

DPI 720

Multifunction Process Calibrator

- Measures and simulates RTD's, T/C's and resistance
- Measures/sources current and volts
- Inputs and outputs fully isolated
- Reads input and output simultaneously
- Transmitter calibration and simulation
- Loop check with step and ramp outputs



DPI 720

Multifunction Process Calibrator

The Druck DPI 720 is an extremely versatile and cost effective multifunction process calibrator which replaces many single function instruments with a single compact handheld unit. The DPI 720 measures, sources and simulates most process signals and displays both input/output readings simultaneously.

This ergonomic and rugged design features an easy-grip casing with an integral strap for convenient field use and is powered by standard "AA" size batteries.

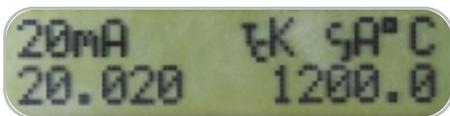
Features

Measure/source:	mA, mV, V.
Measure/simulate:	10 thermocouples, 2 RTD's, ohms.
Dual display:	Any input value with any output value.
Accuracy:	0.04% rdg for mA, mV, V, ohms.
Input/output display:	2 x 16 character dot matrix LCD.
Electrical connectors:	4mm separated input/output connectors.
Cold junction:	Automatic or manual compensation for thermocouple cold junction temperature.
Scaled readings:	Process signals can be scaled into engineering units e.g. measure mA and read in °F or °C.
Step Output:	Step output, up and down, using arrow keys.
Ramp Output:	Programmable end points, rate and dwell.
Preset memory:	Quick store and recall of three preset values.
Loop power:	24V loop power for mA measure and source.

Applications

Temperature transmitter calibration

The DPI 720 features closed loop calibration for RTD and thermocouple transmitters. The display shows both the simulated value and the transmitter output. Loop power is available for stand-alone operation.



Temperature transmitter simulation

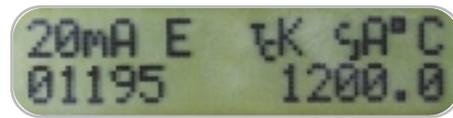
Control system hardware and software can be fully checked by simulating transmitter outputs. Values in °C or °F are entered via the numeric keypad and converted to the corresponding mA output.

Temperature sensor simulation

For simulating RTD and thermocouple outputs, temperature values are entered in °C or °F and the corresponding ohm or mV output is generated. The DPI 720 automatically compensates for the cold junction temperature. Outputs in ohms or mV can be generated for non-standard sensors. Temperature sensor simulation enables complete loop calibration, from sensor to DCS or local indicator.

Scaling process signals

Process signals in mV, V, mA and ohms can be scaled to represent engineering units in both measure and source modes. For example, the mA output of a temperature transmitter can be displayed in °F or °C.

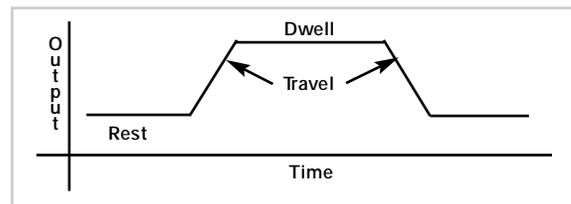


Calibration and linearity checks

Multi-point tests can be quickly performed using the **Step** and **Preset** outputs. The arrow keys step the output up or down for example, 4, 8, 12, 16, 20mA. The **Preset** memory recalls one of three set values at the press of a button, for example 0, 50, 100% F.S.

Single-handed loop tests

The programmable **Ramp** output continuously cycles through a set program allowing a single technician to feed the loop and monitor the control system.





