



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
- Step, span check, valve check, ramp.
- 30 VDC measurement and 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

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 61326-1:2013 |
| Electrical safety | EN 61010-1:2010 EN 61010-2-030:2023 |
| 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 |
| Display | Size: 72.7 x 42.5mm (2.86 x 1.67in). Custom segment display |
| Size (L x W x H) | Safe Area: 145mm X 73mm X 25mm |
| Weight | Safe Area: 300 g including batteries |
| Power supply | 4x 1.5 V AA-size alkaline batteries |
| Battery life | Up to 72 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: 2x Gold plated, 4mm sockets |
| HART resistor | 250 Ohm optional loop resistor to support external HART communications |
| Connectivity | USB Type C connection to access data log and for firmware update. Safe Area variant: Device 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 |

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 are compatible with the following accessories unless otherwise specified.

| Part code | Description |
|----------------|------------------|
| IO-USB-C-CABLE | USB A-C 2m Cable |
| IOUPS4E-CASE | UPS4E Carry Case |

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.

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**Delivering world class
pressure measurement
and calibration technology**

