GROWATT MOD 8000TL3-XH

Growatt MOD 8000TL3-XH VDE Hybrid Inverter User Manual

Model: MOD 8000TL3-XH

1. Introduction

This manual provides essential information for the safe and efficient installation, operation, and maintenance of your Growatt MOD 8000TL3-XH VDE Hybrid Inverter. Please read this manual thoroughly before installation and operation to ensure proper use and to prevent potential hazards.

The Growatt MOD 8000TL3-XH is an advanced hybrid inverter designed for solar energy storage and conversion, offering a maximum efficiency of approximately 98%. It features VDE approval, WiFi connectivity, an OLED display, and a power output of 8000 W. Its robust design is corrosion-resistant and intelligent, ensuring reliable, maintenance-free operation.

2. Safety Information

WARNING: High Voltage! Only qualified personnel should perform installation and maintenance procedures.

- Always disconnect all power sources (PV, battery, and AC grid) before performing any service or maintenance.
- Ensure proper grounding of the inverter according to local electrical codes.
- Do not operate the inverter if any part is damaged or appears to be malfunctioning.
- Keep children and unauthorized personnel away from the inverter.
- Install the inverter in a well-ventilated area, away from flammable materials and direct sunlight.

3. Product Overview

The Growatt MOD 8000TL3-XH inverter integrates multiple functions to optimize solar energy utilization. Key features include an LED display for status indication, a WiFi connection for remote monitoring, a DC disconnector switch for safety, and integrated DC/AC surge arresters. It also includes advanced protection mechanisms such as insulation resistance detection, ground monitoring, grid monitoring, islanding detection, differential current monitoring, and AFCI protection.

The inverter is equipped with 2 Maximum Power Point Trackers (MPPTs), each supporting 1 string, allowing for

flexible solar array configurations.

3.1. Inverter Components



Figure 1: Side view of the Growatt MOD 8000TL3-XH inverter, highlighting the DC disconnector switch for safe power isolation.



Figure 2: Bottom view of the Growatt MOD 8000TL3-XH inverter, illustrating the connection terminals for PV input (PV1+, PV1-, PV2+, PV2-), battery (BAT+, BAT-), communication (COM), USB, and AC output.

4. Setup and Installation

Proper installation is crucial for the inverter's performance and safety. It should only be performed by certified electricians or trained professionals.

4.1. Mounting Location

Choose a mounting location that is:

- Well-ventilated to ensure adequate heat dissipation.
- Protected from direct sunlight, rain, and extreme temperatures.
- Away from flammable or explosive materials.
- Structurally sound to support the inverter's weight (approximately 14 kg).

4.2. Electrical Connections

1. **Grounding:** Connect the inverter to an earth ground using a dedicated grounding cable according to local electrical codes.
2. **DC Input (PV):** Connect the positive and negative cables from your solar PV strings to the designated PV input terminals (PV1+, PV1-, PV2+, PV2-). Ensure correct polarity.
3. **Battery Connection:** Connect the battery bank to the BAT+ and BAT- terminals. Verify correct polarity and secure connections.
4. **AC Output:** Connect the AC output cables to your electrical grid or load. Ensure all AC connections are secure and comply with local regulations.
5. **Communication:** Insert the included WiFi key into the designated port for network connectivity and remote monitoring.

Before powering on, double-check all connections for tightness and correct wiring.

5. Operating Instructions

5.1. Start-up Procedure

1. Ensure all electrical connections are correctly made and secure.
2. Turn on the AC circuit breaker connected to the inverter's output.
3. Turn the DC disconnector switch on the side of the inverter to the "ON" position (refer to Figure 1).
4. The inverter will perform a self-test. The OLED display will show the start-up sequence and then begin displaying operational data.
5. The inverter will automatically start converting solar energy and managing battery charging/discharging based on its programmed settings.

5.2. Monitoring

The OLED display provides real-time operational data such as PV input, AC output, battery status, and energy production. For detailed monitoring and system management, use the Growatt monitoring platform accessible via the WiFi connection. The WiFi key allows for remote access to performance data and system alerts.

