



NMR25-1 Datasheet v1.02 EN

The new NMR25-1 teslameter redefines compact NMR magnetic field measurement technology. Fully integrated in less than **1U rack format**, this all-in-one instrument combines the gaussmeter and preamplification stage into a single unit. Designed for maximum simplicity, it can operate with a single Ethernet PoE or USB-C cable offering an ultra-compact and easy-to-integrate solution for high-precision measurements.

Ultra-High Resolution and Ultra-Low Noise Performance

5 nT Reading resolution with < 0.5 μ T absolute accuracy
 Noise down to 0.1 μ Tpp

Ultra Compact Format & Small Probe Size

1U format, 120 x 30 x 146 mm (W x H x D), 550 grammes weight
 Three units fit within a single 19-inch rack width
 Extremely compact standard probes: 6,4 x 16 x 142.5 mm

Smart and Flexible Connectivity

2 USB-C ports for serial-over-USB operation
 RS232 /485 through 9 pts Sub-D connector (up to 921 600 bauds)
 RJ45 Ethernet connector with power over ethernet (PoE / PoE+)

Low Power Equipment

Power consumption < 5 Watts (5V – 1A max)
 Flexible power input options via Ethernet (PoE), SUB-D, or USB-C connectors, with optional wide-range 5 to 24 V power input
 Can be powered from a smartphone charger, PC USB port, or external power bank

High tolerance to field gradients

Tolerates field gradients > 2 mT/cm at 1 T (2000 ppm/cm)

High-Speed Reading and Low Search Time

Fast 100 Hz measurement rate with adjustable moving average from 1 to 250 measurements
 Finds and locks onto the signal in less than one second

Wide Measurement Range

16 mT to 13 T, with high dynamic range probe of 5:1 typical
 90 mT to 2.2 T or 140 mT to 3 T covered using 2 probes
 16 mT to 2.2T covered using 3 probes

Reliability & Service Continuity

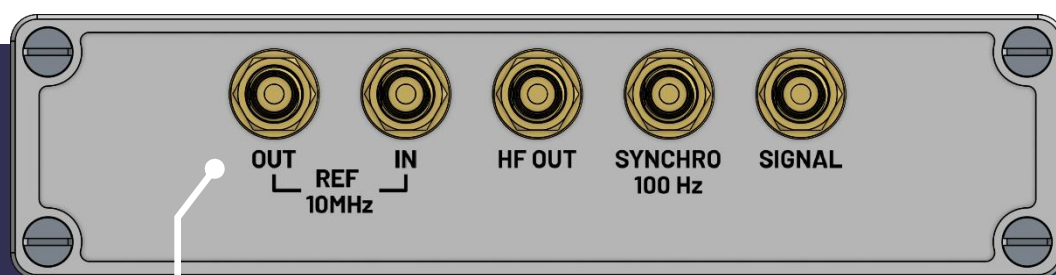
5-year warranty & long-term support availability
 40+ years of Drusch service expertise

Suitable for High-Radiation Environments

Radiation-tolerant probe architecture with no digital circuitry.
 Proven performance under extreme radiation for over 20 years

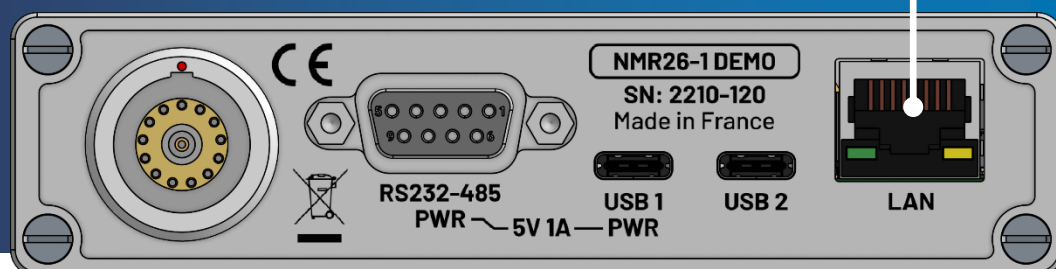
Custom Probe Solutions

Ultra-Thin Probe Design (< 2 mm), UHV compatible probes
 Custom geometry and range



Designed for maximum portability this ultra-compact instrument can be easily moved and integrated into MRI environments.

Designed for easy integration, this instrument features modern and versatile connectivity, including USB-C and Ethernet with PoE.



