



Model 300

Intrinsically Safe Extensometer Readout

Applications

The Model 300 Intrinsically Safe Extensometer Readout is designed for use with the GEL four or five channel extensometer.

It is certified for use in hazardous environments (Group I, Methane).

The user friendly Model 300 provides the following:

- Hand held portability
- Easy operation
- High accuracy and resolution
- In built rechargeable NiMH battery pack
- Operation in Hazardous atmospheres

IECEX ia I approval SIM 06.0001 allows the readout to be used with sensors meeting the following parameters (including the cable):

- $U_m = 14.7 \text{ V}$
- $U_0 = 12.8 \text{ V}$
- $I_0 = 0.46 \text{ A}$
- $P_0 = 0.97 \text{ W}$
- $C_0 = 24.2 \mu\text{F}$
- $L_0 = 0.8 \text{ mH}$
- $L/R = 318 \mu\text{H}/\Omega$



• Model 300 Intrinsically Safe Extensometer Readout

Operating Principle

The Model 300 Intrinsically Safe Extensometer Readout is a portable, low-power, hand-held unit that is capable of running for more than 8 hours continuously on a single charge.

The Model 300 is designed to read GEL extensometers in hazardous environments (IECEX ia, approval SIM 06.0001). It is also designed to read GEL Instrumentation convergence meters and crack meters.

The readout displays displacement directly in 'mm' units to a resolution of 0.1 mm.

The readout is a robust battery powered device that supplies the required intrinsically safe excitation to the sensors and displays the results on a 3.5 digit display.

Features

The Model 300 Readout has the capacity to switch between 5 channels when connected to a GEL Instrumentation roof or rib extensometer. Readings are updated every 3 seconds.

The unit will operate for eight hours and is recharged in a safe location – usually the surface of the underground coal mine.

The unit is splash proof and is constructed from stainless steel. It comes supplied with a canvas carry bag with a shoulder strap.

In operation the Model 300 connects via a signal cable that can be several hundred metres long, making it a useful tool to remotely monitor strata conditions from a safe location for mining personnel.

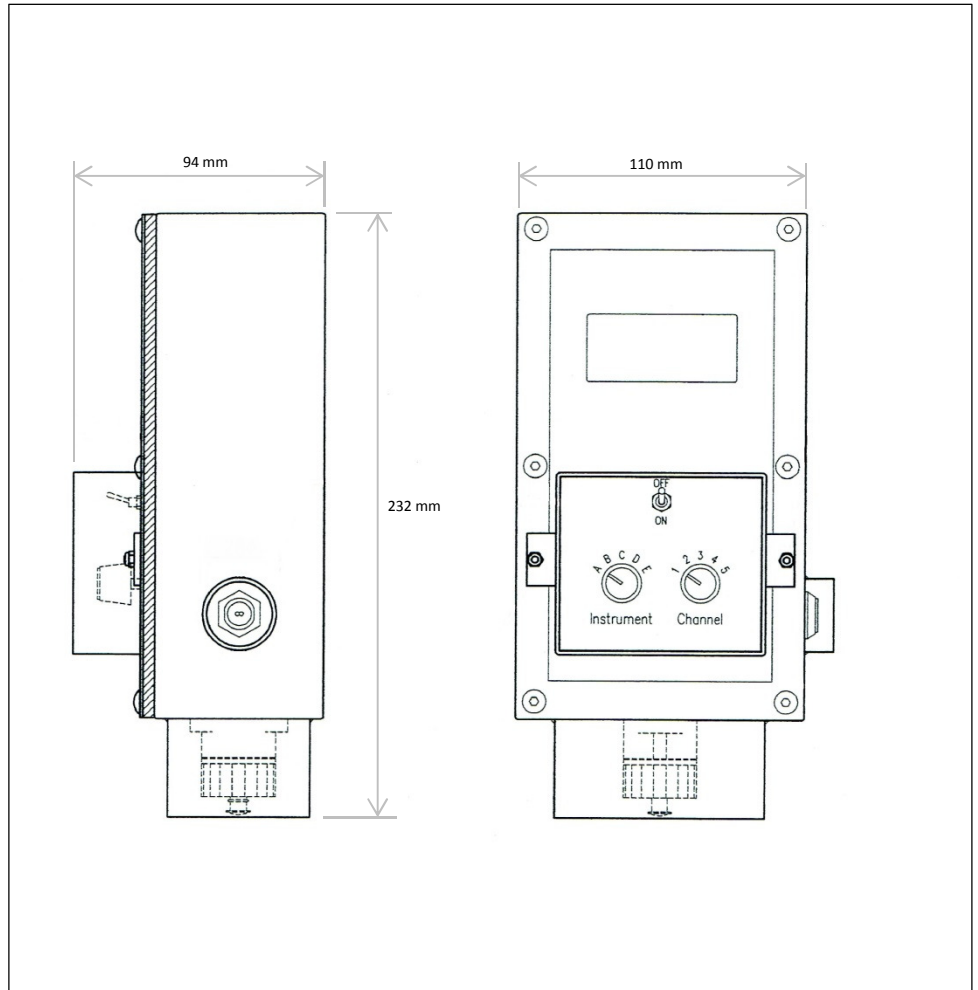
The readout does not have data storage capabilities.



- Carry case for Model 404 (included)



- Sensor cable connection



- Model 300 dimensions (shown smaller than actual size)

System Components

The Model 300 is supplied complete with a wall charger and canvas carrying case.

The carrying case will protect the readout in harsh underground environments. It includes a shoulder carry strap.

Adaptors can be supplied, allowing the use of low cost connectors on instruments in the field.

Technical Specifications

Display Resolution	0.1 mm
Measurement Accuracy	0.1% F.S.
Range	0 to 200 mm
Excitation Range	0.5 to 5.0 Vdc
Temperature Range	0°C to 50°C
Temperature Stability	30 ppm / °C
Battery	(type) Integral NiMH cells (life) 8 hours at 20°C per charge
Weight	1565 g (excluding carry case)
L x W x H	232 x 110 x 94 mm

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