Protective rubber casing

Banana style input/output sockets separated for ease of use

Internal cold junction compensation

24 Vdc loop power supply available on input and output connectors

2 x 16 character dot matrix LCD

Tactile membrane keypad

Function key for recalling, preset, ramp, step and scaled values

Store key for setting preset, ramp, step and scaled values

Programmable ramp output

Scale input and output in engineering units

°C/°F temperature selection

Internal or manual cold junction compensation

Wrap-around hand strap converts for hanging

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SPECIFICATIONS

Measure/ source	Range	Accuracy (1 Year)	Resolution	Remark
mV	±21mV	0.07% + 7*	0.001mV	R in >1000MΩ
	±210mV	0.04% + 4*	0.01mV	R in >1000MΩ
V	±2.1V	0.04% + 4*	0.0001V	R in >1000MΩ
V (input)	±21V	0.04% + 4*	0.001V	R in >1MΩ
V (output)	±10.5V	0.04% + 4*	0.001V	10mA max.
mA	±21mA	0.04% + 4*	0.001mA	R load ≤1000Ω R in 10Ω V in 60V max.
Ohms	0 to 400/3000Ω	0.04% + 4*	0.1/1Ω	0.5mA measure 0.1 to 3mA source
J ①	-200 to 1000°C	0.7°C	0.1°C	R in >1000MΩ
L ①	-200 to 900°C	0.7°C	0.1°C	R in >1000MΩ
K ①	-250 to 1350°C	1°C	0.2°C	R in >1000MΩ
T ① and U ②	-250 to 400°C	0.6°C	0.1°C	R in >1000MΩ
E ①	-250 to 1000°C	0.7°C	0.1°C	R in >1000MΩ
N ①	-250 to 1300°C	1.4°C	0.5°C	R in >1000MΩ
R ① and S ①	-50 to 1750°C	1.4°C	0.5°C	R in >1000MΩ
B ①	200 to 1820°C	2.8°C	1°C	R in >1000MΩ
Pt 100 ③,④	-200 to 850°C	0.6°C	0.1°C	0.5mA measure 0.1 to 3mA source
Ni 100 ③	-60 to 180°C	0.7°C	0.1°C	0.5mA measure 0.1 to 3mA source

* % of reading and number of counts.
Accuracy includes temperature errors 59° to 95°F (15° to 35°C). RTD and T/C accuracy best case mid range. ① IEC 584, ② DIN43710, ③ DIN43760, ④ IEC 751

Display

2 rows of 16 characters, dot matrix LCD, 5 readings/sec.

Temperature units

°F and °C.

Cold Junction error

±0.3°C.

Loop Power

24V, ±3%.

Calibration Reference

23°C ±5°C.

Operating Temperature Range

14° to 131°F (-10° to 55°C).

Humidity

10 to 90% non-condensing.

Conformity

EN61326-1, EN61010-1, CE marked.

Maximum Input Voltage

30V with respect to ground.

Power Supply

4 AA batteries. Alkaline cells give 20 hours use at 68°F in measure mode. Auto power off, battery level indicator.

Physical

1.75 lbs., 9.6 x 4.9 x 2 in.

ACCESSORIES

The DPI 720 is supplied with protective fabric case (P/N 860-174), alkaline batteries, NIST traceable calibration certificate with data, user manual, quick reference guide and electrical leads.

CALIBRATION STANDARDS

Instruments manufactured by Druck are calibrated against precision calibration equipment traceable to National Institute of Standards and Technology (NIST).

RELATED PRODUCTS

Druck manufactures a wide range of portable pressure, temperature and electrical field calibrators. A selection of these are shown below.



Laboratory and workshop instruments

Druck also manufactures a comprehensive range of pressure indicators and controllers. Included are Pressurements industrial deadweight testers and and Ruska high precision controllers and primary standard piston gauges.

Multifunction temperature calibrators

The MCX II and TRX II are portable documenting calibrators for calibrating and maintaining instrumentation and process control loop. Also, Dry Block calibrator DBC series generates temperature and measures RTD's, T/C, mA, mV and ohms.

Pressure transducers and transmitters

Druck manufactures a wide range of pressure transducers and transmitters, utilized in a variety of aerospace, automotive, depth level and process applications.

Please refer to Druck for further information and datasheets.

ORDERING INFORMATION

Please state the following:

1. Basic model number DPI 720.

Continuing development sometimes necessitates specification changes without notice.

Druck is an ISO 9001 registered company.



Druck Incorporated
4 Dunham Drive
New Fairfield, CT 06812
Tel: (203) 746-0400
Fax: (203) 746-2494
E-mail: usa.sales@druck.com
www.druck.com
www.pressure.com

Representative