DIGITUS®

Online UPS
Q&A

DN-170106 • DN-170107

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1. Alarm or fault reference code

Item	UPS Alarm Warning	Buzz	LED
1	Rectifier Fault	Beep continuously	Fault LED lit
2	Inverter fault (Including Inverter bridge is shorted)	Beep continuously	Fault LED lit
3	Inverter Thyristor short	Beep continuously	Fault LED lit
4	Inverter Thyristor broken	Beep continuously	Fault LED lit
5	Bypass Thyristor short	Beep continuously	Fault LED lit
6	Bypass Thyristor broken	Beep continuously	Fault LED lit
7	Fuse broken	Beep continuously	Fault LED lit
8	Parallel relay fault	Beep continuously	Fault LED lit
9	Fan fault	Beep continuously	Fault LED lit
10	Reserve	Beep continuously	Fault LED lit
11	Auxiliary power fault	Beep continuously	Fault LED lit
12	Initialization fault	Beep continuously	Fault LED lit
13	P-Battery Charger fault	Beep continuously	Fault LED lit
14	N-Battery Charger fault	Beep continuously	Fault LED lit
15	DC Bus over voltage	Beep continuously	Fault LED lit
16	DC Bus below voltage	Beep continuously	Fault LED lit
17	DC bus unbalance	Beep continuously	Fault LED lit
18	Soft start failed	Beep continuously	Fault LED lit

19	Rectifier Over Temperature	Twice per second	Fault LED lit
20	Inverter Over temperature	Twice per second	Fault LED lit
21	Reserve	Twice per second	Fault LED lit
22	Battery reverse	Twice per second	Fault LED lit
23	Cable connection error	Twice per second	Fault LED lit
24	CAN comm. Fault	Twice per second	Fault LED lit
25	Parallel load sharing fault	Twice per second	Fault LED lit
26	Battery over voltage	Once per second	Fault LED blinking
27	Mains Site Wiring Fault	Once per second	Fault LED blinking
28	Bypass Site Wiring Fault	Once per second	Fault LED blinking
29	Output Short-circuit	Once per second	Fault LED blinking
30	Rectifier over current	Once per second	Fault LED blinking
31	Bypass over current	Once per second	BPS LED blinking
32	Overload	Once per second	INV or BPS blinking
33	No battery	Once per second	BATTERY blinking
34	Battery under voltage	Once per second	BATTERY blinking
35	Battery low pre-warning	Once per second	BATTERY blinking
36	Overload Delay	Once per second	Bypass LED blinking
37	DC component over limit.	Once per 2 seconds	INV blinking
38	Parallel Overload	Once per 2 seconds	INV blinking

39	Mains volt. Abnormal	Once per 2 seconds	BATTERY LED lit
40	Mains freq. abnormal	Once per 2 seconds	BATTERY LED lit
41	Bypass Not Available		BPS blinking
42	Bypass unable to trace		BPS blinking
43	Inverter on invalid		
44	Reserve		
45	EPO	Beep continuously	Fault LED lit
46	PDU		Bypass LED lit

Fault analysis:

When a fault occurs, record the status of display, and then fix the reason in accordance with the following questions.

1. If the input supply is abnormal? (over/under voltage)
2. If load changes? (capacity or type)
3. If a burn mark on PCBA?
4. If smelly odor?
5. If abnormal noise?
6. If bad environment? (dust or moisture)
7. High temperature of UPS or ambient environment?

If fault occurs inside the UPS, contact your dealer with UPS S/N, photos of error code, load type, and environment information.

2. Troubleshooting

When the fault occurs, firstly, perform troubleshooting by referring to the troubleshooting table. If the fault still exists, please contact the franchiser.

Fault	**Cause**	**Solution**
Battery LED flashes	Battery low voltage or battery disconnected	Check UPS battery, connect battery well, if battery damaged, replace it

Mains normal, but UPS has no input	UPS input breaker open circuit	Press the breaker for reset
Short back up time	Battery not fully charged	Keep UPS connecting with mains power for more than 8 hours, recharge battery
	UPS overload	Check the usage of loads, remove some redundant devices
	Battery aged	When replace battery, contact franchiser to get battery and relative assembly
No AC power, UPS can't start up after pressing the ON key	Press the ON key for a short time	Press and hold the ON key for more than one second to start the UPS
	UPS has no battery connected or battery voltage low and too many loads connected	Connect UPS battery well, if battery voltage low, please turn off UPS and remove some loads, then start UPS
	Fault occurs inside UPS	Contact supplier for servicing

3. Question

What are the steps for calibration / setting up the battery modules?

Answer:

Calibration:

1. Connect battery pack to UPS, keep UPS in AC mode, to charge the batteries for at least 16 hours
2. Connect testing load under AC mode.
3. Switch to battery mode, discharge battery until reaching EOD and UPS switches off. Record the autonomy time.
   ****UPS will calibrate automatically after a cycle of fully charge & fully discharge****
4. Switch to AC mode & charge the battery for at least 16 hours.

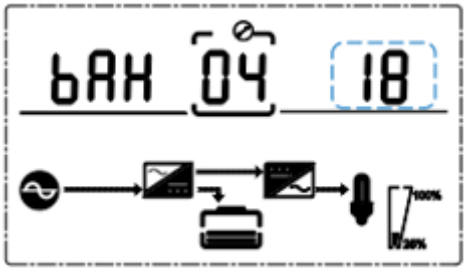
5. Connect testing load under AC mode
6. Switch to battery mode. Check whether the autonomy time on the display is close to the autonomy time you recorded in step 4.

