Voltage/Current Calibrator
Model: 72-17175

IMPORTANT SAFETY INFORMATION

Please read these instructions carefully before use and retain for future reference.

- When using electrical appliances basic safety precautions should always be followed.
- Check the condition before using. If you find any cracking, breakage, damage or abnormality, or you consider the device broken, stop using the device immediately
- Do not store or operate the instrument at high temperature and high humidity environment.
- There are no user-serviceable parts in this product. Refer servicing to qualified personnel.
- Do not operate the meter or use connection leads if they appear damaged, or if the meter is not operating properly.
- Remove batteries from devices that will not be used again for a long time.
- Never operate the meter with the cover removed or the battery door open.
- Never dispose of batteries in a fire, or attempt to recharge ordinary batteries.
- To prolong battery life, turn off the meter after use.

WHAT'S INCLUDED

- Calibration instrument
- Storage case.
- Interface cables.
- Instruction manual.
- 9V Battery

FEATURES

- Instrument designed for calibrating process devices and measuring process signals.
- Adjustable 1-24mA current source.
- Adjustable -199.9mV to +199.9mV DCV source.
- Current calibrator drives loads up to 500ohms.
- The instrument powers or measures a two wire current loop.
- Four functions to provide the quality and accurate calibration:-

1. Precision current source
2. Measurement of a current signal
3. Power and measurement of two wire loop
4. Precision DC mV source

FUNCTIONS

Display	LCD display, max count 1999
Function	1. Current source
	2. Current measurement
	3. Power and current measurement
	4. DC mV source
Sampling time	Approx 0.4 sec
Over input indication	"1" displayed on LCD
Operating environment	0°C to 50°C (32°F to 122°F) at <70% relative humidity

ELECTRICAL SPECIFICATIONS

Current Source		
Range	Display resolution	Accuracy
0-19.99mA	0.01mA	±(0.25%FS+1d)
0-24mA	0.1mA	±(0.5%FS+1d)

* Output 0 to 24mA current for loads up to 500ohms
* Output >20mA current for loads up to 400ohms
* FS: full scale

Current Measurement		
Range	Display resolution	Accuracy
0-19.99mA	0.01mA	±(0.25%FS+1d)
0-24mA	0.1mA	±(0.5%FS+1d)

* FS: full scale

Power and Current Measurement of Two Wire Loop		
Range	Display resolution	Accuracy
0-19.99mA	0.01mA	±(0.25%FS+1d)
0-24mA	0.1mA	±(0.5%FS+1d)

* Provides power DC 12V ±2V to the loop and measures current.
* FS: full scale

DC mV source		
Range	Display resolution	Accuracy
-199.9mV to +199.9mV	0.1mV	±(0.25%FS+1d)

* Output measured load impedance should >1K ohm.
* FS: full scale.

Note: the above specifications are tested under the environment RF field strength less than 3V/M and frequency less than 30MHz.

MEASURING PROCEDURE

Current Source
- Insert the black test lead into the negative (COM) jack and the red test lead into the positive (mV-mA) jack.
- Set the function switch to current (mA source) position.
- Press the 0-19.9mA button to set the 0.01mA display resolution (max display is 19.99mA) or press the 0-24mA button to set the 0.1mA display resolution.
- Adjust the calibration rotary control (CAL ADJUST) to generate the current output.

Current Measurement
- Insert the black test lead into the negative (COM) jack and the red test lead into the positive (mV-mA) jack.
- Set the function switch to current (mA measure) position.
- Press the 0-19.9mA button to set the 0.01mA display resolution (max display is 19.99mA) or press the 0-24mA button to set the 0.1mA display resolution.

- Remove power from the circuit under test then apply the black test probe to the negative and the red probe to the positive open circuit and read off the value on the display.

Power and current measurement of two wire loop
- Insert the black test lead into the negative (COM) jack and the red test lead into the positive (mV-mA) jack.
- Set the function switch to power (Power/mA) position.
- Press the 0-19.9mA button to set the 0.01mA display resolution (max display is 19.99mA) or press the 0-24mA button to set the 0.1mA display resolution.
- Apply the black test probe to the negative and the red probe to the positive in series with the load in which the current is to be measured and read off the value on the display.

DC mV Source
- Insert the black test lead into the negative (COM) jack and the red test lead into the positive (mV-mA) jack.
- Set the function switch to voltage (mV Source) position.
- Adjust the calibration rotary control (CAL ADJUST) to generate the voltage (mV) output.

MAINTENANCE

Cleaning the casing
- Wipe using a damp cloth or sponge. Do not use solvents as these may damage the casing.

BATTERY REPLACEMENT

- Disconnect the test leads from the meter before opening the battery cover.
- When LCD display show the " BAT " marker, it is necessary to replace the battery. However, measurement may still be made after low battery indicator appears although accuracy cannot be guaranteed.
- Remove the screw and lift off the battery cover away from the instrument and remove the battery.
- Replace with a new 9V battery and refit the cover and tighten the screw.

SPECIFICATIONS

Power supply	DC 9V NEDA1604 / 6F22 / PP9 battery or equivalent alkaline or heavy duty
Power consumption	Current measurement approx DC 12mA
	Power and current measurement approx DC 33mA
	Current source (under 10mA signal output) approx DC 33mA
	DC mV source (under 100mV signal output) approx DC 12mA
Dimensions HxWxD	150 x 70 x 40mm
Weight	Approx 232g (inc battery)

INFORMATION ON WASTE DISPOSAL FOR CONSUMERS OF ELECTRICAL & ELECTRONIC EQUIPMENT
These symbols indicate that separate collection of Waste Electrical and Electronic Equipment (WEEE) or waste batteries is required. Do not dispose of these items with general household waste. Separate for the treatment, recovery and recycling of the materials used. Waste batteries can be returned to any waste battery recycling point which are provided by most battery retailers. Contact your local authority for details of the battery and WEEE recycling schemes available in your area.