

PVI 50TL-480 / PVI 60TL-480

3-PHASE TRANSFORMERLESS COMMERCIAL STRING INVERTERS

FEATURES

- Wirebox models with built-in SunSpec compliant transmitters for Module-Level Rapid Shutdown for simple, safe NEC compliance
- UL Listed as PV Rapid Shutdown Systems with APsmart, Northern Electric Power (NEP), and Tigo Energy
- Dual rated listing allows selection of either 50/60 kVA (factory default) or 55/66 kVA (allowing full rated power down to ± 0.91 PF)
- Integrated UL-listed Arc-Fault protection
- 15 - 90° mounting angle allows low-profile rooftop installations
- 3 MPPTs with 5 fused inputs each for PV array flexibility
- Industry-leading DC/AC ratios of 1.8 (50TL) and 1.5 (60TL)
- Integrated AC and DC disconnects
- Remote firmware upgrades and diagnostics
- NEMA 4X outdoor rated enclosure, with proven performance
- Certified to IEEE 1547-2018 and UL 1741SB
- Compatible with Bifacial PV Modules

OPTIONS

- Shade cover
- DC fuse bypass
- Web-based monitoring

Yaskawa Solectria Solar's PVI 50TL-480 and PVI 60TL-480 are transformerless 3-phase inverters, ideal for rooftops, carports and ground-mount PV systems



The PVI 50TL-480 and PVI 60TL-480 come standard with AC and DC disconnects, three MPPTs, and a wiring box with 15 fuse positions.

For rooftop PV systems, both Module-Level Rapid shutdown (MLRSD) wirebox models provide PV Rapid Shutdown System (PVRSS) compliance and include a built-in SunSpec compliant powerline communication transmitter.

One wirebox model is Tigo Enhanced for rapid shutdown and the other two wirebox models are compatible with APsmart or NEP rapid shutdown devices.

Yaskawa Solectria Solar's family of PVI 50/60TL-480 inverters, including standard wireboxes and the rapid-shutdown ready wirebox models, provides flexibility and convenience unmatched in the industry.

Standard Wirebox

- 20A fuses, both polarities
- No built-in PVRSS transmitter



Module-Level Rapid Shutdown Wireboxes

- 20A fuses; positive polarity only
- Built-in PVRSS transmitter
- 3 models for compatibility with APsmart, NEP and Tigo module-level rapid shutdown devices



