

For Full Safety information, Compliance and specifications please refer to the product manuals before operating The Goat 5048 or Billy Goat 9600.

Using just the NXTGENbps Goat (without NXTGENbps Billy Goat Expansion Packs connected) the Goat can be turned on and off using the main switch (2) on drawing.

The Goat can also be turned off by pressing the emergency stop button (1) on drawing.

Power to the outlet sockets will be immediately stopped as soon as either the main switch (2) or emergency stop button (1) are pressed.

Ensure the emergency stop button (1) is not engaged or held in the off position by turning the button clockwise to release. The Goat will not start until the emergency stop button is released, then the main switch pressed.

The main switch (2) also works as a **re-set button**. To turn on the Goat , or to re-set the Goat - the button must be depressed for 2-3 seconds.

The Goat has an inverter controlled by a BMS (Battery management system.) This requires 20-30 seconds when starting up or shutting down while the Goat runs diagnostics. Just like a laptop or PC, the Goat will not fully operate or supply power until this start up is complete.

The main switch will be lit by a blue LED when power is on. The BMS display screen (3) will also light up showing relevant information when the Goat is turned on.

The BMS screen may stay on for up to 5 minutes after the battery has been turned off. This is to allow the inverter to run monitoring and diagnostics.

The Goat can be charged by mains, EV or solar while operating.

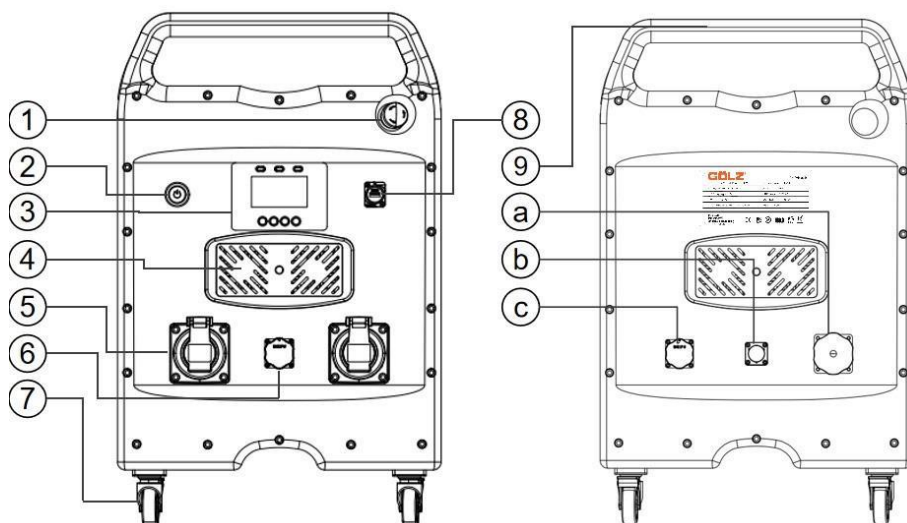
The Goat will stop providing power when it's capacity reaches 5%. This remaining power will be stored for the Goat to continue diagnostics.

The Goat must be switched on to charge. The inverter must be running while charging.

NXTGENbps Goat

Front Panel

Back Panel

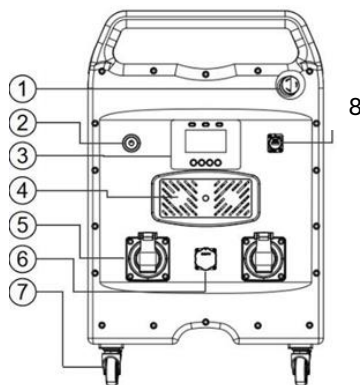


1	Emergency stop button
2	Main Switch
3	LED Indicator/ BMS Screen
4	Fan
5	AC Output Port
6	PC COM - Parallel Communication Port
7	Wheel
8	USB-B and USB-C
9	Handle
a	Capacity expansion and DC charger Port
b	PV input port
c	AC input port

Extending NXTGENbps Goat Run time capacity with NXTGENbps Billy Goat Expansion

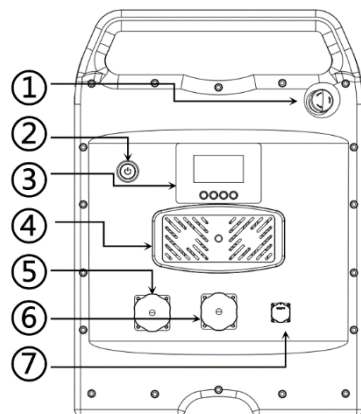
Turn the power off on all units (Goat and NXTGENbps Billy Goat Expansion Packs) – Then Connect the Goat and NXTGENbps Billy Goat Expansion Packs together in series with the connection cables supplied, via Goat P-COM port (6) and NXTGENbps Billy Goat Expansion extension connection port (5)

NXTGENbps Goat Front Panel



1	Emergency stop button
2	Main Switch
3	LED Indicator/ BMS Screen
4	Fan
5	AC Output Port
6	PC COM - Parallel Communication Port
7	Wheel
8	USB-B and USB-C

NXTGEN Billy Goat Expansion Front Panel



1	Emergency switch off
2	On/Off switch
3	LED-Display
4	Fan
5	Extension connection
6	DC IN
7	230V charging connection

When a Goat has NXTGENbps Billy Goat Expansion Packs connected, the Goat can only be turned off using the emergency power button (1). The power button (2) will not stop power to the sockets.

