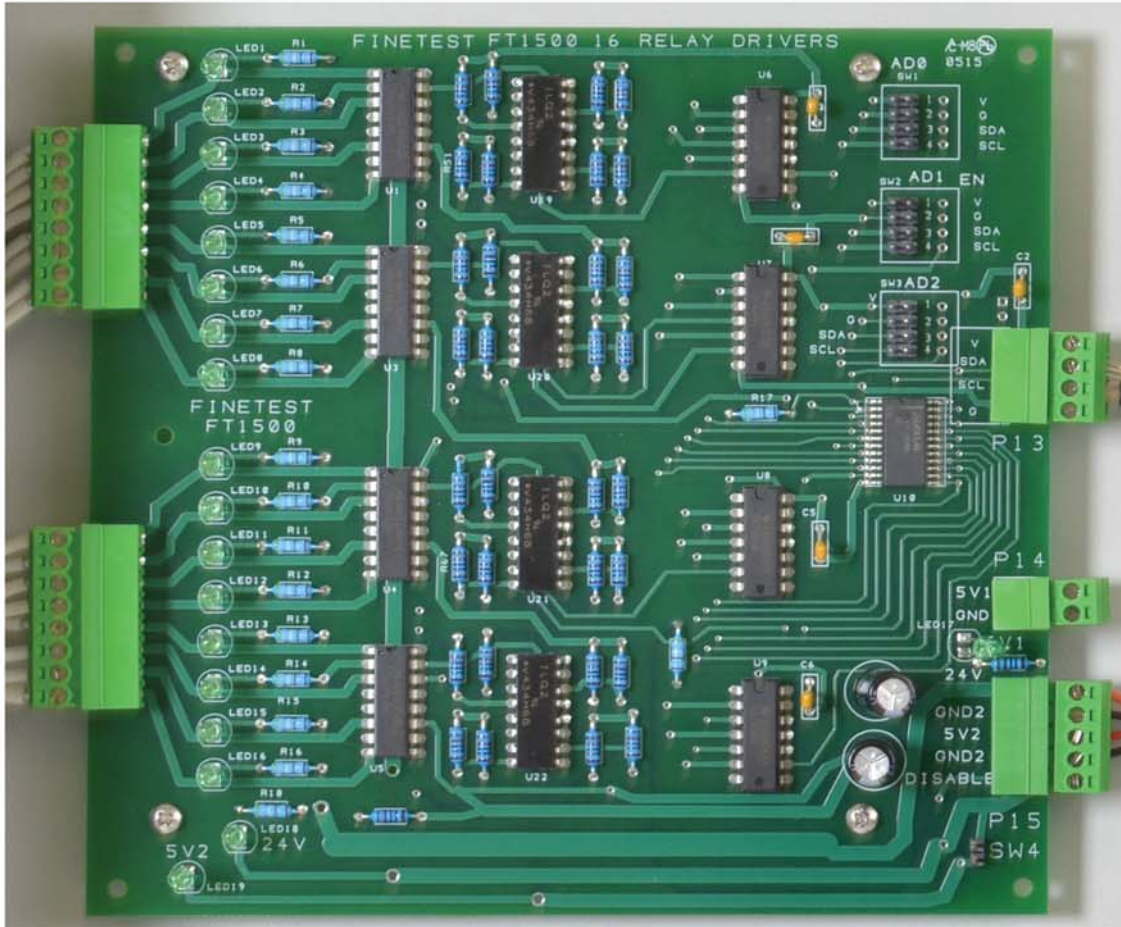All Inputs are fused and have built-in protective diode and status LED.

All relay drivers have status LED for ease of checkout.

Communicate directly to the board with I2C, or with USB-I2C or RS232-I2C adapter.

