RPM4 is much more than a traditional pressure indicator
State of the art performance from very low pressure to 280 MPa (40 000 psi)... advanced on-board features...compact and rugged...full local and remote communications...RPM4 is the perfect solution in a wide variety of high end pressure calibration, testing and measurement applications.

Infinite Ranging™ and AutoRange™
Infinite Ranging gives RPM4 unparalleled versatility in adapting to the specific range of operation. With the easy to use AutoRange function, a few simple key strokes or a single remote command string at the start of a test adapt every feature of the pressure monitor to optimize it for the range to be covered. Just enter the maximum pressure and the measurement mode. AutoRange then:
- Selects and activates the most appropriate Q-RPT to cover the specified range and measurement mode.
- Sets the pressure unit of measure.
- Activates absolute, gauge or compound gauge measurement.
- Adjusts display resolution to the appropriate level for the range.
- Adjusts overpressure alarms to the actual range of operation.
- Reduces measurement uncertainty proportionally to the selected range (premium class Q-RPTs only).

Note: The use of RPM4’s Infinite Ranging and AutoRange feature is recommended to optimize operation for a specific range but is not required to obtain “% of reading” measurement specifications.

Features
- Stability based Ready/Not Ready indication
- Built-in fluid head corrections
- User defined pressure units
- Intelligent AutoZero® function
- Remote [ENTER] switch
- Large character, easy to read display
- 12 V dc power and battery pack option
- RS-232 and IEEE-488 communications
- FLASH memory and free embedded software upgrades on dhinstruments.com
- PC based recalibration utility software included
- Free LabVIEW® drivers
**SDS™ Q-RPT Self Defense System™**

All Q-RPT modules up to 7 MPa (1 000 psi) include the Fluke Calibration unique Self Defense System (SDS). SDS valves automatically isolate and vent the module’s Q-RPT when it is not in use or an overpressure is about to occur. With SDS, any Q-RPT module can be left connected to pressure up to 10 MPa (1 500 psi) without needing to isolate or disconnect it.

**Advanced on-board functions**

RPM4 provides a variety of advanced on-board pressure data functions including:
- Special data such as pressure average over time, rate of change, hi/lo, freeze, deviation from set point
- Differential mode directly measures the difference between two Q-RPTs including taring at the line pressure
- Parallel measurement uses two Q-RPTs redundantly as one
- Leak check measures average pressure rate of change over a user set time period
- AutoTest automates calibration routines with tolerance testing and data logging
Quartz reference pressure transducer (Q-RPT) modules

RPM4’s outstanding pressure measurement specifications are made possible by DHI’s exclusive quartz reference pressure transducer (Q-RPT) modules. Q-RPTs measure pressure by measuring the change in the natural oscillating frequency of a quartz crystal with pressure induced stress. To be qualified for use in a Q-RPT module, each transducer is individually evaluated and characterized using primary pressure standards. Only transducers exhibiting required levels of linearity, repeatability and stability are selected. A proprietary compensation model, derived from more than 15 years experience with thousands of quartz pressure transducers, is applied to optimize the metrological characteristics needed in a transfer standard. Standard and premium class Q-RPT modules are available to best fit your performance and budgetary requirements.

A unique dynamic compensation for atmospheric pressure system uses an independent on-board barometer to provide seamless switching between absolute, gauge and compound gauge modes at any time. The barometer is used only to measure the small variations in atmospheric pressure that occur during gauge mode operation so its absolute error and drift over time do not contribute to measurement uncertainty. Q-RPT modules offer the advantages of:

- % of reading measurement uncertainty with AutoRange span turndown available
- Negligible warm up time
- No gas species dependence
- Quartz element isolated from test medium
- Low sensitivity to orientation

