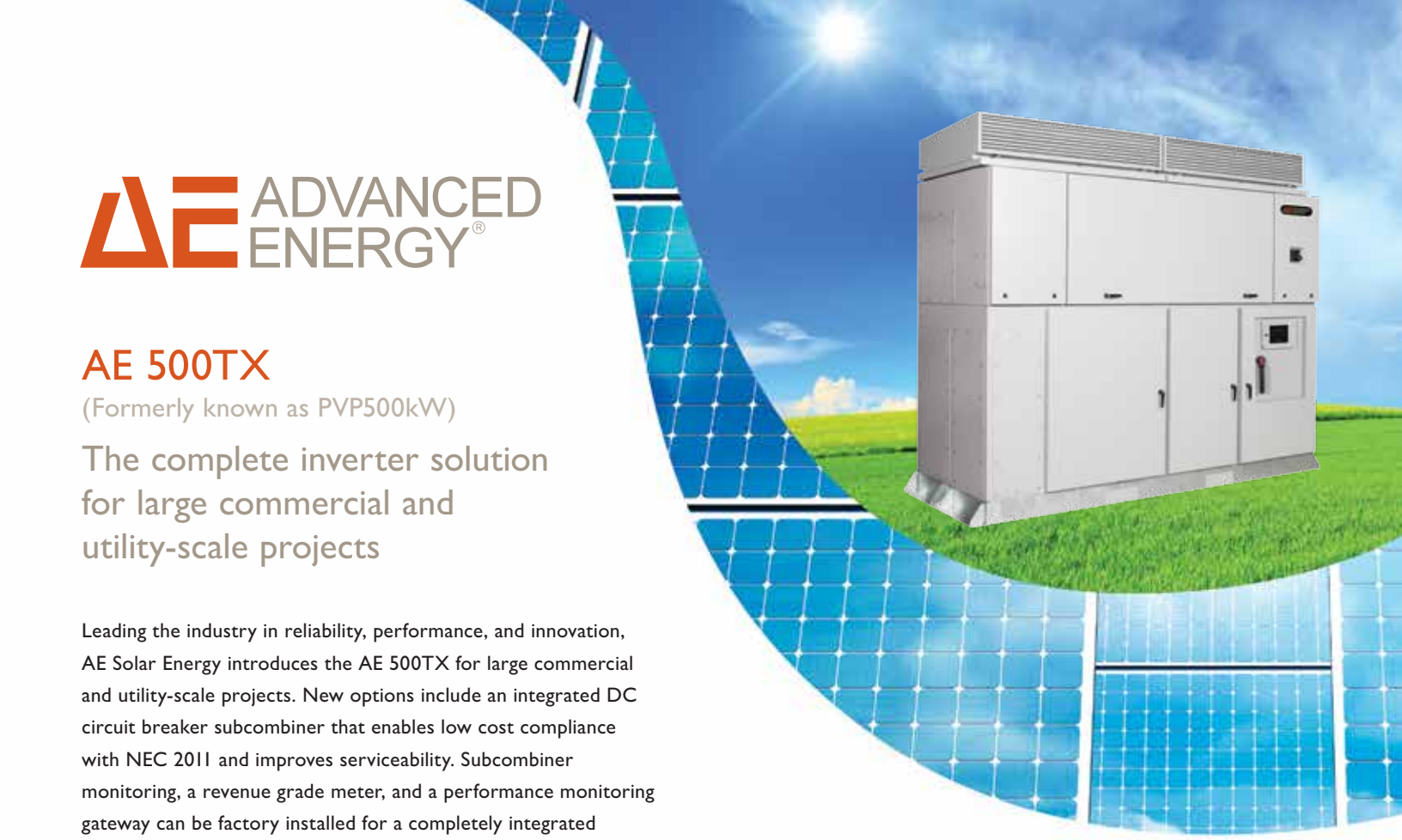


# AE 500TX

(Formerly known as PVP500kW)

## The complete inverter solution for large commercial and utility-scale projects

Leading the industry in reliability, performance, and innovation, AE Solar Energy introduces the AE 500TX for large commercial and utility-scale projects. New options include an integrated DC circuit breaker subcombiner that enables low cost compliance with NEC 2011 and improves serviceability. Subcombiner monitoring, a revenue grade meter, and a performance monitoring gateway can be factory installed for a completely integrated solution. Communication interfaces, remote disable inputs, and optional 24 V auxiliary power supply are housed in a dedicated low power compartment for safe and easy access. The entire system, including the isolation transformer, is contained within a single NEMA 4 rated cabinet significantly reducing installation time and expense.

Designed for DC loading up to 175%, the AE 500TX maximizes energy harvest and accelerates payback with a 97% weighted CEC efficiency, wide DC operating range, fast convergence MPPT, and the ability to produce full power all the way to 55 °C. Uptime and revenue generation are assured by superior built-in reliability consisting of engineered busbar power connections, redundant cooling system and power supply, card cage circuit board design, and solder-free intelligent power modules.

Advanced power controls provide essential utility support functions including power factor and curtailment with controlled ramp rate making it easy to comply with interconnection requirements.

Total integration, reliability, and utility-support functionality make the AE 500TX the complete inverter solution for large commercial and utility-scale projects.

The AE 500TX is backed with an industry-leading, 10-year, nationwide warranty and a comprehensive optional 20-year warranty; plus the most responsive service and support team in the business.

