



INTRODUCTION

Highly precise, accurate and flexible control is the heart of any modern process control system. It is obvious that for a process to be accurately monitored and controlled, the instruments used must be highly accurate and precise. Here comes into picture the need of a calibrator (or simulator as one may prefer to call it). A simulator is nothing but an instrument which 'simulates' certain signals that may occur in a process control system. These signals represent the signals that will actually occur in a process. By referring to the standard charts corresponding signals are fed to the instrument and the instrument is adjusted to achieve the desired end results. This process is called Calibration.

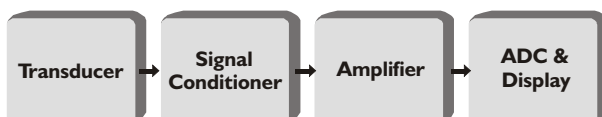
It is evident then, that 'the performance of an instrument is greatly dependent upon its calibration'. The ESD 135 simulator model has been developed for calibration of process control instruments having current or voltage



inputs. It can also calibrate milliampere and millivolt sources. A highly stable and accurate signal is available for calibration. The ESD135 simulator has traceability to international standards.

The instrument is immune to mechanical vibrations. Even its mounting position will not affect the accuracy. Use of highly reliable electronic components with low tempco ensure faithful operation and long, trouble free service. The instrument is tested for its performance under various climatic conditions.

PRINCIPLE OF OPERATION



The ESD simulator is based on the principle of a highly stable current source and highly stable resistance excited by current.

The generated mA / mV signal is fed to a high precision ADC which converts the signal to digital form and a digital indication is obtained on the display.

APPLICATION

The ESD 135 mA / mV simulator can be used in almost any industry, laboratory etc. where accurate simulation of signal is needed to be carried out.

FEATURES

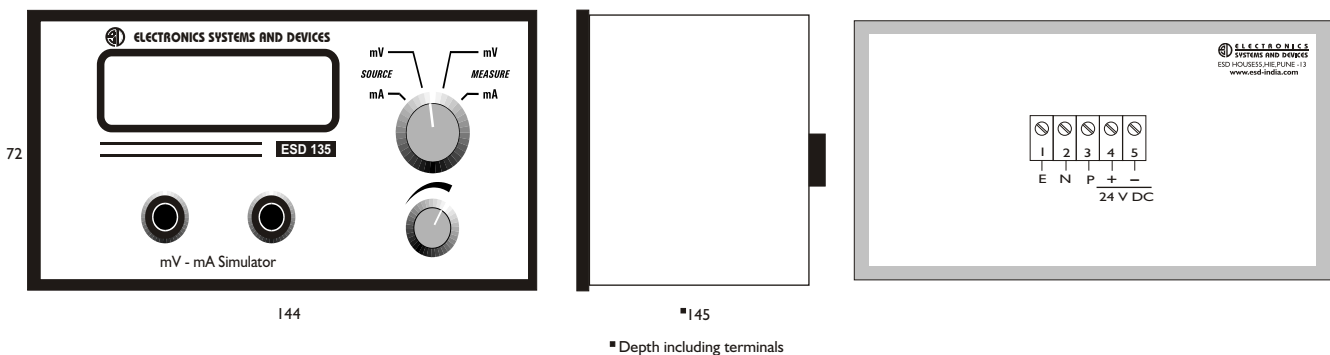
- ✓ Certified accuracy which has traceability to international test standards
- ✓ Facility for mV / mA measurement & sourcing
- ✓ Proven trouble free field performance
- ✓ Highly compact
- ✓ Highly stable output
- ✓ Dust and vermin proof enclosure with epoxy powder coating
- ✓ Fast response time
- ✓ Designed for Pt-100 and thermocouple input
- ✓ Maximum MTBF and minimum MTTR
- ✓ LED display gives better readability at long range

SPECIFICATIONS

Model	: ESD 135	Power consumption	: 5 VA
Ranges	: Refer chart below (other on demand)	Transmitter supply	: 24 V DC @ 30mA
Indication	: 4 & ½ digit 7 segment RED LED display	Front facia	: ABS plastic suitable for IP 55 having size 144 x 72 mm
Display selection	: By using 4 way selector switch between mV / mA source & sink	Dimensions	: 144 x 72 x 145 mm
Indication accuracy	: +/- 0.1 % of full scale +/- 1 digit	Mounting	: Table top
Least count	: Refer chart below (other on demand)	Enclosure	: Mild steel CRCA sheet with powder coating
Power supply	: 230 V AC, +/- 10 %, 50 Hz with earth	Termination	: Screwed type suitable for 2.5mm ² wire
Relative humidity	: Less than 90 % non condensing	Weight	: 700 grams approximately
Ambient temperature	: 0 to 55°C		
Accuracy deviation due to			
a) Temperature change	: +/- 0.002 % /°C, ref at 25°C		
b) Supply variation	: +/- 0.001 % / V		
Recalibration (if reqd)	: By zero & span potentiometers inside		

SPECS MODE	MV		MA	
	Range	Least count	Range	Least count
Source mode	0-60mV through ten turns potentiometer	0.01 mV	0-30mA through ten turns potentiometer	0.01 mA
Sink mode	0 - 199.99mV	0.01 mV	0 - 30mA	0.01 mA

INSTALLATION



ORDERING INFORMATION

ESD 135

X1

Mounting
1 - Table top
2 - Panel cutout

X2

Power Supply
1 - 230 V AC
2 - 110 V AC
3 - 24 V DC
4 - Other

Ordering eg. ESD 135 - 11

mA - mV Simulator ESD 135
Mounting - Table top (1)
Power supply - 230 V AC (1)

**ALSO SELECT
ESD ...**

BACK END

- ✓ Pt - 100
- ✓ Thermocouples
- ✓ Thermowells
- ✓ Compensating Cables

SAME RANGE

- ✓ 4 wire Transmitters
- ✓ Signal Isolators
- ✓ Loop Powered Indicators

FRONT END

- ✓ One Setpoint Controllers
- ✓ Multi Setpoint Controllers
- ✓ Multi channel Controllers
- ✓ Blind Controllers
- ✓ Supersize Controllers
- ✓ Field mounting Controllers



**ELECTRONICS
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Process Control Instrumentation

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