

Field Tools

Loop Power

101-0028

The Field Loop Power provides a portable power source for commissioning and calibrating loop devices. It's a fully contained power source that takes the low voltage from three "AAA" alkaline batteries and increases it to a highly filtered 24 volt power source - perfect for powering loop 4-20mA transmitters. Loop Power is easy to use, includes all connection leads, and makes it simple to attach your HART protocol modem to the loop.

Using batteries as the power source eliminates isolation concerns as well as the need for a power connection to AC or a USB port. The voltage conversion is done using a high efficiency switching DC-DC converter to maximize battery life - over 6 hours at 12mA.

"Quick simple power for transmitter field calibrations and testing."

Connecting is quick and simple. Clip on the two mini-grabber clips to the power input of your transmitter and push the connect button.

A single connect/disconnect button enables or disables the 24 volts while a status LED indicates the active operating mode. Loop Power automatically powers down if left active to save battery life. If the batteries become low, the status LED will flash to remind you to replace them soon.



"To measure loop current plug the test leads into your DC milliamp meter"

To measure loop current plug the milliamp meter test leads directly into a standard DC current meter. There's no need to break the loop to attach the meter because internal circuits route the loop current through the meter when it's connected. If the load current exceeds 30mA, or is shorted, the output will quickly disconnect. To restore the output simply remove the excess load or short and press the connect button.

Mini-grabber clip points make attaching a HART modem or HART calibrator quick and simple. A 250 ohm loop resistor is included internally so no external connections or jumpers are needed.

Using Loop Power will simplify your loop transmitter calibrations and testing, while eliminating time wasted troubleshooting your calibration setup.

Start using Field Tools Loop Power today.



Features

- Highly filtered 24 volt power source for 4-20mA loop transmitters
- Up to 30 mA capacity, perfect for 4-20mA devices
- Battery powered - eliminates galvanic isolation concerns
- Includes an internal 250 ohm loop resistor to allow for HART protocol communications
- HART modem mini-grabber clip points for easy modem connection to the loop
- All connection leads included - no need for extra test leads and alligator clips
- Long battery life, greater than 6 hours continuous at 12mA load
- Status LED indicates when batteries are getting low
- Able to maintain output even with weak batteries - maximizes battery life
- Uses easy to find, low cost, standard "AAA" alkaline batteries
- Short circuit protection disconnects the output if shorted or over-current detected (>30mA)



HART Modem Clips

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The photo to the right shows Loop Power powering a temperature transmitter with loop current measured by a digital multimeter. A Microflex MicroLink USB HART protocol modem is connected to a Windows tablet running PACTware software. A micro USB male to USB A female adapter is used to connect the USB modem to the tablet micro USB port.



Specifications

Output

Open Loop Voltage..... 24V +/- 2%
 Load Regulation..... 0.25%
 Noise Less than 50mV P-P @ 20mA
 Current 30mA max
 Short Circuit / Overload Protection > 30mA
 Leads... 3' (1 meter) high flexibility test lead wire
 Termination Mini-Grabber clips

Current Meter Leads

Leads 2 Feet (0.6 Meter) high flexibility test lead wire
 Termination Shielded banana plugs, Red (+), Black (-)

HART Protocol Support

Connection Type,
 clip loop terminals (.087" x .055" hole)
 250Ω Loop Resistor..... Included internally

Battery

Type..... 3 x 1.5V "AAA" alkaline
 Operating Life..... > 6 hours with 12mA load
 Battery Supply Range 2.0V to 5.5V
 Low Battery Indicator Status LED will flash
 Low Battery Level 2.49V
 Auto Off duration 10 minutes

Enclosure

Molded ABS Plastic
 Weight (including leads and batteries) 6 ounces
 Enclosure Dimensions 1.70" x 3.25" x 1.13"

Environmental

Operating Temperature,
 -30°C to 50°C (-22°F to 122°F)
 Storage Temperature,
 -40°C to 70°C (-40°F to 158°F)
 Humidity..... 0 to 95% (non-condensing)

