A COMPLETE PROGRAM OF OPTIONS

• NMR field regulation: RG2040 plug-in module

Stabilizes the field of resistive, superconducting or permanent magnets by continuously measuring the field and correcting the primary Magnet Power Supply (MPS) or driving an auxiliary coil.

The RG2040 can send RS-232 or IEEE-488 commands to a digitally controlled MPS, generate a correction voltage or current for an MPS with analog fine control, directly drive a small correction coil, or drive an auxiliary coil power supply. The RG2040 can be used to provide only fine-control correction, or it can measure and store the magnet's hysteresis curve and command the MPS to any desired field value.

In conjunction with a high stability power supply, the RG2040 can ensure a long-term field stability of 0.1 ppm, with a response time of approximately 10 sec.

RG2040

• High stability internal frequency counter: HS2060

An Oven-Controlled Crystal Oscillator (OCXO), that provides improved long-term stability. Frequency stability: < ±0.1 ppm over -25 to 70 °C; aging: < ± 1 ppb/day.

• 19", 3U high rack-mount option: PT4025

PT4025

• Optional IEEE-488 interface

• External amplifier: AMP1030

For use with model 1060 or 1080 probes.

• Probe multiplexers

Connect up to 64 probes to a PT2025 or a PT4025:
- MUX2030: up to eight model 1062 or 1082 probes
- MUX2031: up to eight model 1060 or 1080 probes (includes amplifier, no AMP1030 needed)
- MUX2032: up to eight model 2030 or 2031 multiplexers, for a total of up to 64 probes

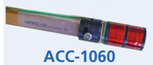
MUX2031

• Gradient compensation coils

Improve performance in inhomogeneous fields:
- 1100-20: up to 20 G/cm transverse gradients
- 1100-40: up to 40 G/cm transverse gradients
- ACC-1060: up to 100 G/cm axial gradients

1100-20

1100-40



ACC-1060

• Cables

- 1010: from main unit to AMP1030; 10 m standard, up to 100 m.
- 1011: from main unit or MUX2032 to MUX2030/2031; 10 m standard, up to 100 m.
- 1012: from RG2040 to MPS/auxiliary coil; 10 m long.
- 1015: from main unit to MUX2032; 10 m standard, up to 100 m.
- EXT-1062: 1062 probe extension cable, 5 to 90 m long.

• Carrying case: CC2020

A lightweight, robust carrying and transit case for an entire PT20205 system, including 2 probes and an external amplifier and its cable.
Dimensions: 73 x 48 x 36 cm.

CC2020

For detailed specifications,
please see http://www.metrolab.com

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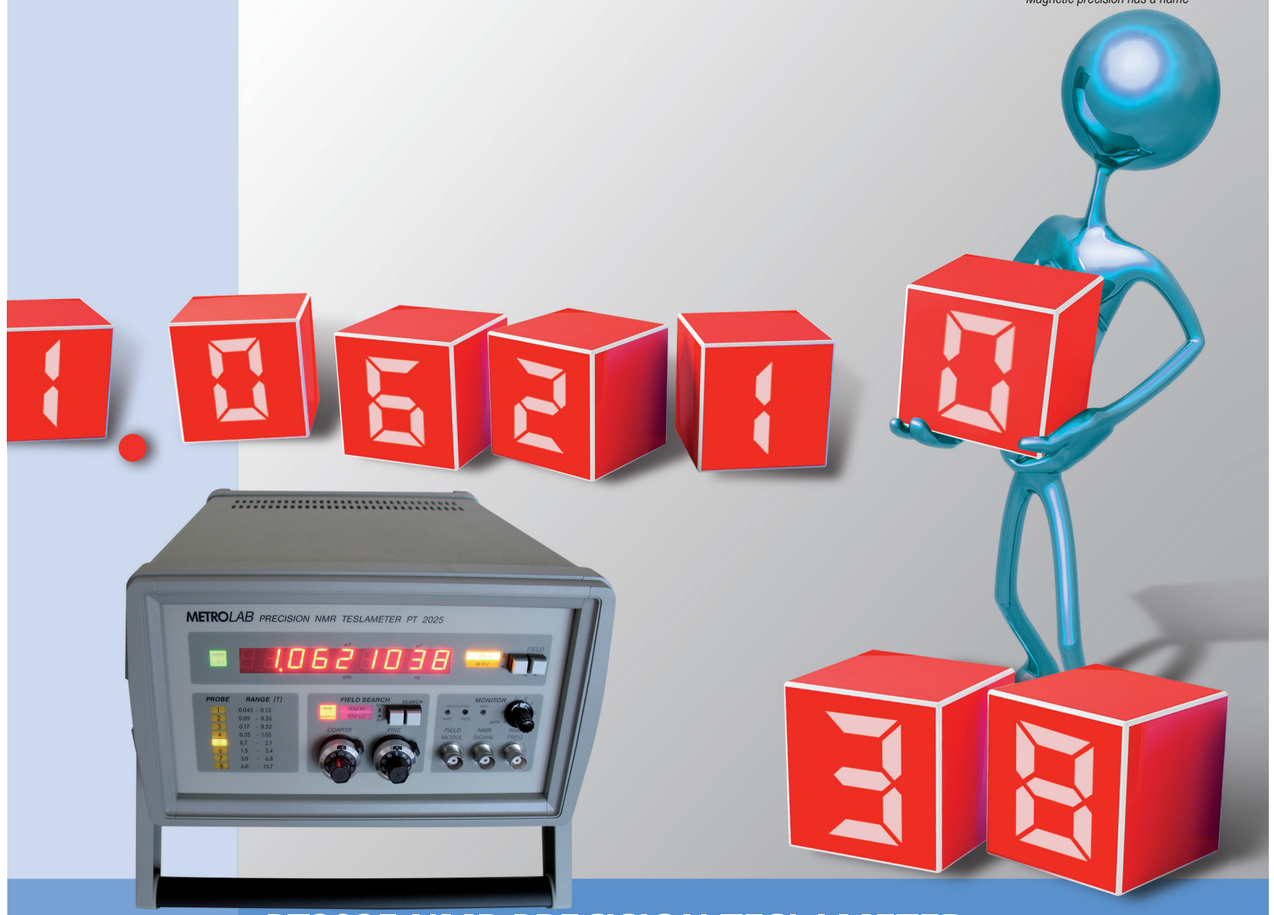
METROlab
Magnetic precision has a name



