CAYLAR
INSTRUMENTATION SCIENTIFIQUE

Group3

DTM-151

Digital Teslameter

RS-232 or GPIB Communication

Serial RS232C

GPIB

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

CAYLAR SAS (Europe & UK Distributor)

14 Avenue du Quebec
Bat : KERRIA
91140 Villebon-sur-Yvette, France

PH +33 (0) 1 69 29 91 62
Email contact@caylar.net
LinkedIn CAYLAR SAS
Web www.caylar.net

Group3

Accelerating Innovation

www.group3technology.com

Product Description

The DTM-151 Digital Teslameters offer accurate, high resolution measurement of magnetic flux densities, with direct digital readout in tesla or gauss, with serial communications by fiber optics and RS-232C or GPIB/IEEE-488 for system applications.

The instruments are light and compact, and the probes are easy to use. The DTM-151 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-151 should be used with a probe that has temperature compensation circuitry such as MPT-141 or LPT-141.

Two buttons on the front panel are used to select the operation of the teslameter. 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.

Several teslameters (up to 31) with serial communications can be formed into a local communications loop, all of them talked to by the one serial port on the control computer. The system can be operated in a trigger mode, where the timing of the measurements by several teslameters can be synchronised.

Internal switches select serial data format, baud rate, device address, string terminators, filtering, gauss or tesla units, data format, service request action, EOI action, and reset system to defaults.

Two analog outputs are available. These are a buffered version of the raw probe signal and are not corrected for linearity or temperature.

Panel mount versions are available, and panels with correct cut-outs and mounting hardware.

DTM-151 performance with listed probe

DTM-151 performance with listed probe	Active area (mm)	Resolution of display	Max field	Finest resolution	Accuracy at 25° C	Tempco ppm /°C	zero drift µT/°C
LPT-141	4 x 1.6	1 in 600,000	3T	1µT	± 0.01%	±10	±1
LPT-231	4 x 1.6	1 in 600,000	0.3T	0.1µT	± 0.03%	±25	±1
MPT-141	1 x 0.5	1 in 600,000	3T	1µT	± 0.01%	±10	±1
MPT-231	1 x 0.5	1 in 600,000	0.3T	0.1µT	± 0.03%	±25	±1

Resolution using MPT-141 or LPT-141 Probe

DC Mode with Digital Filtering ON

Range	Display resolution		Serial / GPIB 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 MPT-231 or LPT-231 Probe

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 MPT-141 probe
- zero drift: ± (1µ 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
- 1.0µT Resolution with MPT-141 or LPT-141
- Interface via RS232 or IEEE488/GPIB
- Optical Fibre output for high voltage environment application
- Analog Output
- Bench top or mountable to 19" Standard Rack Panel
- Comes with standard cable length of 2 meters and can be customized up to 30 meters
- Dimension 217 x 125 x 50mm
- Weight 1.2 kg

Applicable Hall Effect Probes

Standard Sensitivity
0.3, 0.6, 1.2, 3.0 Tesla

MPT-141

LPT-141

High Sensitivity
0.03, 0.06, 0.12, 0.3 Tesla

MPT-231

LPT-231

www.group3technology.com