Relay 1

Relay 16

I2C

Fuses

Relay Drive Status LEDs

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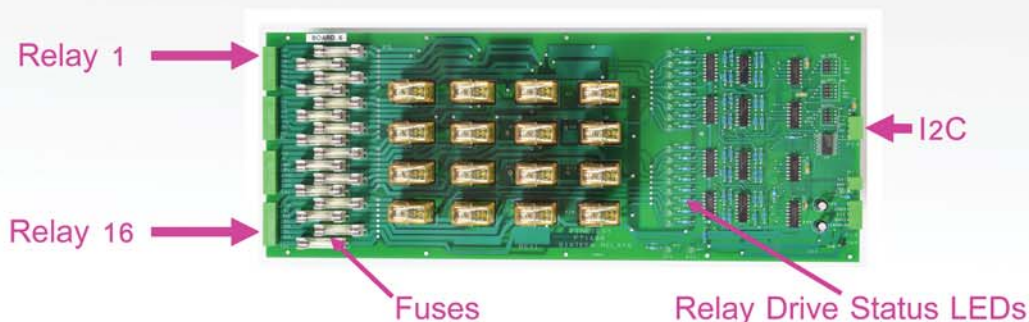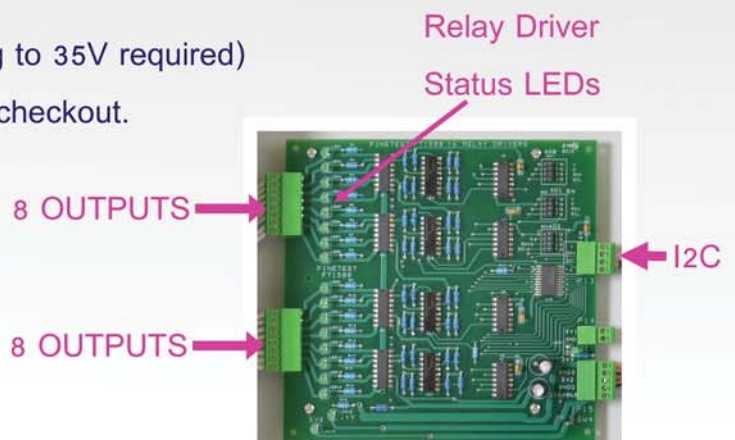
Optically Isolated
16 Channel Relay Driver Cards
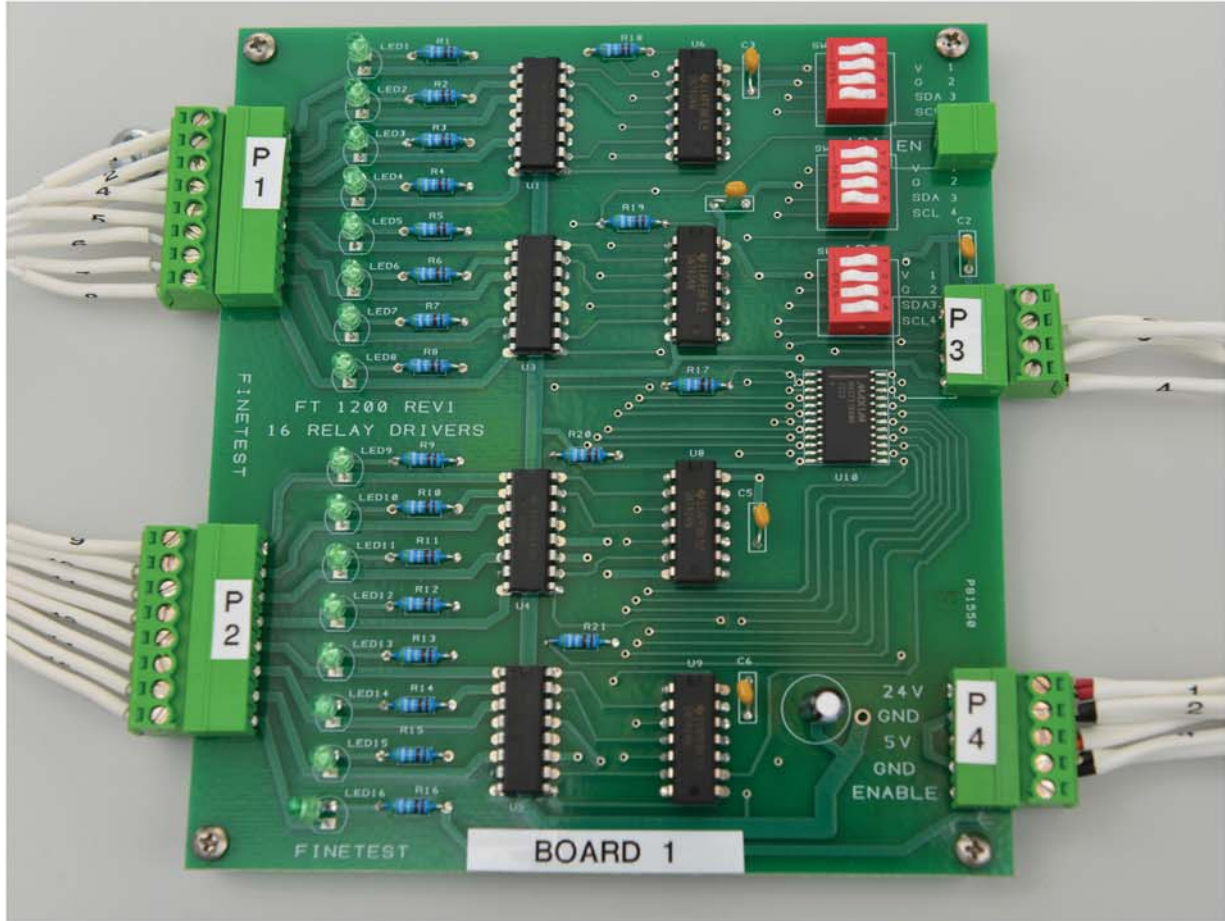
Switching and I/O Cards

16 Channel Relay Driver Card

Features:

16 Optically Isolated Relay Drivers.

Open Collector with 600mA output current.

800mA Output Clamp Diodes.

70V Breakdown (for inductive loads, clamping to 35V required)

All relay drivers have status LED for ease of checkout.

Communicate directly to the board with I2C,

or with USB-I2C or RS232-I2C adapter.

Relay Driver
Status LEDs

8 OUTPUTS

8 OUTPUTS

I2C

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Non-Isolated
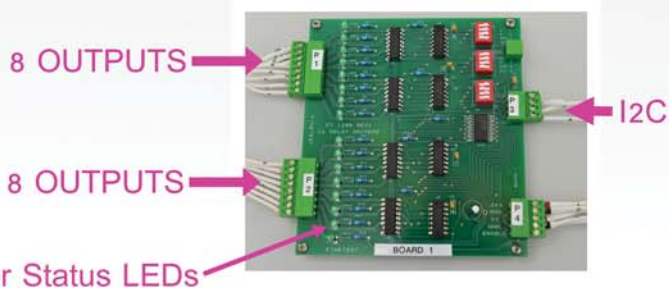# 16 Channel Relay Driver Cards

16 Channel Relay Driver Card

Features:

