

Ezecal Model 6

mV, V, mA & thermocouple ranges

Internet download of additional ranges

Measure & simulate at same time

High accuracy, 0.02% Grade

20 hours use from a single charge

Auto/Manual Cold junction reference

0.1° temperature resolution

Temperature units C, F, K or R

Includes carry case

Includes calibration certificate

Fast charger optional extra

Stores calibration records



Process and Thermocouple Calibrator

Ezecal Model 6

The Ezecal 6 process calibrator/simulator is small and lightweight yet provides the total solution for on site or laboratory calibration.

Ezecal 6 provides high accuracy linear voltage and current calibration capability and also full support for most thermocouple types.

Simultaneously measures and simulates any of its ranges.

Utilises a high visibility, 122 x 32 pixel graphic display with backlight.

In thermocouple mode it can simulate any of the standard thermocouples over their complete working range and eliminate the need for "look-up" tables, cold junction calculations and temperature unit conversions. Simply set in the appropriate temperature via the keypad. Temperatures can be in degrees Celsius, Fahrenheit, Kelvin or Rankine and cold junction compensation can be manual or automatic.

A serial communication port enables it to connect to the FGH website and download alternative ranges.

The EZECAL Model 6 is the ideal instrument for calibration checks on recorders, indicators, controllers, and for setting up transducers.

All necessary operations are via a 16-position keypad; the easy-to-read display shows temperature, thermocouple type, cold junction mode and temperature units.

The EZECAL Model 6 includes universal Mains Charger Unit & Carrying case with cable storage compartment. It costs considerably less than comparable specification calibrators.

- **Easy To Operate** - All operations are via a 16-position keypad with tactile and audio feedback
- **High Accuracy 0.02% Grade** - On all ranges
- **0.1° Resolution** - Simulate and measure to 0.1°C, F, K or R
- **Auto/Manual Cold Junction** - User selectable Cold Junction Compensation modes
- **Mains Rechargeable** - Includes universal mains charger
- **Includes Carry Case** - Smart carrying case with cable storage compartment
- **Power Saving** - Automatic backlight and power off features.
- **Fast Charger** - Fast Charger available as an optional extra.

PRODUCT INFORMATION

FGH

Ezecal Model 6

Process and thermocouple calibrator

PRODUCT DESCRIPTION

GENERAL

Operating Conditions

Temperature: -10 to +40°C
Rel. Humidity: up to 95% non-condensing

Storage Conditions

Temperature: -10 to +40°C
Rel. Humidity: up to 95% non-condensing

Display

122 x 32 pixel Graphic LCD.
Display size: 52 x 20mm
Colour: Yellow Green with backlight

Operator keypad

Sealed membrane of 16 push-buttons with tactile and audible feedback

Power Switch

ON button with auto OFF

Connections

Input & Output:- 4 x 2mm binding posts.
Recharge/Serial communications Socket:- 8 pin Mini DIN

Power Source

Interchangeable, Rechargeable NiMH battery pack 1300mAh capacity

Power Consumption

300mW nominal

Running Time

20 hours approx continuous use in voltage mode with backlight off

Battery Low Indication

Audible and visual warning given

Battery Recharge

Approx. 20 hours from fully discharged with trickle charger.

Approx 2 hours from fully discharged with optional fast charger

PHYSICAL

Size:- 190 x 80 x 50mm
200 x 135 x 75mm (cased)
Weight:- 350 grams (uncased)
Materials of construction:- ABS HB
Protection:- IP40

SERIAL COMMUNICATIONS

RS232 serial communications at 57600 Baud allow the user full remote control plus the ability to transfer calibration files to and from a personal computer.

SIMULATOR OUTPUT

Output ranges

Linear -10.00 to +105.00mV
Linear -1.000 to +10.500V
Linear -2.000 to +21.000mA
Thermocouples to EN60584-1(EU Models) or NIST175 (US Models)

Any mix of up to 13 thermocouple ranges may be stored in the Ezecal at any one time. Ranges may be downloaded from the internet.

