Commissioning Protocol – Commercial Storage System AXIhycon 50 H + AXIstorage Titan 99

251020

AXITEC Energy GmbH & Co. KG, Otto-Lilienthal-Str. 5, 71034 Böblingen, Germany, www.axitecsolar.com

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COMMISSIONING PROTOCOL – AXISTORAGE TITAN 99 COMMERCIAL ENERGY STORAGE SYSTEM

This protocol must be completed for every initial commissioning of a Titan commercial energy storage system.
The protocol applies to a complete Titan storage system. For multiple systems, please fill out a separate protocol for each individual system.

STORAGE OF THE COMMISSIONING PROTOCOL

- Keep the completed protocol on-site at the installation after commissioning.
- Provide the protocol to the service department in the event of maintenance or warranty claims.

COMMISSIONING INSTRUCTIONS

All work must be carried out in accordance with the product documentation.
Safety regulations and standards must be strictly observed at all times.

PROJECTDATA

Customer / Project-name		Ticket / Case-Number	
Contact Person		Phone / E-Mail	
Adress		Postal Code / City	
Serial number Titan		Document Version	
Date		Inspector/Examiner	

BATTERY

Battery Typ:		Total Capacity	

OPERATING MODES / APPLICATION:

Peak Load Shaving	☐	Time-of-use	☐
Self-Consumption Optimization	☐	EMS	☐
Miscellaneous / Other	☐		

HYBRID INVERTER AND ACCESSORIES

Component:	Type:	Serial number	Firmware
Hybrid Inverter			
Smart-Meter			

BATTERY SYSTEM SERIAL NUMBER

Battery Cabinet	Serial number:		Serial number:
MBMS:		BMS 2.:	
BMS 3.:			
MBMS - Firmware		BMS 2. - Firmware	
BMS 3. - Firmware			
Battery Modul 1		Battery Modul 12	
Battery Modul 2		Battery Modul 13	
Battery Modul 3		Battery Modul 14	
Battery Modul 4		Battery Modul 15	
Battery Modul 5		Battery Modul 16	
Battery Modul 6		Battery Modul 17	
Battery Modul 7		Battery Modul 18	
Battery Modul 8		Battery Modul 19	
Battery Modul 9		Battery Modul 20	
Battery Modul 10		Battery Modul 21	
Battery Modul 11		Battery Modul 22	

ASSEMBLY OF THE BATTERY CABINET

Step	**Description**	☑	☒	**Comment / Remark**
1.	Inspection of the foundation – Total weight capacity approx. 1700 kg	☐	☐	
2.	Visual inspection	☐	☐	
3.	Mounting holes prepared according to the installation manual	☐	☐	
4.	Secure the cabinet to the foundation using 10 anchor/expansion bolts (M16)	☐	☐	
5.	Seal the cable entries with fire-resistant material	☐	☐	

FIRE EXTINGUISHING SYSTEM (FP-200S AEROSOL)

Step	**Description**	☑	☒	**Comment / Remark**
1.	Visual inspection for damage (generator, cables, connectors)	☐	☐	
2.	Line test performed at JR10 starter – no faults detected.	☐	☐	

3.	Status in BMS: “Fire System Normal”	☐	☐	

EXPLOSIONPROOF & VENT SYSTEM

Step	Description	☑	☒	Comment / Remark
1.	Fans and ventilation flap active	☐	☐	
2.	Gas detector connected and visible in the BMS	☐	☐	
3.	No alarm or fault status active	☐	☐	

EMERGENCY STOP (EPO)

Step	Description	☑	☒	Comment / Remark
1.	Emergency Stop (EPO) tested → system shuts down safely.	☐	☐	
2.	Door contacts checked	☐	☐	
3.	Warning / alarm lamp active.	☐	☐	

INSTALLATION OF COMPONENTS

Step	Description	☑	☒	Comment / Remark
1.	Align the mounting bracket on the side wall of the cabinet and hang the inverter in place.	☐	☐	
2.	Tighten the screws on both sides of the mounting bracket.	☐	☐	
3.	Hang the inverter in place.	☐	☐	

4.	After completing the installation, remove the carrying handles from the inverter.	☐	☐	

ELECTRICAL CONNECTION

Step	Description	☑	☒	Comment / Remark
1.	PE Grounding: Select one of the four grounding points on the control cabinet for the earth connection.	☐	☐	
2.	Grounding Busbars: Connect the grounding cables to the grounding bars inside the cabinet.	☐	☐	
3.	During transport, all battery modules are electrically disconnected. The cables must be connected at the installation site.	☐	☐	
4.	Power Cable: Battery Module [B−] → Control Module [B−]	☐	☐	
5.	Power Cable: Battery Module [B+] → Control Module [B+]	☐	☐	
6.	Communication Cable: Battery Module [Link Port 0] → Control Module [Link Port]	☐	☐	
7.	Power Cable: Upper Battery Module [B−] → Lower Battery Module [B+]	☐	☐	
8.	Cascading Communication Cable: Upper Battery Module [Cascading Communication Cable / Link] → Upper Battery Module [Link]	☐	☐	
9.	Loosen the screws and remove the bottom plate to route the AC cables.	☐	☐	