16 Non-Isolated Relay Drivers, Open Collector with 600mA output current.

800mA Output Clamp Diodes, 70V Breakdown (for inductive loads, clamping to 35V required)
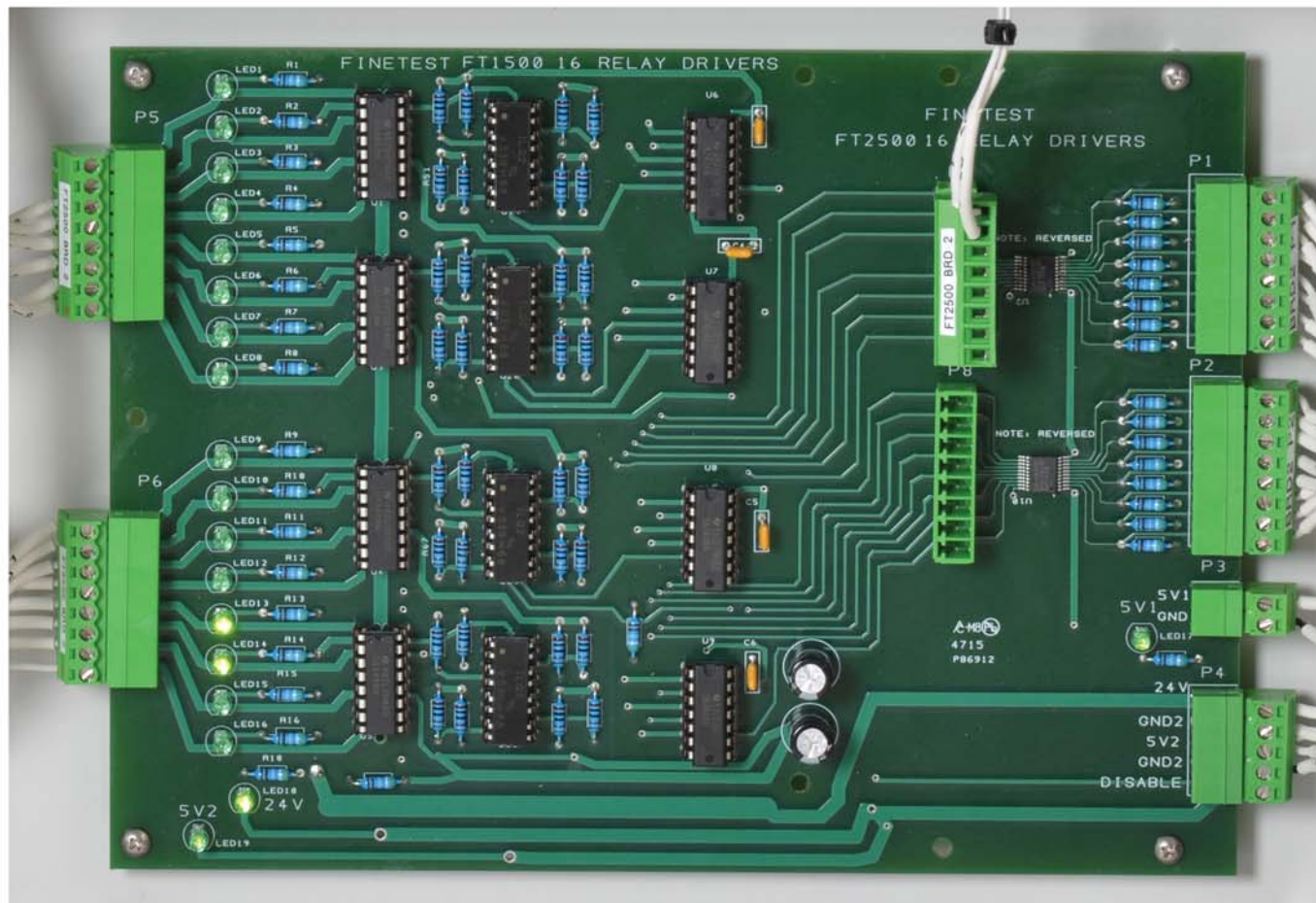
All relay drivers have status LED for ease of checkout, Communicate directly to the board with I2C, or with USB-I2C or RS232-I2C adapter.

8 OUTPUTS

8 OUTPUTS

I2C

Relay Driver Status LEDs

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Optically Isolated 16 Channel Relay Driver Cards with De-Bounce Circuit for Scope Triggering

16 Channel Relay Driver Card

Features:

16 Optically Isolated Relay Drivers with De-Bounce Circuit for clean Scope Triggering.
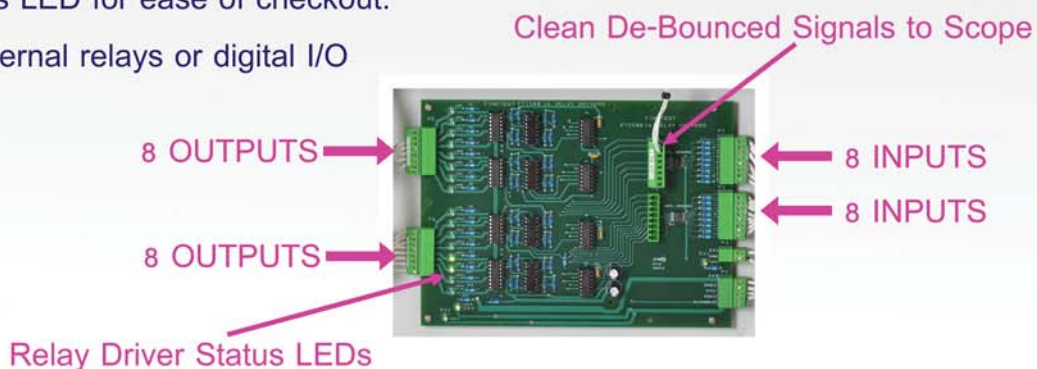
Open Collector with 600mA output current.

800mA Output Clamp Diodes.

70V Breakdown (for inductive loads, clamping to 35V required)

All relay drivers have status LED for ease of checkout.

Control line inputs from external relays or digital I/O

Clean De-Bounced Signals to Scope

8 OUTPUTS

8 OUTPUTS

8 INPUTS

8 INPUTS

Relay Driver Status LEDs

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Quad 4x1
High Frequency Multiplexer
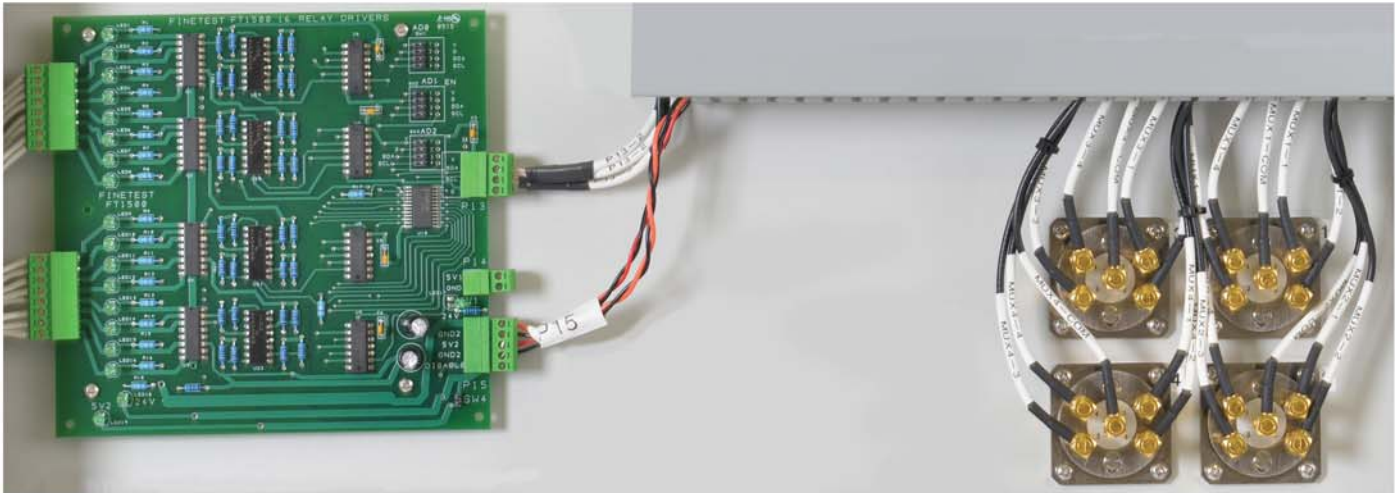
Quad 4x1 HF Mux

