

LOW FREQUENCY SPLIT PHASE SOLAR INVERTER PV3900 TLV Series

8~12KW | PV 250V | MPPT 200A

PV3900 TLV series is a multi-function inverter ,combining functions of inverter and MPPT solar charger controller, solar charger and battery charger to offer uninterruptible power support. The comprehensive LCD display offers userconfigurable and easy-accessible button operation such as battery charging current, AC/solar charger priority, and selectable input voltage based on different applications.











■ Built-in MPPT solar charge controller 200A

■ MPPT efficiency max 98%

■ Powerful charge rate up to 200A

■ Inside BMS function

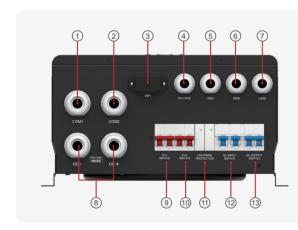
■ DC start &Automatic Self-Diagnostic Function

■ WIFI monitoring function (optional)

Compatible to generator

■ Parallel operation with up to 3 units

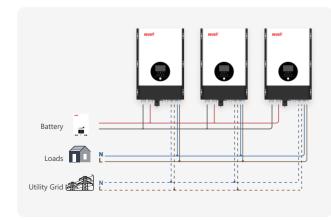
Back panel description



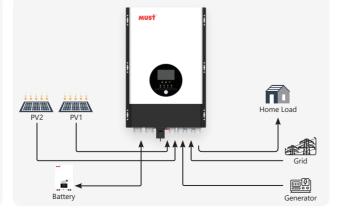
- 1. Communication-1 port
- 2. Communication-2 port
- 3. WiFi port
- 4. PV1/PV2 port

- 5. GEN ouput port
- 6. Grid ouput port
- 7. AC ouput port
- 8. Battery -/+
- 9. PV1 Switch 10. PV2 Switch
- 11. Lighting protection
- 12. AC input switch
- 13. AC output switch

