

Model 28959F/FV Portable accelerometer calibrator

Features

- Portable, rechargeable battery
- Ideal for in-situ end-to-end calibration
- Calibrates/tests accelerometer types:
Charge mode piezoelectric
Voltage mode piezoelectric
- Test range: up to 10 g's, 10 Hz to 10 kHz
- Calibration traceable to NIST
- Integral printer provides handy record
- Internal memory for over 1600 tests
- RS-232 interface transfers field data
- 14-Point calibration report traceable to NIST included

Special features

- Displays and saves serial number and type, test parameters, date/time, and test results
- Calculates sensitivity automatically
- Hard copy record from built-in printer
- Verify accelerometer polarity
- Built-in charge convertor for charge mode devices
- Built-in constant current source for voltage mode devices (Isotron®, type)
- Battery-powered with built-in charger
- Help screens assist operator

Description

The Endevco® model 28959F/FV portable calibrator is designed to provide precision calibration for various types of accelerometers in the field. It is also perfect for test engineers and technicians needing on-site end-to-end calibration of their complete measurement chain.

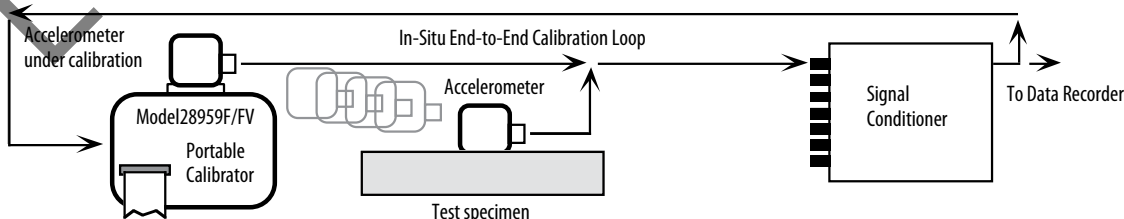
Model 28959F/FV is a self-contained system which includes built-in vibration exciter, signal generator, computer-controlled amplifier/servo mechanism, reference accelerometer, thermal printer, RS-232 serial interface, LCD display screen, signal conditioners and all necessary connectors and mounting accessories. The unit can be powered by AC line voltage or its internal rechargeable batteries. The calibrator is very powerful yet user-friendly. Operation may be learned quickly by inexperienced operators.

Model 28959F/FV is designed to accept charge and voltage mode piezoelectric accelerometers directly. Test amplitude is adjustable up to 10 g's over the frequency range of 10 Hz to 10 kHz. An internal reference accelerometer traceable to NIST serves as the comparison standard. Internal static RAM stores over 1600 test results. Sensitivity is supplied in English or metric engineering units. An automatic selftest feature provides measurement integrity at every power-up.



End-to-end system calibration

The following example depicts an end-to-end calibration of one vibration measurement channel:



Model 28959F/FV

Portable accelerometer calibrator

Specifications

Dynamic characteristics

Calibration	Traceable to NIST (USA) standard at 2g from 20 Hz to 10 kHz			
Measurement uncertainty				
Acceleration	10 Hz to 2 kHz, ± 0.3 dB			
	2 kHz to 10 kHz, ± 1 dB			
Frequency range	10 Hz to 10 kHz			
Frequency readout accuracy	0.001% ± 1 count			
Amplitude range	Subject to displacement limit of 0.1 inch (2.54 mm) pk-pk			
Frequency vs maximum load	≤ 100 gm	≤ 250 gm	≤ 500 gm	≤ 750 gm
10 Hz to 100 Hz	10g	4g	2g	1g
100 Hz to 1 kHz	7g	5g	2g	1g
1 kHz to 10 kHz	3g	2g	n/a	n/a
Reference accelerometer output	50 mV/g, $\pm 2\%$ @ 100 Hz			

Report format

Visual display	4 lines of 20 characters, 5x7 dots LCD display with backlit
Print-out	5x7 dot matrix integral thermal printer. Paper width: 2.3"

Data storage / interface

Internal memory	128K byte, store up to 1600 individual test results
Serial interface	RS-232 with a DB-9 female connector

Power requirements

Power	Battery powered with Auto Power Management. Operational during charging. Built-in charger accepts 115VAC, 50/60Hz -28959F (220VAC option available -28959FV)
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Physical characteristics

Dimensions	11" h x 10" w x 7" d (279 mm x 178 mm x 254 mm)
Weight	21 lbs. (9.6 kg)
Environmental	Operational from +10°F to +120°F (-12°C to +50°C) @ 95% RH

Accessories

Product	Description	
EW1354	Power cord	Included
EHM2006	Spanner wrench	Included
EHM2007	Accelerometer mounting fixtures Various 1/4-28 mounting stud adaptors	Included
EHM1476	TO 1/4-28 UNF stud	Included
EHM1477	TO 10-32 UNF stud	Included
EHM1478	TO 2-56 UNC threaded hole	Included
EHM1479	TO 6-32 UNC threaded hole	Included
EHM1480	TO 10-32 UNF threaded hole	Included
3090CM50	Input cable, voltage mode	Included
3090CM51	Input cable, voltage mode	Included
EJ1118	Spare input connector	Included
EHM2008	Printer paper (available in many office supply sources)	Included
30279	Mounting fixture for PR/VC accelerometer	Optional
2988M4	Mounting fixture for adhesive-mounted accelerometers	Optional
31207	Serial interface software for PC compatible	Optional
2270M8	Transfer standard accelerometer for calibration of standards built into shakers	Optional
CS 830	14-Point calibration traceable to NIST, recommended yearly	Factory recalibration