Features:

Four 4x1 HF Switches are controlled by a FineTest Relay Driver Card.

All relay drivers have status LED for ease of checkout.

Communicate directly to the board with I2C, or with USB-I2C or RS232-I2C adapter.

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Examples of FineTest ATEs using FineTest Switching and I/O Cards

Switching and I/O Cards
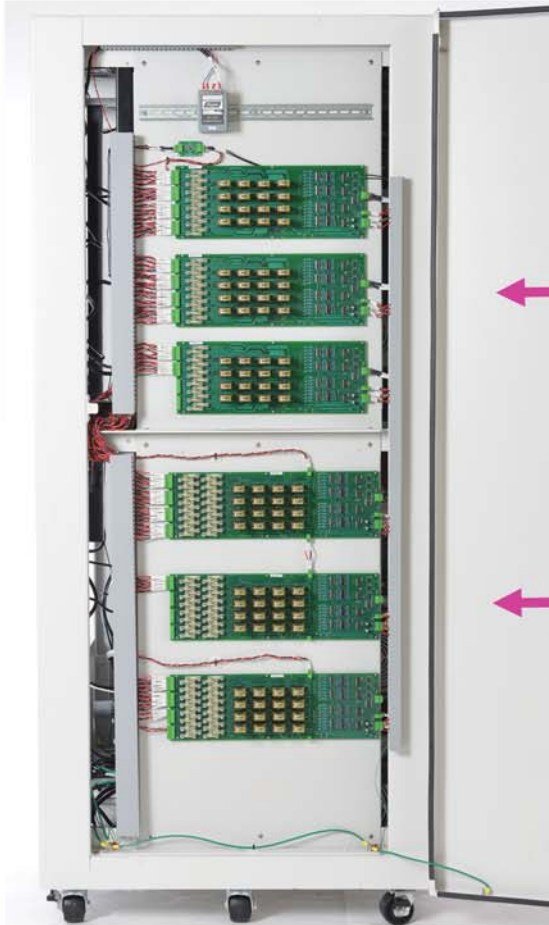
3 16 GP Relay Cards

3 16x1 Mux Cards

Quad 4x1 HF Mux

3 8x4 Matrix Cards

FineTest
www.finetest.com
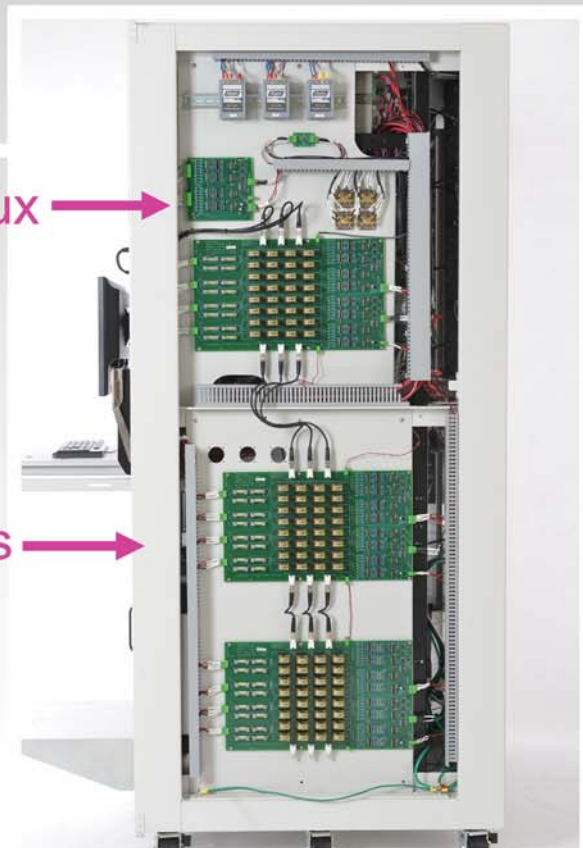
Examples of FineTest ATEs using FineTest Switching and I/O Cards

