

Bifacial Array Irradiance Monitoring Kit

Using RC18 PV Reference Cell

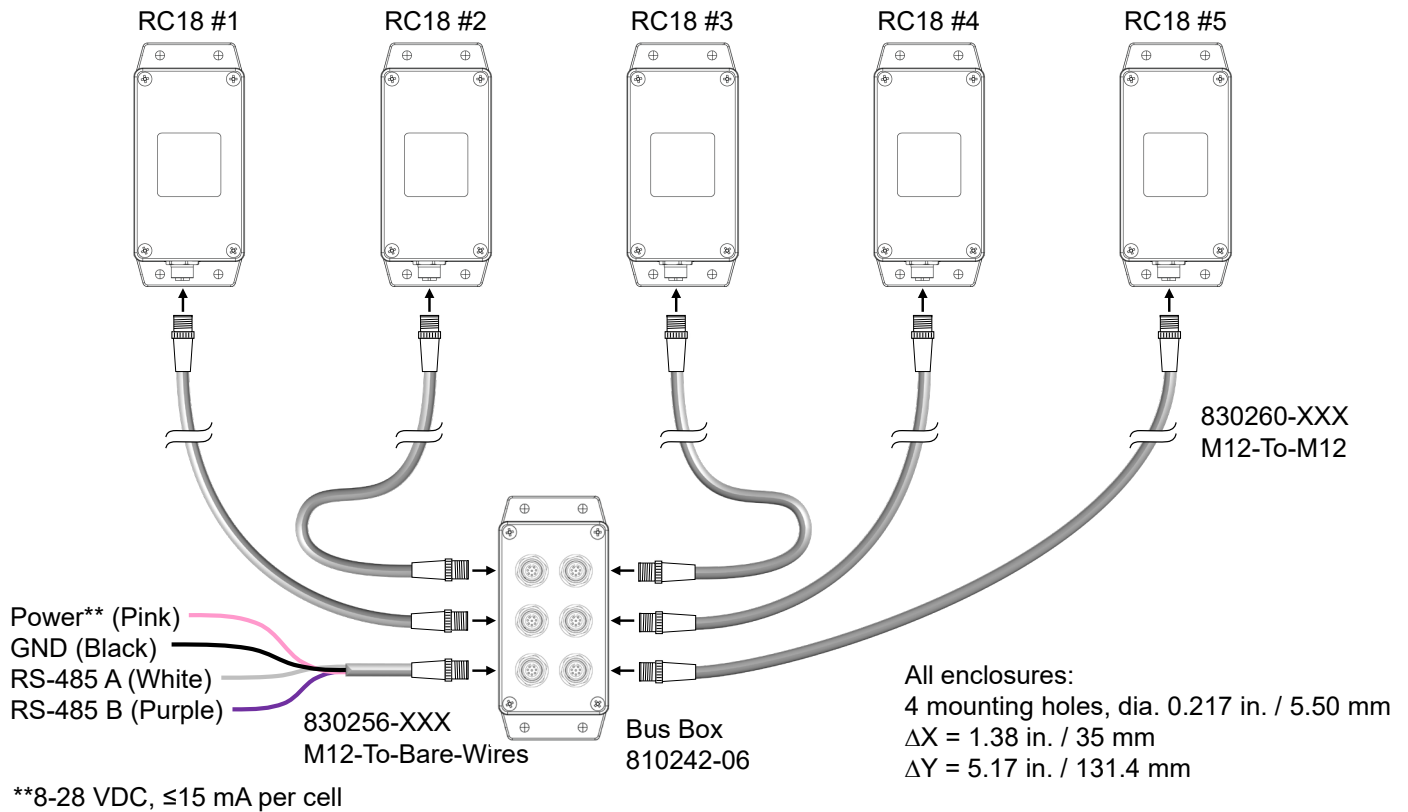


Features

- Measure both frontside and backside irradiance
- Multiple backside sensors for backside uniformity measurements
- Digital communication with Modbus over RS485
- Internally stored calibration data
- Crystalline silicon PV cell
- IP67-rated cast aluminum enclosure
- Cell temperature measured with internal RTD
- Automatic temperature compensation
- Multiple external cable-length options



Connection Diagram



Reference Cell Specifications

Model name	RC18 Series
Measurement range	0 to 1500 W/m ² , 0.1 W/m ² resolution
Operating temperature	-35 to 80 °C
Input power	8-28 VDC, typ. 8-15 mA (per cell)
PV cell	Crystalline Si, 20 mm x 20 mm, low-iron solar glass window
Cell temperature measurement	-40 to 100 °C, ± 1 °C, RTD
Calibration data	Internally calibrated; no calibration data to manage
Communication protocol	Modbus over RS485, up to 57.6k baud, settable address
Enclosure	Powder-coated cast aluminum housing, IP67
Dimensions, Weight	4.53 x 2.56 x 1.18 in. / 115.1 x 65.0 x 30.0 mm, 0.6 lb / 0.3 kg
Cables	Shielded, weather resistant, UV-rated, 24 awg / 0.2 mm ²
Connector	M12 circular connector, IP67
Response time	0.15 s
Repeatability	$\pm 0.02\%$ of range
Irradiance calibration	$\pm 1.2\%$, calibrated to NREL-traceable reference standard
Overall measurement uncertainty	$\pm 2.0\%$ @ 1500 W/m ² , $\pm 2.9\%$ @ 100 W/m ²
Stability	0.5% / year
Standards compliance	IEC 61724-1 Class A, IEC 60904-2, IEC 60904-3, IEC 60904-10, CE

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