Parallel operation



Solar system connection





MODEL	PV39-8048 TLV	PV39-10048 TLV	PV39-12048 TLV
Nominal Battery System Voltage		48VDC	
Stand-alone mode		Yes	
Parallel operation		3 units	
INVERTER OUTPUT			
Rated power	8KW	10KW	12KW
Surge rating	24000VA	30000VA	36000VA
Capable of starting electric motor	4HP	5HP	6HP
Waveform	Pure sine wave / same as input (bypass mode)		
Nominal output voltage RMS	100V/110V/120V/200V/220V/240V		
Inverter effciency(peak)		>90%	
Line mode efficiency	>95%		
Power factor	1.0		
Typical transfer time		10ms(max)	
AC INPUT			
Voltage		220V/230V/240V	
Selectable voltage range	90-280 VAC (APL)		
Frequency range		50Hz / 60Hz	
BATTERY			
Low battery voltage cutoff	40-48VDC for 48VDC mode		
Low battery voltage recover	42-50VDC for 48VDC mode		
High battery voltage cutoff	60VDC for 48VDC mode		
High battery voltage recover	57VDC for 48VDC mode		
No-load loss	<50W		
AC CHARGER			
Output voltage	Depends on bat	tery type (Supports lead-acid, gel, and	lithium batteries)
Charger AC input breaker rating	100A		
Overcharge protection S.D.	62.8VDC for 48VDC mode		
Maximum charge current	10-140A (setting) battery terminal		
BTS			
Continuous output power	Yes Variances in char	ging voltage & S.D. voltage base on th	ne battery temperature
	Yes Variances in char	ging voltage & S.D. voltage base on th	ne battery temperature
Continuous output power	Yes Variances in char	ging voltage & S.D. voltage base on the	ne battery temperature
Continuous output power BYPASS & PROTECTION	Yes Variances in char		ne battery temperature
Continuous output power BYPASS & PROTECTION Input voltage waveform	Yes Variances in char	Sine wave (grid or generator)	ne battery temperature
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency	Yes Variances in char	Sine wave (grid or generator) 50Hz or 60Hz	ne battery temperature
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency Overload protection (SMPS Load)	Yes Variances in char	Sine wave (grid or generator) 50Hz or 60Hz Software + Circuit breaker	ne battery temperature
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency Overload protection (SMPS Load) Output short circuit protection	Yes Variances in char	Sine wave (grid or generator) 50Hz or 60Hz Software + Circuit breaker Software + Circuit breaker	ne battery temperature
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency Overload protection (SMPS Load) Output short circuit protection Bypass breaker rating	Yes Variances in char	Sine wave (grid or generator) 50Hz or 60Hz Software + Circuit breaker Software + Circuit breaker 63A	ne battery temperature
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency Overload protection (SMPS Load) Output short circuit protection Bypass breaker rating Max bypass current	Yes Variances in char	Sine wave (grid or generator) 50Hz or 60Hz Software + Circuit breaker Software + Circuit breaker 63A	ne battery temperature
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency Overload protection (SMPS Load) Output short circuit protection Bypass breaker rating Max bypass current SOLAR CHARGER	Yes Variances in char	Sine wave (grid or generator) 50Hz or 60Hz Software + Circuit breaker Software + Circuit breaker 63A 80A	ne battery temperature
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency Overload protection (SMPS Load) Output short circuit protection Bypass breaker rating Max bypass current SOLAR CHARGER Maximum PV charge current	Yes Variances in charge	Sine wave (grid or generator) 50Hz or 60Hz Software + Circuit breaker Software + Circuit breaker 63A 80A	ne battery temperature
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency Overload protection (SMPS Load) Output short circuit protection Bypass breaker rating Max bypass current SOLAR CHARGER Maximum PV charge current DC voltage		Sine wave (grid or generator) 50Hz or 60Hz Software + Circuit breaker Software + Circuit breaker 63A 80A 200A 48V	
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency Overload protection (SMPS Load) Output short circuit protection Bypass breaker rating Max bypass current SOLAR CHARGER Maximum PV charge current DC voltage Maximim PV array power		Sine wave (grid or generator) 50Hz or 60Hz Software + Circuit breaker Software + Circuit breaker 63A 80A 200A 48V 10000W	
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency Overload protection (SMPS Load) Output short circuit protection Bypass breaker rating Max bypass current SOLAR CHARGER Maximum PV charge current DC voltage Maximim PV array power MPPT range @ operating voltage(VDC)		Sine wave (grid or generator) 50Hz or 60Hz Software + Circuit breaker Software + Circuit breaker 63A 80A 200A 48V 10000W 64~235VDC	
