OVERVIEW

HI-903 PRO is a compact, battery powered, and completely self-contained vibration reference source which can be conveniently used to calibrate individual sensors, vibration switches and data collectors, as well as to validate the entire measurement channel of a condition monitoring or recording system.

Additional features include an ICP®[1] or voltage test sensor input for direct connection and readout of the most common types of accelerometers and velocity transducers. The test sensor sensitivity is calculated and displayed on the screen in real time. The unit's internal memory capability can store up to 500 calibration records and data can be easily transferred to a computer through a USB flash drive.



FEATURES AND BENEFITS

- Field validation of vibration sensors, proximity probes and related vibration monitoring equipment
- Packaged in a rugged Pelican® Storm case[2], the HI-903 PRO is always ready for travel to test sites bringing laboratory accuracy to the field
- Wide frequency range: 7 Hz to 10 kHz (420 to 600000 CPM)
- Internal memory to store calibration data and USB flash drive output
- Easy certificate of calibration with supplied Excel template
- Complete turnkey system

SPECIFICATIONS

General
Frequency Range (operating, 100 gram payload):
7 Hz to 10 kHz 420 to 600000 CPM
Maximum Amplitude (100 Hz, with no payload):
20 g pk (196 m/s2 pk) 15 in/s pk (380 mm/s pk) 50 mils p-p (1270 µm p-p)
Maximum Payload[3]: 800 grams
Units of Readout
Acceleration: g pk, g RMS, m/s2 pk, m/s2 RMS
Velocity: mm/s pk, mm/s RMS, in/s pk, in/s RMS
Displacement: mils p-p, µm p-p
Frequency: Hz, CPM

Accuracy of Readout
Acceleration (30 Hz to 2 kHz): ±3%
Acceleration (7 Hz to 10 kHz): ±1 dB
Velocity (10 Hz to 1000 Hz): ±3%
Displacement (30 Hz to 150 Hz): ±3%
Amplitude Linearity (100 gram payload, 100 Hz):
< 1% up to 10 g pk
Waveform Distortion (100 gram payload, 30 Hz to 2 kHz):
< 5% THD (typical) up to 5 g pk
Input/Output
Test Sensor In: Voltage or ICP®
Bias Fault Indication (ICP® Sensors): Yes
External Source In (Max): 1V AC RMS
Monitor Reference Out: 10 mV/g (nominal), buffered
internal reference

SPECIFICATIONS (Continued)

Power Requirements
Internal Battery (sealed solid gel lead acid): 12V DC, 4 amp hours
AC Power (for recharging battery): 110-240V, 50-60 Hz
Operating Battery Life[4]: 100 gram payload, 100 Hz, 1 g pk: 18 hours 100 gram payload, 100 Hz, 10 g pk: 1 hour
Memory
Size: Up to 500 calibration records
Points Per Record: 30 calibration data points
Sensor Information: Model number, serial number, sensitivity direction (x, y, z), user notes
USB Port: Export to flash drive (FAT32)
Export File Format: CSV (comma-separated values)
Physical
Dimensions (H x W x D):
22 cm x 30.5 cm x 28 cm (8.5 in x 12 in x 10 in)
Weight: 8.2 kg (18 lb)
Sensor Mounting Platform Thread Size: 1/4-28
Operating Temperature: 0°C-50°C (32°F-122°F)

Notes:
1. Registered Trademark of PCB Piezotronics.
2. Registered Trademark of Pelican Storm Cases
3. Operating range reduced at higher payloads. Reference manual for full details.
4. As shipped from factory in new condition.

HOW TO ORDER

MODEL	DESCRIPTION	CERTIFICATIONS
HI-903 PRO	Portable Shaker, variable frequency and amplitude control for accelerometers, velocity sensors and proximity probes, internal memory, USB flash drive output, easy certificate of calibration with supplied Excel template, rugged Pelican® Storm case, standard accessories and operates on rechargeable batteries.	CE

STANDARD ACCESSORIES

PART NO.	DESCRIPTION
	Power Cord and Plug Adapters (110-260 VAC, 50-60 Hz)
100942	USB flash drive with Report Generation
HI-937	Accessory Kit - included

