



# MIRA XTR handheld Raman Spectrometer

Instant material  
identification  
and verification

**PEOPLE  
YOU  
CAN  
TRUST**



 **Metrohm**



# An analytical laboratory in the palm of your hand

**MIRA XTR™ is the smart solution for instant chemical identification of thousands of materials. MIRA XTR™ uses non-destructive Raman spectroscopy to take the molecular fingerprint of a sample and match it against thousands of reference spectra. What you get is a clear answer ...**

- what material are you measuring?
- does this material meet your requirements?

«What I like most about MIRA XTR: It is small and handy, it is flexible to use, and we can rely 100% on the results.»

Matthias Grandel, Team Leader Quality Control  
at Hauff-Technik GmbH & Co. KG, Germany

## A CHALLENGE ...

Some materials pose a challenge to Raman spectroscopy when fluorescence obscures the Raman signal. When fluorescence is an issue, our competitors turn to 1064 nm. However, a 1064 nm system has tradeoffs

- Higher laser power means shorter battery life and greater risk for sample damage
- The resolution of the Raman signal by 1064 systems is 30% lower compared to 785 nm systems
- 1064 systems use bulky internal components making 1064 systems bigger and heavier

## ... AND HOW WE ADDRESS IT

MIRA XTR™ is a 785 nm system. It combines smaller size, higher resolution, and longer battery life with our patented XTR™ algorithm to eXTRACT Raman data even from fluorescent samples. MIRA XTR™ means handheld Raman spectroscopy without compromise!

- Low power laser safely measures sensitive samples
- Higher sensitivity and resolution in a smaller footprint
- 20,000+ library entries – the largest library currently available on any handheld Raman system
- Allows non-contact analysis of samples, e.g., through a sight glass

# Unlimited scope of applications

Identifying unknowns or verifying the identity of known materials are common challenges in many industries. There are various technological solutions to address them. MIRA XTR™ is the most compact and flexible answer.

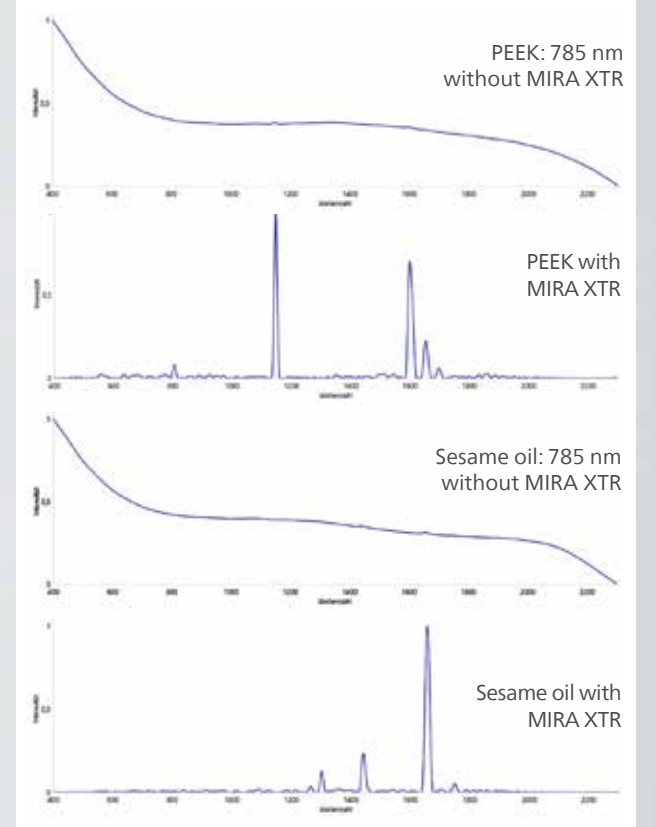
Typical application examples for MIRA XTR are the analysis of raw materials or industrial waste, identification of pollutants and hazardous substances, quantification contaminants by SERS (Surface Enhanced Raman Scattering), or identification of counterfeit products. Users of MIRA XTR benefit from the largest library on any handheld Raman system or can build their own libraries.

MIRA XTR is designed for real-world scenarios. Compact design and fast signal acquisition make the device convenient to use. Due to fluorescence rejection, MIRA XTR can also interrogate sensitive materials such as colored compounds without any risk of destroying or igniting them.

