



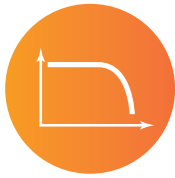
IV DAQ + MSI Gateway

PV Module Performance Monitor



Groundbreaking Module-level Monitoring

The IV DAQ is an in situ IV curve tracer that is strategically deployed across a solar field. Devices record continuous measurements with analytics to deliver real time analysis on DC-side field health.



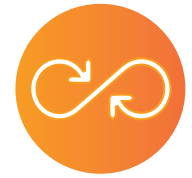
High Fidelity Module Data

- Maximum Power Point (Pmp)
- Operating Power Point (Pop)
- STC Corrected Values
- Module Temperature
- Short Circuit Current (Isc)
- Open Circuit Voltage (Voc)



Plug and Play

- No infield wiring for power or comms required
- Leave in place - Measurements taken during operation
- No costly labour, plant downtime or revenue loss

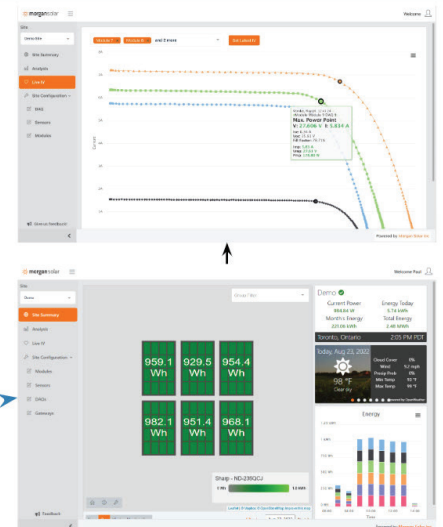
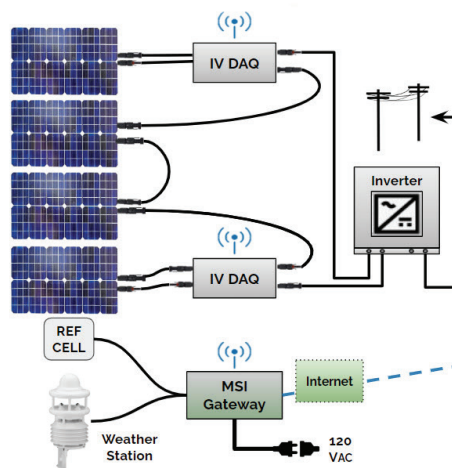


Steady Data Stream

- Steady stream of data under all conditions provides a Digital Twin of the solar field.
- Unlock new longitudinal insights

System Overview

IV curves are collected wirelessly in a mesh network, synchronized with other Modbus sensors including reference cells, MET stations, pyranometers by the MSI Gateway. Field data is then sent to the cloud-based Analytic Portal to be analyzed for actionable insights.