8 16 Channel Relay Driver Cards controlling 96 Relays

2 16 Channel Relay Driver Cards with De-Bounce Circuit controlling 32 Relays

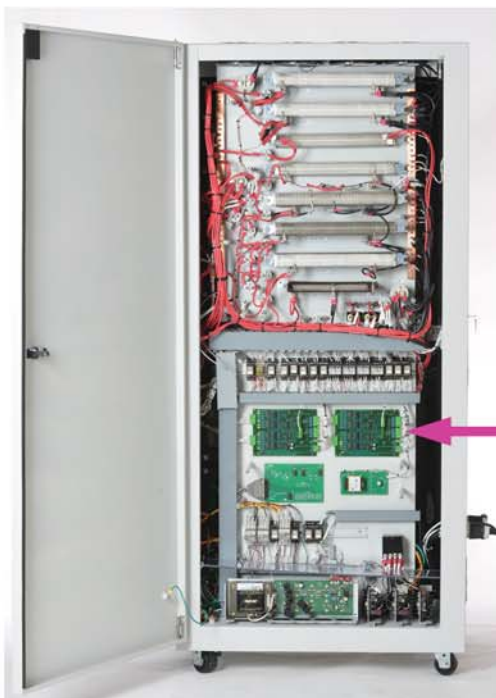**ft FineTest**

www.finetest.com

FineTest Switching & I/O Cards
with Built-In Virginia Panel Connectors

Switching and I/O Cards

Typical ATE Relay Card Assembly without FineTest Cards
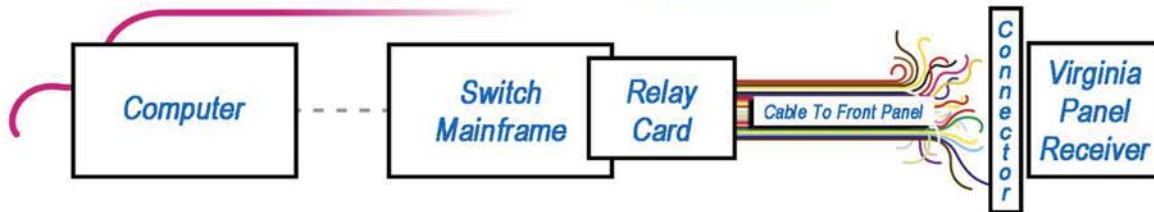
FineTest "ALL IN ONE" Solution!
NO MAINFRAME! NO CABLING! NO ADDITIONAL CONNECTORS!

FineTest Relay Card with Connector
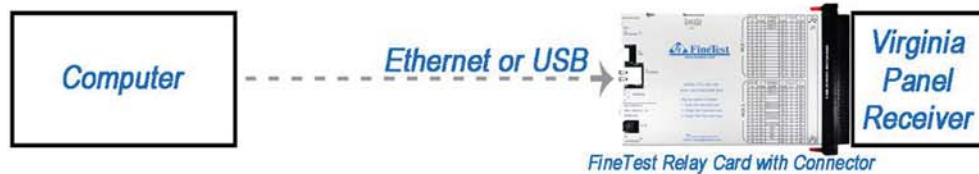
FEATURES:
- The units have USB and Ethernet interfaces.
- Provided are Software Drivers for NI LabVIEW, NI LabWindows/CVI, Microsoft C# and Agilent VEE.
- Direct Programming with I²C, USB and Ethernet.
- The units have optional fuse input protection.
- The rows of the matrices and multiplexes are available at the Virginia Panel Connectors and at the rear of the cards for wiring to instruments in the systems or in the fixture.

FineTest VP Cards with covers removed

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Front view of a FineTest ATE with the Virginia Panel dropped down

showing multiple FineTest Switching Cards installed

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28x4 2-Wire Matrix Card
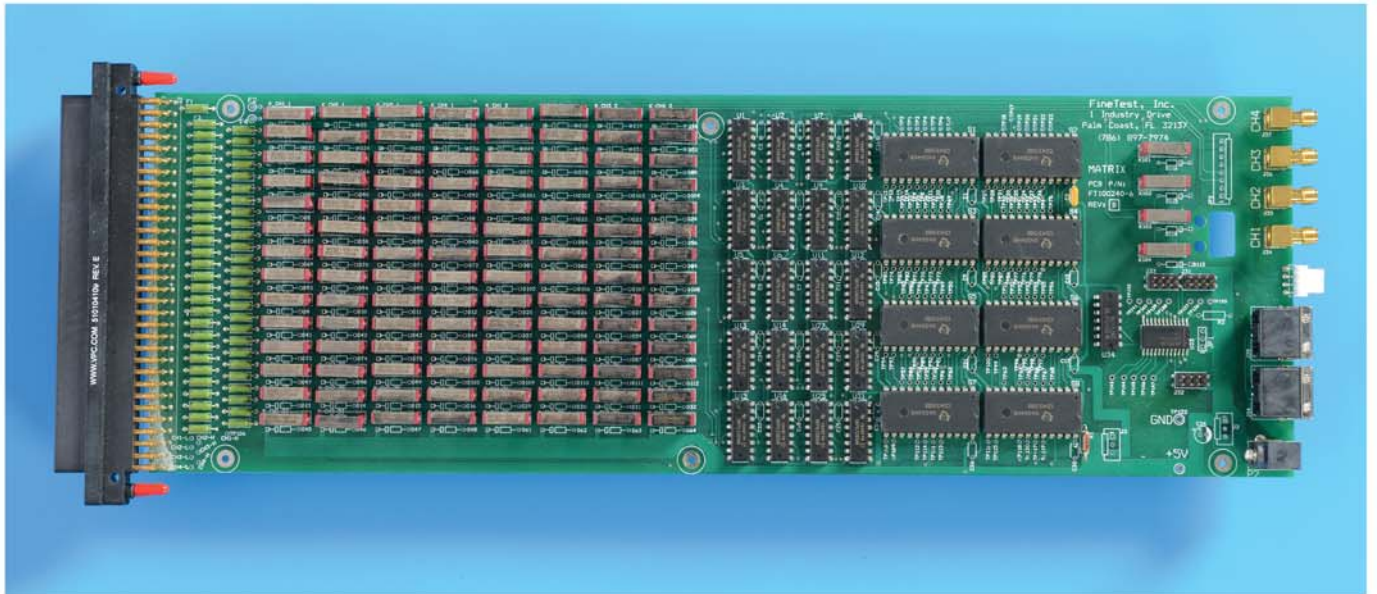
28 x 4 Matrix Card with Cover Removed

Features:

The 28 two-wire Input Columns on the left may be connected to

any of 4 Output Rows at the VP Connector or the 4 BNCs at the rear of the board.

Typical application connects 3 BNCs to an Oscilliscope, and one to a DMM.

All Inputs are fused on the high and low lines.

Communicate directly to the board with I2C, or with USB-I2C or RS232-I2C adapter.

