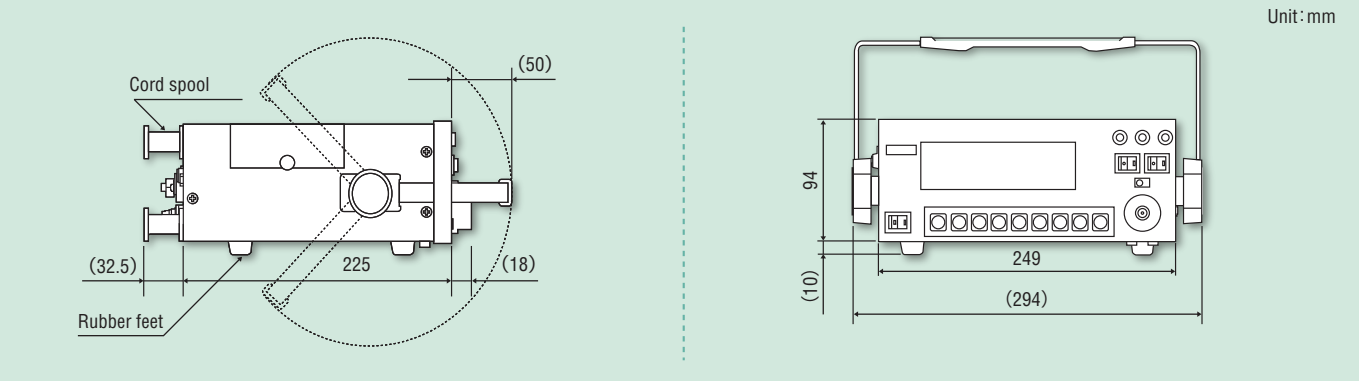


■ ■ ■ Dimensions



■ ■ ■ Accessories

| Model   | Description   |
|---------|---|
| DMB-12A | Ni-MH battery for model DMS-7A digital manometer (spare)<br>12 VDC, approx. 500 g |
| DMD-7   | Measurement cable approx. 1.7 m<br>(Alligator clip - 2P banana plug)              |
| DME-7   | Carrying case   |

■ ■ ■ Carrying case

The handy carrying case protects the main unit and also accommodates documents. The case features side pockets on both sides for a hand pump and tuning tools.



Notice: For proper operation, follow the instruction manual when using the instrument.

Specifications in this catalog are subject to change with or without notice, as Hitachi High-Tech Solutions Corporation continues to develop the latest technologies and products for our customers.

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Hitachi Digital Manometer

*DMS-7A*





All-in-one product lineup

DMS-7A

Digital manometer

Provides agile measurement in the field

Compact as before, yet more energy saving and user friendly.

High accuracy and stability

The semiconductor composite sensor allows measurement with high accuracy and stability. The speed of response has been improved.

A variety of measurement ranges

A variety of useful measurement ranges from micro pressure (2 kPa) to ultra high pressure (20 MPa) and absolute pressure.

An environmentally friendly products

The DMS-7A has an internal Ni-MH battery. Power consumption has been reduced by 30% (compared to the conventional model DMS-7).