 **MADE IN FRANCE**

TECHNICAL SPECIFICATIONS

METROLOGICAL PERFORMANCE

Measurement range	14 mT to 13 T
Reading resolution	5 nT
Absolute accuracy	Better than $\pm 0.5 \mu\text{T}$
Noise	Down to $0.1 \mu\text{Tpp}$
Measurement rate / averaging	Up to 100 samples/s , moving average adjustable from 1 to 250 measurements
Signal search and lock time	< 0.3 s with Hall Assist and 1s without
Field-gradient tolerance	> 2 mT/cm at 1 T (2000 ppm/cm)
Frequency reference	± 5 ppb (-40 °C to 95 °C) , typical ageing ± 0.2 ppb/day

PROBE SYSTEM

Probe inputs / readout	1 Probe
Dynamic range (typ.).	5:1 (Standard probes)
Probe cable lengths	2.5m / 10m / 15m
Standard probes	Model A: 10 × 21 × 142.5 mm from 14 to 200mT Model B: 6,4 × 16 × 142.5 mm from 50 to 13T
Probes architecture	Radiation-tolerant probe architecture with minimal active electronics and no digital circuitry
Special probes options	Model C: 6 × 8 × 142.5 mm Model T: Ultra-thin < 2 mm Model R: 110 mm component-free sensing zone, including passive components. Others: UHV-compatible, custom geometry and range

CONNECTIVITY & CONTROL

Ethernet	RJ45, PoE / PoE+
USB	2 × USB-C, serial-over-USB
Serial interface	RS-232 / RS-485 via 9-pin Sub-D up to 921,600 baud
SDK / API	Python / LabVIEW SDK Library & API control, readout, NMR signal streaming. Ready-to-use code examples

POWER

Power consumption	< 5 W (5 V - 1 A max)
Power inputs	Ethernet PoE, USB-C or Sub-D optional 5 to 24 V input

MECHANICAL

Format / dimensions	Compact <1U , 120 x 30 x 146 mm (Width x Height x Depth)
Weight	0.55 Kg (550 gr)

ENVIRONMENT

Operating	10-40 °C, RH 80% max at 31°C (50% at 40 °C) main unit magnetic environment < 0.2 T
Storage	-20 to 60 °C, RH 80% max, non-condensing

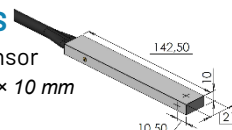
SERVICE

Warranty & support	5-year warranty , <12 h typ. response, 1 business day max
Calibration	ISO/IEC 17025 accredited calibration available

PROBE RANGE

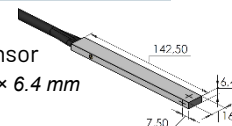
STANDARD PROBES

Model A - with Hall sensor
Dimensions: 142.5 × 21 × 10 mm



Reference	Range
PRBA14-40mT	14-40mT
PRBA20-100mT	20-100mT
PRBA30-150mT	30-150mT
PRBA40-200mT	40-200mT

Model B - with Hall sensor
Dimensions: 142.5 × 16 × 6.4 mm

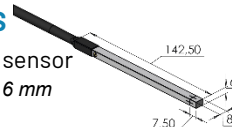


Reference	Range
PRBB50-250mT	50-250mT
PRBB60-300mT	60-300mT
PRBB80-400mT	80-400mT
PRBB100-500mT	100-500mT
PRBB160-800mT	160-800mT
PRBB240-1.2T	0.24-1.2T
PRBB300-1.5T	0.30-1.5T
PRBB360-1.8T	0.36-1.8T
PRBB450-2.1T	0.45-2.1T
PRBB700-3T*	0.70-3T
PRBB2-5T	2-5T
PRBB4-9T	4-9T
PRBB6-13T	6-13T

*Recommended for MRI application

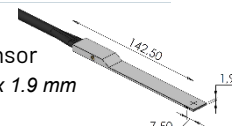
MINIATURE PROBES

Model C - without Hall sensor
Dimensions: 142.5 × 8 × 6 mm



Reference	Range
PRBC100-500mT	100-500mT
PRBC160-800mT	160-800mT
PRBC0.24-1.2T	0.24-1.2T
PRBC0.36-1.8T	0.36-1.8T
PRBC0.45-2.1T	0.45-2.1T

Model T - with Hall sensor
Dimensions: 142.5 × 16 × 1.9 mm



Model	Range
PRBT100-500mT	100-500mT
PRBT160-800mT	160-800mT
PRBT0.24-1.2T	0.24-1.2T
PRBT0.36-1.8T	0.36-1.8T