

Fusion

USES:

- High & Low Voltage Testing of Cables, Wires and Harnesses
- Testing of Aerospace, Transit, Power and Utility Cables and Connectors
- Testing of Medical Cables, Electrodes and Other Multi-Point Electrical Devices

FEATURES:

- 36 or 72 Pin Count Versions
- HV Test to 3500VAC, 3000VDC
- Total & Real Leakage Current Measurements to 25mA AC
- Insulation Resistance to 100GΩ
- 2- & 4-Wire Resistance Measurements
- LV Test Stimulus: 10mA - 100mA
- Capacitance Test: 100pF-1000μF
- Custom Component Tests: Flying Leads, Twisted Pair, Harness
- Group Continuity Testing
- Net Testing & Programming
- Pass/Fail Testing
- Automatic Arc Detection
- Touch Screen Programming
- Auto-Learn Component Recognition

High Voltage Cable Analyzer

Fully Integrated Testing Up To 72 Points

Introduction

The Fusion Cable Analyzer is a fully integrated system for testing wires, cables and harnesses for opens, shorts, miswires and for testing components within a cable assembly. To fit your cable test application, choose from eight models, with pin count to 72 points, AC hipot voltage to 3500V and DC hipot voltage to 3000V. Its PC-based intuitive graphical touch-screen makes for easy setup and operation. The highly automated system allows for custom test programming without the need for scripting. Through component recognition, cable assemblies can be learned and test programs generated, all automatically.

Description

Low Voltage Tests: For low resistance measurements, a 2-wire and 4-wire configuration is possible with resolution down to 1mΩ in the 4-wire mode. Make 2-wire measurements from 1mΩ to 50MΩ and 4-wire measurements from 1mΩ to 400kΩ. The unit is also capable of high resistance measurements to 50MΩ.

High Voltage Tests: For AC hipot testing, output voltages to 3500V are possible and for DC hipot output voltages to 3000V. Insulation resistance measurements can be made to 100GΩ at test voltages to 3000V DC.

Component Testing: The Fusion is able to test cable assemblies comprised of multiple components such as resistors, capacitors, diodes and switches. The Net List for components is learned automatically using "Auto Mode" and can also be edited manually. Capacitor measurements from 100pF to 1000uF are possible with basic accuracy of 2%

Programming: Pre-programmed component tests for Flying Leads, Twisted Pair and Harness assemblies. Group Continuity Testing for easy verification of cable grounding specifications.

Interfaces: Standard interfaces on the Fusion include RS-232, Printer, Monitor, Keyboard, 3 1/2" Floppy Drive and Ethernet (Network).

Reports Generated: Fusion will automatically generate reports for each product tested which can then be displayed, printed out or saved to a file. Reports allow products to be serialized and can be formatted by the user.

System Applications: The Fusion can be used as a stand-alone system or easily integrated into a larger automated system using its digital inputs and digital outputs.

Password Protection: Enabling Password Protection restricts access to specific features preventing unauthorized users from modifying test programs and system parameters.



For more detailed specifications,
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1-800-253-1230

Fax 1-978-461-4295

Intl. 1-978-461-2100

Fusion

Model Numbers:

Fusion Model	# Points	V AC	V DC
QF1 -036	36	2500	--
-072	72	2500	--
QF2 -036	36	--	2500
-072	72	--	2500
QF3 -036	36	2500	2500
-072	72	2500	2500
QF4 -036	36	3500	3000
-072	72	3500	3000

AC Voltage:

Parameter	Range	Accuracy	Resolution
QF4 Voltage	50 – 3500V AC	±(1% + 5V)	1V
QF1, QF3 Voltage	50 – 2500V AC	±(1% + 5V)	1V
Total & Real Current	1µA – 25mA	±3%	1µA
Dwell Time	500ms – 600s	±(1% + 50ms)	10ms
Ramp Time	0s – 100s	±25%	10ms
Fall Time	0s – 100s	±25%	10ms
Discharge Time	0s – 1200s	±(1% + 50ms)	100ms

DC Voltage:

Parameter	Range	Accuracy	Resolution
QF4 Voltage	50 – 3000V DC	±(1% + 5V)	1V
QF2, QF3 Voltage	50 – 2500V DC	±(1% + 5V)	1V
Current	1nA – 3mA	±3%	1nA
Dwell Time	100ms – 600s	±(1% + 50ms)	10ms
Ramp Time	0s – 100s	±(1% + 50ms)	10ms
Fall Time	0s – 100s	±(1% + 50ms)	10ms
Discharge Time	0s – 1200s	±(1% + 50ms)	100ms
Insulation	1M – 49MΩ	±3%	1MΩ
Resistance	50M – 499MΩ	±5%	1MΩ
	500M – 1.999GΩ	±10%	1MΩ
	2G – 100GΩ	±20%	1MΩ

