

# SOLECTRIA®

## PVI-50TL-480 / PVI-60TL-480

### 3-PHASE TRANSFORMERLESS COMMERCIAL STRING INVERTERS

#### FEATURES

- Certified to IEEE 1547-2018 and UL 1741SB
- Dual rated listing allows selection of either 50/60 kVA (factory default) or 55/66 kVA (allowing full rated power down to  $\pm 0.91$  PF)
- Wirebox models with built-in SunSpec compliant transmitters for Module-Level Rapid Shutdown for simple, safe NEC compliance
- UL Listed as a PV Rapid Shutdown System with APsmart
- Integrated UL-listed Arc-Fault protection
- 15-90° mounting angle allows low-profile rooftop installations
- 3 MPPT's with 5 inputs each for PV array flexibility
- Industry-leading DC/AC ratio 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
- Copper and Aluminum compatible AC connections
- 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.

Rapid-shutdown-ready wireboxes provide compatibility with APsmart rapid shutdown products.

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
- Compatible with APsmart module-level rapid shutdown devices



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

## SPECIFICATIONS

Inverter Model (Listing File Name)	PVI-50TL-480 (PVI 50TL-480)	PVI-60TL-480 (PVI 60TL-480)	
<b>DC Input</b>	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)
	DC Surge Protections	Type II MOV, 2800 V <sub>c</sub> , 20 kA I <sub>TM</sub> (8/20 μs)	
<b>AC Output</b>	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
	AC Surge Protection	Type II MOV, 1240 V <sub>c</sub> , 15 kA I <sub>TM</sub> (8/20 μs)	
<b>Efficiency</b>	Peak Efficiency	98.8%	98.8%
	CEC Efficiency	98.5%	98.5%
	Tare Loss	< 1 W	< 1 W
<b>Environment</b>	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)	
<b>Communications</b>	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	
<b>Safety</b>	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	
<b>Warranty</b>	Standard Limited Warranty	10 Years	
<b>Mechanical</b>	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		
<b>Wirebox</b>	Fused Inputs	15 Fused Positions (5 Positions per MPPT) 20 A Standard (25, 30 A accepted)**
<b>Wirebox Version</b>	Standard	PVI-50-60TL-BX-S20 (both polarities fused), No MLRSD transmitter needed
	APsmart Transmitter Built-in	PVI-50-60TL-WB-APS (only positive polarity fused) MLRSD compatibility: APsmart RSD-S and RSD-D



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

