

eRPHiX₂

DATASHEET

(Version 2024)

Product Synopsis

eRPHiX₂ is the further improved next generation of our experimental field lab instrumentation platform.

It is capable of very fast Raman hyperspectral imaging of solid samples. The platform is intended to facilitate the fast verification of the identification and classification of mineral samples.

eRPHiX₂ comes in a much-improved robust enclosure, equipped with new operational safety and control facilities enabling the deployment in IP67 mining environments.

It addresses a need from subsurface engineering research labs and mining OEM manufacturers.



Main Features

The present functional prototype enables the contactless sensing of Raman hyperspectral images from solids with a minimal requirement of sample preparation.

An additional monochromatic camera provides a magnified image of the scanned microscopic scenery.

The unit is equipped with a GigE Vision interface and can be easily connected to state-of-the-art hyperspectral imaging software packages for further data evaluation and modelling.

The optional metallic enclosure SR2 contains additional 100-230VAC power supplies, industrial Windows 10 LTSC based fanless IPC and MODBUS TCP interfaced peripherals for process control (not pictured).

Specifications

Weight / Dimensions:	35 kg with transport case / 800x600x440 mm eRPHiX ₂ : 22kg / 520x380x330 mm Safety Box : 3kg / 150x150x150 mm
Optional control cabinet:	SR2-SRN6425K /ABB 17kg / 600x400x250mm
Power supply:	48VDC / 2 Amps
option with control cabinet	100 - 230 Vac / 2 Amp (overall 450W)
Operating temperature:	10° to 40 ° C non-condensing 25% - 85% RH
Storage conditions:	-10° to +60°C non-condensing 25% - 85% RH
Laser :	532nm +/- 0.1nm FWHM max. 1pm, TEM00 / max. 320mW, CLASS 3B, with electronic adjustment via RS485/232 interface via umbilical corded Safety Box
Laser Safety:	Manual Emergency Stop, Remote Interlock, System status LEDs
Spectrograph:	transmissive, prismatic, 100u slit, 10mm (alternatives 20u/50u, 10mm)
Spectral range:	Stokes shift 150 – 4090 cm ⁻¹ @ up to 1000 spectral pixels
Spectral resolution:	8 – 10 cm ⁻¹ (0.25 – 0.5 nm) @ 20u slit
Line of Detection:	928 spatial pixels on dia. 1 mm scanning spot; customizable optics possible
SpectralView Camera:	CMOS 3 um pixels binning 2 x 2 eff. 6 um 1092 spectral x 928 spatial effective pixels; up to 30 fps @ ca. 33ms exposure time
SideView Camera:	CMOS 9 um pixels 90 FPS at 512 x 512 pixels
Dual Cameras Interfaces:	GigE Vision 2 x Gigabit Ethernet
Production:	Austria / European Union
Recommended list price incl. SR2 control cabinet:	80.000,- EURO, net

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