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency Overload protection (SMPS Load) Output short circuit protection Bypass breaker rating Max bypass current SOLAR CHARGER Maximum PV charge current DC voltage Maximim PV array power MPPT range @ operating voltage(VDC) Maximum PV array open circuit voltage		Sine wave (grid or generator) 50Hz or 60Hz Software + Circuit breaker Software + Circuit breaker 63A 80A 200A 48V 10000W 64~235VDC 250VDC	
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency Overload protection (SMPS Load) Output short circuit protection Bypass breaker rating Max bypass current SOLAR CHARGER Maximum PV charge current DC voltage Maximim PV array power MPPT range @ operating voltage(VDC) Maximum PV array open circuit voltage Maximum PV array open circuit voltage Maximum effciency		Sine wave (grid or generator) 50Hz or 60Hz Software + Circuit breaker Software + Circuit breaker 63A 80A 200A 48V 10000W 64~235VDC 250VDC >98%	
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency Overload protection (SMPS Load) Output short circuit protection Bypass breaker rating Max bypass current SOLAR CHARGER Maximum PV charge current DC voltage Maximim PV array power MPPT range @ operating voltage(VDC) Maximum PV array open circuit voltage Maximum effciency Standby power consumption		Sine wave (grid or generator) 50Hz or 60Hz Software + Circuit breaker Software + Circuit breaker 63A 80A 200A 48V 10000W 64~235VDC 250VDC >98%	
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency Overload protection (SMPS Load) Output short circuit protection Bypass breaker rating Max bypass current SOLAR CHARGER Maximum PV charge current DC voltage Maximum PV array power MPPT range @ operating voltage(VDC) Maximum PV array open circuit voltage Maximum PV array open circuit voltage Maximum effciency Standby power consumption MECHANICAL SPECIFICATIONS		Sine wave (grid or generator) 50Hz or 60Hz Software + Circuit breaker Software + Circuit breaker 63A 80A 200A 48V 10000W 64~235VDC 250VDC >98% <2W	
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency Overload protection (SMPS Load) Output short circuit protection Bypass breaker rating Max bypass current SOLAR CHARGER Maximum PV charge current DC voltage Maximim PV array power MPPT range @ operating voltage(VDC) Maximum PV array open circuit voltage Maximum PV array open circuit voltage Maximum effciency Standby power consumption MECHANICAL SPECIFICATIONS Mounting		Sine wave (grid or generator) 50Hz or 60Hz Software + Circuit breaker Software + Circuit breaker 63A 80A 200A 48V 10000W 64~235VDC 250VDC >98% <2W Wall mount	
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency Overload protection (SMPS Load) Output short circuit protection Bypass breaker rating Max bypass current SOLAR CHARGER Maximum PV charge current DC voltage Maximim PV array power MPPT range @ operating voltage(VDC) Maximum PV array open circuit voltage Maximum PV array open circuit voltage Maximum effciency Standby power consumption MECHANICAL SPECIFICATIONS Mounting Packing		Sine wave (grid or generator) 50Hz or 60Hz Software + Circuit breaker Software + Circuit breaker 63A 80A 200A 48V 10000W 64~235VDC 250VDC >98% <2W Wall mount Wooden box	
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency Overload protection (SMPS Load) Output short circuit protection Bypass breaker rating Max bypass current SOLAR CHARGER Maximum PV charge current DC voltage Maximim PV array power MPPT range @ operating voltage(VDC) Maximum PV array open circuit voltage Maximum effciency Standby power consumption MECHANICAL SPECIFICATIONS Mounting Packing Machine Dimension (W*H*D)(mm)		Sine wave (grid or generator) 50Hz or 60Hz Software + Circuit breaker Software + Circuit breaker 63A 80A 200A 48V 10000W 64~235VDC 250VDC >98% <2W Wall mount Wooden box 439*660.5*233.2	
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency Overload protection (SMPS Load) Output short circuit protection Bypass breaker rating Max bypass current SOLAR CHARGER Maximum PV charge current DC voltage Maximim PV array power MPPT range @ operating voltage(VDC) Maximum PV array open circuit voltage Maximum effciency Standby power consumption MECHANICAL SPECIFICATIONS Mounting Package Dimension (W*H*D)(mm) Package Dimension (W*H*D)(mm)	10000W	Sine wave (grid or generator) 50Hz or 60Hz Software + Circuit breaker Software + Circuit breaker 63A 80A 200A 48V 10000W 64~235VDC 250VDC >98% <2W Wall mount Wooden box 439*660.5*233.2 782*314.5*520.5	10000W
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency Overload protection (SMPS Load) Output short circuit protection Bypass breaker rating Max bypass current SOLAR CHARGER Maximum PV charge current DC voltage Maximim PV array power MPPT range @ operating voltage(VDC) Maximum PV array open circuit voltage Maximum effciency Standby power consumption MECHANICAL SPECIFICATIONS Mounting Packing Machine Dimension (W*H*D)(mm) Package Dimension (W*H*D)(mm) N.W(kg)	10000W	Sine wave (grid or generator) 50Hz or 60Hz Software + Circuit breaker Software + Circuit breaker 63A 80A 200A 48V 10000W 64~235VDC 250VDC >98% <2W Wall mount Wooden box 439*660.5*233.2 782*314.5*520.5	10000W
