

Controller & Monitor used as a
Secondary Pressure Standard

Benchtop PPCM

P/N: 18905810000

NSN: 4920-01-104-8652

Rackmount PPCM

P/N: 18905810002

NSN: 4920-01-512-3910



The Precision Pressure Controller-Monitor (PPCM) is a calibration standard commonly used as a secondary or transfer pressure standard in calibration and test labs supporting the TTU-205 platform. The PPCM provides accurate testing of air data instrumentation. The operating software (currently Rev K) provides fast control of the operating pressures and it monitors internal functions to prevent damage to the unit during testing. The PPCM provides a stable, repeatable, and reliable standard for pressure calibration with ease of use and remote control capability. This capability is provided through the IEEE-488 interface port located on the rear panel of the instrument. The PPCM operates in any one of five basic modes:

- Dual Control both channels control in respective units, preselected by the operator.
- Altitude Control only the Altitude Channel is controlling; the Airspeed Channel is disabled.
- Airspeed Control with the Altitude Channel output ports uncapped, the Altitude Channel monitors local ambient pressure when V_c , Q_c , or M is used as the reference for computation of P_t . When the Airspeed Channel is controlled in terms of P_t , local ambient is used to prevent negative Q_c conditions.
- Dual Monitor both channels display the pressure at their respective ports.
- Reset both channels are vented to ambient pressure. Should a failure occur, the unit automatically reverts to this mode and vents the UUT at a controlled rate.

There are two test modes of operation, selectable by the front panel that verify the PPCM's operational capability.

- Calibration Test is used to verify calibration of the two sensors against each other. It also checks the operation of the display modules and control circuitry and performs an internal system leak test.
- Auto/Exercise is a test that automatically cycles the unit through preset ranges of altitude and airspeed to ensure maximum accuracy and stability. After completion of test cycles, the program automatically switches the system to the RESET mode.

PPCM Precision Pressure Controller Monitor

Altitude	Specifications
Altitude Range	-2,000 to 90,000 ft (0.511 to 32.148 InHg)
Altitude Accuracy	± 0.004 InHg over full range
Altitude Rate Range	100.0 to 50,000 fpm
Altitude Rate Accuracy	± 1% of command
Units	InHg, feet (ft), millibar (mBar)
Resolution	± .001 InHg (1.0 ft)
Airspeed	Specifications
Airspeed Range	20.0 to 1,050 Knots (0.5 - 112.3 InHg)
Airspeed Accuracy	± 0.004 InHg to 0.008 at 110 in
Airspeed Rate Range	0 to 800 Knots/min (Vc) 0 to 21.0 InHg/min (Qc) 0 to 30.0 InHg/min (Pt) 0 to 0.999 Mach/min (M)
Airspeed Rate Accuracy	± 1% of command or Summation of Ps and Pt
Mach Range	0.2 to 4.9 Mach
EPR*	0.5 to 9.9
Resolution	± .001 InHg (.01 Kts)
Limits	Specifications
H	2 digit thumbwheel, 1,000 ft steps
V	3 digit thumbwheel, 10 K steps
M	2 digit thumbwheel, 0.1 M steps
Leading Particulars	Specifications
Weight	40 lbs, 59 lbs with accessories and case
Dimensions	Rackmount (19" x 14" x 20") Benchtop Case (21.5" x 13.5" x 24")
Power	90-264 V AC, 47-63 Hz single phase
Interfaces	IEEE-488 GPIB (rear panel)

* Stated accuracies include repeatability, equivalent accuracy in metric units.
Specifications may also be modified to fit a customers specifications and/or requirements. Contact TestVonics for more information.

Precision Pressure Controller Monitor Benefits

• Operating Software

The PPCM operating software (Rev K) provides fast, error-free control of the operating pressures. It also monitors internal functions to prevent any erroneous pressures from damaging the unit under test (UUT).

• IEEE-488 Compatibility

When interfaced to a remote programming device via IEEE-488 bus, the unit substantially reduces test and calibration times for any air data instrumentation or other pneumatic equipment. It may be configured for commercial or military ATE applications

• Built-In UUT Protection

It also monitors internal functions to prevent erroneous pressure from damaging the unit under test (UUT). Vent and relief valves are included in the unit to further protect the UUT.

• Modular-based Design Concept

PPCM is designed utilizing modular concept. Electronic circuit cards, transducers, and the power supply are interchangeable plug-in modules which are installed to allow maximum ease of maintenance and minimum downtime.

• Selectable English or Metric Units

Units of pressure measurements and control of both channels are selectable in either English or Metric units including; Inches of Mercury (InHg) or millibars, Feet (ft) or meters (m) of Altitude, and Knots (Kts) or Km/hr of Airspeed.

PPCM Rackmount Unit

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