To re-start the Goat when connected to NXTGENbps Billy Goat Expansion Packs, 1st turn off power on each Billy Goat Expansion Pack, then turn on the Goat using power button (2) after ensuring the emergency stop button (1) has been released.

The NXTGENbps Billy Goat Expansion Packs can now be turned back on in series order starting with the NXTGENbps Billy Goat Expansion closest to the Goat .

The Goat will not re-start while connected to a powered on Billy Goat Expansion Pack.



Synchronising x3 Goats to Provide 400v 15kW 3 Phase Power

This function is only available when x3 NXTGENbps Goat units are used with the Golz 3 phase distribution box accessory.

If you have three NXTGENbps Goat units and want to increase the system voltage to a three-phase 380/400V system, you need to do the following on the machines;



First, each Goat must be assigned a phase.

1. Start each NXTGENbps Goat normally using the power button (2) then press the emergency stop button (1) after the system works normally.
2. Select machine No. 1, enter the setting options on the screen, set number 23 function to 3P1 (3 phase 1), and shut down the system using the emergency stop button (1) after completion.
3. Select machine No. 2, enter the setting options on the screen, set number 23 function to 3P2 (3 phase 2), and shut down the system using the emergency stop button (1) after completion.

4. Select machine No. 3, enter the setting options on the screen, set number 23 function to 3P3 (3 phase 3), and shut down the system using the emergency stop button (1) after completion.

5. Connect the input connector of the three-phase socket box to the AC in machine and connect the communication connector to the P-COM (6).

6. Restart machines 1, 2 and 3 in sequence.

7. Wait for the automatic configuration of the system. After the configuration is successful, the HS sign will appear in the lower right corner of the display of No. 1 machine, the P2 sign will appear in the lower right corner of the display of No. 2 machine, and the P3 sign will appear in the lower right corner of the display of No. 3 machine.

Note: After the machine 23 project is set up, if the three phase socket box is not inserted and the machine is started, the machine will alarm.

If your machine has been changed to a three-phase 380/400V system and you want to change to a default 230V single phase system, you need to do the following on the machine:

1. Start machine No. 1, 2 and 3 normally, and press the emergency stop button.
2. Select machine No. 1, enter the setting option, set function 23 as SIG (Single Phase), and shut down the system after completion using emergency stop (1)
3. Select machine No. 2, enter the setting option, set function 23 as SIG (Single Phase, and shut down the system after completion using emergency stop (1).
4. Select machine No. 3, enter the setting option, set function 23 as SIG (Single Phase, and shut down the system after completion using emergency stop (1)
5. Remove the three-phase socket box and restart the machine.

Note: If you set only one machine to SIG and not the other two machines, the other machines will alarm when they start up

The NXTGENbps Goat can only be charged from a single phase power source when in (SIG) single phase mode and from a 3 phase power source when in 3P 3phase mode. Ensure Goat s are changed to the correct mode to charge

Using Golz Solar Panels With NXTGENbps Goat and Billy Goat Expansion 9600

First read full manual supplied with the solar panels for safety and compliance information.

The NXTGENbps Goat can be used with a solar input voltage range of 60v-145v.

Multiple panels can be used together in parallel or series configurations.

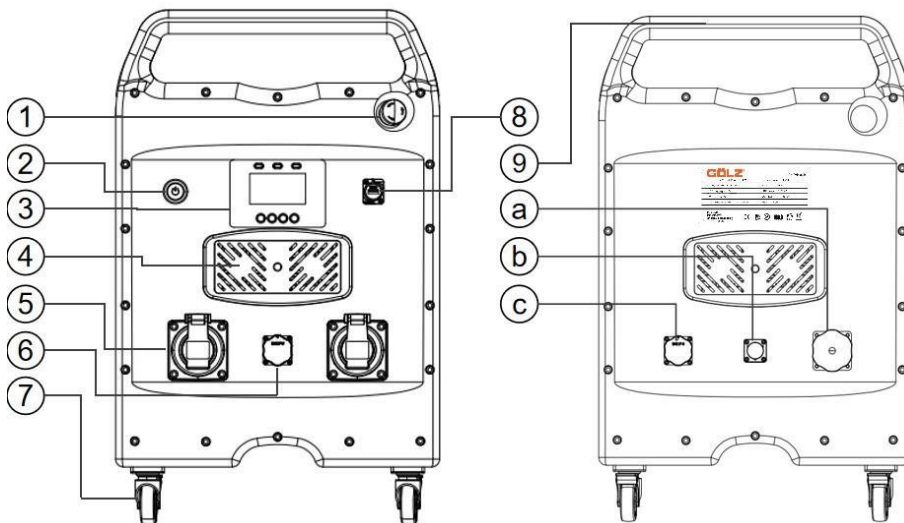
Golz solar panels have MC4 output port connections.