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency Overload protection (SMPS Load) Output short circuit protection Bypass breaker rating Max bypass current SOLAR CHARGER Maximum PV charge current DC voltage Maximim PV array power MPPT range @ operating voltage(VDC) Maximum PV array open circuit voltage Maximum effciency Standby power consumption MECHANICAL SPECIFICATIONS Mounting Packing Machine Dimension (W*H*D)(mm) Package Dimension (W*H*D)(mm) N.W(kg) G.W(kg)	10000W	Sine wave (grid or generator) 50Hz or 60Hz Software + Circuit breaker Software + Circuit breaker 63A 80A 200A 48V 10000W 64~235VDC 250VDC >98% <2W Wall mount Wooden box 439*660.5*233.2 782*314.5*520.5	10000W
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency Overload protection (SMPS Load) Output short circuit protection Bypass breaker rating Max bypass current SOLAR CHARGER Maximum PV charge current DC voltage Maximim PV array power MPPT range @ operating voltage(VDC) Maximum PV array open circuit voltage Maximum effciency Standby power consumption MECHANICAL SPECIFICATIONS Mounting Packing Machine Dimension (W*H*D)(mm) Package Dimension (W*H*D)(mm) N.W(kg) G.W(kg) OTHER	10000W	Sine wave (grid or generator) 50Hz or 60Hz Software + Circuit breaker Software + Circuit breaker 63A 80A 200A 48V 10000W 64~235VDC 250VDC >98% <2W Wall mount Wooden box 439*660.5*233.2 782*314.5*520.5 62 80	10000W
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency Overload protection (SMPS Load) Output short circuit protection Bypass breaker rating Max bypass current SOLAR CHARGER Maximum PV charge current DC voltage Maximim PV array power MPPT range @ operating voltage(VDC) Maximum PV array open circuit voltage Maximum effciency Standby power consumption MECHANICAL SPECIFICATIONS Mounting Packing Machine Dimension (W*H*D)(mm) Package Dimension (W*H*D)(mm) N.W(kg) G.W(kg) OTHER Operation temperature range	10000W	Sine wave (grid or generator) 50Hz or 60Hz Software + Circuit breaker Software + Circuit breaker 63A 80A 200A 48V 10000W 64~235VDC 250VDC >98% <2W Wall mount Wooden box 439*660.5*233.2 782*314.5*520.5 62 80 0°C to 50°C	10000W
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency Overload protection (SMPS Load) Output short circuit protection Bypass breaker rating Max bypass current SOLAR CHARGER Maximum PV charge current DC voltage Maximim PV array power MPPT range @ operating voltage(VDC) Maximum PV array open circuit voltage Maximum effciency Standby power consumption MECHANICAL SPECIFICATIONS Mounting Packing Machine Dimension (W*H*D)(mm) Package Dimension (W*H*D)(mm) N.W(kg) G.W(kg) OTHER Operation temperature range Storage temperature	10000W	Sine wave (grid or generator) 50Hz or 60Hz Software + Circuit breaker Software + Circuit breaker 63A 80A 200A 48V 10000W 64~235VDC 250VDC >98% <2W Wall mount Wooden box 439*660.5*233.2 782*314.5*520.5 62 80 0°C to 50°C 15°C to 60°C	10000W
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency Overload protection (SMPS Load) Output short circuit protection Bypass breaker rating Max bypass current SOLAR CHARGER Maximum PV charge current DC voltage Maximim PV array power MPPT range @ operating voltage(VDC) Maximum PV array open circuit voltage Maximum effciency Standby power consumption MECHANICAL SPECIFICATIONS Mounting Packing Machine Dimension (W*H*D)(mm) Package Dimension (W*H*D)(mm) N.W(kg) G.W(kg) OTHER Operation temperature range Storage temperature Audible noise	10000W	Sine wave (grid or generator) 50Hz or 60Hz Software + Circuit breaker Software + Circuit breaker 63A 80A 200A 48V 10000W 64~235VDC 250VDC >98% <2W Wall mount Wooden box 439*660.5*233.2 782*314.5*520.5 62 80 0°C to 50°C 15°C to 60°C 60dB MAX	10000W
Continuous output power BYPASS & PROTECTION Input voltage waveform Nominal input frequency Overload protection (SMPS Load) Output short circuit protection Bypass breaker rating Max bypass current SOLAR CHARGER Maximum PV charge current DC voltage Maximim PV array power MPPT range @ operating voltage(VDC) Maximum PV array open circuit voltage Maximum effciency Standby power consumption MECHANICAL SPECIFICATIONS Mounting Packing Machine Dimension (W*H*D)(mm) Package Dimension (W*H*D)(mm) N.W(kg) G.W(kg) OTHER Operation temperature range Storage temperature Audible noise Communication	10000W	Sine wave (grid or generator) 50Hz or 60Hz Software + Circuit breaker Software + Circuit breaker 63A 80A 200A 48V 10000W 64~235VDC 250VDC >98% <2W Wall mount Wooden box 439*660.5*233.2 782*314.5*520.5 62 80 0°C to 50°C 15°C to 60°C 60dB MAX WiFi	10000W

CE-LVD (IEC62109-1:2010, EN IEC62109-2:2011); UL1741

*The technical specifications of this document are subject to change without any notice