



Next Wave Nexus

Data Acquisition Solution

Next Wave Energy Monitoring ("NWEM") is a renewable energy performance monitoring & data acquisition platform designed by power quality engineers to deliver substantial energy vitals and system analytics to solar asset owners/managers. NWEM's turnkey Data Acquisition System ("DAS") extends a customer-first expectation focused on state-of-the-art manufacturing at our California-based ISO-9001 facility, quality workmanship & hardware, and market-leading customer support and In-field Network Engineering from our US - Based teams to streamline system energization and DAS retrofit needs.



Community Solar DAS Solution: Hardware Specifications

Assembly	Weight	160 lb. 72.6 kg.
	Operating Temperature	-40°F to 122°F / -40°C to 50°C
	Line Input Voltage Range	100 – 250 VAC
	Frequency	50Hz / 60Hz
	Standards / Compliance	UL Listed 508A Type 4, RoHS Compliant, cUL Listed per CSA C22.2 No. 94.1, 94.2, 14 / IEC 62208 / ISO9001 (2008)
Enclosure	Enclosure Dimensions	30" x 30" x 12" 760mm x 760mm x 300mm
	Enclosure Rating	NEMA 4
	Weight	92.6 lb. 42 kg
	Base Material	Carbon Steel
	Standards / Compliance	UL/cUL Type 1, 3R, 12, 4 (4X stainless steel), UL 508A, CSA-C22.2 No. 14, "Industrial Control Equipment."
Data Logger	Interval Recording	1 to 60 minutes, user selectable (default 15 minutes)
	Processor / OS / Memory	i.MX 6UltraLite / Linux 4.x / x512 MB RAM
	Storage	4GB NOR Flash
	Devices Supported	Up to 64 connected Modbus RTU enabled devices
	Primary Protocols	Modbus/RTU, Modbus/TCP, TCP/IP, PPP, HTTP/HTML, FTP, NTP, XML, SNMP-Trap
	Serial Ports	2 x RS-485 Modbus, supports 32 external devices per port
	LAN	2 x RJ45 10/100 Ethernet, full half duplex, auto polarity
	Interval Recording	1 to 60 minutes, user selectable (default 15 minutes)
	Security / Compliance	SSL & TLS / FCC CFR 47 Part 15, Class A, EN 6100, EN 61326, CE, UL61010 Recognized
	Standards / Compliance	ANSI C12.20 Class 0.2 Accuracy Certified / FCC Part 15 Class B, UL Listed #E250395
Revenue Grade Energy Meter	Modbus/RTU Output	RS-485 2-wire, 9600 to 230400 baud
	BACnet MS/TP Output	RS-485 2-wire, 9600 to 115200 baud
	Relay	2x Solid-State Relay Outputs (100mA @ 50V max), User Programmable for alarm, status or pulse output
	Accuracy	0.2% Max
Cellular Modem	WAN Interface	1 x Embedded LTE Modem with Redundant SIM Slot
	LAN Interface	2 x 10/100/1000 M Ethernet Port
	Router Throughput	300 Mbps
	Load Balancing	Intelligent Failover, Session Persistence, Per-Service Load Distribution, Multiple Algorithms
	Networking	NAT and IP Forwarding, Static Routes, Port Forwarding, UPnP, NAT-PMP
	Security	128-bit WEP, WPA, & WPA2, Stateful Firewall, DoS Prevention, Web Blocking
	Standards / Compliance	FCC, CE, IC, RoHS, E-Mark, EN 61373, EN50155, EN61000
Fiber/Ethernet Switch	Transfer Rate	14,880pps for Ethernet Port 148,800pps for Fast Ethernet Port 1,488,000pps for Gigabit Ethernet Port
	Ethernet Port	8 * 10/100Tx RJ45 ports, auto negotiation speed, Full/Half duplex mode, and auto MDI/MDI-X connection
	Gigabit Combo Port (Copper/SFP)	2 * 10/100/1000Tx RJ45 Ports & 2 * 100/1000 SFP Slot
	Processing Type	Store and Forward
	Standards / Compliance	IEEE 802.3 10Tx Ethernet, 802.3u 100Tx Fast Ethernet, 802.3ab 1000Tx Gigabit Ethernet, 802.3z Gigabit Fiber
Power Supply	Dimensions	2" x 5.1" x 4.9" 50mm x 130mm x 125mm
	Weight	2lb. 0.9 kg
	AC Input Voltage Range	100 VAC ... 240 VAC
	Input Frequency Range	50Hz ... 60Hz
	DC Output Voltage Current	24 VDC 10A
	Standards / Compliance	UL Listed UL 508, UL/cUL 60950-1





