

PT2026

NMR PRECISION TESLAMETER

METROLAB
Magnetic precision has a name



The world's most precise magnetometer

MetroLab's PT2026 sets new standards for magnetometers based on NMR (Nuclear Magnetic Resonance), the most precise technique for measuring magnetic flux density. The combination of a pulsed-wave NMR detector and advanced signal processing opens a host of new applications in the areas of magnetic field measurement, monitoring, mapping and calibration.

- **High fields**
To over 10 T with robust proton probes, over 20 T with Deuterium
- **Ultra-high precision**
< 10 ppb at 3 T
- **Tolerant of field gradients**
> 1000 ppm/cm; 2.4x better than PT2025 in side-by-side tests
- **Fast measurement rate**
Up to 33 Hz
- **Fast search**
Integrated 3-axis Hall sensor
- **Flexible probe ranges**
Standard or custom probes; one standard probe covers 1.5 & 3 T
- **Small gaps, high radiation**
Specialty probes with remote measurement head
- **Connect up to 512 probes**
Flexible multiplexer with full software control
- **Standard interfaces**
USB and Ethernet interfaces, compatible with IEEE 488.2 and SCPI
- **Powerful display & control**
Sophisticated turnkey software and LabVIEW™ API
- **Fits into laboratory**
Synchronize with other instruments; use your laboratory's reference clock

TECHNICAL CHARACTERISTICS AND ACCESSORIES

MEASUREMENT

Frequency range	1 MHz – 1 GHz
Resolution	± 0.1 Hz (stable field, low gradient, no averaging)
Accuracy	± 5 ppm, independent of temperature
Max gradient	> 1000 ppm/cm
Measurement rate	Up to 33 Hz
Trigger modes	Immediate, Timed, Bus, External

PROBES

Ranges	Model 1326	Model 1426
	0.038 – 0.14 T 0.13 – 0.48 T 0.46 – 1.50 T 1.40 – 4.80 T 4.35 – 11.7 T 10.0 – 30.0 T	0.19 – 0.52 T 0.42 – 1.29 T 1.13 – 3.52 T 3.29 – 10.57 T 8.00 – 22.80 T
	Model 1326-0.20-3.00 0.2 – 3.0 T (highly uniform fields only) Custom ranges upon request	
Size	Model 1326 probe / 1426 probe electronics: • 16 x 12 x 231 mm Model 1426 remote head: • 9.2 x 6.2 x 31.5 mm (p sample) • 16.2 x 6.0 x 31.5 mm (D sample)	
Cable length	10 m; custom upon request 100 m max total length (incl. multiplexers) Model 1426 remote-head probe: • Electronics – head: 0.5 m (Ø 4.3 mm)	
Search time	With Hall assist: < 1 s; without: <10 s (typical)	
Multiplexer (optional)	Self-powered; 4 or 8 channels; up to 3 levels (512 probes max)	

SYSTEM

Power	55 VA, 100 – 240 VAC, 50/60 Hz
Operating temperature	10 – 40 °C; no air inlet
Magnetic environment	< 0.2 T (main unit: some magnetic components will generate mechanical forces)
Size	210 x 125 x 324 mm (main unit; optional rack mount)
Computer interface	USB / USBTMC, Ethernet / VXI-11; IEEE 488.2; SCPI
Trigger connector	TTL level; Trigger In or Trigger Out Trigger In: rising or falling Trigger Out: pulse or level; B rising or falling, or either
Clock connector	10 MHz; External Reference In or Internal Reference Out

SOFTWARE

GUI	Microsoft Windows XP SP3 or higher
API	Access to all system features; LabVIEW® 2015
Licenses	Metrolab (including source code for API) National Instruments (LabVIEW® and NI-VISA)



**MODEL 1326
NMR PULSED-WAVE PROBE**



**MODEL 1426 REMOTE-HEAD
NMR PULSED-WAVE PROBE**



**MUX6026
NMR PROBE MULTIPLEXER**



**PROBE-EXTENSION /
MUX CABLE 3026-10M**



TC8026 TRANSIT CASE