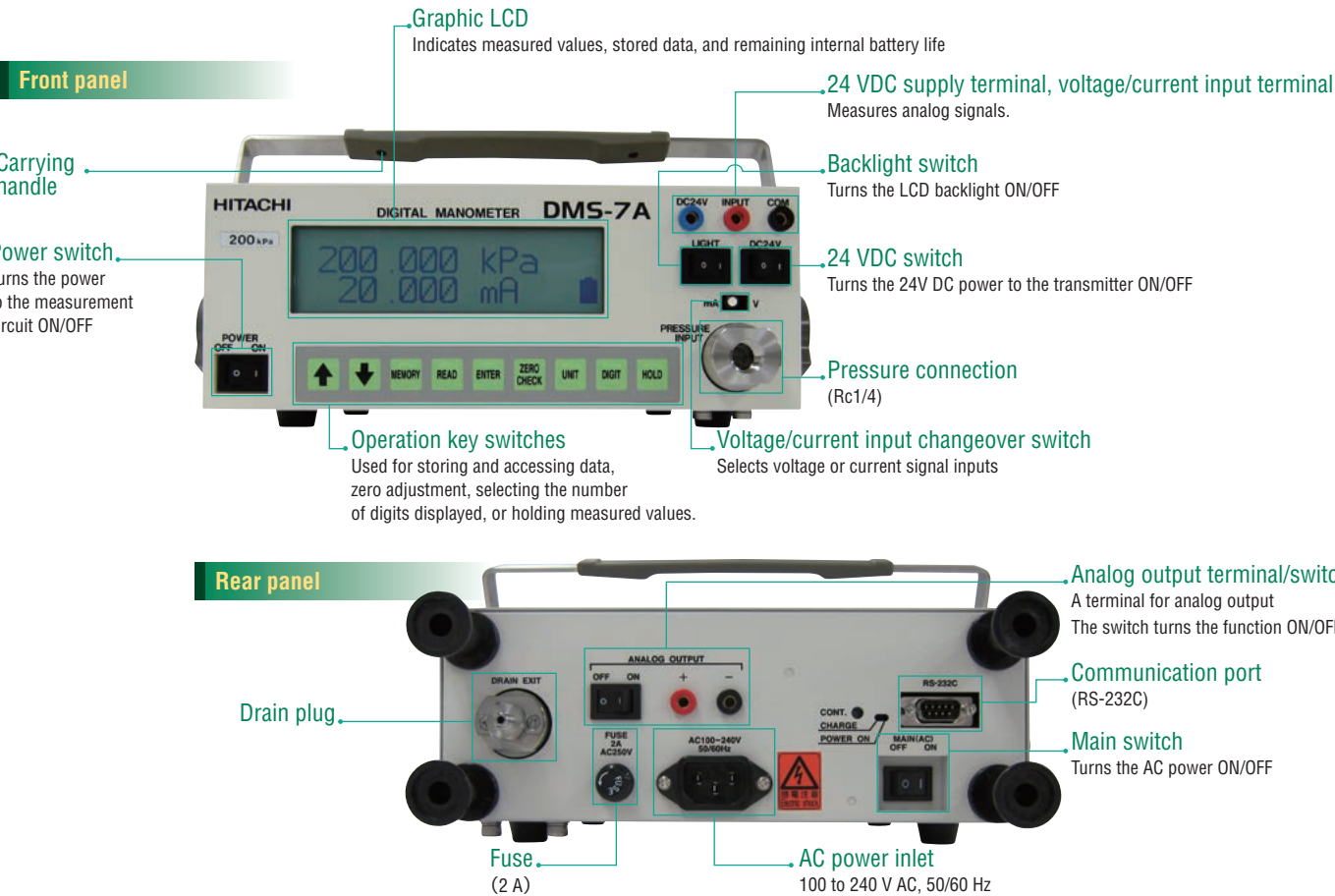
Additional functions for use in the field

Enhanced case robustness and extended operation time under battery power (approx. 9 hours) satisfy field measurements needs. An analog signal proportional to pressure input can be output.