10.	Feed the cables through the prepared openings in the bottom plate. Connect the cables in the correct phase sequence according to the phase markings — a reversed phase sequence is strictly prohibited	☐	☐	
11.	Connect the power cables from the hybrid inverter as follows: (1) Loosen the screws and remove the cable entry plate on the right side of the cabinet. Then loosen the cable glands.	☐	☐	
12.	Route the power cables from the hybrid inverter through the pre-drilled openings of the cable entry plate.	☐	☐	
13.	Connect the power cables from the hybrid inverter terminals [BAT1] and [BAT2] to the busbars [X3 = Positive] and [X4 = Negative] inside the control cabinet.	☐	☐	
14.	Connect the power cables from the [GRID] terminal of the hybrid inverter to the busbar [QF1] inside the control cabinet.	☐	☐	
15	Connect the power cables from the [BACKUP] terminal of the hybrid inverter to the busbar [QF2] inside the control cabinet.	☐	☐	

COMMUNICATION CABLING

Step	Description	☑	☒	Comment / Remark
1.	Communication Cable (connection between BMS and hybrid inverter), 3250 mm	☐	☐	
2.	Communication Cable (connection between BMS and MBMS), 1200 mm	☐	☐	
3.	Insert the cable entry plates on the right side and tighten the cable glands securely.	☐	☐	

COMMISSIONING

Step	Description	☑	☒	Comment / Remark
1.	Double-check all power and communication cables	☐	☐	
2.	Ensure that the PCS voltage equals the battery voltage.	☐	☐	
3.	Switch off all circuit breakers	☐	☐	
4.	Switch on the MCCB (circuit breaker, QF1)	☐	☐	
5.	Switch on the MCB (miniature circuit breaker, QF3).	☐	☐	
6.	Switch on the MCCB (circuit breaker, QF2).	☐	☐	
7.	Switch on the MCB (QF4) – the air conditioning system will start automatically.	☐	☐	
8.	Switch on the MCB (QF5) for the UPS power supply. Start the UPS by pressing the power button on the front panel for 2 seconds until the LCD confirmation screen appears.	☐	☐	

9.	Switch on the MCB (QF6). The LEDs on the power switches (PS1 and PS2) should illuminate.	☐	☐	
10.	Switch on the BMS according to the following operating instructions: (1) Set the isolation switch (①) of the BMS to the "ON" position. (2) Press the "Start" button (②).	☐	☐	
11.	Switch on the MBMS	☐	☐	
12.	Set the isolation switch of (①) the BMS to the "ON" position.	☐	☐	
13.	Press the "Start" button. (②).	☐	☐	

SYSTEM TEST

Step	Description	☑	☒	Comment / Remark
1.	BMS Communication Connection	☐	☐	
2.	EMS Data Transmission Active	☐	☐	
3.	SOC Calibration performed after the initial full charge (8 hours).	☐	☐	
4.	No active alarms in the BMS.	☐	☐	
5.	After startup: automatic self-test of the battery system.	☐	☐	
6.	Check: All STATUS LEDs are illuminated green	☐	☐	
7.	Black Start Test Press and hold the start button for more than 10 seconds (after 30 seconds of power-on time) → Black Start activated.	☐	☐	

AIR CONDITIONING / CLIMATE CONTROL

Step	Description	☑	☒	Comment / Remark
1.	Air ducts clear / no obstructions.	☐	☐	
2.	Air conditioning unit in operation (MCB QF4 switched on)	☐	☐	
3.	Target temperature of 25 °C ± 2 °C achieved.	☐	☐	
4.	Condensate drain inspected	☐	☐	
5.	No alarms in the BMS or EMS.	☐	☐	

THE COMMISSIONING HAS BEEN SUCCESSFULLY COMPLETED:

☑	☐	☒	☐

REMARK:

By entering the date and signature, the responsible electrical specialist confirms that the commissioning was carried out in accordance with the system manual and the instructions for each individual system component. This document has been completed in full.
All collected data are, of course, subject to AXITEC's data protection policies and will be treated with strict confidentiality..

_____	_____	_____
Location, Date	Technician Name	Signature

Please keep this document in a safe place, as it will be required in the event of a service case.