

Automated Hydraulic Pressure Calibrator

Model: MDPC200

Applications

Automated pressure generation and control to 15,000 psi (1,035 Bar)
Accuracy to 0.01%FS
Dual-range manual or auto select
Control stability 0.005%FS
Portable - designed for use in the field and in the lab
Control by optional external pressure modules
Supports two external pressure modules
Wi-Fi, LAN, Bluetooth, USB and Ethernet communication
Full HART field communicator
HART and PROFIBUS communication
Data logging and task management
Patented electric pump technology



Overview

The Additel MDPC200 Automated Pressure Calibrator provides a revolutionary turnkey solution for automated pressure calibration work up to 15,000 PSI using deionized water as the working media.

Designed for use in both the field and the laboratory, the portability and accuracy of this state-of-the-art product will quickly become the favorite go-to calibrator for lab personnel and field technicians alike.

With fully automated support for calibration of pressure transmitters, switches, dial and digital gauges and sensors, including HART/PROFIBUS devices in conjunction with a fully integrated task feature, data collection and Wi-Fi connectivity, we had our customer's needs in mind when designing our most capable pressure calibrator to date.

Dual-Range Accuracy to 0.01% FS

The MDPC200 includes the unique ability to automatically switch between different internal calibrations depending on the current control pressure of the ADT762W. Additel provides calibrations unique to each MDPC200 for ranges of 0-3,000 PSI (200 Bar) and 0-10,000 PSI (700 Bar) in the GP10K base model and 0-6,000 PSI (420 Bar) and 0-15,000 PSI (1,035 Bar) in the GP15K model. As the calibrator is pressurized, it will automatically select the control and measurement specification based on the specific pressure range. Pressure calibration range selection can be set to "auto" mode so the calibration range is automatically selected by the MDPC200W based on the set point pressure, or the calibration range can be manually selected.

Built-in Auto-Purge Application

Purging hydraulic calibration systems can be challenging and time consuming. The MDPC200 has been specifically designed for use with water. It comes standard with a specially designed manifold to help provide a constant positive pressure environment to mitigate concerns with contamination when using water as a medium. The integrated auto-purge system saves time, money and frustration by completely automating the removal of air from the system. With the push of a button, the MDPC200 quickly manages the system purging. This helps to free up time for technicians to attend to other needs.

Documented Task Feature

The powerful documented calibration task application allows users to quickly create and execute tasks without the need for a PC or tablet. The MDPC200 automatically analyzes errors, generates test reports, while storing results locally. The Additel MDPC200 can support up to 1000 documented tasks which can be stored and recalled at any time to help save time and money.

Pressure Specifications

Pressure Range	15-10,000 psi (1-700 Bar) and 15-15,000 psi (1-1.035 Bar)
Range Selection	Manual 3K psi, 10K psi or auto-range for the GP10K and Manual 6k psi, 15K psi or auto-range for the GP15K
Accuracy	GP15K: 0~15,000 psi, 0.01%FS GP15K: 0~6,000 psi, 0.01%FS GP15K: 0~15,000 psi, 0.02%FS GP15K: 0~6,000 psi, 0.02%FS GP10K: 0~10,000 psi, 0.01%FS GP10K: 0~3,000 psi, 0.01%FS GP10K: 0~10,000 psi, 0.02%FS GP10K: 0~3,000 psi, 0.02%FS
Resolution	7 digits 6 digits
Measurement Units	Pa, hPa, kPa, mPa, bar, mbar, psi, mmHg@0°C, cmHg@0°C, mHg@0°C, inHg@0°C, inH2O@4°C, mmH2O@4°C, cmH2O@4°C, mH2O@4°C, mmH2O@20°C, cmH2O@20°C, mH2O@20°C, inH2O@20°C, inH2O@68°F, kgf/cm2, mtorr, torr, lb/ft2, tsi, custom
Maximum External Load Capacity	Max: 80 ml@60 MPa, 60 ml@100 MPa, 50 ml recommend Reservoir Max: 350 ml
Reservoir	Max: 350 ml built-in filter
Control Stability	Control Sa0.005%FS from 100 to 15,000 psi
Stability Duration	> 5 min
Pressure Module	Built-in one module with dual range
External Control Pressure Module	See the following "External Control Pressure Module Specification and Compatibility" table
External Measurement Pressure Module	All ADT161 pressure modules