PT2025 NMR PRECISION TESLAMETER
HIGH PRECISION MAGNETIC MEASUREMENT

An everyday tool for rapid, automatic and highly accurate measurements of magnetic fields: research, magnet manufacturing and testing, standards and calibration.

- The ultimate in precision
- Flexibility and ease of use
- Standard computer interfaces
- Wide measurement range
- A complete line of probes and options

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A COMPLETE LINE OF NMR PROBES

AMPLIFIER INTEGRATED

Compact and easy-to-handle solutions for general-purpose use.

The general-purpose 1062 miniature probes are totally enclosed in a robust, standardized BeCu housing with a tough cable strain-relief, and include an integrated amplifier.

EXTERNAL AMPLIFIER REQUIRED

Placing most of the active electronics in a separate box.

The 1060 and 1080 probes are designed for use with an external amplifier, for example for high-radiation environments.

MINIATURE
Axial & transverse magnetic fields

16.5 x 12.5 x 230 mm, fits in 19 mm diameter.

1062

1060

SUBMINIATURE
Transverse magnetic fields

Designed for applications that require a more compact probe.

16.5 x 12.5 x 115 mm + 9 x 6 x 155 mm, fits in 10 mm diameter.

1082

1080

Amplifier	Built in	Model 1030 required
Cable length	10 meters, special lengths available, up to 100 m	7 meters, special lengths available, up to 100 m
Connectors	one 8-pin LEMO and one BNC	one 5-pin LEMO and one BNC

THE ULTIMATE IN PRECISION

Resolution of under 1 Hz, relative precision of under 0.1 ppm, absolute accuracy of 5 ppm, independent of temperature.

FLEXIBILITY AND EASE OF USE

Search and lock in on NMR resonant frequency manually, semi- or fully automatically, with the ability to monitor the raw NMR signal. Track fields changing at up to 1%/sec. Display measurements in T or MHz.

STANDARD COMPUTER INTERFACES

RS232 or IEEE488 (optional).

WIDE MEASUREMENT RANGE

A complete line of NMR probes for fields ranging from 43 mT to 13.7 T. Each probe covers a range of approximately 300%, for example from 0.35 to 1.05 T. The PT2025 automatically recognizes the range of the probe when it is plugged in.

PROBE SPECIFICATIONS

Probes for up to 2.1 T use a robust solid sample; for higher fields, an ampule of deuterium (heavy water) is used.

PROBE RANGES	FIELD STRENGTH [T]	SAMPLE SIZE [mm, DxL]	REQUIRED FIELD HOMOGENEITY [ppm/cm]
R = 1	0.043 - 0.13 *	7 x 4.5	600 - 900
R = 2	0.09 - 0.26 *	5 x 4.5	1,200 - 1,600
R = 3	0.17 - 0.52	4 x 4.5	1,200 - 1,400
R = 4	0.35 - 1.05	4 x 4.5	800 - 1,500
R = 5	0.7 - 2.1	4 x 4.5	250 - 600
R = 6	1.5 - 3.4	4 x 4.5	240 - 280
R = 7	3.0 - 6.8	4 x 4.5	160 - 300
R = 8	6.0 - 13.7	4 x 4.5	50 - 120

* The lower range limit of the subminiature probes lies slightly higher than those of the miniature probes

Temperature range	+5 °C to +40 °C
Storage temperature	-20 to 80 °C (proton probes) +5 to 70 °C (deuterium probes)