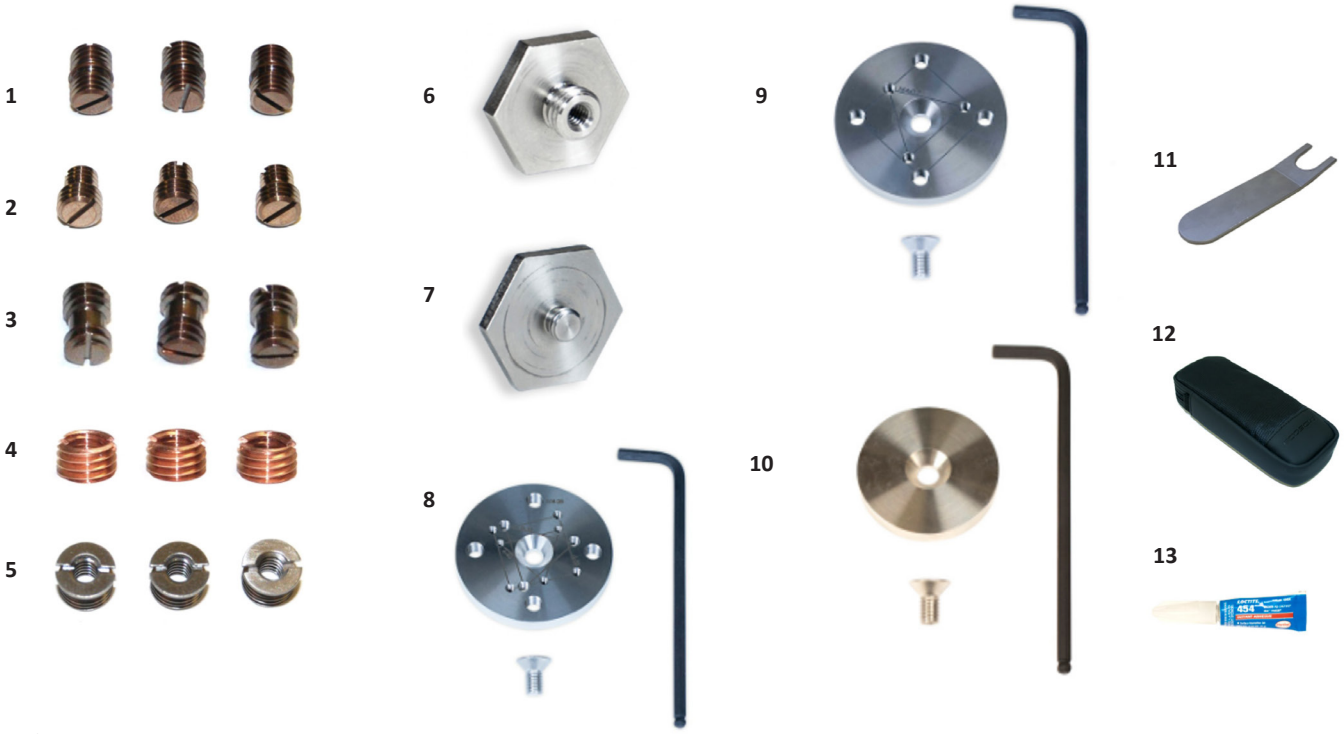
NON STANDARD ACCESSORIES

PART NO.	DESCRIPTION
8841-0101	Adapter, 1/4-28 UNF (M) TO 1/4" NPT (F)
8841-0100	Adapter, 1/4-28 UNF (M) TO 1/2" NPT (F)
8841-0106	Adapter, 1/4-28 UNF (M) TO 3/8-24 UNF (F)
8841-0113	Adapter, 1/4-28 UNF (M) TO M8 x 1.0 (F)
8841-0114	Adapter, 1/4-28 UNF (M) TO M10 x 1.25 (F)

NON STANDARD ACCESSORIES (Continued)

PART NO.	DESCRIPTION
HI-223-9M (Metric Units) HI-223-9E (English Units)	Eddy Current Probe Test Kit with Micrometer - fits HI 903 PRO or HI 913 only
0205-0049	Mounting Spacer
0228-0136-01	Mounting Plate, Magnetic 2” Dia, 1/4” thick
0228-0141-01	Stud, 1/4-28 to M8 (Metric)
0228-0137-01	Adapter stud. 1/4-28 UNF to 3/8-24 (HI 5701VT)
0228-0075-01	4140 Steel Target (incl w/ 223/224 kits)
0228-0071-02	Velocity/Universal Transducer Adapter, w/screw
0228-0070-03	Bushing, 1/4-28 to 2-56 UNC
0228-0070-04	Bushing, 1/4-28 to 6-32 UNC

HI-937 ACCESSORY KIT (Included with each HI-903 PRO)



Contents:

1. 3 Mounting studs, 1/4-28 to 1/4-28 x 0.365” long
2. 3 Mounting studs, 10-32 to 1/4-28 x 0.30” long
3. 3 Mounting studs, 5-40 to 5-40 threads, without shoulder
4. 3 Thread adaptors, 10-32 internal thread x 1/4-28 external thread
5. 3 Thread adaptors, 6-32 internal thread x 1/4-28 external thread, stainless steel
6. Calibration mounting adaptor: 0.625” hex flat base for sensors with 5-40 integral stud, stainless steel. For 1/4-28 threaded shakers
7. Calibration mounting adaptor: 1” hex flat base for adhesive mounting sensors, stainless steel. For 1/4-28 threaded shakers
8. Calibration mounting adaptor: Circular plate for 3 and 4-hole bolt pattern high-temp vibration sensors with:
   - Triangular hole patterns on a 1.00” (25.4mm) diameter circle, uses a 4 40 mounting thread.
   - Triangular hole patterns on a 1.20” (30.5mm) diameter circle, uses an 8 32 mounting thread.
   - Square hole patterns on a 1.375” (35mm) diameter circle, uses a 6 32 mounting thread.
   - Square bolt pattern with holes 1.19” (30.2mm) apart on all sides, uses a 1/4 28 mounting thread.
9. Calibration mounting adaptor: Circular plate for 3 and 4 hole bolt pattern high-temp vibration sensors with:
   - Triangular hole pattern on a 1.19” (30.2mm) diameter circle, uses an M4x0.7 mounting thread.
   - Square bolt pattern with holes 1.18” (30mm) apart on all sides, uses an M6x1.0 mounting thread.
10. Universal Transducer Adaptor Circular Plate: Circular plate for custom mounting holes to be drilled and tapped. Includes 1.75” diameter x 0.25” deep generic mounting pad (stainless steel), 1/4-28 flat head cap screw, and a 5/32” hex wrench
11. Mounting Wrench
12. Accessory Pouch
13. Loctite 454 - Quick bond Gel (for use with accelerometer adhesive mounting bases to fill gaps on rough surfaces)

Note: Metrix is continuously improving our products. Please refer to our website to download the latest version of this document.

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