PVI 50TL-480 / PVI 60TL-480 TECHNICAL DATA

SPECIFICATIONS

Inverter Model		PVI 50TL-480	PVI 60TL-480
DC Input	Maximum PV Power	90 kW (33 kW per MPPT)	90 kW (33 kW per MPPT)
	Maximum Input Voltage	1000 VDC	1000 VDC
	Dc Voltage Ranges: Operating/Max. Power (MPPT)	200-950 VDC / 480-850 VDC	200-950 VDC / 540-850 VDC
	Start-up DC Input Voltage/Power	330 V / 80 W	330 V / 80 W
	Number of MPPT Trackers/Inputs	3 Trackers / 5 Fused-inputs each	3 Trackers / 5 Fused-inputs each
	Maximum Available PV Current (Isc x 1.25)	204 A (68 A per MPPT)	204 A (68 A per MPPT)
	Maximum Operating Input Current (clipping point)	108 A (36 A per MPPT)	114 A (38 A per MPPT)
AC Output	DC Surge Protections	Type II MOV, 2800 V _C , 20 kA I _{TM} (8/20 μs)	
	Rated AC Real Power/Apparent Power/Output Current	50 kW / 50 kVA / 60.2 A	60 kW / 60kVA / 72.2 A
	Overhead Mode: Real Power/Apparent Power/Output Current	50 kW / 55 kVA / 66.2 A	60 kW / 66 kVA / 79.4 A
	Nominal Output Voltage/Range	480 VAC / -12% to +10%	480 VAC / -12% to +10%
	Nominal Output Frequency/Range	60 Hz / 57-63 Hz	60 Hz / 57-63 Hz
	Power Factor	Unity, >0.99 (Adjustable 0.8 leading to 0.8 lagging)	Unity, >0.99 (Adjustable 0.8 leading to 0.8 lagging)
	Fault Current Contribution (1 Cycle RMS)	64.1 A	64.1 A
	Total Harmonic Distortion (THD) @ Rated Load	< 3%	< 3%
	Grid Connection Type	3-Ph/PE/N (neutral conductor optional)	3-Ph/PE/N (neutral conductor optional)
	Maximum OCPD Device	110 A	125 A
Efficiency	AC Surge Protection	Type II MOV, 1240 V _C , 15 kA I _{TM} (8/20 μs)	
	Peak Efficiency	98.8%	98.8%
	CEC Efficiency	98.5%	98.5%
	Tare Loss	<1 W	<1 W
Environment	Ambient Temperature Range	-22°F to +140°F (-30°C to +60°C); Derating occurs over +113°F (+45°C)	
	Storage Temperature Range	No low temp minimum to +158°F (+70°C)	
	Relative Humidity (non-condensing)	0-100%	
	Operating Altitude	13,123 ft (4,000 m) Derating occurs from 9,842.5 ft (3,000 m)	
Communications	Modbus Protocol	Proprietary / SunSpec	
	SolrenView Web-Based Monitoring Service	Optional	
	Revenue Grade Metering	Optional, External	
	Communication Interface	RS-485 Modbus RTU	
	Remote Firmware Upgrades	Ethernet Network Card required	
	Remote Diagnostics	Ethernet Network Card required	
Safety	Certifications and Standards	IEEE 1547-2018, UL 1741-SB, UL 1741SA-2016, UL1699B, UL1998, CSA-C22.2 No. 107.1-01, FCC Part 15 (Subpart B, Class A)	
	Selectable Grid Standards	IEEE 1547, CA Rule 21, ISO-NE, HECO	
	Smart Grid Features	Volt-RideThru, Freq-RideThru, Ramp-Rate, Specified-PF, Volt-VAR, Freq-Watt, Volt-Watt, Watt-VAR	
Warranty	Standard Limited Warranty	10 Years	
Mechanical	Acoustic Noise Rating	< 60 dBA @ 1 m and 25°C	
	AC/DC Disconnect	Standard, fully-integrated, load break rated	
	Mounting Angle*	15° - 90° from horizontal	
	Weight	Inverter: 123.5 lbs (56 kg); Wiring Box: 33 lbs (15 kg)	
	Enclosure Rating and Finish	NEMA Type 4X; Polyester Powder Coated Aluminum	
Dimensions (H x W x D)	Power Head: 22.7" x 23.6" x 10.24" (576 mm x 600 mm x 260 mm)		
	Wirebox: 16.7" x 23.6" x 10.24" (424 mm x 600 mm x 260 mm)		
	Overall: 39.4" x 23.6" x 10.24" (1000 mm x 600 mm x 260 mm)		

Wirebox Specifications			
Wirebox	Fused Inputs	15 Fused Positions (5 Positions per MPPT) 20 A Standard (25, 30 A accepted)**	
Wirebox Versions	Standard	PVI 50-60TL-BX-S20 (both polarities fused), No MLRSD transmitter needed	
	APsmart Transmitter Built-in	PVI50-60TL-WB-APS (only positive polarity fused)	MLRSD compatibility: APsmart RSD-S and RSD-D
	NEP Transmitter Built-In	PVI 50-60TL-WB-NEP (only positive polarity fused)	MLRSD compatibility: NEP PVG-2
	Tigo Transmitter Built-in	PVI50-60TL-WB-TGO (only positive polarity fused)	MLRSD compatibility: Tigo TS4-A-F (ver 6.7+) and TS4-A-2F



* Shade cover accessory required for installation of 75° or less
 ** Yaskawa Solectria Solar does not supply optional fuses sizes

