

OEM Spectrometer RU60

200 ... 1000 nm

The JETI broadband OEM spectrometer **RU60** is a flat field spectrograph combined with the powerful processing electronics PE60.

Main characteristics of RU60:

- High quality image with very low aberrations over the whole spectral range
- High dynamic range
- High sensitivity in VIS, UV and IR
- Compact design
- Easy integration into customer systems
- In-built mechanical shutter

Applications:

- Ellipsometry
- Plasma physics
- Colorimetry/ Spectroradiometry
- Biochemistry
- Analytical instrumentation
- Thickness measurement
- Online analyzer
- Fluorescence spectroscopy
- In process measurement of interference layers



Controller functions:

- Internal storage of wavelength-pixel relation
- Preprocessing of data, dark signal correction, absolute calibration
- Internal calculations like averaging, interpolation, transmission, reflexion, absorption, color coordinates
- Dedicated control syntax (SCPI compliant)

Advantages:

- Very low astigmatism
- Low stray light
- Processing of spectral calculations
- SCPI compatible control syntax
- Onboard Ethernet Interface

Specifications

Optical parameters

Spectral range	200 nm ... 1000 nm
Optical bandwidth	≤ 4.5 nm FWHM (100 μ m slit) ≤ 2.5 nm FWHM (50 μ m slit) ≤ 2.0 nm FWHM (25 μ m slit)
Asymmetry factor	0.7 ... 1.3
Optical input	F-SMA connector for a 200 μ m fiber
Max. wavelength error	± 0.5 nm (HgAr line source)
Wavelength repeatability	± 0.02 nm (HgAr line source)
Stray light	< 0.2 % (ASTM E387, GG495, $\lambda = 420$ nm/ 600 nm)
Spectrometer	holographic grating, flat field
Detector	Hamamatsu S11155 (other on request)

Electronic parameters

Digital resolution	16 bit
Dynamics	10000 : 1 (dark signal)
Typical sensitivity	for 50 μ m slit, 200 μ m fiber: $4 \cdot 10^{15}$ counts/ Ws @ 250 nm $7 \cdot 10^{15}$ counts/ Ws @ 500 nm $4 \cdot 10^{15}$ counts/ Ws @ 750 nm $1 \cdot 10^{15}$ counts/ Ws @ 1000 nm
Sampling speed	up to 4 MS/s
Line rate	> 200 full spectra/ s (via High Speed USB)
Integration time	0.01 ... 65 535 ms
Power supply	5 V (6 ... 28 V) DC or USB powered
Interfaces	USB (2.0 High Speed) 10/ 100 Mb/s Ethernet LAN SPI (up to 50MHz) TTL UART (up to 25 Mb/s) RS485/ RS422 I ² C CAN (on request) 8 GPIOs Temperature sensor input (NTC) 3 Analog inputs 12 bit (0 ... 3.3 V)

Mechanical parameters

Dimensions (total)	95 mm x 75 mm x 50 mm
Weight	approx. 180 g

Scope of delivery

Spectrometer, PC software VersaSpec, JETI SDK, operation manual