METROLAB

Instruments SA

NMR TESLAMETERS HIGH PRECISION

SHORT FORM

SF / 99 / 11

METROLAB manufactures very high accuracy NMR (Nuclear Magnetic Resonance) Teslameters. They are used for the measurement of static or slowly varying magnetic fields.

Originally designed at CERN (European Organization for Nuclear Research in Geneva) in a NIM version*, this instrument has been developed into a compact and easy to use measuring instrument.

The Teslameter is available in 2 different versions: bench type (PT 2025) and 19 inch rack mount (PT 4025)

Field range: 0.011 to 13.7 Tesla

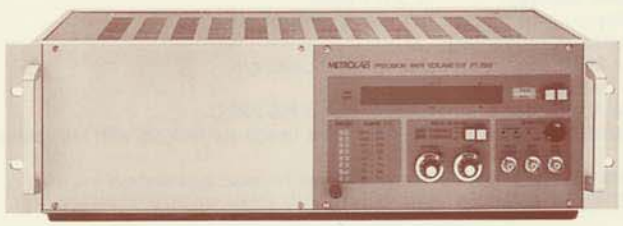
Resolution: 10^{-7}T or 1 Hz

Digital Interfaces: IEEE 488 and RS 232C

BENCH

PT 2025

RACK 19 INCH



PT 4025

APPLICATIONS

- Measurement of the absolute value of magnetic fields
- Calibration and control of magnets
- Magnetic field stabilization
- Field mapping and shimming in Magnetic Resonance Imaging (MRI) systems
- Control of accelerator beam handling magnets
- Calibration of magnetic sensors
- Field mapping
- Pulsed field measurement
- Measurement of long term field decay in superconducting magnets

* K. BORER, G. FREMONT - CERN Report 77-19.

Specifications of the products described in this brochure are subject to change without prior notice

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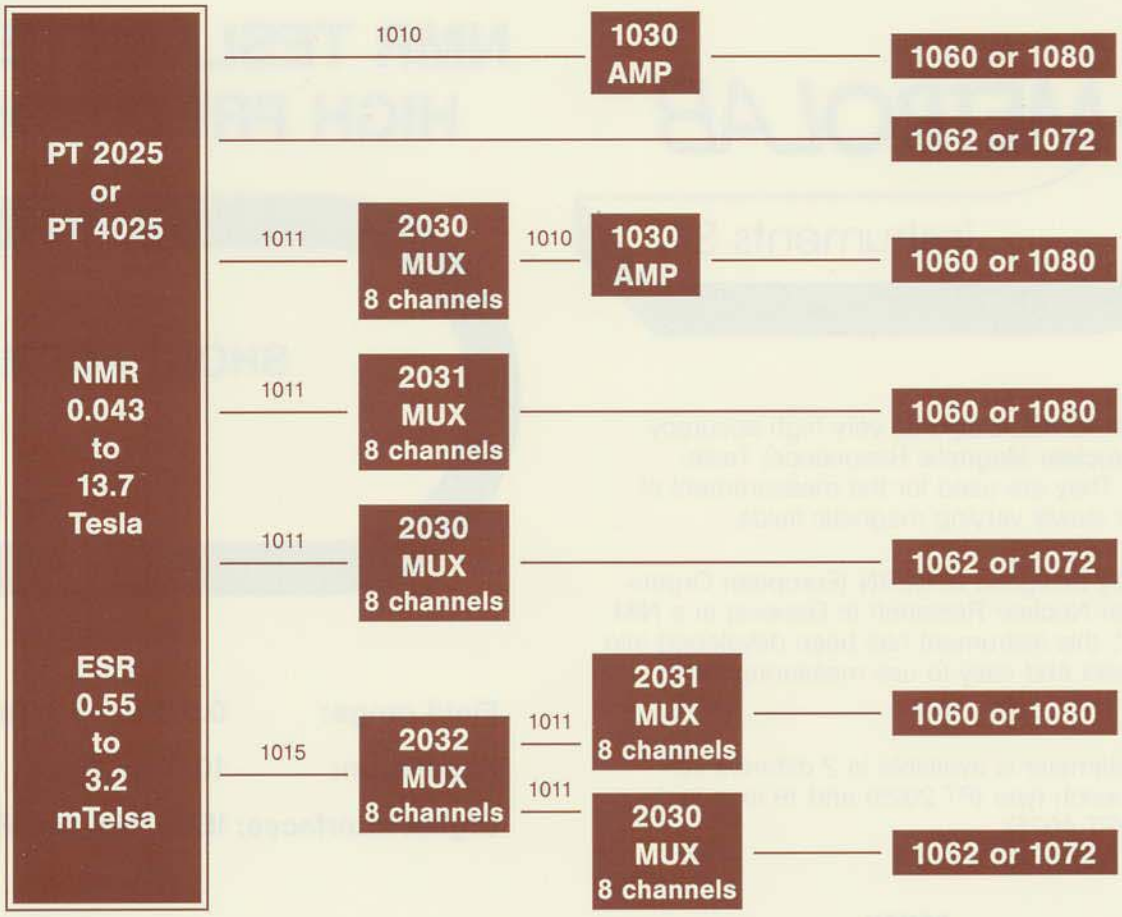
COMPLETE NMR-ESR SYSTEMS