5.3. Shutdown Procedure

1. Turn off the AC circuit breaker connected to the inverter's output.
2. Turn the DC disconnector switch on the side of the inverter to the "OFF" position.
3. Wait for the inverter's OLED display to power off completely, indicating that internal capacitors have discharged.

6. Maintenance

The Growatt MOD 8000TL3-XH inverter is designed to be largely maintenance-free. However, regular inspections are recommended to ensure optimal performance and longevity.

- **Visual Inspection:** Periodically inspect the inverter for any visible damage, loose connections, or signs of corrosion.
- **Cleaning:** Ensure the ventilation openings are clear of dust and debris. Clean the exterior of the inverter with a soft, dry cloth. Do not use liquid cleaners or solvents.
- **Connection Checks:** Annually, verify the tightness of all electrical connections (DC, AC, and ground).
- **Firmware Updates:** Check the official Growatt website for available firmware updates to ensure optimal performance and access to new features.

7. Troubleshooting

This section provides solutions for common issues. For more complex problems or error codes not listed, please contact technical support.

7.1. Common Issues and Solutions

- **Inverter Not Powering On:**
  Possible Causes: DC switch off, AC breaker off, loose connections, insufficient PV input.
  Solutions: Ensure DC switch is ON. Check AC breaker. Verify all cable connections are secure. Check PV panel output voltage.
- **Low Power Output:**
  Possible Causes: Shading on PV panels, dirty panels, battery not adequately charged, grid issues.
  Solutions: Clear any shading. Clean PV panels. Check battery charge level. Verify grid connection status.
- **Error Code Displayed:**
  Possible Causes: Internal fault, grid anomaly, specific system issue.

Solutions: Note the specific error code. Refer to the Growatt monitoring platform for detailed explanations or contact technical support with the error code.

- **No WiFi Connection:**
  Possible Causes: WiFi key not properly inserted, network configuration issues, router problems.
  Solutions: Ensure the WiFi key is securely inserted. Check your local network settings and router functionality.

8. Specifications

The following table outlines the key technical specifications for the Growatt MOD 8000TL3-XH VDE Hybrid Inverter.