Solar panels must be connected to the Goat or NXTGENbps Billy Goat Expansion Packs via the PU in inlet (b).

NXTGENbps Goat

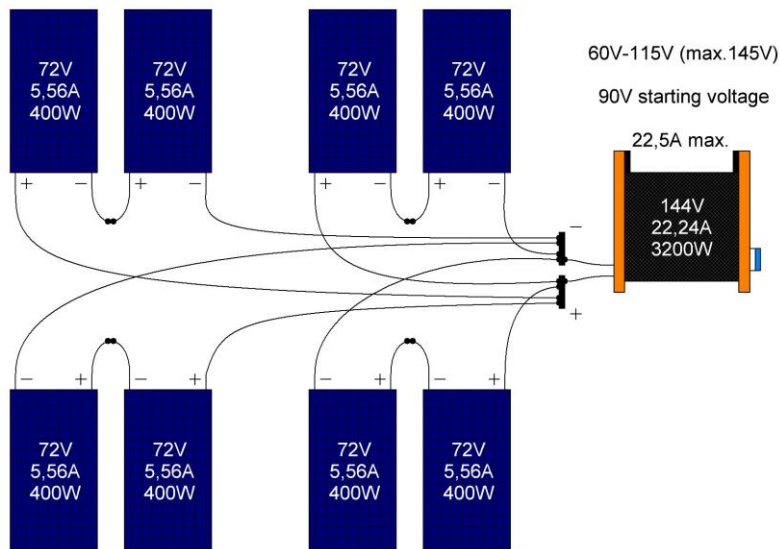
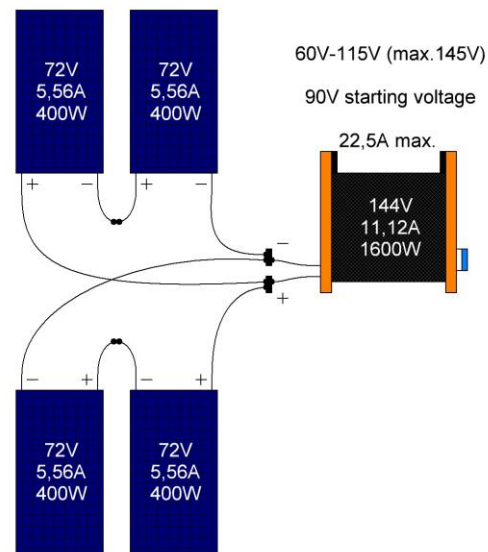
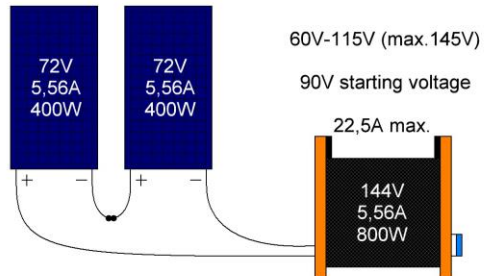
Front Panel

Back Panel



1	Emergency stop button
2	Main Switch
3	LED Indicator/ BMS Screen
4	Fan
5	AC Output Port
6	PC COM - Parallel Communication Port
7	Wheel
8	USB-B and USB-C
9	Handle
a	Capacity expansion and DC charger Port
b	PV input port
c	AC input port

Solar Panel configurations

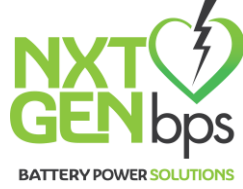


min. / max. 2 PV-Panels connect in series
max. 4x (2 in series) PV-Panels connect parallel



Trouble Shooting

Problem	LCD / LED / Buzzer	Explanation / Possible Cause	Solution
Machine shuts down automatically during startup process	LCD/LEDs and buzzer will be active for 3 seconds and then complete off	Battery voltage is too low	1. Recharge the battery; 2. Replace the battery.
No response after power on.	No indication	1. The battery voltage is far too low; 2. The battery is connected reversed.	1. Check if batteries and wiring are well connected; 2. Recharge the battery; 3. Replace the battery.
Mains exist but the unit works in battery mode	The input voltage is displayed as 0, and the green LED flashes	Input protector is tripped	Check if AC breaker is tripped and the AC wiring is connected well.
	Green LED is flashing	Insufficient quality of AC power	1. Check if the AC wires are too thin or too long; 2. Check if generator(if applied) is working properly or the input voltage range is set correctly.
	Green LED is Flashing	Set "solar priority" as the output source	Change the output source priority to Utility first.



