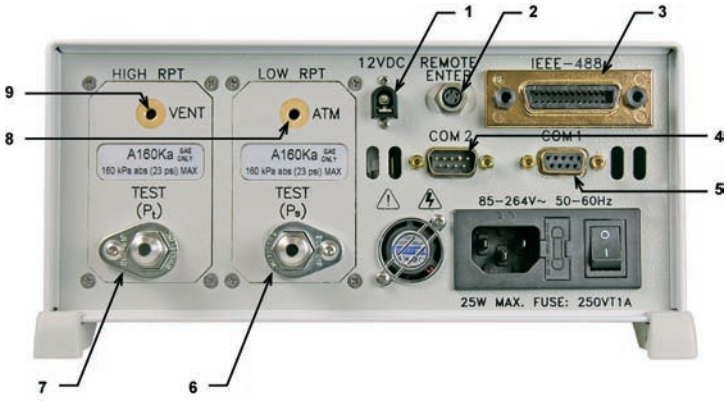
# RPM4-AD™

## RPM4-AD™ Reference Pressure Monitor, Air Data Version


## FEATURES

- Covers the absolute and differential pressure ranges of typical air data instruments.
- Fixed wing and rotary wing range versions
- True Pt, Ps, Qc operation
- Transfer standard level measurement uncertainty
- Measures and displays altitude (ft, m), airspeed units (kts, mph, km/h, Mach) and in conventional pressure units
- Automated rate measurement with user specified sample time
- Automated leak check function
- Compact and rugged presentation
- SDS self defense system shuts off test ports to protect from overpressure
- RS232 and IEEE-488 interfaces included
- Battery pack available
- Ideal for validation of air data test sets (ADTS)

## RPM4-AD™ REAR PANEL




1. 12VDC power supply connection
2. Remote [ENT] connector
3. IEEE-488 remote communications
4. COM2 pass through communications
5. COM1 remote communications
6. TEST (Ps), high Q-RPT
7. TEST (Pt), low Q-RPT
8. ATM port, atmosphere reference
9. VENT port, SDS vent

**Calibration Solutions for Pressure and Flow™**

***NOTE:*** *RPM4-AD is a specific configuration of the RPM4 reference pressure monitor. See the RPM4 full brochure for additional information on RPM4 reference pressure monitors.*

# RPM4-AD™ Reference Pressure Monitor, Air Data Version

## SPECIFICATIONS

| | RPM4-AD A350K/A160K (fixed wing) | RPM4-AD A160K/A160K (rotary wing) |
|---|---|---|
| **Range:** | Ps 160 kPa (23 psia)<br>Pt 350 kPa (51 psia)<br>Qc 250 kPa (36 psid) | 160 kPa (23 psia)<br>160 kPa (23 psia)<br>60 kPa (8.7 psid) |
| **Altitude:** | -4 000 to 30 000 m (-13 000 to 100 000 ft) | -4 000 to 20 000 m (-13 000 to 66 000 ft) |
| **Airspeed (sea level):** | 0 to 2040 km/hr (1100 kts) | 0 to 1020 km/hr (550 kts) |
| **Power requirements:** | 85 to 264 VAC, 50/60 Hz and 12VDC, 1.2 A (battery) | |
| **Operating temperature:** | 15 to 35 °C | |
| **Weight:** | 5 kg (11 lb) | |
| **Dimensions:** | 10 cm H x 22.7 cm W x 24 cm D (3.9 in. x 8.9 in. x 9.5 in.) | |
| **Test port connections:** | AN4 M | |
| **Communications ports:** | RS232 (COM1, COM2), IEEE-488.2 | |

### MEASUREMENT SPECIFICATIONS

**Resolution:** To 1 ppm, user adjustable

**Warm Up Time:** 30 minute temperature stabilization recommended from cold power up for optimum performance.

**Operating Temperature Range:** 15 to 35 °C

**Acceleration Affect:** ± 0.008 % /g maximum, worst axis
Allows operation ± 20° from reference plane without significant effect

**Predicted Stability[1]:** ± 0.005% of reading

Note: the two Q-RPTs in RPM4-AD A160K/A160K can be compared one to the other to assist in identifying Q-RPT drift between calibrations

**RPM4-AD A350K/A160K (fixed wing)**

| | Ps Q-RPT (altitude) | Ps - Pt Q-RPT (Qc) (airspeed at varying altitude) | Pt Q-RPT |
|---|---|---|---|
| **Precision[2]:** | ± 0.005 % of reading or 2.4 Pa, whichever is greater | ± 0.005 % of reading or 5.25 Pa, whichever is greater | ± 0.005 % of reading or 5.25 Pa, whichever is greater |
| **Measurement Uncertainty[3]:** | ± 0.008% of reading or 3.8 Pa, whichever is greater | ± 0.008% of reading or 6.6 Pa, whichever is greater | ± 0.008% of reading or 8.4 Pa, whichever is greater |

**RPM4-AD A160K/A160K (rotary wing)**

| | Ps Q-RPT in parallel mode (altitude, airspeed at ground) | Ps - Pt Q-RPT (Qc) (airspeed at varying altitude) | Single Ps or Pt |
|---|---|---|---|
| **Precision[2]** | ± 0.004 % of reading or 2 Pa, whichever is greater | ± 0.005 % of reading or 2.4 Pa, whichever is greater | ± 0.005 % of reading or 2.4 Pa, whichever is greater |
| **Measurement Uncertainty[3]:** | ± 0.006% of reading or 3 Pa, whichever is greater | ± 0.008% of reading or 3 Pa, whichever is greater | ± 0.008% of reading or 3.8 Pa, whichever is greater |

1. Predicted Q-RPT measurement stability limit (k=2) over one year assuming regular use of AutoZero function. AutoZero is performed by the operator: against zero pressure when vented in gauge mode, by direct comparison of one Q-RPT to the other at the line pressure in differential mode, by comparison with a barometric reference in absolute mode. Absolute mode predicted one year stability without AutoZ is ± (0.005 % Q-RPT span + 0.005 % of reading).
2. Combined linearity, hysteresis, repeatability. Add + 1 Pa (0.00015 psi) in gauge mode for the resolution and short term stability of the on-board barometer.
3. Maximum deviation of the Q-RPT indication from the true value of applied pressure including precision, predicted one year stability limit, temperature effect and calibration uncertainty, combined and expanded (k=2) following the ISO "Guide to the Expression of Uncertainty in Measurement."

## ORDERING INFORMATION

**Model: RPM4-AD A350Ka/A160Ka or RPM4-AD A160Ka/A160Ka**

**ACCESSORIES**

| Designation | Part No. | Description |
|---|---|---|
| Rack mount kit | 401929 | Rack mount kit for standard 19 in. rack |
| Footswitch | 401886 | Remote [ENTER] footswitch |
| MPC1-1000 | 401067 | Single channel manual pressure controller |
| MPC1-D-1000 | 401646 | Dual channel manual pressure controller |
| VA-MPC-REF, 110V | 400922 | Vacuum pump (110V) and connection for MPC1 |
| VA-MPC-REF, 220V | 401160 | Vacuum pump (220V) and connection for MPC1 |
| Case | 401011 | Molded transit case for RPM4 and battery pack |



**DH Instruments, Inc.**
4765 East Beautiful Lane
Phoenix, AZ 85044-5318
USA

Calibration Solutions for Pressure and Flow™

Tel 602.431.9100
Fax 602.431.9559
dhi@dhinstruments.com
www.dhinstruments.com



Printed in USA

Bro. No. 5012.1.A.1