### Superior Reliability

- Redundant power supply and cooling system with Smart Air Management™
- Increased availability with >99% monitored fleet availability
- Rated for full power operation up to 55 °C
- Low parts count reduces potential failure points
- Engineered busbar power connections
- Card cage circuit board system minimizes electronic interconnections

### Exceptional Installability

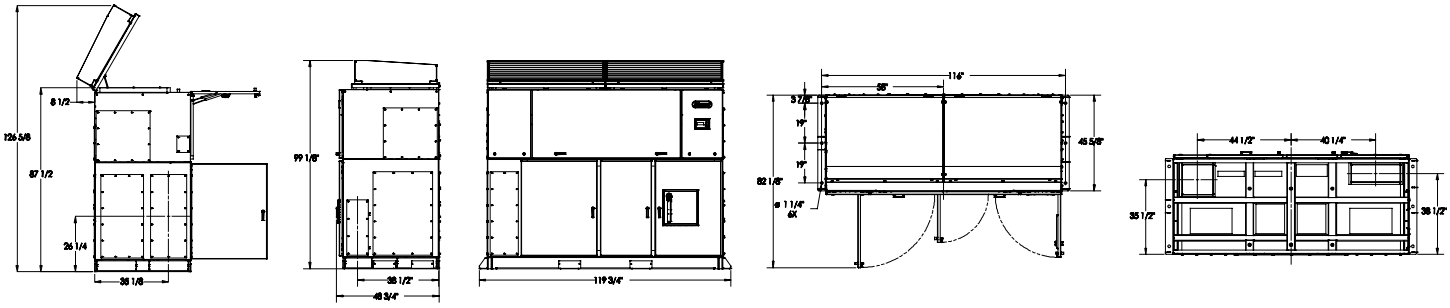
- No external transformer to connect in the field
- Optional DC circuit breaker subcombiner
- DC loading up to 175%
- Bottom and side entry with bottom side chases, generous bending area and oversized busbar landings
- Exterior mounting flanges for fast and easy anchoring with no pre-drilling

### Easy to Maintain

- All maintenance and service via front and side access
- Fast change circuit board system shortens service time
- Optional load-break rated AC service disconnect
- Dedicated performance monitoring section separate from AC and DC modules

AE Solar Energy is a US based company.

ONTARIO FEED IN TARIFF
DOMESTIC CONTENT COMPLIANT



## AE 500TX Summary Specifications*

| | |
|---|---|
| **Physical** | |
| Weight | 8750 lbs |
| Construction | Powder Coated Steel |
| Environmental Rating | NEMA 4 |
| Mounting | Pad Mount |
| Isolation Transformer | Integrated |
| Integrated AC/DC Disconnect | Optional AC Disconnect, DC Breakers |
| AC and DC Surge Protection | Included |
| **Electrical** | |
| DC Inputs | |
| Array Configuration | Positive or negative ground |
| Maximum Operating Input Current | 1600 A |
| Maximum DC Input Voltage (VOC) | 600 V |
| MPPT Voltage Range | 310-595 V |
| Open-Circuit Turn-On Voltage | 330 V |
| AC Outputs | |
| Continuous Output Power | 500 kW |
| Nominal Voltage | 480 Y |
| Operating Voltage Range | -12% / +10% |
| Electrical Service Compatibility | 3 phase, 4 wire, grounded Wye |
| Maximum Continuous Current | 608 A |
| Short Circuit Fault Current | 891 Arms @ 480 VAC, 60.3 ms |
| Nominal Frequency | 60 Hz |
| Frequency Range | 59.3 - 60.5 Hz, adjustable to 57.0 Hz |
| Total Harmonic Distortion | < 3% THD |
| Efficiency | |
| Efficiency: Peak / CEC | 97.8% / 97.0% |
| Standby Losses | < 80 W |
| **Inverter Controls and Monitoring** | |
| Power Factor | > 0.99 at rated power; ± 0.90 PF range, ± 217 kVAr maximum |
| Power Curtailment | 5 - 100%, 1% increments |
| Communication Interfaces and Protocols | RS-485, Ethernet, Modbus, TCP/IP |
| **Environmental** | |
| Operating Ambient Temp. Range | -30 °C to 55 °C |
| Standby/Storage Ambient Temp. Range | -40 °C to 60 °C |
| Cooling | Forced Convection |
| Relative Humidity | 0 to 95%, non-condensing |
| Elevation | 6000 ft |
| **Regulatory** | |
| Agency Approvals / Regulatory Compliance | UL 1741, IEEE 519, IEEE 929, IEEE 1547, CSA 107.1-1, FCC Class A |
| Inverter Warranty | 10 Year |

Subject to change without notice. Refer to user manual for detailed specification.

*Note: Not all performance window specifications can be achieved simultaneously. Performance varies per site. Consult your AE sales or service representatives for specific PV system design questions at sales.support@aei.com.

## Advanced Power Controls

- Power Factor
- Curtailment
- Controlled ramp rate
- Remote enable/disable

## Options

- DC Subcombiner circuit breakers: 8 - 20 inputs, 80 A - 400 A trips (max. total of 3500 A)
- Subcombiner monitoring (up to 16 inputs)
- Integrated AC Disconnect
- Integrated data monitoring
- Integrated revenue grade meter
- Positive ground
- 24 V auxiliary power supply
- Preventative maintenance program
- 20-year extended warranty

## Performance Monitoring

Increase uptime and reduce maintenance costs with integrated performance monitoring hardware that enables connectivity to a variety of software solutions from industry leading monitoring partners. The tight integration between Advanced Energy and our monitoring partners creates a superior service and support experience while seamlessly delivering meaningful data. Factory integration and testing of our UL listed monitoring solution ensures high reliability and significantly reduces field installation costs.

AE Solar Energy • 20720 Brinson Blvd • Bend, OR 97701 U.S.A.
www.advanced-energy.com/solarenergy
877.312.3832 • sales.support@aei.com • invertersupport@aei.com
Please see www.advanced-energy.com for worldwide contact information.

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