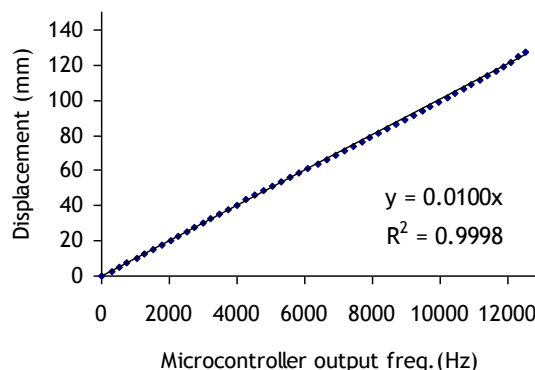


## d-GMM(DETECT)



The **d-GMM** (Ground Movement Monitor) integrates a rugged inductive displacement sensor with YieldPoint's proprietary **d-tech** signal processing and transmission technology to provide a high precision single point displacement sensor. An on-board microcontroller provides linearization, temperature compensation and outputs an ASCII encoded RS485 signal digital signal. Output signals can be transmitted over 1000ft without distortion.

Each instrument is individually calibrated to ensure that the resolution (<0.01mm) and accuracy (0.5% linearity typical) are an order of magnitude better than for similarly priced technology. The inherently digital form of the signals eliminates the necessity for expensive analog-to-digital conversion and results in low cost monitoring peripherals that output data in real world units (mm and degC).



Calibration output for the **d-GMM(DETECT)**

### Features:

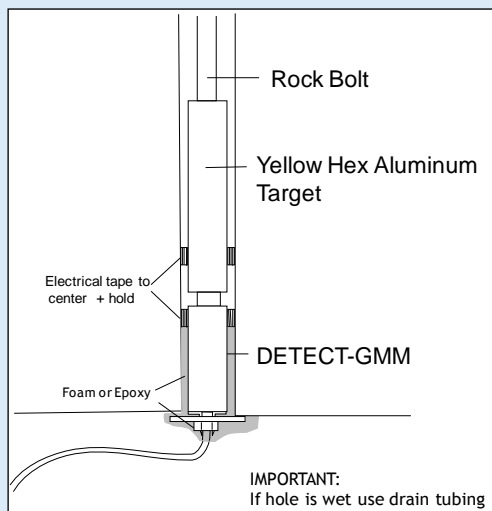
- ▲ **Digital (d-tech) 125mm (5 inch) stroke length**
- ▲ **High accuracy (0.5% FS) and resolution (0.01% FS)**
- ▲ **Individual calibration with coefficients stored in memory.**
- ▲ **RS485 Output signal (9600,8,N,1) ASCII encoded**
- ▲ **Microcontroller provides output in real world units (mm and °C)**
- ▲ **Unique ID facilitates plug 'n play networking**
- ▲ **Digital temperature sensor for accurate compensation**
- ▲ **Inductive technology provides immunity to hostile environment**
- ▲ **Easy to interface with dataloggers (d-LOGGER), Ethernet and WiFi (DESTINY).**
- ▲ **Competitively priced**

# d-GMM(DETECT)

## Technology

### Installation

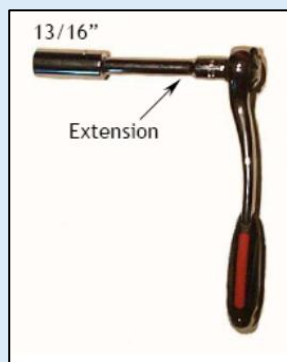
The **d-GMM** is typically installed using a mechanical rockbolt in a borehole as shown in the figure below.



*The installation configuration*

However different customers have found various ingenious ways to monitor deformation

If installed in borehole the **d-GMM** target can be tightened with socket wrench (purchased separately). The GMM itself is usually secured using rock-bolt resin or an expandable foam. In wet holes it is important to use a drain tube.



*The Installation wrench*

## Telemetry

### Manual Readout



*The d-READER*

Readout can be made using YieldPoint's low cost manual readout box, which performs diagnostics on the lead-wires, recognizes the sensor type and ID and outputs the displacement and temperature data directly in mm and °C.

### Automated Data Retrieval

Clusters of sensors (4 per Slave) can be polled YieldPoint's **DESTINY** (Digitally Enabled Sensor Transducer and Instrumentation Network from YieldPoint) technology. DESTINY/IP is a low cost interface to Ethernet or WiFi running TCP/IP. Other versions of **DESTINY** can interface with the pre-existing leaky feeder wireless or even an ESG seismic system.

This solution can save time and money by transmitting data directly to a central control room or an engineer's desktop computer.

# d-GMM(DETECT)

## Applications

The application opportunities for the d-GMM are virtually limitless. Some of the more common scenarios include:

- ▲ Slope monitoring.
- ▲ Monitoring tunnels and drifts.
- ▲ Monitoring FW/HW access
- ▲ Monitoring intersections wide spans
- ▲ Monitoring brows
- ▲ Monitoring fill mats
- ▲ Monitoring bulkheads



*d-GMM used to monitor crack opening in the wall of the Dome Pit in Timmins.*

## Specification

**Borehole size:** 30mm+

**Range (F.S.):** 125mm, 100mm or 50mm.  
**Temp:** -40 to 125°C

**Core Technology:** long range eddy current sensor with on-board temperature sensor

**Output Signal:** RS485 serial (9600,8,N,1) ASCII-encoded digital signal.

**Displ. Range (F.S.):** - 125mm,  
**Displ. Resolution:** - 0.01mm with hand held readout

**Displ. Linearity:** - typically 0.25% F.S  
**Displ. Accuracy:** - better than +/- 0.5mm.

**Temp. Range:** -40 - 125°C

**Temp Accuracy:** +/- 2°C -Digitally trimmed at 0°C and 25°C

**Temp Resolution:** 0.1°C

**Temp coeff for eddy current sensor :**  
<0.01%FS/°C (0-50°C)

### To Order Please specify:

- ▲ Lead-wire length
- ▲ Leadwire poly length