enteligent™ NMax MLPE

Enteligent NMax M500A1

Rapid Shutdown Device (RSD) with Optimization

- NEC 2017 690.12, NEC 2020 690.12 and CSA C22.1 Rule 64-218 rapid shutdown compliant
- Photovoltaic Rapid Shutdown System (PVRSS) certified with industry-leading PV inverters
- Module-level power electronic (MLPE) solar panel power optimization
- Effortless plug and play installation − no finicky network setup required
- Panel-level monitoring ready for installation validation, service troubleshooting & performance tracking

Rapid Shutdown CERTIFIED

Features

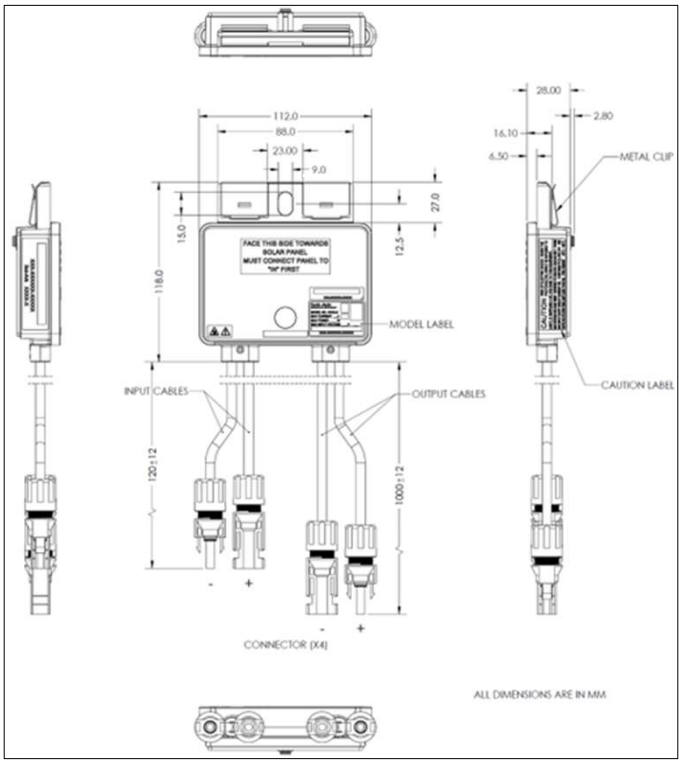
- Microprocessor-controlled real-time response management
- Two operational modes:
  - Maximum power point tracking (MPPT) optimization only when necessary
  - Industry-leading pass-through efficiency of 99.8% otherwise
- Cover more of the roof with solar panels without concern for shade zones
- Higher efficiency, lower operating temperatures, greater reliability
- Smaller footprint, 40% fewer components, solid-state design architecture

Enteligent NMax M500A1

Specifications

Specification	Enteligent NMax M500A1-XX
Electrical	
Maximum Input Voltage	80 V
Maximum Output Voltage	80V
Maximum Current	14 A
Maximum Power	500 W
Maximum Power Consumption	1.0 W
Mechanical	
Dimensions (without cable)	112 x 118 x 28 mm
Weight	620 g
Cable Length	Input Cable: 0.12 m Output Cable: 1 m
Cable	12 AWG
Enclosure Rating	NEMA Type 6P / IP 68
Features	
PV Module-monitoring data (when installed with an Enteligent NMax RSS Transmitter)	Input Voltage & Current Output Voltage & Current Serial Number & Firmware Version MLPE Internal Temperature Operational Mode
Power Optimization	Yes (MPPT)
Communication Signal	Power Line Communication (PLC)
Operating Ambient Temperature Range	-40 ºC to +85 ºC (-40 ºF to +185 ºF)
Over-Temperature Protection	Yes
Standards Compliance	
Photovoltaic Rapid Shutdown System	NEC 2017 (690.12), NEC 2020 (690.12), CSA C22.1 No. 64-218
Safety Compliance	UL 1741, CSA 22.2 No. 107.1
EMC Compliance	FCC Part 15 Class B; IEC 61000-6-2; IEC 61000-6-3
Others	SunSpec™ RSD Certified
Model Number by Connector Type	
Staubi MC4	M500A1-M4
MC4 Compatible (Friends PV5e)	M500A1-F4

Dimensions



enteligent™ NMax MLPE

Enteligent & Solis

Providing industry-leading features & functionality

Finally, compete head-on with the industry leading PV-string solution provider (SolarEdge) with this integrated solution that fills the up-till-now outstanding feature gaps:

- SunSpec™ power line communication (PLC) rapid shutdown functionality
- PV module power optimization
- plug and play panel-level data monitoring

Enteligent NMax Rapid Shutdown Devices (RSDs) with Optimization & Enteligent NMax RSTAE-4C1G bidirectional PLC wall-mount signal transceivers have been fully co-tested by Enteligent and Solis for interoperability with Solis S6 hybrid inverters.

Enteligent NMax RSTAE wall-mount bidirectional PLC signal transceiver

PLC rapid shutdown

- Easy plug and play connections with standard connectors to PV modules
- Coupling-transformer design of transmitter offsets PV-string cross-talk issues
- No installation pre-qualification of PV-string layout necessary
- Smaller footprint, 40% fewer components, solid-state design architecture

Panel power optimization

- Next-generation microprocessor-controlled real-time response management
- Two operational modes:
  - Maximum power point tracking (MPPT) optimization only when necessary
  - Industry-leading pass-through efficiency of 99.8% otherwise
- Installers can cover more of the roof with solar panels without concern for shade zones:
  - Larger installations, more revenue, more solar generation
  - Maximize home battery storage options
- Higher efficiency, lower operating temperatures, greater reliability, fewer service calls

Panel-level data monitoring

- Panel-level monitoring functionality with in-box provided FOMware data-acquisition IoT dongle module
- Remote FOMware software management system provides real-time and historical panel-level data of individual PV solar modules, including input & output voltage & current, operational mode, etc.
- Data transfer over PLC – no finicky wireless setup required
- Simple plug & play USB dongle port and standard home Wi-Fi IoT setup
- Provides on-site roof-top level system verification for installers, remote trouble-shooting window for service providers and granular performance confirmation for homeowners/operators