Fluke 709/709H Precision Current Loop Calibrator

with HART communication

Technical Data

Fluke reliable. HART compatible.

Fluke puts HART communication in a precision loop calibrator.

The Fluke 709 and 709H mA loop calibrators are designed to save time and produce high-quality results. These calibrators are built around a user friendly interface with a Quick-Set rotary encoder knob. This tool reduces the time it takes to measure, or source, current and power up a loop. The protective holster easily fits into a technician's hand and the large backlit display is easy to read, even in dark, cramped worked areas.

New

Hart communications

The 709H adds HART communications and supports a select set of the HART universal and common practice commands. This makes the 709H unique as both an affordable, compact loop calibrator and powerful HART communication troubleshooting tool.

In the communicator mode the user will be able to read basic device information, perform diagnostic tests, and trim the mA output on most HART enabled transmitters. In the past, this could only be done with a dedicated communicator, a high-end multifunction calibrator, or a laptop computer with HART modem. Fluke 709H will allow virtually any technician to service and support HART devices.

Saving time, getting answers

In addition, the 709H offers:

- Logging of HART data in the field. Once recorded by the 709H in the field, the 709H/TRACK software can upload the HART configuration of up to (20) HART devices in your plant and output data in either (.csv) or (.txt) format.

- Data logged mA loop measurements and HART data can be recorded from a particular transmitter for troubleshooting and loop tuning. The data log feature offers selectable capture with recording intervals of 1 to 60 seconds and a logging capacity of 9800 records or 99 individual sessions. Each data sample contains the 709H mA measurement, all four process variables, and the standard status conditions.

Product highlights

- Best-in-class accuracy at 0.01% reading
- Compact rugged design
- Intuitive user interface with Quick-Set knob for fast setup, easy use
- 24 V DC loop power with mA measure mode (-25% to 125%)
- Resolution of 1 µA on mA ranges and 1 mV on voltages ranges
- Built in selectable 250 Ω resistor for HART communications
- Simple two wire connection for all measurements
- Auto shutdown to conserve battery life
- Variable step and ramp time in seconds
- Valve test (source and simulate defined mA values with % keys

Specifications

Functions	mA source, mA simulate, mA read, mA read/loop power, and volts read.
Ranges	mA (0 to 24mA) and Volts (0 to 30VDC)
Resolution	1uA on mA ranges and 1mV on voltage range
Accuracy	0.01% +/- 2 counts all ranges (@23° +/- 5°C)
Operating temperature range	-10 °C to 55 °C (14 °F to 131°F)
Humidity range	10 to 95% non-condensing
Stability	20ppm of F.S. /°C from -10°C to 18°C and 28°C to 55°C
Display	128 x 64 pixels, LCD Graphic w/backlight, .34" high digits
Power	6 AAA alkaline
Battery Life	≥ 40 hours continuous use (measure mode using alkaline)
Loop Compliance Voltage	24VDC @ 20mA
Over-Voltage Protection	240VAC
Overload Current Protection	28mA DC
EMC	EN61326 Annex A (Portable Instruments)
Dimensions (L x W x D)	15 cm x 9 cm x 3 cm (6" x 3.6" x 1.3")
Weight	0.3 kg (9.5 ounces)
Included Accessories	NIST traceable calibration certificate with data, batteries, test leads, and manual
Warranty	Three year

HART communication

The Fluke 709H offers a built-in HART modem for communication capability to perform the following commands:

- Read message
- Read tag, descriptor, calibration date
- Read sensor PV information
- Read PV output information
- Read long tag
- Write PV ranges (upper and lower)
- Enter/exit fixed current mode
- Set zero offset
- Trim DAC zero (mA output 4 mA)
- Trim DAC gain (mA output 20 mA)
- The Fluke 709H also offers ability to store up to twenty HART device configuration files for uploading via 709H/TRACK software. via the 709H/TRACK software. Configurations can be stored as .csv or .txt files. This allows the end user to document plant HART easily.

Configurations can be stored as .csv or .txt files. This feature gives the technician direct access to key device parameters, allowing better troubleshooting, calibrating and maintaining of plant assets.

Standard equipment

- Two AC72 alligator clips (709)
- TL75 test leads (709)
- Extended tooth alligator clip set (709H)
- 75X-8014 stackable lead set (709H)
- TP220 test probes (709H)
- AC280 SureGrip™ hook clips (709H)
- HART cable (709H only)
- Soft case
- Six AAA batteries (installed)
- 709/709H Product manual CD-ROM
- 709/709H Quick reference guide
- 709/709H Safety information

Optional software

- 709H/TRACK software/cable

Ordering information

FLUKE-709   Precision Loop Calibrator
FLUKE-709H   Precision HART Loop Calibrator