Q-RPTs and ranges

| Q-RPT designation | SI version | US version | Measure- | Operating | SDS™ Self
<table>
<thead>
<tr>
<th></th>
<th>Absolute</th>
<th>Absolute</th>
<th>ment mode(s) supported</th>
<th>media</th>
<th>Defense System</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>range (kPa)</td>
<td>range (psi)</td>
<td>supported</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A280M-L</td>
<td>280 000</td>
<td>40 000</td>
<td>40 000</td>
<td>Oil</td>
<td>Not available</td>
</tr>
<tr>
<td>A200M-L</td>
<td>200 000</td>
<td>30 000</td>
<td>30 000</td>
<td>standard, gas available</td>
<td></td>
</tr>
<tr>
<td>A140M-L</td>
<td>140 000</td>
<td>20 000</td>
<td>20 000</td>
<td>gas</td>
<td>Included</td>
</tr>
<tr>
<td>A100M-L</td>
<td>100 000</td>
<td>15 000</td>
<td>15 000</td>
<td>standard, oil available</td>
<td></td>
</tr>
<tr>
<td>A70M</td>
<td>70 000</td>
<td>10 000</td>
<td>10 000</td>
<td>gas</td>
<td>Included</td>
</tr>
<tr>
<td>A40M</td>
<td>40 000</td>
<td>6 000</td>
<td>6 000</td>
<td>gas</td>
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</tr>
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<td>A20M</td>
<td>20 000</td>
<td>3 000</td>
<td>3 000</td>
<td>gas</td>
<td>Included</td>
</tr>
<tr>
<td>A14M</td>
<td>14 000</td>
<td>2 000</td>
<td>2 000</td>
<td>gas</td>
<td>Included</td>
</tr>
<tr>
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<td>1 500</td>
<td>1 500</td>
<td>gas</td>
<td>Included</td>
</tr>
<tr>
<td>ATM</td>
<td>7 000</td>
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<td>1 000</td>
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</tr>
<tr>
<td>A3.5M</td>
<td>3 500</td>
<td>500</td>
<td>500</td>
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<tr>
<td>A2M</td>
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<td>300</td>
<td>300</td>
<td>gas</td>
<td>Included</td>
</tr>
<tr>
<td>A1.4M</td>
<td>1 400</td>
<td>200</td>
<td>200</td>
<td>gas</td>
<td>Included</td>
</tr>
<tr>
<td>A700K</td>
<td>700</td>
<td>100</td>
<td>100</td>
<td>gas</td>
<td>Included</td>
</tr>
<tr>
<td>A350K</td>
<td>350</td>
<td>50</td>
<td>50</td>
<td>gas</td>
<td>Included</td>
</tr>
<tr>
<td>A200K</td>
<td>200</td>
<td>30</td>
<td>30</td>
<td>gas</td>
<td>Included</td>
</tr>
<tr>
<td>A160K</td>
<td>160</td>
<td>23</td>
<td>8</td>
<td>gas</td>
<td>Included</td>
</tr>
<tr>
<td>A100K</td>
<td>110</td>
<td>16</td>
<td>1.5</td>
<td>gas</td>
<td>Included</td>
</tr>
<tr>
<td>BA100K</td>
<td>110</td>
<td>16</td>
<td></td>
<td>gas</td>
<td>Included</td>
</tr>
<tr>
<td>G200K</td>
<td>200</td>
<td>30</td>
<td></td>
<td>gas</td>
<td>Included</td>
</tr>
<tr>
<td>G100K</td>
<td>100</td>
<td>15</td>
<td></td>
<td>gas</td>
<td>Included</td>
</tr>
<tr>
<td>BG15K</td>
<td>15</td>
<td>2.2</td>
<td></td>
<td>gas</td>
<td>Included</td>
</tr>
<tr>
<td>G15K</td>
<td>15</td>
<td>2.2</td>
<td></td>
<td>gas</td>
<td>Included</td>
</tr>
</tbody>
</table>

1 BA100K is a barometer with a low point of 70 kPa [10 psia].
2 BG15K is bidirectional gauge from -15 kPa to +15 kPa (-2.2 psi to +2.2 psi).