Thermocouple Type	Range °C *
S Pt10%Rh/Pt	-50 to 1767°C
R Pt13%Rh/Pt	-50 to 1767°C
J Fe/CuNi	-210 to 1200°C
K NiCr/NiAl	-270 to 1372°C
T Cu/CuNi	-270 to 400°C
E NiCr/CuNi	-270 to 1000°C
B Pt6%Rh/Pt30%Rh	-50 to 1820°C
N Nicrosil/Nisil	-270 to 1300°C

*plus equivalent in °F, K or °R.

Output accuracy and stability

100mV	Range	-10.00mV to +105.00mV
	Accuracy†	±7µV ±200ppm of O/P
	Temp co‡	±0.5µV/K ±40ppm/K of O/P
10V	Range	-1.000V to +10.500V
	Accuracy†	±750µV ±200ppm of O/P
	Temp co‡	±50µV/K ±40ppm/K of O/P
20mA	Range	-2.000mA to +21.000mA
	Accuracy†	±1500nA ±200ppm of O/P
	Temp co‡	±100nA/K ±40ppm/K of O/P

Notes

† The accuracy is specified for 90 days after not less than 30 minutes operation under the following reference conditions,
Ambient temperature: 20 ±2°C.
Ambient humidity: 60 ±10%
Power: Internal fully charged batteries, trickle charger not connected.
Backlight: Off
Input source resistance: <100R
Output load resistance: 100R (20mA range) or >10000R (mV and V ranges)

‡ The temperature coefficient is specified under the following conditions:
Ambient temperature: -10 to +50°C ±5°C per hour.
Ambient humidity: 0 to 95%, no condensation.
Source resistance: 0 to 1000R
Load resistance: 0 to 500R (20mA range) or >1000R (mV and V ranges)

Thermocouple typical conformity

Types S,R better than 0.6°C (0°C to full scale)
Types J,K,T,E better than 0.4°C (-100°C to full scale)
Type N better than 0.5°C (-100°C to full scale)
Type B better than 0.5°C (300°C to full scale)

Basic Output Resolution

1 in 50,000 (2 µV)

Cold junction

Range -10 to +50°C
CJ Rejection Better than 20:1
Accuracy Better than 0.2°C

Output Resistance

mV range 0.2Ω
V range 1Ω
mA range 50MΩ

Stored Numerical Values

Up to 10 frequently used values may be stored for rapid access via a single key press.

MEASURE MODE

Input ranges:-

Same as output ranges

Input accuracy and stability

100mV	Range	-10.00mV to +100.00mV
	Accuracy†	±6µV ±200ppm of I/P
	Temp co‡	±0.5µV/K ±40ppm/K of I/P
10V	Range	-1.000V to 10.000V
	Accuracy†	±600µV ±200ppm of I/P
	Temp co‡	±50µV/K ±40ppm/K of I/P
20mA	Range	-2.000mA to 20.000mA
	Accuracy†	±600nA ±200ppm of I/P
	Temp co‡	±100nA/K ±40ppm/K of I/P

Noise Rejection

Series Mode. Better than 70dB
Common Mode. Better than 150dB

Input Rise Time

Less than 2 secs. Approx 4 readings per second.

Input Resistance

mV range 1MΩ
V range 1MΩ
mA range 10Ω

Cold Junction Compensation:- (See SIMULATOR OUTPUT)

Included with Ezecal 6

Trickle charger with universal supply input and interchangeable mains plug.
Carrying case
Serial communications/charger lead.
Users manual.
Calibration certificate

Optional extras

Fast charger unit.
Additional battery pack.

For further information please contact:

FGH Controls Limited
Openshaw Way
Letchworth
Hertfordshire
SG6 3ER
England

Tel: +44 (0) 1462 686677

Fax: +44 (0) 1462 671860

Email sales@fgh.co.uk

Website www.fgh.co.uk