

DPI 720



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Multifunction Process Calibrator

- Measures/simulates RTD's, thermocouples, ohms
- Measures/sources current and voltage
- Inputs and outputs fully isolated
- Reads input and output simultaneously
- Transmitter calibration and simulation
- Loop check with step and ramp outputs



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 alkaline batteries.

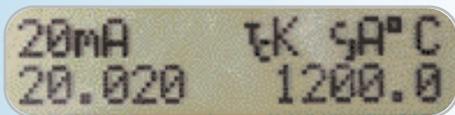
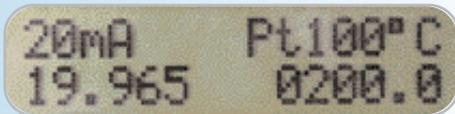
Features

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 °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

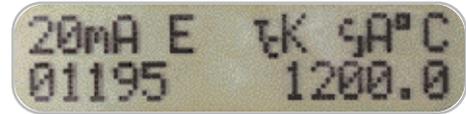
Control system hardware and software can be fully checked by simulating transmitter outputs. Values in °C/F are entered via the numeric keypad and converted to the corresponding mA output.

Temperature sensor simulation

For simulating RTD and thermocouple outputs, temperature values are entered in °C/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 °C.

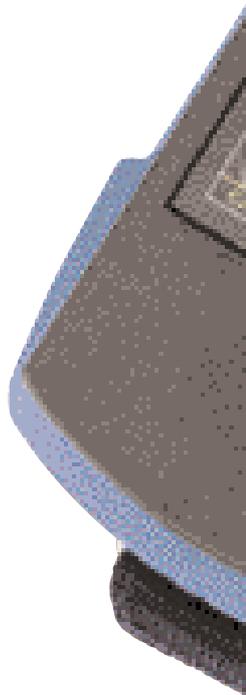
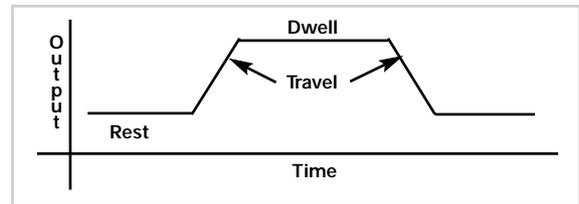


Calibration and linearity checks

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

Single-handed loop tests

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





Protective rubber casing

4mm input/output sockets separated for ease of use

Internal cold junction compensation

24V loop power 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

Specifications and Options

SPECIFICATION

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
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 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

°C and F.

Cold Junction error

±0.3°C.

Loop Power

24V, ±3%.

Calibration Reference

23°C ±5°C.

Operating Temperature Range

-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 cells. Alkaline cells give 20 hours use at 20°C in measure mode. Auto power off, battery level indicator.

Physical

245mm x 125mm x 50mm, 0.8Kg.

OPTIONS

(A) Carry Case P/N 860-174

A protective fabric carry case with convenient shoulder strap and storage pockets.

SUPPLIED AS STANDARD

The DPI 720 is supplied with user guide, test leads, alkaline batteries and calibration certificate as standard.

CALIBRATION STANDARDS

Instruments manufactured by Druck are calibrated against precision calibration equipment traceable to International Standards.

RELATED PRODUCTS

Druck manufacture an extensive range of laboratory and workshop pressure calibrators, including Pressurements industrial deadweight testers and Ruska primary standard piston gauges. In addition, the wide range of pressure transducers and transmitters includes the fully rangeable RTX.



Please refer to Druck for further information and datasheets.

ORDERING INFORMATION

Please state the following:-

1. Model number DPI 720.
2. Option (if required) please specify part number.

Continuing development sometimes necessitates specification changes without notice.

Druck Limited

Fir Tree Lane, Groby
Leicester, LE6 0FH, England

Tel: +44 (0) 116 231 7100
Fax: +44 (0) 116 231 7103
E-Mail: sales@druck.com
Internet: www.druck.com



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Agent: