# **Metro**lab

# **Price list**

(Last update: January 18th, 2021 - Replaces all previous price lists)

PT2025 NMR TESLAMETER ACCESSORIES PT2026 NMR TESLAMETER AND ACCESSORIES PT2026 PROBES MFC3045 NMR MAGNETIC FIELD CAMERA MFC2046 NMR MAGNETIC FIELD CAMERA NMR MAGNETIC FIELD CAMERA ACCESSORIES THREE-AXIS MAGNETOMETERS DIGITAL INTEGRATORS MV2 MAGNETOMETER ON A CHIP PERMANENT MAGNETS CALIBRATION REPLACEMENT PARTS TERMS AND CONDITIONS

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Prices CHF

# PT2026 NMR TESLAMETER AND ACCESSORIES

PT2026	NMR TESLAMETER Bench-mount unit, 1 MHz – 1 GHz frequency range, 0.1Hz resolution. Built- Ethernet interfaces. Includes software and LabVIEW® driver.	22'000 in USB and
MUX6026-4	4-CHANNEL MULTIPLEXER	5'900
	For up to 4 channels. For direct connection of any combination of xx26 NM 6026 Multiplexers, up to 3 levels of multiplexers.	R Probes or
MUX6026-8	8-CHANNEL MULTIPLEXER	7'500
	For up to 8 channels. For direct connection of any combination of xx26 NM 6026 Multiplexers, up to 3 levels of multiplexers.	R Probes or
TC8026	TRANSIT CASE for PT2026 system	1'090
3026-10M	CABLE	500
	10m cable between NMR Teslameter Main Unit / 6026 Multiplexer, or cable e any xx26 NMR Probe.	extension for
3026-11M	CABLE	800
7	11m cable between NMR Teslameter Main Unit / 6026 Multiplexer, or cable e any xx26 NMR Probe.	
	Optional length up to 50 meters	36
3026-51M	CABLE	2'350
	51m cable between NMR Teslameter Main Unit / 6026 Multiplexer, or cable e any xx26 NMR Probe.	
	Optional length up to 100 meters	40



# PT2026 PROBES

## STANDARD PROBES IN COPPER TUBE OF 16.5x12.5x230 mm

1326-10R-0.038-0.14	Transverse & longitudinal fields, 7.5mm Ø natural rubber sample, with 10m cable.	3'930
1326-10R-0.13-0.48	Transverse & longitudinal fields, 5.2mm Ø natural rubber sample, with 10m cable.	3'930
1326-10R-0.46-1.50	Transverse & longitudinal fields, 3mm Ø natural rubber sample, with 10m cable.	3'930
1326-10R-0.90-3.20	Transverse & longitudinal fields, 3mm Ø natural rubber sample, with 10m cable.	3'930
1326-10R-1.40-4.80	Transverse & longitudinal fields, $3mm \emptyset$ natural rubber sample, with 10m cable.	3'930
1326-10R-4.35-11.70	Transverse & longitudinal fields, 1.8mm Ø natural rubber sample, with 10m cable.	3'930
1326-10D-10.00-30.00	Transverse & longitudinal fields, 3.6mm Ø deuterium sample, with 10m cable.	4'400
1326-10R-X.XX-Y.YY	Transverse & longitudinal fields, Natural rubber sample, custom range, with 10m cable.	4'900
1326-10D-X.XX-Y.YY	Transverse & longitudinal fields, Deuterium sample, custom range, with 10m cable.	5'400
1326-10R-0.10-3.00	Transverse & longitudinal fields, 7.5mm Ø natural rubber sample, with 10m cable.	9'000
	<b>OPTIONAL LENGTH FOR PROBE CABLES</b> Exceeding 10 meters for probe 1326, per meter:	20
REMOTE MEASUREM	IENT HEAD PROBES	
1526-10R-0.038-0.14	Transverse & longitudinal fields,	
1526-10R-H-0.038-0.14	7.5mm Ø natural rubber sample, with 10m cable. With 3-axis Hall probe.	4'400 5'300
1526-10R-0.13-0.48	Transverse & longitudinal fields,	
1526-10R-H-0.13-0.48	5.2mm Ø natural rubber sample, with 10m cable. With 3-axis Hall probe.	4'400 5'300
1526-10R-0.46-1.50	Transverse & longitudinal fields, 3mm Ø natural rubber sample, with 10m cable.	4'400
1526-10R-H-0.46-1.50	With 3-axis Hall probe.	5'300
1526-10R-1.40-4.80	Transverse & longitudinal fields, 3mm Ø natural rubber sample, with 10m cable.	4'400
1526-10R-H-1.40-4.80	With 3-axis Hall probe.	5'300

# Metro*lab*

1526-10R-4.35-11.70	Transverse & longitudinal fields,	
1526-10R-H-4 35-11 70	1.8mm Ø natural rubber sample, with 10m cable. With 3-axis Hall probe.	4'440 5'300
1320-101(-11-4.33-11.70		0.000
1526-10D-10.00-30.00	Transverse & longitudinal fields,	
1526-10D-H-10.00-30.00	3.6mm Ø deuterium sample, with 10m cable. With 3-axis Hall probe.	5'100 6'000
1526-10R-X.XX-Y.YY	Transverse & longitudinal fields, Natural rubber sample, custom range, with 10m cable.	5'400
1526-10R-H-X.XX-Y.YY	With 3-axis Hall probe.	6'300
1526-10D-X.XX-Y.YY	Transverse & longitudinal fields, Deuterium sample, custom range, with 10m cable.	6'100
1526-10D-H-X.XX-Y.YY	With 3-axis Hall probe.	7'000
1526-10R-0.10-3.00	Transverse & longitudinal fields,	01500
1526-10R-H-0.10-3.00	7.5mm Ø natural rubber sample, with 10m cable. With 3-axis Hall probe.	9'500 10'400
REMOTE MEASUREM	ENT HEAD PROBES FOR RADIATIVE ENVIRONMENTS	
1426-10R-0.19-0.52	Transverse & longitudinal fields,	
	3mm Ø natural rubber sample, with 10m cable.	4'400
1426-10R-0.42-1.29	Transverse & longitudinal fields,	
	3mm Ø natural rubber sample, with 10m cable.	4'400
1426-10R-1.13-3.52	Transverse & longitudinal fields,	
	3mm Ø natural rubber sample, with 10m cable.	4'400
1426-10R-3.29-10.57	Transverse & longitudinal fields,	
	3mm Ø natural rubber sample, with 10m cable.	4'400
1426-10D-8.00-22.80	Transverse & longitudinal fields,	
	3.6mm $Ø$ deuterium sample, with 10m cable.	5'100
1426-10R-X.XX-Y.YY	Transverse & longitudinal fields,	
	Natural rubber sample, custom range, with 10m cable.	5'400
1426-10D-X.XX-Y.YY	Transverse & longitudinal fields,	
	Deuterium sample, custom range, with 10m cable.	6'100



# PT2025 NMR TESLAMETER PROBES

# FIELD RANGE (R) IN TESLA

R = 1 : 0.044 to 0.13	R = 5 : 0.7 to 2.1
R = 2 : 0.09 to 0.26	R = 6 : 1.5 to 3.4
R = 3 : 0.17 to 0.52	R = 7 : 3.0 to 6.8
R = 4 : 0.35 to 1.05	R = 8 : 6.0 to 13.7

1062-R-10M	PROBE WITH INTEGRAL AMPLIFIER	
	Transverse & longitudinal fields, with 10m cable (other lengths upon request, up t	to 100m)
	Probes R1 to R5	2'785
	Probes R6 to R8	3'495
1082-R-10M	MINI FLEXIBLE PROBE WITH INTEGRAL AMPLIFIER	
	Transverse fields, with 10m cable (other lengths upon request, up to 100m).	
	Probes R1, R2	4'055
	Probes R3 to R5	3'105
	Probes R6 to R8	4'055
	OPTIONAL LENGTH FOR PROBE CABLES	
		20
	exceeding 10 meters for probe 1062 or 1082, per meter:	20
EXT-1062-5M	UNIVERSAL 1062 PROBE EXTENSION CABLE	
	5m extension cable for 1062 probe with male/female connectors	550
	Optional length up to 90 meters, per meter:	20
1100-20	GRADIENT COMPENSATION COIL	495
1100-20	Gradient coil pair for 1060/1062 probes.	400
	Compensates a single-axis, transverse linear field gradient of up to 20 G/cm.	
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1100-40	GRADIENT COMPENSATION COIL	1'390
	Gradient coil pair for 1060/1062 probes.	
	Compensates a single-axis, transverse linear field gradient of up to 40 G/cm.	
ACC-1060	GRADIENT COMPENSATION COIL	900
	Gradient coil pair for 1060/1062 probes.	200
	Comparison of the second	



# MFC2046 NMR MAGNETIC FIELD CAMERA

#### MFC2046 NMR MAIN UNIT

33'000

1'500

Multi-probe NMR Teslameter system for field mapping, decay measurement, and magnetic noise monitoring. The Oven Controlled Crystal Oscillator (OCXO) reference clock provides a frequency stability of  $\pm$  0.1ppm from -25°C to 70°C – down to 0.03 to 0.05 ppm over a period of 1 to 3 days.

- Including: PT2026 NMR Teslameter
  - FCA7046 Field Camera Amplifier
  - RB8045 Remote Control Box
  - 3026-10M Cable
  - MFCTool Software
  - Camera firmware option

## MFC9046 NMR PROBE ARRAY

#### 1. Standard half-moon configuration

a) 24 measurement points with normalization, at 1.5T and 3.0T:	12'580	
b) 24 measurement points with normalization, fields below 3.0T:	13'615	
c) 24 measurement points without normalization, fields above 3.0T:	9'990	
d) Special configuration additional cost (Elliptic,):	1'550	
e) Additional wide-range probe in the center	2'000	
f) For each additional probe add:	260	
2. <u>Other configurations</u>		
Engineering and tooling cost for custom design:		
One-time charge for custom probe arrays		

#### MFC2046-TC TRANSIT CASE FOR MFC2046 SYSTEM



# NMR MAGNETIC FIELD CAMERA ACCESSORIES

# MFC3039 HORIZONTAL PROBE ARRAY HOLDER 8'010 Mechanical device designed to hold the half-moon probe-array and to rotate it inside the magnetic field, with a selection of angular increments of 12°, 24°, 36°, 16° or 32°. Built in aluminium, can be adapted to most magnet cryostats.

#### MFC3040 VERTICAL PROBE ARRAY HOLDER 7'300 Mechanical device designed to hold the half-moon probe-array and to rotate it inside the magnetic field, with a selection of angular increments of 12°, 24°, 36°, 16° or 32°. Can be adapted to most open magnets.

# MFC3040-ADP ADAPTOR PLATE FOR MFC3040 PROBE ARRAY HOLDER

2'750



# MFC3045 NMR MAGNETIC FIELD CAMERA

## MFC3048 NMR PROBE ARRAY (only existing designs)

# 1. Standard half-moon configuration

12'580
13'615
9'990
1'550
260

Note: new custom designs of the MFC3048 Probe Array are no longer possible.



# THREE-AXIS MAGNETOMETERS

DESKTOP KITS	
THM1176-LF-PC	Desktop kit with Low-Field 3-Axis Hall Magnetometer4'200Compact 3-axis Hall magnetometer (Gaussmeter) for measuring fields up to 8mT with 20μT accuracy, including AC fields up to 1kHz, using Melexis Hall effect sensors.4'200Including:- 3-axis Low-Field Hall Magnetometer with 3 meter cable - Zero Gauss Chamber - Full-range calibration - USB Stick with acquisition software for Windows and Mac, API, and user's manual
	- Software license from Metrolab, including free updates
THM1176-MF-PC	Desktop kit with Medium-Field 3-Axis Hall Magnetometer5'060Compact 3-axis Hall magnetometer (Gaussmeter) for measuring fields up to 3T with1% accuracy, including AC fields up to 1kHz, using an integrated MagVector™ MV2 3-axis Hall effect sensor.Including:- 3-axis High-Field Hall Magnetometer with 3 meter cable
	<ul> <li>Zero Gauss Chamber</li> <li>Full-range calibration on 0.1, 0.3, 1 and 3T ranges</li> <li>USB Stick with acquisition software for Windows and Mac, API, and user's manual</li> <li>Software license from Metrolab, including free updates</li> </ul>
TFM1186-PC	Desktop kit with 3-Axis Fluxgate Magnetometer6'370Compact 3-axis Fluxgate magnetometer for measuring very low fields up to 100μT with 4nT resolution, including AC fields up to 1kHz, using a Bartington 3-axis Fluxgate sensor.6'370Including:- 3-axis Fluxgate Magnetometer with 3 meter cable - Separate calibration of electronics and probe - USB Stick with acquisition software for Windows and Mac, API, and user's manual - Software license from Metrolab, including free updates
THM1176-HF-PC	Desktop kit with High-Field 3-Axis Hall Magnetometer7'955Compact 3-axis Hall magnetometer (Gaussmeter) for measuring fields up to 20T with1% accuracy, including AC fields up to 1kHz, using an integrated Senis 3-axis Halleffect sensor.Including:- 3-axis High-Field Hall Magnetometer with 6 meter cable- Zero Gauss Chamber- Full-range calibration on 0.1, 0.5 and 3T ranges; 20T rangecalibrated at 7T, 9.4T and 14.1T- USB Stick with acquisition software for Windows and Mac, API, and user'smanual- Software license from Metrolab, including free updates
THM1176-HFC-PC	Desktop kit with High-Field Compact 3-Axis Hall Magnetometer9'300Ultra-compact 3-axis Hall magnetometer (Gaussmeter) for measuring fields up to 20Twith 1% accuracy, including AC fields up to 1kHz, using an integrated Senis 3-axisHall effect sensor.Including:- 3-axis High-Field Hall Magnetometer with 3 meter cable- Zero Gauss Chamber- Full-range calibration on 0.1 and 0.5T; 3 and 20T ranges calibratedto 1.5T- USB Stick with acquisition software for Windows and Mac, API, and user's manual- Software license from Metrolab, including free updates



## HANDHELD KITS

Each Metrolab THM1176/TFM1186 handheld kit includes the corresponding desktop kit, **plus**: - Industrial-quality Windows 10 Tablet with Pistol Grip

- Adaptor cable -
- Pre-installed acquisition software, with licenses from Metrolab (including free updates) and National -Instruments
- USB Stick with acquisition software for Windows and Mac, API, and user's manual
- **Carrying Case**

THM1176-LF-PDA	Handheld kit with Low-Field 3-Axis Hall Magnetometer	5'895
THM1176-MF-PDA	Handheld kit with Medium-Field 3-Axis Hall Magnetometer	6'755
TFM1186-PDA	Handheld kit with 3-Axis Fluxgate Magnetometer	8'065
THM1176-HF-PDA	Handheld kit with High-Field 3-Axis Hall Magnetometer	9'650
THM1176-HFC-PDA	Handheld kit with High-Field Compact 3-Axis Hall Magnetometer	10'995

# **DUO KIT**

THM1176-DUO	Discount for any combination of two of the above 3-Axis Magnetometers	-1'780

## THM1176/TFM1186 OPTIONS

3076-6M	<b>Optional 6 meter cable length for the Three-Axis Magnetometers</b> 75
8076	Tablet and carrying case for THM1176/TFM1186 desktop kit1'695Including:- Industrial-quality Windows 10 Tablet with Pistol Grip - Adaptor cable
	<ul> <li>Pre-installed acquisition software, with licenses from Metrolab (including free updates) and National Instruments</li> <li>USB Stick with acquisition software for Windows and Mac, API, and user's manual</li> <li>Carrying Case</li> </ul>