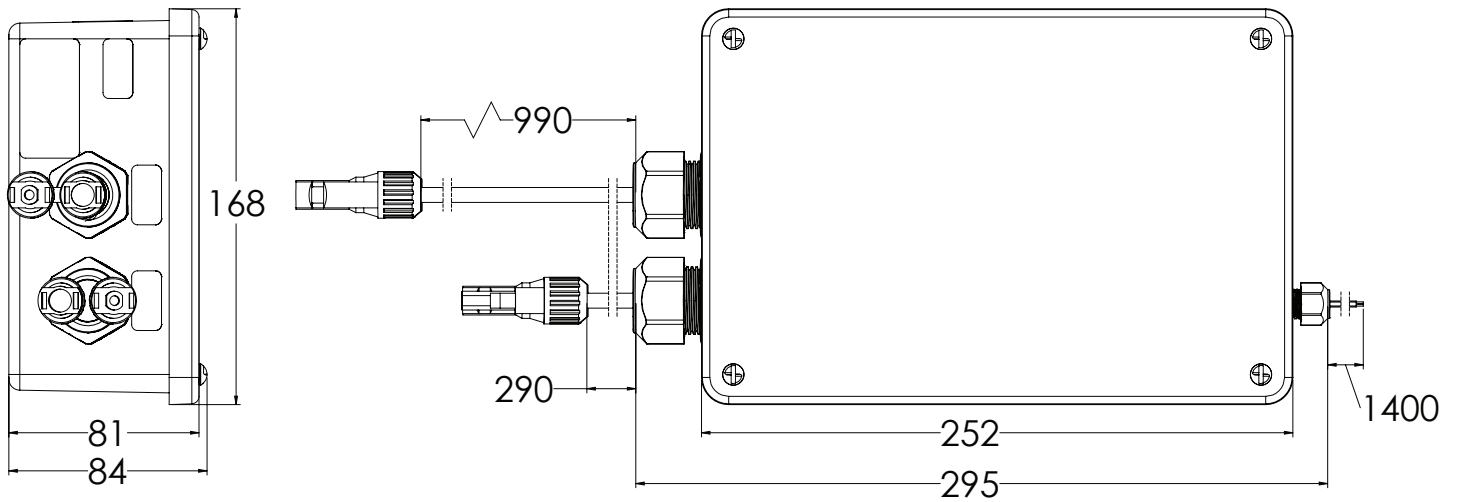
Product Specifications

	IV DAQ 550W		IV DAQ HV		IV DAQ HP	
Electrical						
Module Power Input Range	15 - 550 W		15 - 600 W		15 - 800 W	
Current Accuracy Bands	<1A	1A - 14A	<1A	1A - 12A	<2A	2A - 25A
Current Measurement Accuracy*	± 0.5 %	± 0.5 %	± 0.5 %	± 0.5 %	± 0.5 %	
	± 0.002 A	± 0.03 A	± 0.002 A	± 0.03 A	± 0.002 A	
Module Short Circuit Current Range	0 - 14 A		0 - 12 A		0 - 25 A	
Voltage Accuracy Bands	<15V	>15V	<15V	>15V	<15V	>15V
Voltage Measurement Accuracy*	± 0.2 %	± 0.2 %	± 0.2 %	± 0.2 %	± 0.2 %	± 0.2 %
	± 0.2 V	± 0.05 V	± 0.02 V	± 0.1 V	± 0.02 V	± 0.07 V
Module Open Circuit Voltage Range	15 - 50 V		15 - 125 V		15 - 75 V	
IV Sweep Direction	Isc→Voc					
Insertion Resistance	~30 mΩ					
Power Consumption	~1 W					
Voltage Isolation	1500 V					
Mechanical						
Enclosure Dimensions	252 x 168 x 84 mm 9.92 x 6.61 x 3.31 in		252 x 168 x 84 mm 9.92 x 6.61 x 3.31 in		240 x 160 x 120 mm 9.45 x 6.30 x 7.72 in	
Weight	1.65 kg 3.64 lb				2.65 kg 5.84 kg	
Operating Environment	-20 to 50 °C -4 to 122 °F					
Enclosure Rating	IP67, Type 4x Enclosure					
Connection to Module	2 x MC4 on lead					
Connection to String	2 x MC4 on lead					
Features						
Sweep Time	< 200 ms					
Sweep Interval	adjustable; minimum 1 min, typically 15 min					
Module Temperature Sensor	K-Type Thermocouple					
Power Source	PV module under test					
Other						
Communication	XBee Wireless					
Communication Range	100+ Meters** 330+ Feet**					
Certifications						
Certified by CSA Group to CAN/CSA C22.2 No. 61010-1:2012, CSA C22.2 No. 61010-2-030, UL 61010-2-30:2018						
Compliant with FCC Part 15.247, RSS-247, ICES-001, ANSI C63.10: 2013. Patents Pending						
Notes						
All IV DAQ products are compatible with the North American scientific radio bandwidths. *Lower error value of percentage and absolute value. **Maximum range is dependent on the site						

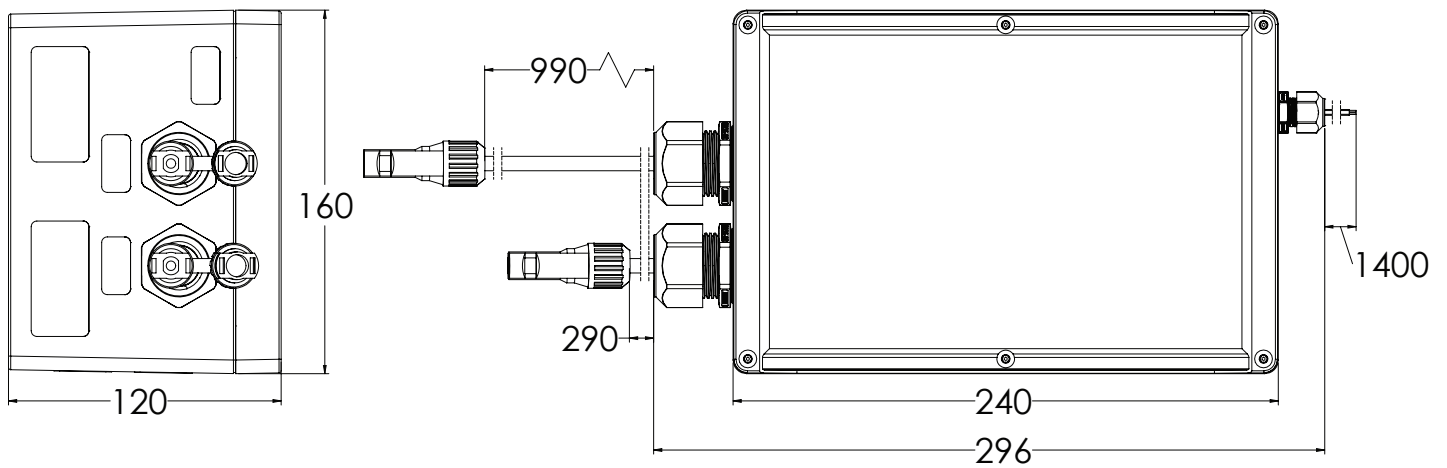
	MSI Gateway
Electrical	
External Power Source	100 - 240 VAC
Power Consumption	~10 - 30 W*
Mechanical	
Enclosure Dimensions	290 x 266 x 150 mm 11.42 x 10.47 x 5.91 in
Weight	2.7 kg 5.95 lb
Operating Environment	-20 to 50 °C -4 to 122 °F
Enclosure Rating	IP66 Type 4x Enclosure
Connection to Network	Ethernet/RJ45
Connection to Power	NEMA 5-15 Plug
Features	
Maximum DAQ pairing	20**
Communication Range	100+ m 330+ ft
Sensor Integration	RS-485 / MODBUS
Optional Additional Sensors	
Reference Cell	10 max qty. per Gateway
Pyranometer	10 max qty. per Gateway
Weather Station	1 max qty. per Gateway
Other	
Communication	XBee Wireless
All IV DAQ products are compatible with the North American scientific radio bandwidths.	
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Compliant with FCC Part 15.247, RSS-247, ICES-001, ANSI C63.10: 2013	
Notes	
*depending on MODBUS sensors connected **at 1 min sweep interval	



IV DAQ 550W/IV DAQ HV



IV DAQ HP



Gateway