28 INPUTS → | 4 OUT | I2C | 4 OUT

FineTest
www.finetest.com
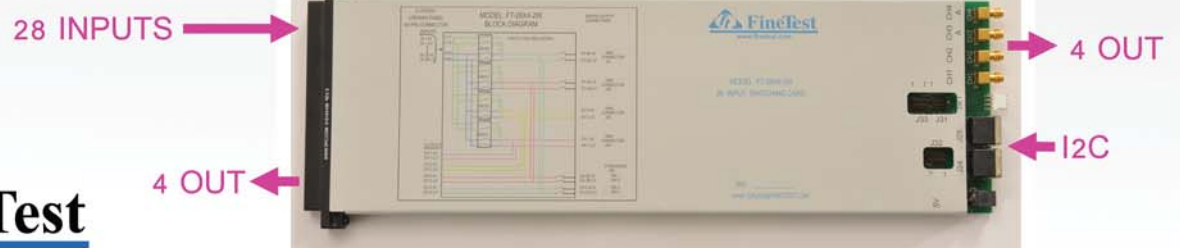
28 x 4 Matrix Card with Cover

16 General Purpose Form-A 5A Relay Card
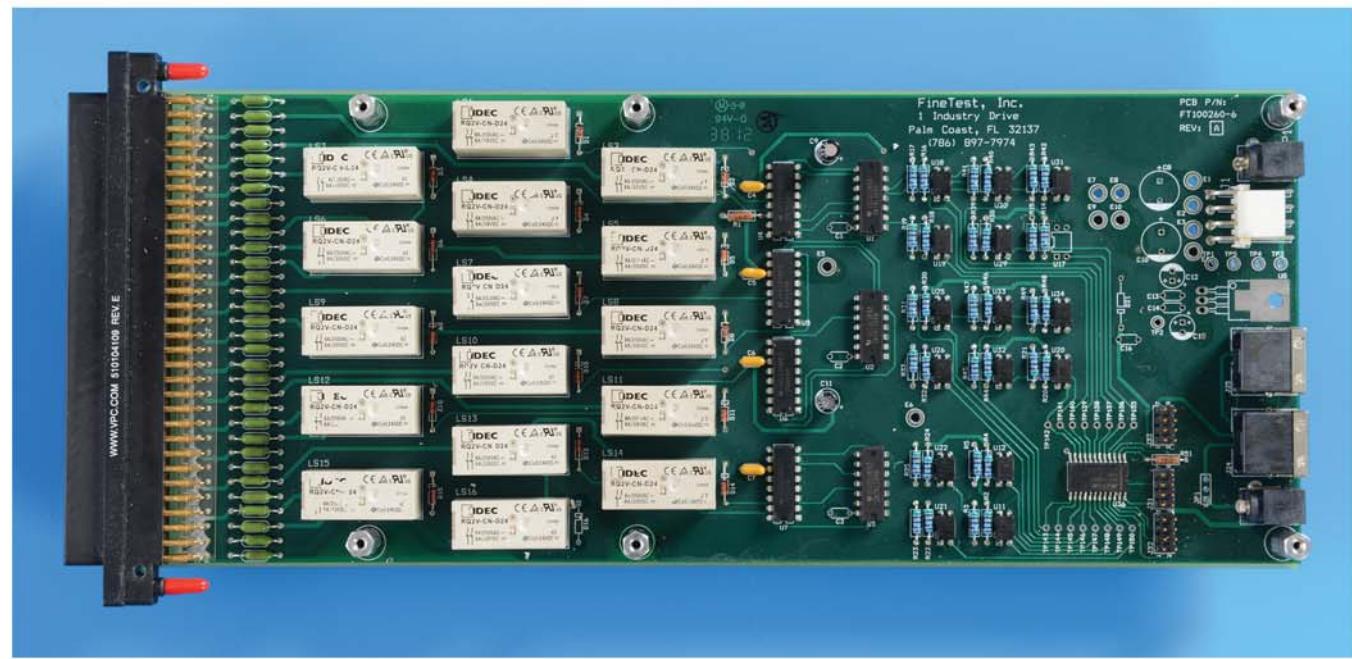
16 General Purpose Relay Card

Features:

16 Form A Relays Rated for 5A each.

All Inputs are fused.

Communicate directly to the board with I2C, or with USB-I2C or RS232-I2C adapter.

Relay 1

Relay 16

← I2C

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Dual 16x1 Multiplexer Card

Switching and I/O Cards

Dual 16 x 1 Mux Card with cover removed

Features:

Communicate directly to the board with I2C, or with USB-I2C or RS232-I2C adapter.

The Mux Outputs are available on the same VP connector, or on the rear connector.

All Inputs are fused on the high and low lines.

The two 16x1 Single Wire Muxes can be used as

Dual Independent 16x1 Single Wire Muxes

Single 32x1 2-Wire Mux

Single 16x1 Four Wire Mux

Fuses

Mux-1 OUT
Mux-2

I2C →

Mux-1 16 IN

Mux-1 OUT

Mux-2 16 IN

Mux-2 OUT

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Optically Isolated
16 Bit Digital IO Cards

16 Bit Digital I/O Card

Features:

16 Bit Optically Isolated Digital I/O, Open Collector with 600mA output current.

Communicate directly to the board with I2C, or with USB-I2C or RS232-I2C adapter.

16 BITS I/O →

← I2C

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Dual 16x1 Multiplexer Card

Switching and I/O Cards

CHASSIS GND — P4

MCLR VDD GND DATA MCLK PGM — P5

PIN 1
I/O EXPANSION P1

J3 USB

J2 ETHERNET

ADDRESS 0 1 2 3 4

MUX 2 ROW H/L
MUX 1 ROW H/L P2
INTERLOCK

5V IN

5V
5V RETURN P3

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MODEL: FT-2-16X1-2W
DUAL 16X1 TWO WIRE MUX

May be used in 3 modes:
1. Dual 16x1 two wire mux
2. Single 32x1 two wire mux
3. Single 16x1 four wire mux

SN:_____
email: sales@finetest.com

WWW.VPC.COM 510104135 REV. K

J1

MUX 1

COL # HI	J1 PIN#	SIGNAL NAME	J1 PIN#	COL # LO	J1 PIN#
1	1	ROW HI	33	1	65
2	2	ROW LO	34	2	66
3	3		35	3	67
4	4		36	4	68
5	5		37	5	69
6	6		38	6	70
7	7		39	7	71
8	8		40	8	72
9	9		41	9	73
10	10		42	10	74
11	11		43	11	75
12	12		44	12	76
13	13		45	13	77
14	14		46	14	78
15	15		47	15	79
16	16		48	16	80