**NXTGENbps Goat 5048 & NXTGENbps
Billy Goat 9600 USER GUIDE**

Problem	LCD / LED / Buzzer	Explanation / Possible Cause	Solution
After turning on the unit, the internal relay is repeatedly turned on and off	LCD display and indicator is flashing	Battery disconnected	Check if the battery cable is connected well.
The buzzer keeps sounding and the red LED lights up	Fault code 01	Fan failure	Replace the fan
	Fault code 02	Internal temperature of component is over 100 °C	Check if the airflow of the machine is blocked or the ambient temperature is too high
	Fault code 03	Battery overcharge	Return to repair center
		Battery voltage is too high	Check if specifications and quantity of the batteries meet the requirements
	Fault code 04	Low Battery	Re-charge Battery
	Fault code 05	Output short circuit	Check if the wiring is well connected and eliminate abnormal load
	Fault code 06/58	Output is abnormal	1. Reduce the load on the connection; 2. Return to the repair center.
	Fault code 07	overload	Reduce the load on the connection by shutting down some devices
	Fault code 08/09/53/57	Internal component failed	Return to repair center
	Fault code 51	Overload or shock	Restart the machine, if the error occurs again, please return to the repair center
	Fault code 52	Bus voltage is too low	
	Fault code 55	Unbalanced output voltage	
	Fault code 56	Battery connection is bad or fuse is burnt.	If the battery is well connected, return it to the repair center

Problem	LCD / LED / Buzzer	Explanation / Possible Cause	1. Solution
The buzzer keeps sounding and the led LED lights up	Fault code 60	Negative work error	2. Check whether the AC output terminal of the machine is connected to the mains power by mistake. 3. Check whether the 08 setting items of all parallel machines are set the same 4. Check whether the current sharing lines of the same-phase parallel machine are connected normally 5. Check to make sure that the output N wires of all the machines in the parallel system are connected together. 5. If the problem persists after the inspection, please return the machine to the repair center
	Fault code 80	CAN communication failed	1. Check whether the parallel communication line between each machine of the parallel system is intact 2. Check whether the setting item 23 is set correctly 3. If the problem is not found after inspection, please return the machine to the repair center
	Fault code 81	Host missing error	

BMS (Battery Management System) Warning Code Reference

Warning Code	Warning Event	Audible Alarm	Icon flashing
01	Fan is locked when inverter is on.	Beep 3 times every second	01 [△]
02	Over temperature	Beep once every second	02 [△]
03	Battery is over-charged	Beep once every second	03 [△]
04	Low battery	Beep once every second	04 [△]
07	Overload	Beep once every 0.5 second	07 [△]
10	Output power derating	Beep twice every 3 seconds	10 [△]
12	Solar charger stops due to low battery	Beep once every second	12 [△]
13	Solar charger stops due to high PV voltage	Beep once every second	13 [△]
14	Solar charger stops due to overload	Beep once every second	14 [△]
15	Parallel input utility grid different	Beep once every second	15 [△]
16	Parallel input phase error	Beep once every second	16 [△]
17	Parallel output phase loss	Beep once every second	17 [△]
18	Buck over current	Beep once every second	18 [△]
19	Battery disconnect	No beep	19 [△]
20	BMS communication error	Beep once every second	20 [△]
21	PV power insufficient	Beep once every second	21 [△]
22	Parallel forbidden without battery	Beep once every second	22 [△]
25	Parallel inverters' capacity different	Beep once every second	25 [△]
33	BMS communication loss	Beep once every second	33 [△]
34	Cell over voltage	Beep once every second	34 [△]

35	Cell under voltage	Beep once every second	35 [△]
36	Total over voltage	Beep once every second	36 [△]
37	Total under voltage	Beep once every second	37 [△]
38	Discharge over voltage	Beep once every second	38 [△]
39	Charge over voltage	Beep once every second	39 [△]
40	Discharge over temperature	Beep once every second	40 [△]
41	Charge over temperature	Beep once every second	41 [△]
42	Mosfet over temperature	Beep once every second	42 [△]
43	Battery over temperature	Beep once every second	43 [△]
44	Battery under temperature	Beep once every second	44 [△]
45	System shut down	Beep once every second	45 [△]