## CAPABILITIES OF MIRA XTR

- Fluorescence rejection – better detection and better ID of colored matrices
- ID of substance at trace levels by SERS
- Identification of several components in mixtures
- ID of dark materials, e.g. black polymer pellets

## COMPARE: 785 NM RAMAN WITHOUT AND WITH FLUORESCENCE REJECTION BY XTR





# MIRA XTR

## Supporting you with sampling power and flexibility

**Intelligent Universal Attachment (iUA)**  
Sampling through barriers from thin plastic bags to thick glass bottles. In «Container Mode», MIRA XTR and iUA recognize container materials (e.g., plastics) for better identification of the contents.



**Autofocus Standoff Attachment**  
Sampling of potentially hazardous materials from up to 2.0 meters away.

**Contact Ball Probe Attachment**  
For identification of unknowns in inaccessible containers and on surfaces.

**SERS Attachment**  
Automatically switches Mira DS from bulk ID mode to trace analysis mode when you need to detect trace drug residues or find the active drug component in a mixture.

## OUR HARDWARE PROVIDES UNIQUE FLEXIBILITY FOR SAFE AND CONVENIENT SAMPLING

MIRA XTR is pocket-sized and ready for a full day of work – identifying trace and bulk materials on a surface, in a bottle, down a barrel, through contain-

ers or even across a room. Our interlocking Smart Attachments attach simply and securely, and they automatically let the system know what kind of test you are performing.

Our PowerPack supports your entire day, every day with a swappable power source.