2-Wire Resistance:

Range	Accuracy	Resolution	Max Current
0.000 – 9.999Ω	±(1% + 50mΩ)	1mΩ	100mA
10.00 – 39.99Ω	±(1% + 50mΩ)	10mΩ	100mA
40.00 – 99.99Ω	±1%	10mΩ	1mA
100.0 – 399.9Ω	±1%	100mΩ	1mA
400.0 – 999.9Ω	±1%	100mΩ	1mA
1.000k – 3.999kΩ	±1%	1Ω	1mA
4.000k – 9.999kΩ	±1%	1Ω	100µA
10.00k – 39.99kΩ	±1%	10Ω	100µA
40.00k – 99.99kΩ	±1%	10Ω	10µA
100.0k – 399.9kΩ	±1%	100Ω	10µA
400.0k – 999.9kΩ	±3%	100Ω	Auto
1.000M – 9.999MΩ	±5%	1kΩ	Auto
10.00M – 50.00MΩ	±10%	10kΩ	Auto

4-Wire Resistance:

Range	Accuracy	Resolution	Max Current
0.000 – 9.999Ω	±(1% + 5mΩ)	1mΩ	100mA
10.00 – 39.99Ω	±(1% + 5mΩ)	10mΩ	100mA
40.00 – 99.99Ω	±1%	10mΩ	1mA
100.0 – 399.9Ω	±1%	100mΩ	1mA
400.0 – 999.9Ω	±1%	100mΩ	1mA
1.000k – 3.999kΩ	±1%	1Ω	1mA
4.000k – 9.999kΩ	±1%	1Ω	100µA
10.00k – 39.99kΩ	±1%	10Ω	100µA
40.00k – 99.99kΩ	±1%	10Ω	10µA
100.0k – 399.9kΩ	±1%	100Ω	10µA

Capacitance:

Range	Accuracy	Resolution
100.0pF – 999.9pF	±(2% + 10pF)	0.1pF
1.000nF – 9.999nF	±2%	1pF
10.00nF – 99.99nF	±2%	10pF
100.0nF – 999.9nF	±2%	100pF
1.000µF – 9.999µF	±2%	1nF
10.00µF – 99.99µF	±2%	10nF
100.0µF – 999.9µF	±2%	100nF

Interfaces:

RS-232, Printer, Monitor, Keyboard,
3 1/2" Floppy Drive, Ethernet

Miscellaneous:

Learn Mode
Offset/Tare Function
Password Lockout
Fault Location
Pause Mode

Dimensions:

Main Unit: 17 x 21.5 x 9.0 inches
Expansion Unit: 17 x 21.5 x 9.0 inches
Shipping Container: 27.5 x 28.5 x 31.25 in.

Weight:

QF1, QF3, QF4: 90 lbs net
QF1, QF3, QF4: 150 lbs ship
QF2: 80 lbs net
QF2: 140 lbs ship

Environmental:

Operating: 0°C to +55°C
Humidity: 8% < 80%
Gradient: 30°C/Hr max, w/o condensation
Vibration: Operating: 2.45m/s² (0.25G)
Vibration: Non-Operating: 11.76m/s² (1.2G)
Shock: Operating: 29.4m/s² (3G)
Shock: Non-Operating: 490m/s² (50G)

Power:

- 105 - 130V AC
- 60 Hz
- 5A max

Ordering Information

Fusion QF1-036, -072: 2500V AC
Fusion QF2-036, -072: 2500V DC
Fusion QF3-036, -072: 2500V AC / 2500V DC
Fusion QF4-036, -072: 3500V AC / 3000V DC

Includes:

4200-0300 AC Power Cable(s)
150795 Instruction Manual
630161 Ground Probe
320330 Adapter: DIN-5 to PS/2
Calibration Certificate traceable to NIST

Optional Accessories:

No P/N Calibration B&A Data
320329 Kit Conn MPT Crimp 13p
350090 Tare Plug
520153 EPO Switch
520154 EPO Switch with 1 Palm Switch
520155 Single Palm Switch
520156 Battery for Horizon-Pentium
Motherboard
630160 MPT Cal Cable I/F MUX-036

800190 Spares Kit: QF1, QF2 & QF3
800191 Spares Kit: QF4
800192 Calibration Verification Tool

For more detailed specifications, visit www.quadtech.com
For more information about special purchase, rent & lease options, call
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