

Original X Quantum Sensors

Measure photosynthetically active radiation for broadband light sources



SQ-100X

	SQ-100X-SS	SQ-202X-SS	SQ-204X-SS	SQ-205X-SS	SQ-301X	SQ-420X	SQ-421X-SS	SQ-422X-SS
Power Supply	Self-powered	5 to 24 V DC	7 to 24 V DC	5.5 to 24 V DC	Self-powered	5 V USB power source	5.5 to 24 V DC	
Current Draw	—	10 μ A	22 mA maximum; 2 mA quiescent	10 μ A	—	61 mA when logging	1.4 mA (quiescent), 1.8 mA (active)	RS-232 37 mA; RS-485 quiescent 37 mA, active 42 mA
Output (sensitivity)	0.1 mV per μ mol $m^{-2} s^{-1}$	0.6 mV per μ mol $m^{-2} s^{-1}$	0.004 mA per μ mol $m^{-2} s^{-1}$	1.25 mV per μ mol $m^{-2} s^{-1}$	0.1 mV per μ mol $m^{-2} s^{-1}$	—		
Calibration Factor (reciprocal of output)	10 μ mol $m^{-2} s^{-1}$ per mV	1.6 μ mol $m^{-2} s^{-1}$ per mV	250 μ mol $m^{-2} s^{-1}$ per mA	0.8 μ mol $m^{-2} s^{-1}$ per mV	10 μ mol $m^{-2} s^{-1}$ per mV	Custom for each sensor and stored in the firmware		
Calibration for Uncertainty	± 5 %							
Output Range	0 to 250 mV	0 to 2.5 V	4 to 20 mA	0 to 5 V	0 to 250 mV	USB	SDI-12	Modbus
Measurement Repeatability	Less than 0.5 %							
Long-term Drift	Less than 2 % per year							
Non-linearity	Less than 1 % (up to 2500 μ mol $m^{-2} s^{-1}$)	Less than 1 % (up to 4000 μ mol $m^{-2} s^{-1}$)		Less than 1 % (up to 2500 μ mol $m^{-2} s^{-1}$)				
Response Time	Less than 1 ms					Software updates every second	Less than 0.6 s	Less than 200 ms
Field of View	180°							
Spectral Range	370 to 650 nm (wavelengths where response is greater than 50 % maximum)							
Directional (cosine) Response	± 5 % at 75° zenith angle							
Temperature Response	-0.04 % per C							
Operating Environment	-10 to 60 C; 0 to 100 % relative humidity; can be submerged in water up to 30 m							
Dimensions	24 mm diameter, 33 mm height	30.5 mm diameter, 37 mm height			616.4 mm length, 13.6 mm height, 16.5 mm width	24 mm diameter, 33 mm height	30.5 mm diameter, 37 mm height	
Mass (5 m of cable)	90 g	140 g			310 g	90 g	140 g	