# **DIGITAL INTEGRATORS**

## FDI2056 FAST DIGITAL INTEGRATOR

A fast, ultra-high precision digital integrator for magnetic flux measurements using fixed or moving sense coils, **including**:

- One, two or three FDI2056 Channel Cards with Quadrature Signal Decoder, Trigger factory, Sampler Mode and on-board memory.
- One FDI7056 4-Slot 6U PXI crate for Fast Digital Integrator, configurable for benchtop or rack-mount use.
- Crate controller with Ultra Low Power CPU 1GHz running Windows 7 32bit, 16GB disk, Dual Gigabit Ethernet Controllers, one DVI connector.
- Pre-installed acquisition software, with license from Metrolab including free updates.
- CD with User's manual and LabVIEW Application Programming Interface software.

FDI2056-1	Single-Channel Fast Digital Integrator (FDI) System	25'110
FDI2056-2	Two-Channel Fast Digital Integrator (FDI) System	44'272
FDI2056-3	Three-Channel Fast Digital Integrator (FDI) System	63'234
FDI2056	Fast Digital Integrator (FDI) Channel Card	19'960



MV2-Eval

# MAGVECTOR™ MV2 MAGNETOMETER ON A CHIP

### MV2 MagVector™ MV2 3-axis magnetic sensor

Low noise: 300 nT/ $\sqrt{Hz}$ ; 4 selectable measurement ranges: 0.1, 0.3, 1 and 3T (optionally to 30T); supply voltage: 3.3 V or 5 V; analog or SPI interface; selectable bandwidth: up to 3 kHz; selectable resolution: 14 to 16 bits; non-magnetic QFN 3x3 package. Minimum Order Quantity of 5 pieces, cut tape.

5 pieces	600
10 pieces	400
25 pieces	320
50 pieces	255
100 pieces	220
500 pieces	185
1'000 pieces	160
2'000 pieces	140
5'000 pieces	110

**Evaluation kit for MagVector™ MV2 3-axis magnetic sensor** 1'600 The MagVector™ MV2 Evaluation Kit provides a flexible turnkey hardware and software environment that allows all features of the MagVector™ MV2 to be exercised. The kit consists of:

- Test board with MagVector™ MV2 sensor
- Preprogrammed Arduino board that connects to the test board
- Arduino firmware to drive the MagVector™ MV2, including source code
- Host software to exercise the MagVector™ MV2, including source code
- Two unmounted MagVector™ MV2 sensors.



# PERMANENT MAGNETS

#### PM1055-027S PERMANENT MAGNET WITH NMR HOMOGENEITY 3'800 0.27T nominal field Includes modulation coil to produce 0.75mT symmetric modulation

0.27T nominal field. Includes modulation coil to produce 0.75mT symmetric modulation. LEMO 00 connector for ± 20 mA regulation current. Pole diameter of 50 mm, pole gap of 13.5 mm, 0.9 kg.

	Other fields (Full specifications upon request)	
PM1055-001F	Nominal Field 0.01T	
PM1055-005F	Nominal Field 0.05T	
PM1055-010F	Nominal Field 0.10T	
PM1055-050N	Nominal Field 0.50T	

Page 13 / 16

4'000

4'000

4'000 3'800



# TESTS AND CALIBRATIONS

A test sheet & calibration sheet are provided. Repair is quoted before execution. Delivery: 2 to 3 weeks, except otherwise indicated.