**Right Angle Attachment**  
For identification of unknowns on a surface or in a bag.

**Vial Attachment**  
For identification of powders or liquids in a vial.



**Calibration Standard**  
Verify device performance before measuring your sample.

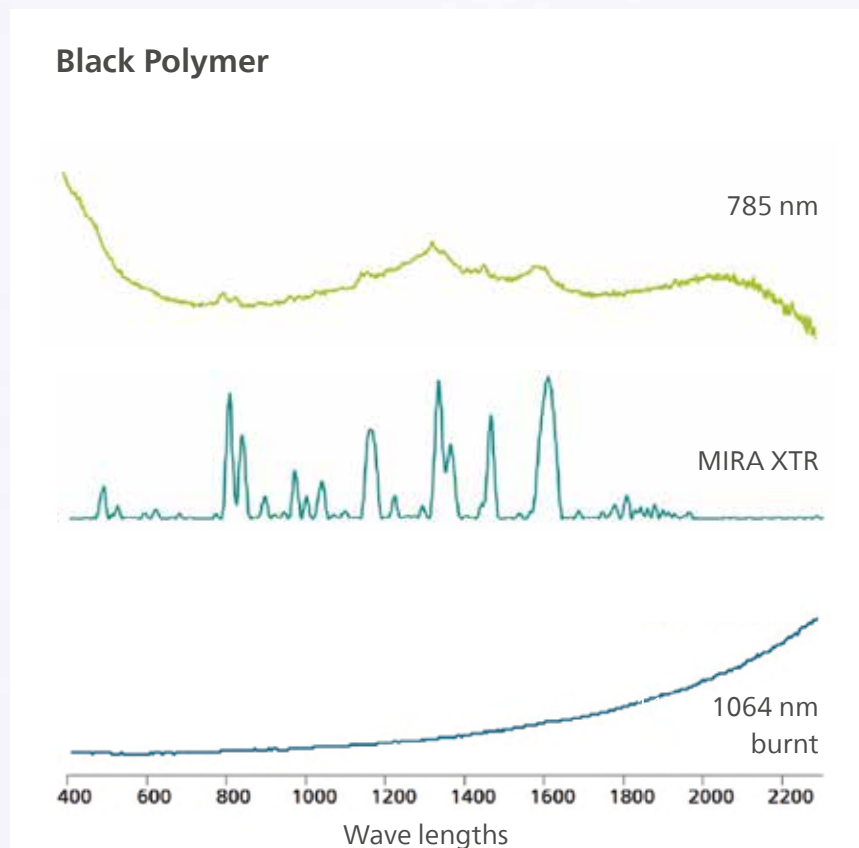


**PowerPack**  
Your independent power source for long working hours.



# Made for real challenges

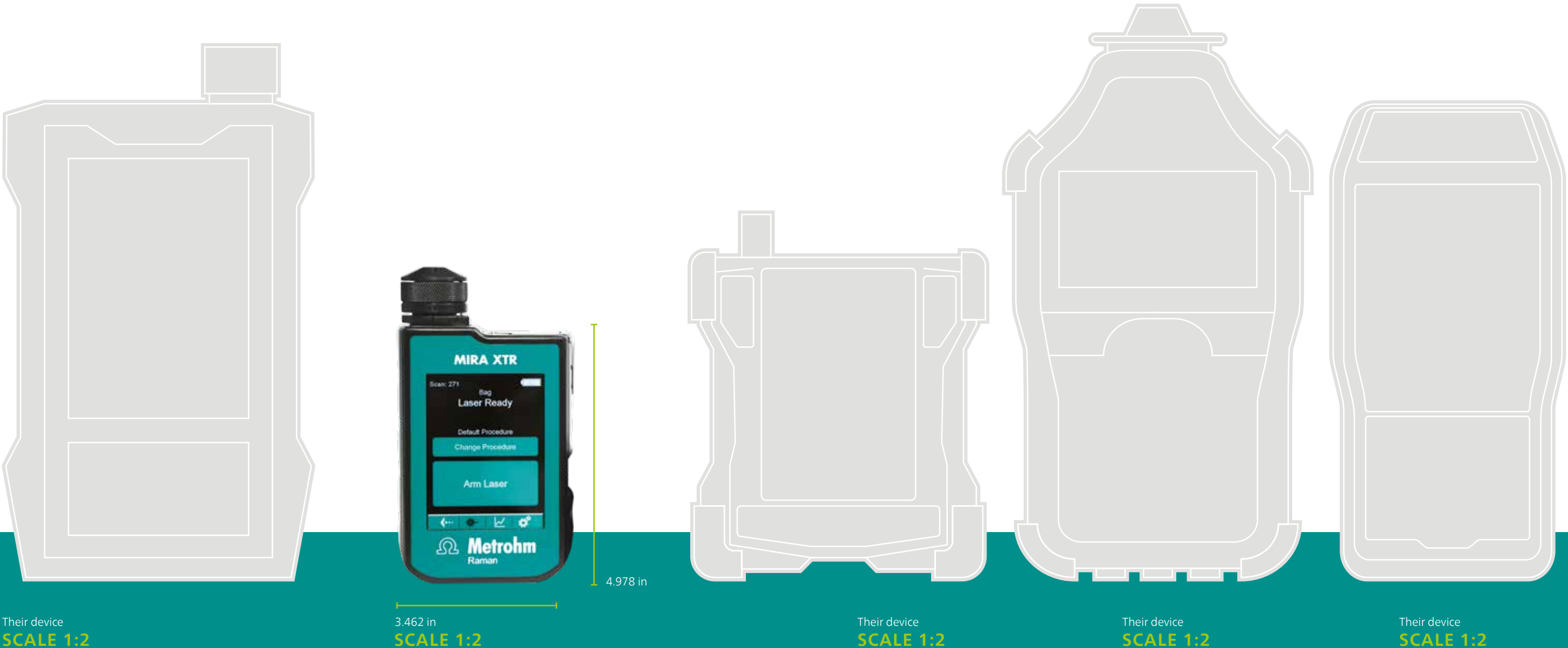
Dark or black substances tend to ignite when interrogated with a 1064 nm laser. A conventional 785 nm laser on the other hand produces a Raman signal too weak to extract any data from it. Thanks to the patented XTR algorithm MIRA XTR can extract a Raman signal even from such challenging samples resulting in spectra with superior resolution.



# True single-handed operation

MIRA XTR is the most compact Raman material identification system on the market. Ready for action at a moment's notice.

Simply compare!





## ORDERING INFORMATION

### MIRA XTR DS Advanced 2.9260.120

6.02707.020	MIRA DS Ruggedized Carrying Case
6.06071.020	Mira Cal DS USB Stick
6.07501.010	ASTM Calibration Standard
6.07506.000	Right Angle Attachment
6.07506.060	Intelligent Universal Attachment
6.07506.040	Mira SERS Attachment Collection Optics Accessory
6.07502.000	Mira Vial Holder Accessory
6.07507.000	Mira Blackout Cloth
6.2133.020	Lithium Battery AA 1,5 V / 2900 mAh
6.7430.060	NIR micro fiber cleaning cloth
6.02108.010	Cable USB Mini B – USB A 1,5m
6.7560.010	Protective Laser Glasses for Mira
6.6071.650	Mira Lib KnowItAll Full Raman Library Collection

### MIRA XTR DS Basic 2.9260.110

6.07501.010	ASTM Calibration Standard
6.07506.060	Intelligent Universal Attachment
6.02108.010	Cable USB Mini B – USB A 1,5m

### Optional Accessories

6.07506.030	Contact Ball Probe Attachment
6.07506.070	Autofocus Standoff Attachment
6.7560.200	MIRA PowerPack Kit
6.07507.100	MIRA DS Field Carry Pouch
6.6071.640	HazmasterG3 License

**Metrohm  
means ...  
Spectroscopy!**



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