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Datenblatt	MOD 3000TL3-XH	MOD 4000TL3-XH	MOD 5000TL3-XH	MOD 6000TL3-XH	MOD 7000TL3-XH	MOD 8000TL3-XH	MOD 9000TL3-XH	MOD 10KTL3-XH
Eingang (DC)								
Max. PV-Leistung (STC)	4500W	6000W	7500W	9000W	10500W	12000W	13500W	15000W
Max. Eingangsspannung	1100V							
Start-Spannung	160V							
Nominale DC Spannung	600V							
MPP-Spannungsbereich	140V-1000V							
Anzahl unabh. MPP-Tracker	2							
Anzahl der Strings pro MPP-Tracker	1							
Max. Eingangsstrom pro MPP-Tracker	16A							
Max. Kurzschlussstrom por MPP-Tracker	20A							
Batteriedaten (DC-Batterie)								
Kompatible Batterien	ARK XH Battery System(7.68kWh-25.6kWh)							
Betriebsspannnungsbereich	600 V-950 V							
Max.Betriebsstrom	11A				18.5A			
Max. Ladeleistung	6000W				10000W			
Max. Entladeleistung	3300W	4400W	5500W	6600W	7700W	8800W	9900W	11000W*
Ausgang (AC)								
AC-Nennleistung	3000W	4000W	5000W	6000W	7000W	8000W	9000W	10000W
Max. AC-Scheinleistung	3300VA	4400VA	5500VA	6600VA	7700VA	8800VA	9900VA	11000VA*
AC-Nennspannung (Bereich*)	220V/380V, 230V/400V (340-440V)							
AC-Netzfrequenz (Bereich*)	50/60 Hz (45-55Hz/55-65 Hz)							
Max. Ausgangsstrom	5.0A	6.7A	8.3A	10.0A	11.7A	13.3A	15.0A	16.7A
Einstellbarer Leistungsfaktor	0,8 kapazitiv...0,8 induktiv							
Klirrfaktor (THDi)	<3%							
AC Netzanschluss	Einphasig							
Wirkungsgrad								
Max. Wirkungsgrad	98.3%	98.3%	98.3%	98.3%	98.6%	98.6%	98.6%	98.6%
Europ. Wirkungsgrad	97.5%	97.5%	97.5%	97.5%	98.1%	98.1%	98.1%	98.1%
MPPT-Anpassungswirkungsgrad	99.9%							
Schutzvorrichtungen								
DC Verpolungsschutz	Ja							
DC Trennschalter	Ja							
DC/AC Überspannungsschutz	Typ II / Typ III							
Isolationsmessung	Ja							
AC Überstromschutz	Ja							
Erdschlussüberwachung	Ja							
Netzüberwachung	Ja							
Inselnetzbildungsschutz	Ja							
Fehlerstrom-Überwachungseinheit	Ja							
String-Fehlerüberwachung	Ja							
AFCI Schutzfunktion	Ja							
Generelle Daten								
Abmessungen (B / H / T)	425/387/147mm	425/387/147mm	425/387/147mm	425/387/147mm	425/387/178mm	425/387/178mm	425/387/178mm	425/387/178mm
Gewicht	12.5kg	12.5kg	12.5kg	12.5kg	14kg	14kg	14kg	14kg
Arbeitstemperaturbereich	- 25℃ ... +60℃							
Nächtlicher Eigenverbrauch	< 5.5W							
Betriebsart	Transformatorlos							
Kühlung	Intelligente Kühlung							
Schutzklasse	IP66							
Luftfeuchtigkeit	0~100%							
Max. Höhe der Installation	4000m							
DC Verbindung	H4/MC4(opt)							
AC Verbindung	Schraubklemme							
Display	OLED+LED/WIFI+APP							
Schnittstellen: RS485 / USB/WI-FI / GPRS/ RF/LAN	Ja/Ja/opt/opt/opt/opt							
Garantie: 10 Jahre	Ja							
CE, VDE0126, Greece, EN50549, C10/C11, VFR 2019, IEC62116, IEC61727, IEC 60068, IEC 61683, CEI0-21, N4105, TOR Erzeuger TOR Erzeuger,G98/G99, G100, AS4777, UNE217001, UNE206007, PO12.2								

* Für Belgien C10/C11, MOD 10KTL3-XH ist die max. Ausgangsleistung auf 10000VA begrenzt.
* Der AC-Spannungs- und der Frequenzbereich können je nach länderspezifischer Netznorm variieren. Alle Spezifikationen können unangekündigt geändert werden.
* Die AFCI-Funktion muss nach der Installation aktiviert werden, wenn sie angewendet werden soll.

Figure 3: Technical specifications table providing detailed electrical and mechanical parameters for the Growatt MOD 8000TL3-XH inverter, including input/output ratings, efficiency, and dimensions.

Specification	Value

Specification	Value
Brand	GROWATT
Model Name	MOD 8000TL3-XH
Recommended Product Use	Solar energy storage and conversion for domestic power supply
Power Source	Solar Power
Output Power	8000 Watts
Battery Capacity	34.78 Amp-hours
Included Components	WiFi Key
Efficiency	≈ 98%
Output Voltage	230 Volts
Number of MPPTs	2
Strings per MPPT	1
Protection Class	IP66
Dimensions (W/H/D)	425/387/178 mm
Weight	14 kg

9. Warranty and Support

The Growatt MOD 8000TL3-XH inverter typically comes with a 10-year manufacturer's warranty. Please refer to your purchase documentation or the official Growatt website for specific warranty terms and conditions, as these may vary by region and distributor.

For technical support, troubleshooting assistance, or warranty claims, please contact your authorized Growatt dealer or visit the official Growatt support portal. When contacting support, please have your inverter's model number and serial number ready.

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Example: How do I reset this device or fix this error?

Details

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