Electrical Specifications

Model	Range	Resolution	Accuracy	Note
mA Measure	-25 to 25 mA	0.1 μ A	$\pm (0.008\%RD + 1.0 \mu A)$	Impedance <10 Ω
	-50 to 50 mA	0.1 μ A	$\pm (0.008\%RD + 2.0 \mu A)$	
V Measure	-300 to 300 mV	1 μ V	$\pm (0.008\%RD + 100 \mu V)$	Impedance <1 Ω
V Measure (Auto-ranging)	-5 to 5 V	20 μ V	$\pm (0.008\%RD + 320 \mu V)$	Impedance >1 M Ω
	-12 to 12 V	100 μ V	$\pm (0.008\%RD + 320 \mu V)$	
	-30 to 30 V	100 μ V	$\pm (0.008\%RD + 600 \mu V)$	
Loop power source	24 V	N/A	± 1 V	50 mA (Max Loading)
mA Source	0 to 2.5 mA or 2.5 to 25 mA	0-2.5 mA: 0.05 μ A 0-25 mA: 0.5 μ A	0-2.5 mA: 0.008%RD + 0.2 μ A 0-25 mA: 0.008%RD + 1.0 μ A	20 mA @ 1 K Ω
Power source	16 to 30 V	1V	± 1 V	70 mA (Max Loading)
V Source	0 to 16 V	0.25 mV	0.008%RD + 500 μ V	
Pressure switch	Mechanical switch, Live mechanical switch, NPN switch, PNP switch	N/A	N/A	Response time<10 ms. If the switch is live, voltage range will be (3-30) V
Temperature compensation	18 $^{\circ}$ C to 28 $^{\circ}$ C			
Temperature coefficient	Outside of 18 $^{\circ}$ C to 28 $^{\circ}$ C: $\leq \pm 0.0005\%RD + 0.00005\%FS/^{\circ}C$			
Misuse protection	Up to 30 V only two sockets			
Pressure switch test	●			
HART/PROFIBUS PA	●			

External Control Pressure Module Specification and Compatibility

Model	Pressure range		Accuracy	Pressure type	Media
	(psi)	(bar)			
ADT161-01-GPxx for 0.01%FS	1,000	70	0.01% FS	Gauge	G,L
	1,500	100	0.01% FS	Gauge	G,L
	2,000	140	0.01% FS	Gauge	G,L
	3,000	200	0.01% FS	Gauge	G,L
	5,000	350	0.01% FS	Gauge	G,L
	10,000	700	0.01% FS	Gauge	G,L
	15,000	1000	0.01% FS	Gauge	G,L
ADT161-02-GPxx for 0.02%FS	1,000	70	0.02% FS	Gauge	G,L
	1,500	100	0.02% FS	Gauge	G,L
	2,000	140	0.02% FS	Gauge	G,L
	3,000	200	0.02% FS	Gauge	G,L
	5,000	350	0.02% FS	Gauge	G,L
	10,000	700	0.02% FS	Gauge	G,L
	15,000	1000	0.02% FS	Gauge	G,L

General Specification

Specification	Description
User Interface	Color touch screen and keypad operation
Display	7" TFT touch screen 800 x 480 color
Enclosure IP Rating	Ip31
Power	Dedicated lithium battery or power adapter
Battery	Rechargeable Li-Ion battery, typically 12 hours of operation, less than 5 hours recharge.
Weight	28 lbs (12.8 kg) without media
Media	Sebacate oil
Size	11.81 x 8.66 x 7.56 in (300 x 220 x 192 mm)
Communications	USB, LAN, Bluetooth, Wi-Fi and Ethernet
HART Communication	Read, configure and calibrate HART devices - DD files updated periodically
Data Storage	> 8 GB
Data Logging	Up to 1,000,000 readings (data and time stamped)
Task Documentation	Up to 1,000 tasks can be stored with data
Automation Functions	Switch test, auto step, leak test
User Interface Localization	English, German, French, Italian, Spanish, Portuguese, Chinese, Japanese, and Russian
Pump Life	> 1,000,000 cycle
Environmental Specifications	Operating temperature: 32 °F to 122 °F (0 °C to 50 °C
	Storage temperature: -20 °C to 60 °C (-4 °F to 120 °F
	Humidity: <90%, non-condensing
Certification	ISO 17025 accredited certificate of calibration with NIST-traceable data
Compliance	CE
Software Compatibility	ACal, Additel Land and Additel Link for access via mobile application
Warranty	1 year
Hose & Filter End of Life	The estimated End of Life (EOL) expectancy for all accessory hoses and filters (pneumatic and hydraulic) is approximately 10 years and should be replaced at the first sign of wear or damage



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