UPS	Dimensions	1.4" x 5.1" x 4.9" 35mm x 130mm x 125mm
	Input Voltage Voltage Range	24 VDC 18VDC ... 30 VDC
	Output Voltage Range	18 VDC 30 VDC
	Interface Designation # of Interfaces	Ethernet/IP™ 2
	Supported Protocols	Ethernet/IP™ (Explicit Messaging, Implicit Messaging), BootP, DHCP, DLR
	Connection Method	RJ45 socket
	Standards / Compliance	EN 61000-6-1/2/3/4, EN 60950-1, EN 50121-4, UL Listed UL 508, UL/C-UL Recognized UL 60950-1
UPS Battery Pack	Dimensions	7.8" x 6.5" x 6.7" 197mm x 165mm x 171mm
	Weight	31.53 lb. 14.30 kg
	Nominal Voltage	12 V
	Nominal Capacity	40Ah @ 20 hour rate F.V. (1.75V/cell)
	Max. Discharge Current	≤ 8m Ω (Fully Charged)
RS485 Surge Protection Device	Max. Charge Current	12 A
	Dimensions	0.7" x 3.5" x 2.7" 18mm x 90mm x 68mm
	Max. Load Current	300 mA
	Impulse Current	5 kA
	Nominal Discharge Current	5 kA
	Volts Wires	24 V 4W + SHIELD + GROUND
	Standards / Compliance	UL 497B, QVVG, File Number E194939, IEC 61643-11, NOM-003-SCFI-2014, NOM-001-SCFI-1993
Ethernet Surge Protection Device	Dimensions	1.3" x 2.2" x 2.2" 34mm x 55mm x 55mm
	Impulse Current	500 A
	Nominal DC Line Voltage	5 VDC
	Max. DC Line Voltage	8 VDC
	Wires Protection Level	8W + SHIELD + GROUND
6A Circuit Breaker 13A Circuit Breaker	Line Current Max	1 A
	Dimensions	4.4" x 2.7" x 0.7" 111mm x 69mm x 17.5mm
	Poles	1P
	6A / 13A Rated Current I _n	6 A 13 A
	Rated Frequency f	50 / 60 Hz, DC (0 Hz)
	Rated Insulation Voltage U _i	250 VAC (phase to ground), 440 VAC (phase to phase)
	Standards / Compliance	UL 489, CSA 22.2 No. 5, IEC/EN 60947-2
5A Fuse	Dimensions	0.21" x 0.79" x 0.21" 5.2mm x 20.0mm x 5.2mm
	Voltage Rating AC	250 VAC
	Current Rating	5 A
	Interrupt Rating	50 A at 250 VAC
	Standards / Compliance	cURus, CSA, CCC, BSI, VDE, SEMKO, IMQ
DC POE Injector	Dimensions	1.2" x 5.5" x 3.7" 30mm x 140mm x 95mm
	Power Input	24 / 48 VDC
	Power Consumption	33.36 W @ 24 VDC
	Connector	10/100/1000 BaseT(X) x 2 (Data IN x 1, PoE OUT x 1)
	Standards / Compliance	UL-508, IEEE 802.3 10BaseT, 802.3u 100BaseT, 802.3ab 1000BaseT(X), 802.3af/at Power over Ethernet
Transceiver (LC Connector)	Dimensions	0.5" x 2.2" x 0.3" 13.7mm x 56.5mm x 8.9mm
	Interface	LC (Single-Mode)
	Sensitivity	-32 dBm
	Distance	20 KM
	LD Type & Wavelength	1310 nm FP
	Data Rate	155 Mbps, NRZ
	Standards / Compliance	MSA / SFP, IEEE 802.3u 100Base-FX, FDDI PMD Standard, ATM Standard
Fiber Patch Panel	Dimensions	6.5" x 6.0" x 1.5" 165.1mm x 152.4mm x 38.1mm
	Product / Mounting Type	Wall-Mountable Wall-Mountable Hardware
	Housing Type	SPH
	# of Panels per Housing	1
	Panel or Module Type	CCH
	Standards / Compliance	RoHS 2011/65/EU
Closet Connector Housing Panel	Dimensions	6.1" x 1.4" x 1.4" 155.4mm x 34.8mm x 36.1mm
	Fiber Category	Single-mode (OS2)
	Fiber Count	12
	# of Adapters per Panel	6
	Housing Type	Panels and Modules
	Adapter Type	LC Duplex
Standards / Compliance	RoHS 2011/65/EU	