	<b>PER PT2025 OR PT2026 OR PDI5150 Channel Card OR FDI2056 Channel Card</b> Calibration is recommended every 12 months. We can also perform a complete test of the accessories:	1'000	
	Test of 1030 Amplifier	155	
	Test of 1060 or 1062 NMR probe	130	
	Test of Main Unit to amplifier cable	85	
		00	
	PER THM7025 3-AXIS HALL MAGNETOMETER	400	
	Calibration is recommended every 12 months.		
	<b>PER THM1176-LF OR THM1176-HFC 3-AXIS HALL MAGNETOMETER</b> Calibration is recommended every 18 months.	450	
	PER THM1176-MF 3-AXIS HALL MAGNETOMETER, within calibration periodsCalibration is recommended every 18 months.Four weeks in the year are fixed to perform batch calibrations:Week 10 Week 24 Week 37 Week 50To benefit from the discounted pricing for this batch operation, you must ensure that	450 at the	
instrument arrives at Metrolab the week before.			
	<b>PER THM1176-MF 3-AXIS HALL MAGNETOMETER, outside calibration periods</b> Calibration is recommended every 18 months.	900	
	PER TFM1186	1'000	
	Calibration is recommended every 18 months.		
	PER THM1176-HF 3-AXIS HALL MAGNETOMETERupon reCalibration is recommended every 18 months.Upon request.Delivery: upon request.Upon request.	equest	
	PER MAIN UNIT MFC3045 or MFC2046	1'000	
	PER NMR PROBE ARRAY MFC3048 or MFC9046         1.5T & 3T	2'590	
	Calibration/normalization is recommended every 12 months. Other Fields	3'625	

Page 14 / 16



Prices CHF

# LEGACY PRODUCTS

For legacy products, do not hesitate to contact us. We will try to support you on a best-effort basis.

# REPLACEMENT PARTS

Contact us for any replacement parts that may be required. We will do our best to serve you.



# **TERMS AND CONDITIONS**

#### PRICES

- Prices are in Swiss Francs, ex-works, excluding taxes.
- The price includes standard packaging; special packaging is at extra charge.
- All prices are subject to change without notice.

### QUANTITY DISCOUNT

A quantity discount is granted when ordering multiple copies of the same product, except for the THM1176-MF: - For 2 units - 2%

- For 2 units Per additional unit
- Maximum discount:

For the THM1176-MF, a special quantity discount policy is established. A quantity discount is granted when ordering multiple copies. For quantities greater than 10 units, an open order with a 12-month validity and partial deliveries is accepted.

- 1%

- 12%

-	For 2 units	- 2%
-	Per additional unit, up to 10 units	- 1%
-	From 11 to 25 units	- 12%
-	From 26 to 50 units	- 15%
-	From 51 to 100 units	- 17%
-	From 101 to 150 units	- 20%
-	From 151 to 200 units	- 23%
-	More than 200 units	- 26%

### **TERMS OF PAYMENT**

- Payment in advance by bank transfer to:
  - Crédit Suisse SA CH-1211 Genève 70, Switzerland IBAN CH39 0483 5146 5386 4100 0 SWIFT : CRECSHZZ80A
- Alternatively, payment may be made by irrevocable letter of credit, as described below.

## PAYMENT BY IRREVOCABLE LETTER OF CREDIT

- L/C payable to Banque Cantonale de Genève, as shown above.
- All bank charges, within and outside the customer's country, are to opener's account.
- All L/C terms must be accepted by Metrolab beforehand.
- Metrolab's administrative charges for payment by L/C: CHF 5'000
- No discounts are granted when paying by L/C.

### DELIVERY

- For standard products, normal delivery is 8 to 12 weeks after receipt of order (ARO).

### GUARANTEE

- METROLAB guarantees its products to be free from manufacturing and material defects for a period of 2 years after delivery, unless otherwise specified.
- Should any product purchased from METROLAB be found defective during this period, it will be replaced or repaired at the METROLAB plant in Geneva.
- Normal wear and tear are excluded from this guarantee.

### CLAIMS

- All goods shipped by METROLAB should be checked immediately upon receipt. Potential claims must be reported to METROLAB within 15 days after receipt of goods.
- For defective goods, METROLAB will bear freight charges from the customer's territory to Switzerland, whereas the customer will bear same from Switzerland to its territory.
- METROLAB reserves the right to discontinue any instrument without notice, or to make design modifications at any time without obligation to make such modifications in instruments previously sold.