

# RPM4-AD™

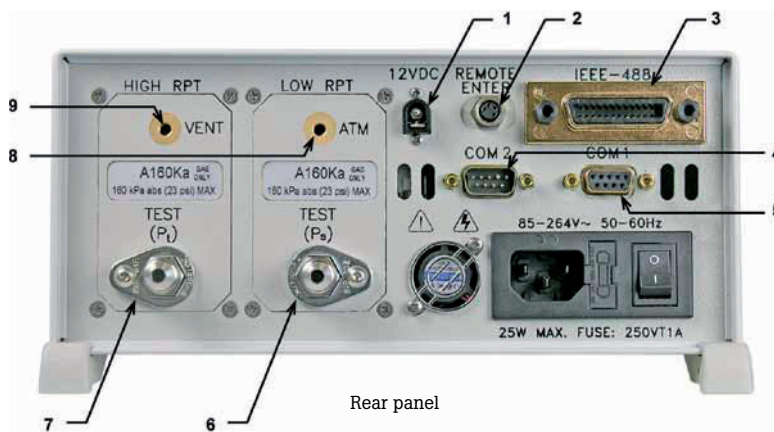
## Reference Pressure Monitor, Air Data Version

## Technical Data



### 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
- RVSM compliant
- 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)



Rear panel

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

**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.

# Specifications

|                                  |    | RPM4-AD A350K/A160K (fixed wing)                                                                                                                               | RPM4-AD A160K/A160K (rotary wing)              |
|----------------------------------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| Range                            | Ps | 160 kPa (23 psia)                                                                                                                                              | 160 kPa (23 psia)                              |
|                                  | Pt | 350 kPa (51 psia)                                                                                                                                              | 160 kPa (23 psia)                              |
|                                  | Qc | 250 kPa (36 psid)                                                                                                                                              | 60 kPa (8.7 psid)                              |
| Altitude                         |    | -4,000 m to 30,000 m (-13,000 ft to 100,000 ft)                                                                                                                | -4,000 m to 20,000 m (-13,000 ft to 66,000 ft) |
| Airspeed (sea level)             |    | 0 to 2,040 km/hr (1100 kts)                                                                                                                                    | 0 to 1,020 km/hr (550 kts)                     |
| Power requirements               |    | 85 V to 264 V ac, 50/60 Hz and 12 V dc, 1.2 A (battery)                                                                                                        |                                                |
| Weight                           |    | 5 kg (11 lb)                                                                                                                                                   |                                                |
| Dimensions (H x W x D)           |    | 10 cm x 22.7 cm x 24 cm (3.9 in x 8.9 in x 9.5 in)                                                                                                             |                                                |
| Test port connections            |    | AN4 M                                                                                                                                                          |                                                |
| Communications ports             |    | RS232 (COM1, COM2), IEEE-488.2                                                                                                                                 |                                                |
| Resolution                       |    | To 1 ppm, user adjustable                                                                                                                                      |                                                |
| Operating temperature            |    | 15 °C to 35 °C (59 °F to 95 °F)                                                                                                                                |                                                |
| Warm up time                     |    | 30 minute temperature stabilization recommended from cold power up for optimum performance.                                                                    |                                                |
| Vibration                        |    | ± 0.008 %/g maximum, worst axis. Allows operation ± 20° from reference plane without significant effect                                                        |                                                |
| Predicted stability <sup>1</sup> |    | ± 0.005 % of reading<br>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)                     |                                                       |                                                       | RPM4-AD A160K/A160K (rotary wing)                        |                                                      |                                                      |
|--------------------------------------|--|------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|
|                                      |  | Ps Q-RPT (altitude)                                  | Ps - Pt Q-RPT (Qc) (airspeed at varying altitude)     | Pt Q-RPT                                              | Ps Q-RPT in parallel mode (altitude, airspeed at ground) | Ps - Pt Q-RPT (Qc) (airspeed at varying altitude)    | Single Ps or Pt                                      |
| Precision <sup>2</sup>               |  | ± 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 | ± 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 <sup>3</sup> |  | ± 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  | ± 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 |

<sup>1</sup> 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).

<sup>2</sup> 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.

<sup>3</sup> 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** Reference Pressure Monitor, Air Data Version (fixed wing)

**RPM4-AD A160Ka/A160Ka** Reference Pressure Monitor, Air Data Version (rotary wing)

### Accessories

**Rack Mount Kit** Rack mount kit for standard 19 inch rack

**Footswitch** Remote [ENTER] footswitch

**MPC1-1000** Single channel manual pressure controller

**MPC1-D-1000** Dual channel manual pressure controller

**Case** Molded transit case for RPM4 and battery pack

**VA-PPC/MP-REF** Vacuum pump (110V) and connection for MPC1

**VA-PPC/MPC-REF** Vacuum pump (220V) and connection for MPC1

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