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, reflection, 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
Optical parameters

Spectral range: 200 nm ... 1000 nm
Optical bandwidth: ≤ 4.5 nm FWHM (100 µm slit)
≤ 2.5 nm FWHM (50 µm slit)
≤ 2.0 nm FWHM (25 µm slit)
Asymmetry factor: 0.7 ... 1.3
Optical input: F-SMA connector for a 200 µm 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, λ = 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 µm slit, 200 µm fiber:
4*10^15 counts/ Ws @ 250 nm
7*10^15 counts/ Ws @ 500 nm
4*10^15 counts/ Ws @ 750 nm
1*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
USB (2.0 High Speed)
10/ 100 Mb/s Ethernet LAN
SPI (up to 50MHz)
TTL UART (up to 25 Mb/s)
RS485/ RS422
I²C
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