

QE4

3.7 mm Ø, 1 µJ - 43 mJ, Small BNC-Mounted Pyroelectric

KEY FEATURES

- 1 Our Smallest COMPLETE Energy Detector**
Complete pyroelectric detector, with BNC output, the size of a quarter
- 2 Low Noise Level**
1 µJ for the MT coating
- 3 High Sensitivity**
200 V/J for the MT coating
- 4 Available with Metallic Absorber**
High Repetition Rate (6000 Hz)
- 5 BNC Mounted**
For direct readings with an oscilloscope



AVAILABLE MODELS



QE4SP-S-BL
(3.7 mm-Black)



QE4SP-S-MT
(3.7 mm-Metallic)

ACCESSORIES

NONE

SEE ALSO

HOW IT WORKS	10
CALIBRATION	6
TECHNICAL DRAWINGS	58
ABSORPTION CURVES	61
COMPATIBLE MONITORS	
MAESTRO	18
S-LINK-2	26

QE4

SPECIFICATIONS



*Also traceable to NRC-CNRC

MODELS	QE4-SP-S-BL	QE4-SP-S-MT
MAX MEASURABLE ENERGY	16 mJ	43 mJ
MAX REPETITION FREQUENCY	1200 Hz	6000 Hz
APERTURE	3.7 mm Ø	3.7 mm Ø

MEASUREMENT CAPABILITY	QE4-SP-S-BL	QE4-SP-S-MT
Spectral Range	0.19 – 20 µm	0.19 – 20 µm ^a
Maximum Measurable Energy		
1064 nm, 7 ns, 10 Hz ^b	16 mJ	43 mJ
266 nm, 7 ns, 10 Hz	0.7 mJ	7.6 mJ
Noise Equivalent Energy ^c	15 µJ	1 µJ
Sensitivity ^{d,e}	150 V/J	200 V/J
Max Repetition Frequency	1200 Hz	6000 Hz
Maximum Pulse Width (typical)	100 µs	10 µs
Rise Time (typical 0-100 %)	200 µs	20 µs
Calibration Uncertainty ^f	±3 %	±3 %
Repeatability	<0.5 %	<0.5 %
DAMAGE THRESHOLDS		
Maximum Average Power	0.3 W	0.3 W
Maximum Energy Density		
1064 nm, 7 ns, 10 Hz	150 mJ/cm ²	400 mJ/cm ²
266 nm, 7 ns, 10 Hz	6 mJ/cm ²	70 mJ/cm ²
PHYSICAL CHARACTERISTICS		
Effective Aperture		3.7 mm Ø
Absorber	Black	Metallic
Dimensions		20H x 17.5W x 30D mm
Weight		20 g
ORDERING INFORMATION		
Full Product Name	QE4SP-S-BL	QE4SP-S-MT
Product Number	200636	200638

a. Increasing pulse width increases the maximum measurable energy.

b. Detectors with the MT coating can be used within the range 0.19 to 20 µm, however the absorption in the IR wavelengths decreases significantly. This, in turn, reduces the sensitivity and increases the noise level.

c. Nominal value, actual value depends on electrical noise in the measurement system.

d. Load: 1 MΩ and ≤ 30 pF.

e. Maximum output voltage = sensitivity x maximum energy.

f. Excludes non-linearities.

Specifications are subject to change without notice