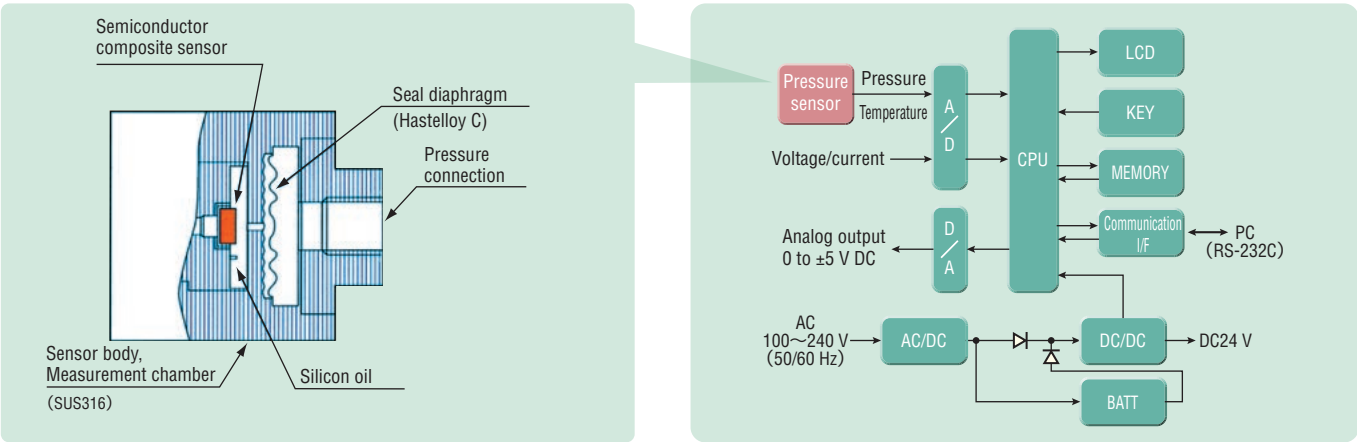
Various applications:

- Pressure calibration/adjustment in the field
- Atmospheric pressure measurement
- A secondary verification standard for pressure gauges
- Engine/carburetor testing
- Pressure vessel leak test
- Pressure measurement for experiments and research

Components and main functions



Measurement principle/circuit configuration



Specifications

Standard specifications

| Model code   |                          |          | DMS-7A-2K  | DMS-7A-50K                       | DMS-7A-200K                          | DMS-7A-2M                    | DMS-7A-20M                   | DMS-7A-200A                              |
|--|--------------------------|----------|--|----------------------------------|--------------------------------------|------------------------------|------------------------------|--|
| Application pressure                                       |                          |          | Micro  | Low                              | Moderate                             | High                         | Ultra high                   | Absolute                                 |
| Reference pressure range                                   |                          |          | 2 kPa  | 50 kPa                           | 200 kPa                              | 2 MPa                        | 20 MPa                       | 200 kPa abs.                             |
| Measuring range  | Pressure (Readout range) |          | -2 to 2 kPa<br>(-2.2 to 2.2 kPa)   | -50 to 50 kPa<br>(-55 to 55 kPa) | -100 to 200 kPa<br>(-100 to 220 kPa) | 0 to 2 MPa<br>(0 to 2.2 MPa) | 0 to 20 MPa<br>(0 to 22 MPa) | 0 to 200 kPa abs.<br>(0 to 220 kPa abs.) |
|  | Voltage                  |          | -6 to 6 VDC (input impedance: approx. 1 MΩ)                                      |                                  |                                      |                              |                              |  |
|  | Current                  |          | -24 to 24 mA DC (input resistance: approx 250 Ω)                                 |                                  |                                      |                              |                              |  |
| Maximum allowed pressure                                   |                          |          | 50 kPa   | 100 kPa                          | 240 kPa                              | 2.4 MPa                      | 24 MPa                       | 240 kPa abs.                             |
| Applicable fluids (non-flammable and non-corrosive fluids) |                          |          | Gases<br>(5 to 40°C)   |                                  | Gases and liquids<br>(5 to 40°C)     |                              |                              | Gases<br>(5 to 40°C)                     |
| Pressure unit Materials                                    | Seal diaphragm           |          | Hastelloy C  |                                  |                                      |                              |                              |  |
|  | Measurement chamber      |          | SUS316   |                                  |                                      |                              |                              |  |
|  | Internal piping          |          | SUS316   |                                  |                                      |                              |                              |  |
| Accuracy (23±3°C)  | Pressure                 | Positive | ±0.1% FS<br>(0 to 2 kPa)   | ±0.03% FS<br>(0 to 50 kPa)       | ±0.03% FS<br>(0 to 200 kPa)          | ±0.03% FS<br>(0 to 2 MPa)    | ±0.07% FS<br>(0 to 20 MPa)   | ±0.07% FS<br>(0 to 200 kPa abs.)         |
|  |                          | Negative | ±0.2% FS<br>(-2 to 0 kPa)  | ±0.1% FS<br>(-50 to 0 kPa)       | ±0.1% FS<br>(-100 to 0 kPa)          | —                            | —                            | —  |
|  | Voltage/current          |          | ±(0.03% FS + 2 digits) : Voltage range 0 to ±6 VDC, current range 0 to ±24 mA DC |                                  |                                      |                              |                              |  |
| Pressure display digits                                    |                          |          | 4 digits/5 digits selectable   |                                  |                                      | 5 digits/6 digits selectable |                              |  |
| Voltage/current display digits                             |                          |          | 4 digits/5 digits selectable   |                                  |                                      | 5 digits/6 digits selectable |                              |  |
| Temperature effects  | Pressure                 | Zero     | ±0.3% FS<br>/10°C  | ±0.1% FS<br>/10°C                | ±0.05% FS<br>/10°C                   |                              |                              |  |
|  |                          | Span     | ±0.1% FS<br>/10°C  | ±0.1% FS<br>/10°C                | ±0.05% FS<br>/10°C                   |                              |                              |  |
|  | Voltage/current          |          | ±0.05%, FS/10 °C   |                                  |                                      |                              |                              |  |
| Analog output range  |                          |          | -5 to 0 to 5 VDC   | -5 to 0 to 5 VDC                 | -2.5 to 0 to 5 VDC                   | 0 to 5 VD                    | 0 to 5 VDC                   | 0 to 5 VDC                               |