MUX 2

COL # HI	J1 PIN#	SIGNAL NAME	J1 PIN#	COL # LO	J1 PIN#
1	17	ROW HI	49	1	81
2	18	ROW LO	50	2	82
3	19		51	3	83
4	20		52	4	84
5	21	MEAS IN HI	53	5	85
6	22	MEAS IN LO	54	6	86
7	23		55	7	87
8	24	INTERLOCK	56	8	88
9	25	5V/INTRLK	57	9	89
10	26		58	10	90
11	27	5V RETURN	59	11	91
12	28	RE0	60	12	92
13	29	RE1	61	13	93
14	30	RE2	62	14	94
15	31	RE3	63	15	95
16	32		64	16	96

Dual 16 x 1 Mux Card with cover

Features:

Communicate directly to the board with USB or Ethernet.

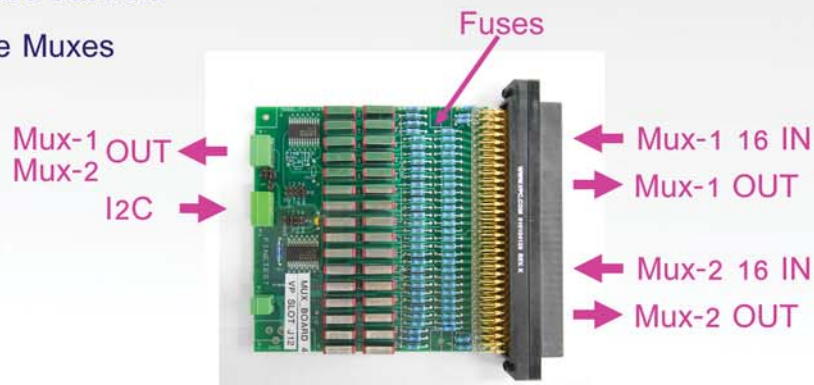The Mux Outputs are available on the same VP connector, or on the rear connector.

All Inputs are fused on the high and low lines.

The two 16x1 Single Wire Muxes can be used as
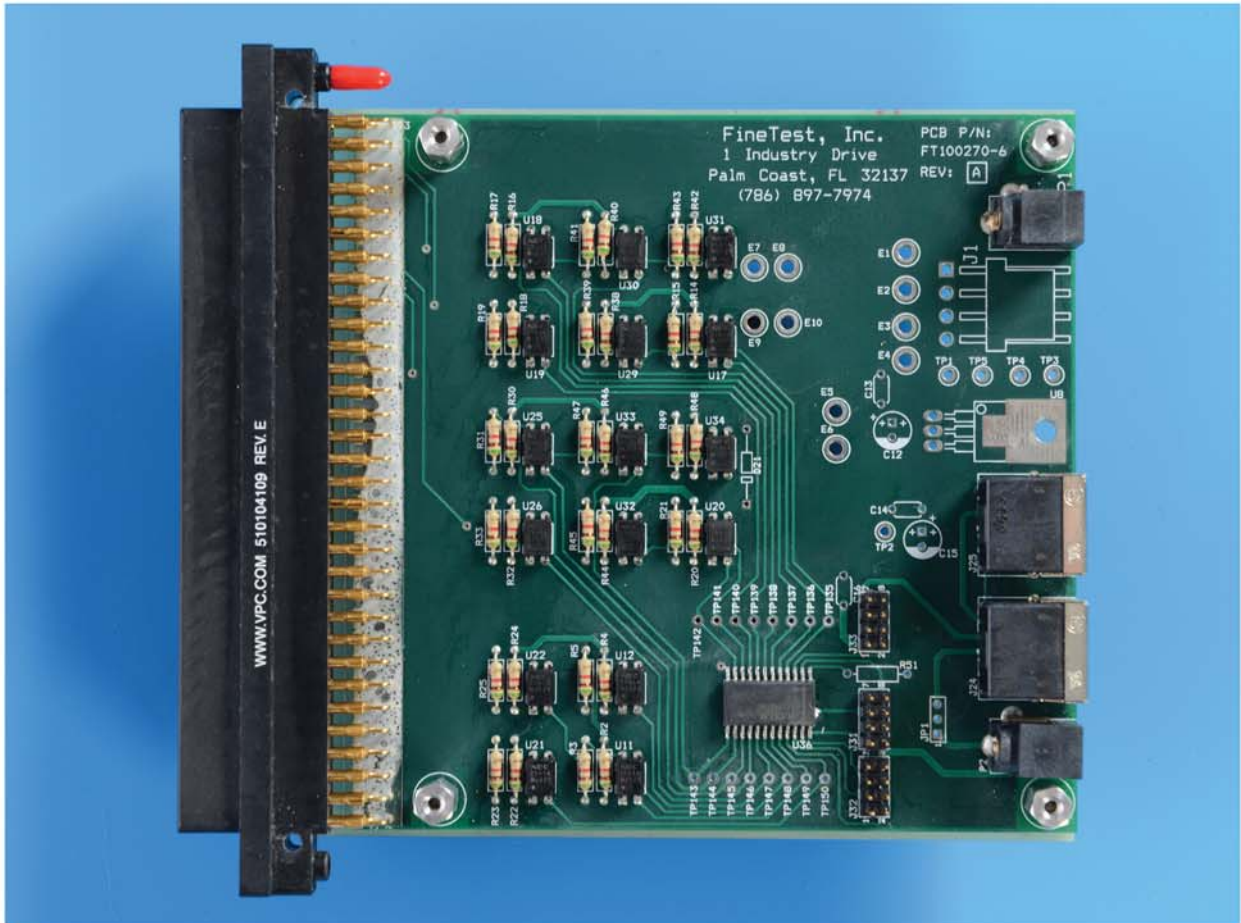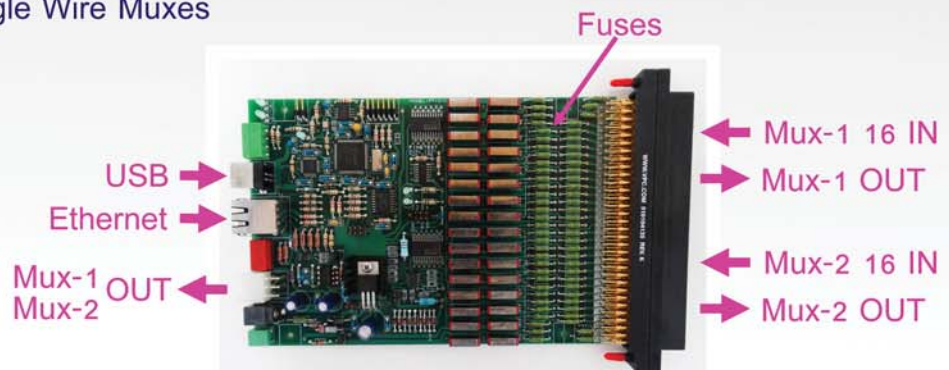
Dual Independent 16x1 Single Wire Muxes
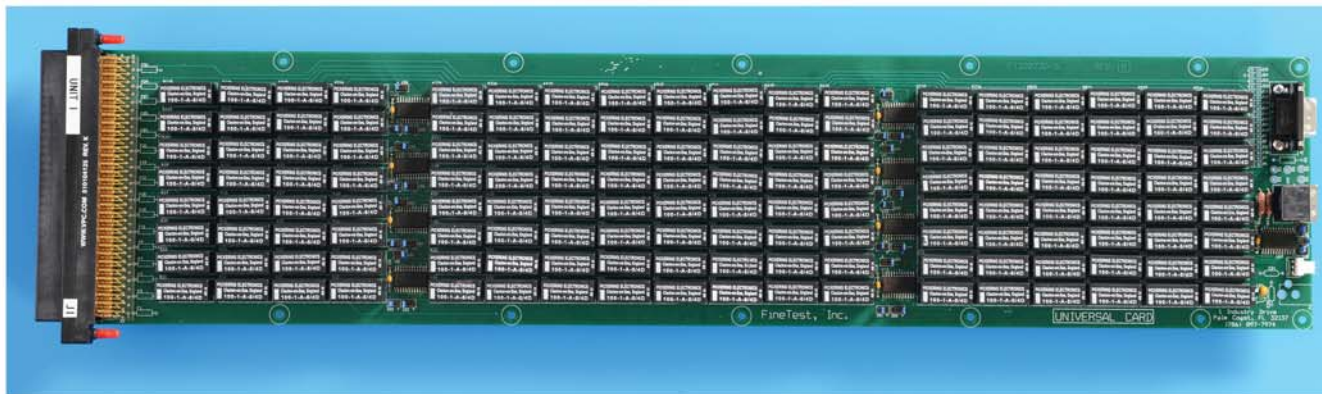
Single 32x1 2-Wire Mux

