



UPS4E series

Druck loop calibrator

The UPS4E is a rugged and extremely compact loop calibrator, designed to be operated with one hand. It is an essential tool for loop testing/powering process control mA loops and mA devices. Perfect for instrument maintenance with an easy-to-read display and simple-to-use time saving features including step, span and valve check.

The UPS4E utilises the most advanced electrical calibration technology to create a dependable, cost-effective loop calibrator.

Features and benefits

- Measure or source 0 to 24 mA
- Accuracy 0.01% of reading+1 count
- Dual mA and % readout, linear or flow (including square root extraction)
- Step, span check, valve check, ramp
- 30 VDC measurement
- Continuity check
- 100,000 datalog points
- In built 250 Ω resistor for supporting HART operation
- 24 V DC loop power with mA measure or source mode
- Auto shutdown to conserve battery life
- Hazardous Area (Intrinsically safe) Model available
- Programmable range and cycle count auto valve cycling feature for valve testing

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Display

The graphic display provides a robust design with high contrast back-light for daylight readability. The unit shows the main measurement with percentage of FS reading.

Measure or source 0 to 24 mA

An internal 24V loop supply is available in both measure and source modes, essential during plant shutdowns.

In Source mode the current is actively controlled as set by the UPS4E.

In Measure mode the current is controlled by the external equipment being tested.

Simultaneous % readout

Displays mA and the percentage value of 4 to 20 mA or 0 to 20 mA.

Step, span check and valve check

Step quickly through linearity tests and zero/span adjustments. In valve mode, seating can be checked and the actuator set.

Step mode	0%	25%	50%	75%	100%
4 to 20 mA linear	4	8	12	16	20
0 to 20 mA linear	0	5	10	15	20
4 to 20 mA flow	4	5	8	13	20
0 to 20 mA flow	0	1.25	5	11.25	20
4 to 20 mA span check	4	-	-	-	20
0 to 20 mA span check	0	-	-	-	20
4 to 20 mA valve	3.8, 4, 4.2	-	12	-	19, 20, 21
0 to 20 mA valve	0, 0.2	-	10	-	19, 20, 21

UPS4E specifications

Function	Range	Resolution	1 year accuracy(1) % rdg + counts
Source mA with external loop power	20 mA	0.001	0.01% Rdg + 1 count
	24 mA	0.001	0.01% Rdg + 2 counts
Measure mA with external loop power	±20 mA	0.001	0.01% Rdg + 1 count
	±24 mA	0.001	0.01% Rdg + 2 counts
Source mA with internal loop power	20 mA	0.001	0.01% Rdg + 1 count
	24 mA	0.001	0.01% Rdg + 2 counts
Measure mA with internal loop supply	20 mA	0.001	0.01% Rdg + 1 count
	24 mA	0.001	0.01% Rdg + 2 counts
Measure V	±20 V	0.001	0.01% Rdg + 1 count
	±30 V	0.001	0.01% Rdg + 2 counts

(1) Accuracy includes temperature effects 10°C to 30°C (50°F to 86°F). For use outside these limits add 0.003%/°C (0.015%/°F)

Auto step and ramp

Outputs have adjustable ramp/step rates (1 to 599 seconds) for singlehanded loop testing, valve set-up and slew rate checks.

"Fast Set" output

Allows values to be set to within 0.001 mA using the keys. Holding a key quickly ramps the output to the next set point value. This function is ideal for alarm trip tests.

30 VDC measurement

For loop diagnostics and maintenance of voltage output instruments.

Datalogging

Ability to record over 100,000 datalog points of data from the main reading channel. Users can manually activate via the settings menu and configure user set intervals via the display.

Data files can be transferred to a PC for further analysis.

Other features

- Industry standard AA batteries
- Supports inrush current to a max of 40 mA for 500 ms
- Battery status indicator
- Information screen reports serial number, software version and calibration date
- PIN protected calibration and firmware updates.

General specifications	
Internal memory	100,000 point data logging memory
Operating temperature	-10 to 50°C (14 to 122°F)
Storage temperature	-20 to 70°C (-4 to 158°F)
Ingress protection	IP54. Protected against dust and splashing water from any direction
Humidity	0 to 90% RH non-condensing
Shock/vibration	MIL-PRF-28800F CLASS 2
EMC	EN 61326-1
Electrical safety	EN 61010-1 EN 61010-2-030
Enclosure materials	High impact ABS
Loop resistance high	Flashes primary reading to indicate error condition
Out of range reading	Flashes "---" on primary reading
Approvals	CE marked Hazardous Area Model: ATEX, IECEx, EN60079-11 Ex ia IIC T4 Ga (-10 to 50 °C).
Display	Size: 72.7 x 42.5mm (2.86 x 1.67in). Custom segment display
Size (L x W x H)	Safe Area Model: 145mm X 73mm X 25mm Hazardous Area Model: 145mm X 73mm X 35mm
Weight (including batteries)	Safe Area Model: 318 grams Hazardous Area Model: 382 grams
Power supply	4x 1.5 V AA-size alkaline batteries
Battery life	Up to 100 hours in measure mode Up to 18 hours at 12 mA loop current
Auto power down	10 minutes after last key press or disabled
Battery status	Battery symbol displayed with 4 segments
Electrical Terminals	Safe Area Model: 2x Gold plated 4mm sockets Hazardous Area Model: 3x Gold plated 4mm sockets
HART resistor	250 Ohm switchable loop resistor to support external HART communications
Connectivity	USB Type C connection to access data log and for firmware update. Safe Area Model: Can be powered through any commercially available certified USB adapter.

Ordering information for UPS4E loop calibrator

The UPS4E is supplied with a quick start & safety guide, set of alkaline batteries, test leads, USB cable and calibration certificate.

Please use the following part numbers when ordering:

Model Type:	Description:
UPS4E	Safe Area loop calibrator
UPS4E-IS	Hazardous Area Loop Calibrator

UKAS calibration

We also offer UKAS accredited calibrations, please advise at the time of order placement if required.

Accessories

Please state any accessories required as separate items when placing order. The UPS4E Series are compatible with the following accessories unless otherwise specified.

Part code		Description
IOUPS4E-CASE		UPS4E (IS) Carry Case Protective carrying case for safe or hazardous area UPS4E units, featuring a wrist loop, shoulder strap, integrated magnet, and storage pocket for test leads

Related products

Druck offer a comprehensive range of portable pressure, temperature and electrical field calibrators. To help you select the right process calibration tools we have categorised our products into three ranges. Druck's Essential range provides rugged, accurate and easy-to-use test and calibration tools. Druck's Expert range introduces higher accuracy and increased functionality. Druck's Elite range provides a modular system offering state of-the-art multifunction communication and calibration.



Supporting services

Druck's highly trained staff can support you, no matter where you are in the world. We can provide nationally accredited calibration (both initially and at periodic intervals), extended warranty terms, maintenance and even rental of portable or laboratory instruments. Please contact your local Druck customer care team for more information. Druck offers a portfolio of high accuracy, high performance test and calibration equipment in safe or hazardous area (IS) variants that are ideal for the calibration and adjustment of Druck pressure sensors.

Delivering world class pressure measurement and calibration technology



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920-723B
BHCS39573 (01/2026)

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