Compatible with PPC4 automated pressure controller

RPM4 can be used as an external reference pressure measurement device for a PPC4, fully automated, pressure controller/calibrator. One or two RPM4s can be “daisy chained” to PPC4 by 9 pin RS-232 cable(s). The RPM4’s Q-RPTs become part of the PPC4 system and are managed by PPC4 transparently to the user. There is only one test connection for the PPC4 system’s full range of operation. See the PPC4 product brochure for additional information.
**General specifications**

**Power requirements**
RPM4: 85 V ac to 264 V ac, 50/60 Hz, 25 V a max and 12 V dc @ 9 Ahr
Battery/charger: 100 V ac to 240 V ac, 50/60 Hz

**Normal operating temperature range**
15 °C to 35 °C (59 °F to 95 °F)

**Vibration**
Meets MIL-T-28808D

**Weight (typical)**
5 kg (11 lb)

**Dimensions (H x W x D)**
RPM4: 10 cm x 22.7 cm x 24 cm (3.9 in x 8.9 in x 9.5 in)
Battery/charger: 8 cm x 22.5 cm x 20 cm (3.1 in x 8.9 in x 7.9 in)

**Communications ports**
RS-232 (COM1, COM2), IEEE-488.2

**Operating modes**
Absolute, gauge, compound gauge, differential

**Pressure ranges**
Vacuum to 280 MPa (40 000 psi)

**Pressure connections**
Up to A7M: 1/8 in. NPT F
Above A7M: M1/2 (equivalent to AE2350C)

**CE Mark**
Available, must be specified

---

**Measured pressure (Q-RPT)**

**Warm up time**
30 minute temperature stabilization recommended from cold power up

**Resolution**
To 1 ppm, user adjustable

**Predicted one year stability**
± 0.005 % of reading all ranges and classes

<table>
<thead>
<tr>
<th>Standard Class</th>
<th>Premium Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q-RPTs up to A10M (1 500 psi)</td>
<td>Q-RPTs A14M to A110M (2 000 to 20 000 psi)</td>
</tr>
<tr>
<td>Precision²</td>
<td>± 0.008 % of reading or 0.0024 % of Q-RPT span, whichever is greater¹</td>
</tr>
<tr>
<td>Measurement Uncertainty³</td>
<td>± 0.010 % of reading or 0.0030 % of Q-RPT span, whichever is greater¹</td>
</tr>
</tbody>
</table>

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**Ordering information**

**Model**
RPM4 04 –1 US units version, –2 SI units version
RPM4 05 CE mark
RPM4 06 Special calibration
RPM4 07 Special test fluid, Hi Q-RPT (specify fluid)
RPM4 08 Special test fluid, Lo Q-RPT (specify fluid)
RPM4 09 –1 Special configuration, air data (A160K/A160K, A350K/A160K only)

**Accessories**
Battery Pack/Charger 12 V dc battery with charger
Rack Mount Kit Rack mount kit for standard 19 in. rack
Footswitch Remote [ENTER] footswitch

**MPC1-1000** Manual gas pressure controller, for vacuum to 7 000 kPa (1 000 psi)
**MPC1-3000** Manual gas pressure controller, for vacuum to 20 MPa (3 000 psi)
**MPC1-D-1000** Manual pressure controller, for differential pressure at line pressure up to 7 000 kPa (1 000 psi)
**MPC1-D-3000** Manual pressure controller, for differential pressure at line pressure up to 20 MPa (3 000 psi)
**GPC1-16000** Assisted gas pressure controller, 110 MPa (16 000 psi)
**MPG1-100M** Manual hydraulic pressure generator/controller, 100 MPa (15 000 psi)
**MPG1-200M** Manual hydraulic pressure generator/controller, 200 MPa (30 000 psi)
**OFG1-30000** Assisted hydraulic pressure generator/controller, 200 MPa (30 000 psi)
**PK-7000-PPC/MPC** Interconnections kit for RPM4 and MPC1 with quick-connector test connection

**Configuring an RPM4 model number**
RPM4 mhhac/mlllac
Where:
- mhhac: Indicates the Hi Q-RPT designation.
- c: indicates Q-RPT class (s for Standard, p for Premium).
- mlllac: Indicates the Lo Q-RPT designation and class.
- Leave blank if there is no Lo Q-RPT.

See Q-RPTs and ranges table for available Q-RPTs.

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**Fluke Calibration**

**Precision, performance, confidence.**

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Specifications subject to change without notice. Printed in U.S.A. 7/2021 210024-en

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