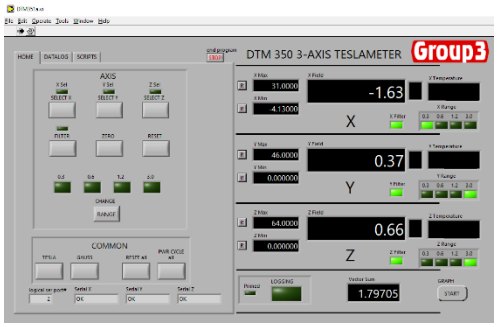
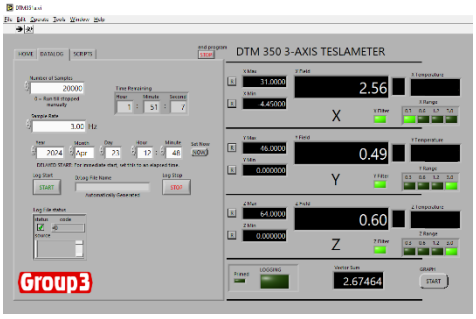
# DTM-350

## 3- Axis Digital Teslameter

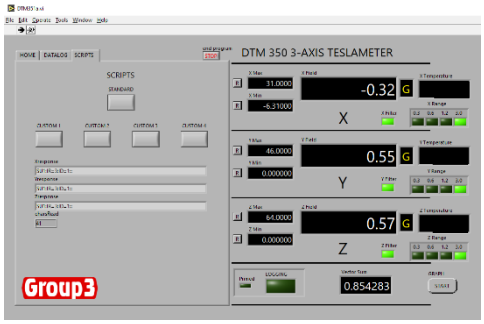
### For Fixed Probe Temperature Calibration


*HOME SCREEN*




*DATA LOG*




*CUSTOM COMMANDS SCRIPTS*

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## Product Description

The DTM-350 Digital Teslameters offer accurate, high-resolution measurement of magnetic flux densities in 3-axis, with direct digital readout in tesla or gauss, with USB output. The teslameter uses the same platform of the highly reliable and Group3 legacy DTM-151 teslameter but without the functionality of temperature readout to minimize cost.

The instruments are light and compact, and the probes are easy to use. The DTM-350 has been engineered to withstand the severe electrical interference produced by high voltage discharge.

The probe's characterisation information is stored in the probe assembly itself so any Group3 probe can be used with any Group3 DTM. However, for full accuracy the DTM-350 should be used with a probe that has without temperature compensation circuitry such as the 3-axis probes 3DT-132 and 3DT-230.

The controls of the teslameter can be either through the custom LabView VI provided, using a terminal emulator for individual axis control, or using the two buttons on the front panel of each axis. The following modes can be selected for the display - magnetic field, peak hold of magnetic field, AC component of field. Digital filtering (time averaging) can be enabled to suppress short term fluctuations.

The communication interfaced through a USB connector and controlled via LabView VI software running on a Windows 10 or 11. It comes with data logging in real time for accurate mapping of your readings in 3-axis.

The probes use 3 miniature hall effect sensors coupled with individual temperature sensors and are mounted on a 10mm diameter holder configured in 3 axes. The probe handle is equipped with mounting screws in either transverse or axial to easily mount on linear guide rails for convenient data gathering especially if mapping a magnet with precision using stepping motors.

The VI also comes with customizable scripts to initialize and automate your commands set-up. Download VI Here.

The teslameter can be mounted on a standard 19" rack panel mount versions are available or as a desktop (feet provided).

## DTM-350 performance with listed probe

| DTM-350 performance with listed probe | Active area (mm) | Resolution of display | Max field | Finest resolution | Accuracy at 25° C | zero drift µT/°C |
|---|---|---|---|---|---|---|
| 3DT-132 | 1 x 0.5 | 1 in 600,000 | 3T | 1µT | ± 0.03% | ±40 |
| 3DT-230 | 1 x 0.5 | 1 in 600,000 | 0.3T | 0.1µT | ± 0.03% | ±12 |

## Resolution using 3DT-132 Probe

DC Mode with Digital Filtering ON

| Range | Display resolution | | VI Output Resolution | |
|---|---|---|---|---|
| | Gauss | Tesla | Gauss | Tesla |
| 0.3 | 0.1 | 0.00011 | 0.01 | 0.000001 |
| 0.6 | 0.2 | 0.00002 | 0.02 | 0.000002 |
| 1.2 | 0.4 | 0.00004 | 0.04 | 0.000004 |
| 3.0 | 1 | 0.0001 | 0.1 | 0.00001 |

## Resolution using 3DT-230 Probe

DC Mode with Digital Filtering ON

| Range | Display resolution | | VI Output Resolution | |
|---|---|---|---|---|
| | Gauss | Tesla | Gauss | Tesla |
| 0.03 | 0.01 | 0.000001 | 0.001 | 0.0000001 |
| 0.06 | 0.02 | 0.000002 | 0.002 | 0.0000002 |
| 0.12 | 0.04 | 0.000004 | 0.004 | 0.000004 |
| 0.3 | 0.1 | 0.00001 | 0.01 | 0.000001 |

## Features and Specifications

- Accuracy is 0.03% of reading + 0.006% of full scale when used with 3DT-132 probe
- zero drift: ± (40µ T + 0.0003% of full scale) / ° C max.
- Effect of probe cable: add -3ppm / ° C for each metre of probe cable
- Display in Gauss or Tesla
- Filter, Zero and Hold Function
- Maximum Field Reading up to 3 Tesla
- 4-range operation
- 0.1µT Resolution with 3DT-132 at lowest range
- Interface via USB connector to a Windows 10 or 11 PC.
- Bench top or mountable to 19" Standard Rack Panel
- Applicable probe standard cable length of 5 meters and can be customized up to 30 meters
- Probe Head diameter: 10mm
- Approximate Weight 3.5 kg

## Applicable Hall Effect Probes

Standard Sensitivity
0.3, 0.6, 1.2, 3.0 Tesla

3DT-132

*Probe holder for illustration purposes only

High Sensitivity
0.03, 0.06, 0.12, 0.3 Tesla

3DT-230

*Probe holder for illustration purposes only

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