Single 16x1 Four Wire Mux

Fuses

USB
Ethernet
Mux-1 OUT
Mux-2

Mux-1 16 IN
Mux-1 OUT
Mux-2 16 IN
Mux-2 OUT

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16x9 Single Wire
Low EMF Matrix Card

16x9 Single Wire Matrix Card with cover removed

Features: 16 x 9 Low EMF Matrix Card. Less than 1uV emf relays used

All Inputs have optional fuses.

Communicate directly to the board with I2C, or with USB-I2C or RS232-I2C adapter.

16 Inputs ➡

9 Outputs ⬅

I2C ⬅

16x9 Single Wire Matrix Card with cover

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48x9 Low EMF Precision Matrix

Cover removed showing 3 16x9 Cards

Features:

Precision 48X9 low EMF Matrix

Less than 1uV emf relays used

1U Rack-Mount Height

USB and Ethernet Interface

Software Drivers for:

NI LabView & LabWindows/CVI,

Microsoft C#, Keysight (Agilent) VEE

Front view with cover

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96x9 Low EMF Precision Matrix (Dual 48x9 in Parallel)

Front View of two 48x9 configured as a 96x9 Low EMF Precision MAtrix

Close-Up of one 16x9 Low EMF Precision Matrix Card

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32x4 5A Power Matrix Unit

Top Angle view of Power Matrix Unit

Features:

32x4 Matrix 5A@30Vdc/240Vac

USB and Ethernet Interface

Side view of Power Matrix Unit

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Communications Adpater
USB/Ethernet to 3 I2C Ports

USB or Ethernet to 3 I2C Ports Communications Adapter

USB →
Ethernet →

→ I2C #1
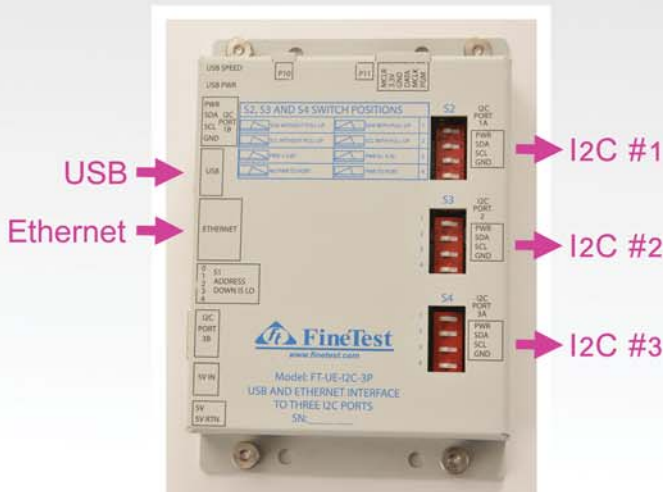→ I2C #2
→ I2C #3

Features:

Communications Adapter:

USB or Ethernet to 3 Independent I2C Ports

Each Port has user uelectable switches to set:

Pull-Up Resistors On/Off

Power to Power Pin On/Off

3.3V or 5V Power

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FineTest Production Floor

FineTest Building at 1 Industry Drive

FineTest

www.finetest.com

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