



FMVSS305

Safely Measures High Voltages During EV & Hybrid Testing with a Built-in Data Recorder

Overview

The FMVSS305 is a high-voltage isolation measurement system for electric and hybrid vehicle testing. It provides a safe and reliable way to capture battery and drive system voltages up to $\pm 1,200$ volts. The unit can operate independently or be seamlessly integrated into SLICE or TDAS data acquisition systems through DataPRO Software.

The standard 19-pin COMM interface supports Ethernet communication and provides start, event, and status signals. The FMVSS305 also features manual resistance test switches, along with a straightforward connection to external voltmeters and pendants, making it ideal for a variety of high-energy test environments.

Applications: Automotive Safety, EV / Hybrid Vehicles, Aerospace Testing

Features

- Durable, rugged, and reliable; factory-tested to 100 g
- Fully isolated voltage monitoring outputs with 1,000:1 dividers
- Banana sockets and 10-pin 2B LEMO connectors to connect external voltage monitoring devices
- FMVSS305-compliant manually operated test switches
- 15 V nominal input power via DTS standard 4-pin 2B LEMO connector
- DTS standard communication/control interface via 19-pin 2B LEMO connector
- Built-in SLICE6 data acquisition system records measurements during dynamic testing
- Internal supercapacitor for short-term power backup
- LED status indicators for HV inputs, system power, and SLICE6
- Industry-standard Ethernet communications 10/100BaseT/Tx
- Compatible with DTS-standard SLICE PRO mounting plates



Compact and flexible, the FMVSS305 test unit can be operated independently using its manual switches or integrated with SLICE or TDAS data acquisition systems using standard DTS communication and power interfaces with DataPRO Software.

Specifications

PHYSICAL

Size:	262 x 90 x 110 mm (10.32 x 3.54 x 4.33 in)
Weight:	2.7 kg (5.95 lb)
Mounting Method:	10 Integral threaded mounting holes M6 x 1 Threads (Use M6 x 10mm bolts)
Connectors:	LEMO, Amphenol, Banana

ENVIRONMENTAL

Operating Temp.:	10 °C to 40 °C (50 °F to 104 °F)
Shock:	100 g peak, 12 msec half-sine
Electrical Protection:	ESD (8kV)

MAIN POWER INPUT

Connector:	LEMO 2B, 4 pin
Voltage Range:	12.5-16.9 VDC
Current:	1.0 amp (max)
Protection:	Reverse polarity; over- and undervoltage; overcurrent

INTERNAL POWER BACKUP

Type:	Supercapacitor
Charge Time (max):	190 seconds
Backup Time (typical):	10 seconds

COMMUNICATION

Connector:	LEMO 2B, DTS-standard COM, 19 pin
Event Input:	Isolated, contact closure
Start Record Input:	0-5 V
Status Output Signal:	0-5 V, 20 mA
Communications:	Ethernet 10/100BaseT/Tx
Ethernet Isolation:	Transformer

HIGH VOLTAGE INPUTS (2 PER UNIT)

Input Connector:	Amphenol, 4-pin
Pin Functions:	HV+, HV-, Chassis (each connector)
Isolated Input Range:	±1,200 volts
Input Impedance:	14 MΩ (nominal)
Isolation Method:	Galvanic and Optical
Resistance Test Mode:	Activated by Rocker Switches (See User's Manual for more information)

ISOLATED VOLTAGE MONITOR OUTPUTS

Connectors:	Banana and 10-pin LEMO 2B
Scale Factor:	1.0 mV per Volt (1,000 V input = 1.00 V output)
Output Impedance:	<10 Ω
Accuracy:	±1%

INTERNAL DATA ACQUISITION

Type:	DTS SLICE6
Number of Channels:	6
Compatibility:	Works with all DTS DAS families
Input Range:	±2.5 volts
Communications:	Ethernet 10/100BaseT/Tx
Control Software:	DataPRO
For More Information:	See SLICE6 Datasheet

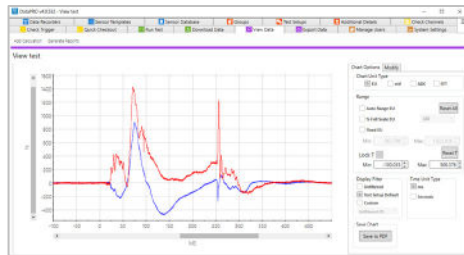
STATUS INDICATORS

Power:	Red, Yellow, Green
HV1 and HV2:	Red when input exceeds 48 V, Green when input is below 40 V
SLICE6 (S6 STS):	Red, Green, Blue (See SLICE6 User's Manual for more information)

CALIBRATION

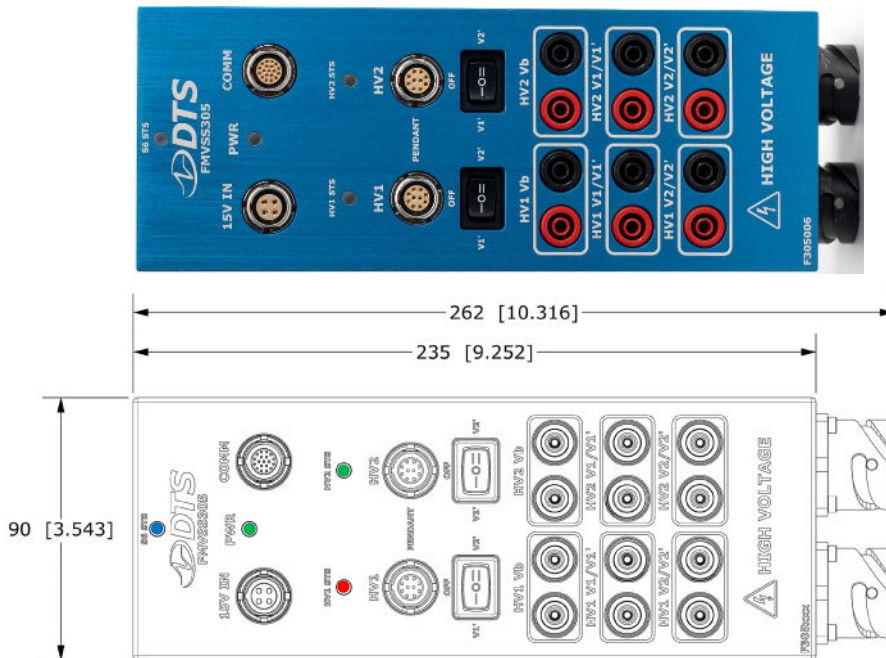
Calibration Supplied:	ISO/IEC 17025 (Accredited), Measurements traceable to SI
Service Options:	OEM, On-site, and Service Contracts Available

Software



DataPRO is a powerful setup, control, and data-viewing software.

The intuitive user interface is designed to help test engineers create, control, and manage every aspect of a test. DataPRO provides access to complete sensor and hardware information and enables users to share test information through standalone or centralized SQL databases. Key features include an integrated offline test builder, advanced diagnostic tools, support for EQX, ISO MME, and other data-exchange formats, multiple viewing options, and automatic report generation.



The **LED indicators** make it easy to see when the system has sufficient power, whether high voltage is present, and the status of the built-in SLICE6 data acquisition system.

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