Common specifications

|                             |   |
|-----------------------------|---|
| Display unit                | Graphic LCD<br>240 x 64 dots, with backlight  |
| Displayed items             | Pressure : 4 digits/5 digits or 5 digits/6 digits selectable<br>Voltage/current : 4 digits/5 digits selectable (with a voltage/current input changeover switch) |
|                             | Memory No. : 1 to 512   |
|                             | Tag. No. display : Specify any 10-digit number  |
| Display update interval     | Approx. 0.4 seconds   |
| Response time               | Approx. 2 seconds (in reaching the accuracy)  |
| Operating temperature range | 0 to 40°C   |
| Storage temperature range   | -20 to 60°C   |
| Operating humidity range    | 20 to 85% (non-condensing)  |
| Transmitter power supply    | Output voltage 24±2 VDC fixed (with an ON/OFF switch)   |
|                             | Output current 40 mA max. (with a short circuit protection)   |
| Communication               | RS-232C interface, D-sub 9 pin, 2400 bps  |
| Data memories               | 512data (1 screen / data)   |
| Analog output               | 0 to ±5 VDC (proportional to the reference pressure range, with variable output voltage)  |
|                             | Accuracy: ±0.1% FS added to the pressure accuracy   |

|                                  |  |
|----------------------------------|--|
| Power supply                     | AC power supply 100 to 240 VAC, 50/60 Hz   |
|                                  | Allowable supply voltage range: 85 to 264 VAC  |
| Power consumption (with 100 VAC) | Internal battery: Ni-MH battery (Nickel Metal Hydride battery)   |
|                                  | Continuous usage hour: approx. 9 hours (Tested with the backlight, analog output and 24VDC power are turned off) |
|                                  | Normal : 7 VA<br>M a x. : 20 VA  |
| Warm-up time                     | For battery charging only : 12 VA  |
|                                  | Battery charging time : constant current charge (approx. 5 hours) + trickle charge                               |
| Pressure connection              | 30 minutes   |
| Weight                           | Rc1/4  |
| Accessories                      | Approx. 5.2 kg (20 MPa pressure range model: approx. 5.7 kg)   |
|                                  | Power cord : 1   |
|                                  | Fuse (2A) : 1  |
|                                  | 3P-2P converter adapter for AC power supply : 1  |
|                                  | 2P banana plug : 2   |
| Instruction manual               | 1  |