Setting up the battery modules:

When connecting more than 1pc battery pack, users must first set the battery capacity & battery qty, refer to the user manual chapter 4.4.4 & 4.4.5.

Assmann battery pack uses 9Ah batteries. When connecting one battery pack, set it to 9Ah, two battery packs to 18Ah (9Ah*2), and three battery packs to 27Ah (9Ah*3). And set the battery quantity to 20pcs

4.4.4 battery capacity setting



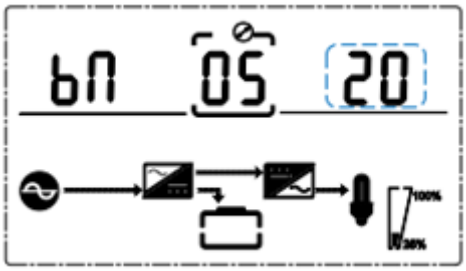
Battery capacity setting

(**Note:** Inside the broken line is the flashing part.)

When under the frequency setting press DOWN or when under battery quantity setting press UP, it goes to the battery capacity setting. The battery capacity line flashes as in above picture.

- Press ENTER /ON to enter the value adjustment state, press UP DOWN to choose the different battery capacity and press ENTER /ON to confirm. Battery capacity range is 1- 200Ah. (Note: long-press of UP or DOWM can adjustment battery capacity quickly.)
- Press UP & DOWN button to go to frequency setting or battery quantity setting.

4.4.5 battery quantity setting



Battery quantity setting
(**Note:** Inside the broken line is the flashing part.)

When under the battery capacity setting press DOWN or when under bypass voltage upper limit setting press UP, it goes to the battery quantity setting. The battery quantity line flashes as in above picture.

- Press ENTER/ON to enter the value adjustment state, press UP & DoWN to choose the different battery quantity and press ENTER /ON to confirm.
  Set the battery quantity to 20pcs
- Press UP & DOWN button to go to battery capacity setting or bypass voltage upper limit setting.

Which environment or loading is Digitus 6 & 10KVA Online UPS suitable for?

Answer:
Digitus 6 & 10KVA Online UPS is suitable for workstations, large network servers, large-scale computer rooms and data center. Digitus 6 & 10KVA Online UPS cannot connect motor loads, such as laser printers and refrigerators.

Does DN-170106 & DN-170107 with DN-170108 support Cold Start?

Answer:
Yes, our online UPS is possible to start the UPS, powering just from the battery, without mains.

Are the communication cables included in the package?

Answer:
The input/output on 6-10kVA online UPS is connected through a terminal.

6-10kVA are not plug & play models, with no input/output power cord. It requests professionals to handle the connection.

The UPS, DN-170106 & DN-170107, have the following communication cable.

- USB cable 1.5M
- RS232 cable 1.5M
- Parallel cable 1.5M

The battery pack, DN-170108, only has a battery connector for connecting UPS & battery module. The length is 1.5M.

How many UPS can be connected in parallel?

Answer:
6 & 10KVA Online UPS can connect max. 4pcs UPS in parallel, and 1pcs UPS can connect max. 4pcs battery modules.

For the parallel UPS operation, a special parallel connection cable is needed. The parallel cable is included in the package. Each UPS will come with 1 parallel cable. User must connect the UPS in parallel in “ring”.

Is it possible to connect more than 4 units of the DN-170108 battery pack to the DN-170106/DN-170107, as it is limited by the max charging current only. It is max 10A for a single UPS, so does that mean up to 10pcs battery pack in parallel?

Answer:
The hypothesis is “right” and “wrong”.
For “right” portion, the calculation is correct. Normally, the charging current is required 0.1C (1/10 of battery capacity), for example, 9AH battery only requires 0.9A charging current to recharge the battery back to 90% at 8~10 hours.

For “wrong” portion, if user is connecting 10 battery packs, it means there is totally 200pcs batteries are connected. When the UPS is in battery mode, the UPS will discharge until battery low and give the warning and then disconnect the battery when it is reached battery cut point. If you have more batteries connected and if there are some weaker batteries in between, the battery low and battery cut will come

earlier when the total voltage reaches the battery low or battery cut points. The more batteries you are connected, the more risk you might have.

Normally, it is not allowed to mix the old batteries with new batteries. If the user needs more small capacity batteries to connect in parallel, we suggest connecting higher capacity batteries with less numbers. This is why we only recommend connecting with max. 4 battery packs.

What is the solution of Error 33: No battery?

Answer:
Error 33 means UPS cannot detect batteries.

- Trouble shooting suggests checking the connection between each battery & battery connector of the whole string.
- The other possibility is battery under voltage that causes UPS cannot detect it.

Solution:
Please double check battery pack is connected.
Please measure the voltage of per battery, or the complete string. If per fully charged battery voltage is much less than 10V, means battery is broken and needs to be replaced.

What is the solution of Error 45: EPO?

Answer:
The EPO jumper on 6kVA & 10KVA online UPS is NO (normally open). In the normal status, there is no jumper cap. The EPO acts when putting the jumper cap back.
Please remove the jumper cap and the alarm beeping & light shall disappear.

What is the solution of Error 46: maintenance mode?

Answer:

Please check the “PDU contact” mark in below. If this contact is missing, the UPS sends error 46.



The contact is looked like below.



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Assmann Electronic GmbH
Auf dem Schüffel 3
58513 Lüdenscheid
German