

G3 MAGNETICS

Group3

DTM-351

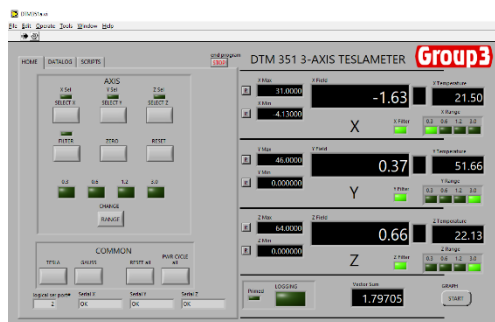
3- Axis Digital Teslameter

For Temperature Compensated Probes

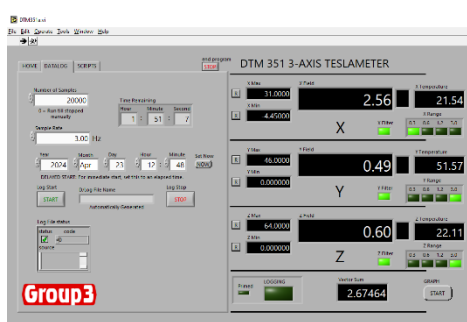


In RS232C Serial or *IEEE-488 GPIB Communication

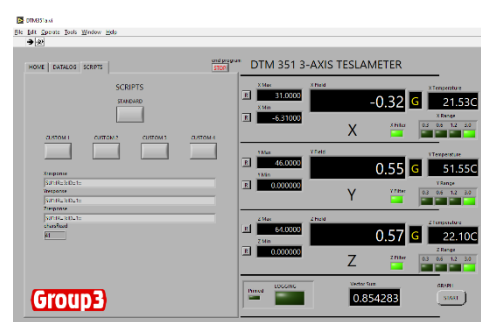
**GPIB to USB Adapter Supplied*



HOME SCREEN



DATA LOG



CUSTOM COMMANDS SCRIPTS

GROUP3 TECHNOLOGY LIMITED

1/527B Rosebank Road
Avondale, Auckland
1026 New Zealand

PH +64 9 828 3358
Email sales@group3technology.com
LinkedIn Group3 Technology
Web www.group3technology.com

G3 MAGNETICS LLC – US Office

18000 Studebaker Road, Suite 700
Cerritos, CA 90703
United States

PH +1 (512) 627 8921
Email sales@teslameter.com
LinkedIn G3 MagnetICS
Web www.teslameter.com

Group3

Accelerating Innovation

www.group3technology.com

Product Description

The DTM-351 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.

The instruments are light and compact, and the probes are easy to use. The DTM-351 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-351 should be used with a probe that has temperature compensation circuitry such as the 3-axis probes 3DT-141 and 3DT-231.

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, probe temperature. Digital filtering (time averaging) can be enabled to suppress short term fluctuations.

The communication interfaced is via RS232C serial or IEEE-488 GPIB and outputs through a USB connector and can be controlled through a supplied 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-351 performance with listed probe

DTM-351 performance with listed probe	Active area (mm)	Resolution of display	Max field	Finest resolution	Accuracy at 25° C	Tempco ppm / °C	zero drift $\mu\text{T}/^{\circ}\text{C}$
3DT-141	1 x 0.5	1 in 600,000	3T	1 μT	$\pm 0.01\%$	± 10	± 1
3DT-231	1 x 0.5	1 in 600,000	0.3T	0.1 μT	$\pm 0.03\%$	± 25	± 1

Resolution using 3DT-141 Probe

DC Mode with Digital Filtering ON

Range	Display resolution		VI Output Resolution	
	Gauss	Tesla	Gauss	Tesla
0.3	0.01	0.000001	0.001	0.0000001
0.6	0.02	0.000002	0.01	0.000001
1.2	0.04	0.000004	0.01	0.000001
3.0	0.1	0.00001	0.01	0.000001

Resolution using 3DT-231

DC Mode with Digital Filtering ON

Range	Display resolution		Serial / GPIB Output Resolution	
	Gauss	Tesla	Gauss	Tesla
0.03	0.001	0.0000001	0.0001	0.00000001
0.06	0.002	0.0000002	0.001	0.0000001
0.12	0.004	0.0000004	0.001	0.0000001
0.3	0.01	0.000001	0.001	0.0000001

Features and Specifications

- Accuracy is 0.01% of reading + 0.006% of full scale when used with 3DT-141 probe
- zero drift: $\pm (1\mu\text{T} + 0.0003\% \text{ of full scale}) / ^{\circ}\text{C}$ max.
- Effect of probe cable: add -3ppm / $^{\circ}\text{C}$ for each metre of probe cable
- Display in Gauss or Tesla
- Data logging, vector summation and custom command scripts
- Filter, Zero and Hold Function
- Maximum Field Reading up to 3 Tesla
- 4-range operation
- 1.0 μT Resolution with 3DT-141
- Interface via USB connector to a Windows 10 or 11 PC.
- Bench top or mountable to 19" Standard Rack Panel
- Comes with 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-141

*Probe holder for illustration purposes only

High Sensitivity
0.03, 0.06, 0.12, 0.3 Tesla



3DT-231

*Probe holder for illustration purposes only

www.group3technology.com