Main Specifications

PT 2025 - PT 4025

Field range:	0.011 T* - 13.7 T
Resolution:	0.1 μT or 1 Hz
Absolute accuracy:	$< \pm 5$ ppm (^{1}H)
Relative accuray:	$< \pm 0.1$ ppm
Display:	8½ digits Tesla or MHz
Required homogeneity of the field:	200 to 1300 ppm/cm
Field tracking rate:	1%/sec
Digital Interfaces:	IEEE 488 *and* RS 232C

Automatic search within the full probe range (or ranges with Multiplexer)

* Standard range: 0.043T - 13.7T with 8 probes. For exact specifications and price information of probes measuring down to 0.011T please contact manufacturer.

Options and Accessories

2040: NMR Field Regulation
Plug-in module for the PT 2025/4025 Teslameters providing long term field stabilization.

Model 2040

2031: Multiplexer/Amplifier
8 channels, includes Amplifier, rugged construction, accepts 1 T field environ

Model 2031

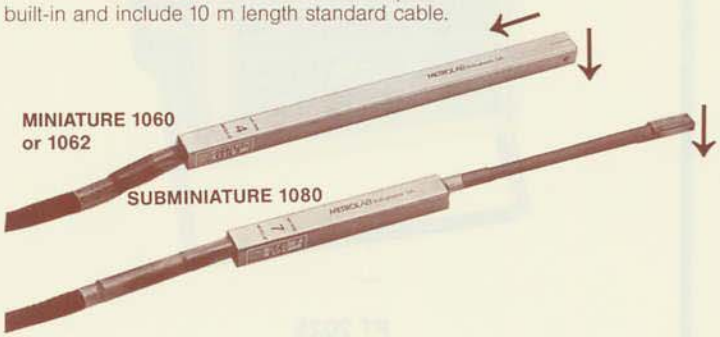
1030: Amplifier box

Model 1030

2060: High Stability internal frequency counter.
2030: 8 channel Multiplexer.
Requires one Amplifier 1030 for each channel, suitable for widely separated probes.
2032: Multiplexer for up to 8 2031 Multiplexers, allows a total of 64 NMR probes. Requires modifications on the PT 2025/4025.
1010: Cable Main Unit to Amplifier 1030.
10m standard length (or up to 100m, consult factory).
1011: Cable Main Unit to 2030 or 2031 Multiplexers.
10m standard length (or up to 100m, consult factory).
2020CC: Carrying case.

Probes

Probes model 1060 and 1080 include 7 m length standard cable connecting to the Amplifier 1030 or the Multiplexer 2031. Consult factory for other lenghts. Probes model 1062 and 1072 have an Amplifier built-in and include 10 m length standard cable.



Probe Range (in Tesla)

R = 1	^{1}H from	0.043 T	to	0.13 T
R = 2	^{1}H from	0.09 T	to	0.26 T
R = 3	^{1}H from	0.17 T	to	0.52 T
R = 4	^{1}H from	0.35 T	to	1.05 T
R = 5	^{1}H from	0.7 T	to	2.1 T
R = 6	^{2}H from	1.5 T	to	3.4 T
R = 7	^{2}H from	3.0 T	to	6.8 T
R = 8	^{2}H from	6.0 T	to	13.7 T