

## DATA SHEET

### Universal Calibrator

#### INTRODUCTION

SBK Instrumentation makes truly portable and highly reliable Universal Calibrator which can be used for many types of Process Control Instruments working on mV, mA or resistance. Source & Sink facility is built in. The Calibrator is designed to suit Instrument Lab as well as field calibration. This can be used as better tool for fault finding and confirmation of instrument/ Sensor reliability. Hence very useful for Commissioning, Quality assurance, Routine Maintenance and Trouble Shooting.



**Model Uni Cal-801**

#### FEATURES

- Hand held, Battery operated, Portable Source and Sink for mV, mA, & RTD(Pt 100 DIN 43760)
- Pt 100 reading directly in terms of Temperature.
- Independent Calibration facility for mV, mA, Ohm, Temp.
- Typical Accuracy 0.1% ±1 digit
- Optional battery eliminator for operation on 230V AC
- Optional Portable Loop Power Supply for 2 Wire Transmitter calibration.

#### TECHNICAL SPECIFICATIONS

- |                                 |  |
|---------------------------------|--|
| ● <b>Power Supply</b>           | Two Batteries of 9V, Size PP3<br>(Optional) Battery Eliminator for 230 V AC Operation  |
| ● <b>Indication</b>             | 4½ digit LCD display with Battery low, Over-range & Polarity Indication  |
| ● <b>Operating Temp.</b>        | 0 to 50 °C   |
| ● <b>Effect of Temp. Change</b> | 0.002% per Deg. C ref 25°C   |
| ● <b>Humidity</b>               | Max 90% Rh non condensing  |
| ● <b>Battery Life</b>           | 6 Hours in case of continuous operation for full current output<br>30 hours in case of continuous operation for mV/RTD output. |
| ● <b>Storage Temp.</b>          | 0 to 70°C  |
| ● <b>Size</b>                   | 170 (H)* 90(W)*45(D)   |
| ● <b>Weight</b>                 | 1Kg approx.  |

## SPECIFICATIONS

Funtion	Range	Resolution	Accuracy	Load
<b>Source / Sink</b>				
mV	199.99	10Micro volt	0.1% 1 digit	5 mA
mA	25.00	10 Micro Amp	0.1% 1 digit	500 ohms at 20 mA
Ohms	500 ohms	100 Micro ohm	0.1% 1 digit	
Temp	200 to 600°C	0.1 deg C	0.1% 1 digit for 0-400 deg C	0.25 Watt

## FUNCTIONAL DESCRIPTION

1. **Power ON** - This switch powers the instrument with batteries / eliminator when switched "ON"
2. **Select** - Rotary selector switch to select required parameter mV/ mA/ Ohm/ Temp
3. **Mode** - Source (Generation) or Sink (Measurement) facility can be selected.
4. **mV/ mA Coarse & fine adjustment** - Both the potentiometers are Multi-Turn Helipots & used to get exact value of mV/mA
5. **RTD Simulation** - Pt 100 simulation directly in terms of Temp. is achieved by Multi-turn Helipot. You can select the Temp. for which Resistance out put is required. Read the value and then feed by using READ/FEED SWITCH.
6. **Ohm** - To Measure Resistance in the range 0-1999.9 ohms (Calibrated for 0-500 ohm) in source & Sink Mode
7. **Terminals** - Are provided for mV(Source/ Sink), mA Source, mA Sink & Resistance / Pt100 (RTD) Source/ Sink.
8. **Calibration Chart** - With resp. to temp. suitable for Thermocouples J,K,R,S & Pt 100 (RTD).
9. **Battery Eliminator** - (Optional) This facility is provided in the Calibrator to suit the operation on 230V AC 50 Hz $\pm$ 10% . As soon as you connect Eliminator Socket, batteries get disconnected automatically & vice versa.
10. **Battery Replacement** - When "Low Bat" Indication appears on DPM, the discharged batteries must be replaced, other wise the accuracy will not be achieved. For replacing battery remove side bottom plate and then slide out the bottom plate on which battery is firmly placed.
11. **Uni Cal** - Can be calibrated easily . Remove the top plate. Potentiometer for mV, mA Source, mA Sink, Ohm/Temp are in sequence & easily accessible. Please refer Instruction Manual.

## APPLICATIONS

- For calibration of proces control Instruments and Systems for various industries such as Cement, Chemicals, Dyestuff, Paint, drugs, Pharmaceuticals, Sugar, Paper, Glass, Food Industries, Steel, Synthetics, Auto, Air-conditioning & Refrigeration.
- As fault finding tool.
- Quality Assurance tool for ISO 9000, QS 2000 companies for control of Inspection & Measurement.

- Due to continuous development specifications are subject to change without notice.

*Total Instrumentation under Single Roof*



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