

**Communication accessory
for UPS PROTECT C. (Tower 6/10kVA) /
PROTECT 1. and PROTECT 1.M**

**Kommunikationszubehör
für USV PROTECT C. (Tower 6/10kVA) /
PROTECT 1. und PROTECT 1.M**

**Remote panel
Fernsignaltableau**

AEG Power Solutions GmbH
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Thank you for deciding to purchase an UPS accessory from AEG Power Solutions.

The following safety instructions are an important part of the operating instructions and will protect you against problems from operating errors and possible dangers. Please read these instructions carefully prior to commissioning!

1 Brief Overview

The Remote Panel as an option for the AEG UPS series PROTECT C. (Tower 6/10kVA), PROTECT 1. and PROTECT 1.M is a connectivity device that allows you to remotely monitor the status of the UPS in real time. An additional bar graph represents the current UPS load, respectively the remaining capacity in case of emergency/ battery operation. The acoustical alarm, which can be disabled, completes the optical indication. The distance for installation is up to 500m. Data transfer and as well the auxiliary power supply for the Remote Panel works via a single standard network cable.

Shipment:

- Remote Panel
- Driver card in slot layout
- Operating instructions

Prerequisite:

- UPS of series PROTECT C. (Tower 6/10 kVA), PROTECT 1. or PROTECT 1.M
- Network cable, category 5 or higher (straight-through)

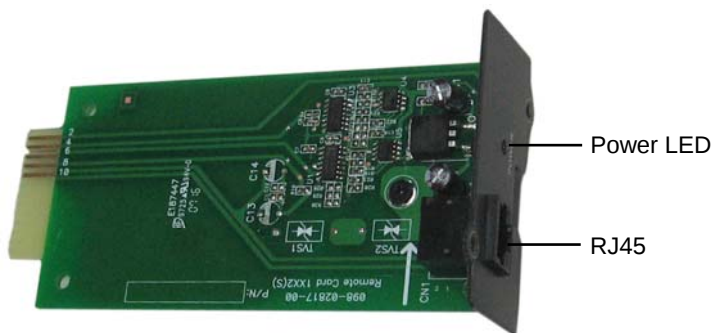
2 Principle of Operation

The driver card establishes the communication with the external remote panel and is designed for use in the communication slot of the UPS. The hardware connection to the Remote Panel takes place via RJ45 sockets, using a standard network cable, category 5 or higher with a length of less than 500m. A "Power LED" indicates the readiness for operation.



Attention! Handle the slot card carefully by operating the driver card bracket only. Avoid the contact with the printed circuit board conductors and never touch the installed components!

Risk of electronical components damage based on static electrification!



Driver Card

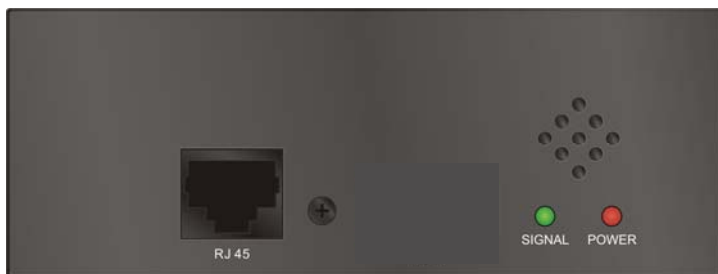
The kit is hot-swappable, that means slot card and remote panel can be connected during running UPS operation.

The remote panel shows a display, which provides the most important parameter of the UPS. According the display style the UPS technology is used, which will guarantee easiest readability. See chapter 4 for more display details.

EN



Located at the side you'll find the RJ45 port to connect the remote panel with the above shown slot card and as well the two LED's for current status indication.



Power LED: Red LED, whenever the Power LED is turned on, it shows the auxiliary power supply of the remote panel is OK.

Signal LED: Green LED, when the Signal LED is flashing, it shows the communication between the UPS and the remote panel is OK, and if the LED is turned on continuously, it shows that the communication failed.

RJ45: Connect the remote panel by using a straight-through network cable, category 5 or higher with the driver card.



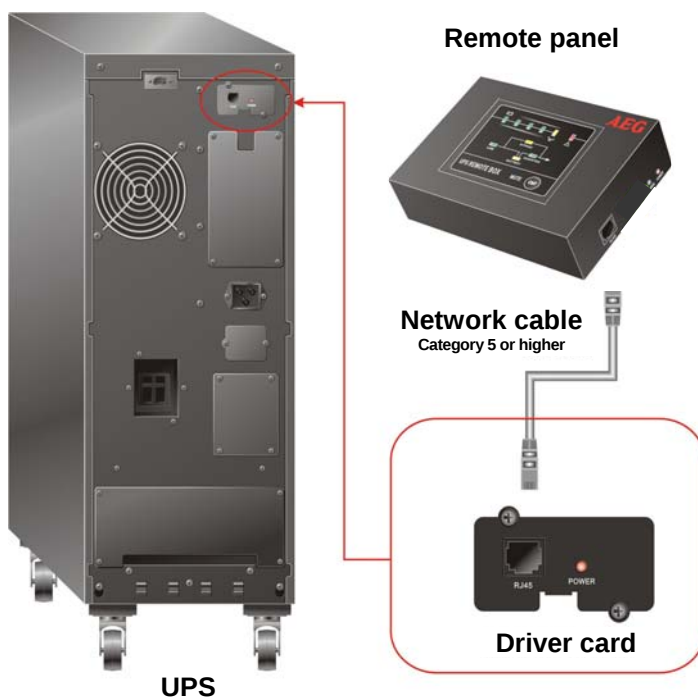
Attention! The remote panel is designed exclusively for the direct connection with the shipment included driver card.

Never connect the remote panel to your data network!

Dimensions plus lateral connections
(W x H x D) : 150 mm x 40 mm x 110 mm

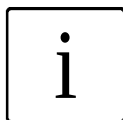
Weight approx. 720 g

3 Installation



To install the remote panel kit and to put it into operation, follow the steps below:

1. Firstly remove the cover of the communication slot at the rear of the UPS by unscrewing the two slot screws. Then slowly insert the driver card as far as it goes.



Depending on the UPS, the communication slot might deactivate the RS232 interface (just refer to the corresponding chapter in the operating manual of your UPS).

2. Secure the inserted driver card by using the two screws, which you removed at the beginning.

3. Finally connect the RJ45 port of your driver card with the RJ45 port of your remote panel. To do so use a standard straight-through network cable, category 5 or higher (note: network cable isn't part of the remote panel kit shipment). With this step the installation is finished.



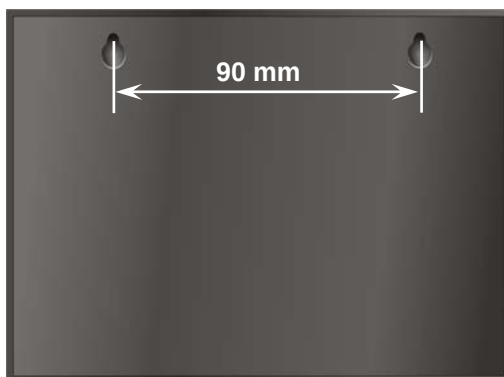
Attention! Operate the remote panel only in conjunction with the driver card using a direct connection via a straight - through network cable, category 5 or higher.

Never connect the remote panel to your data network!

4. The remote panel will start its operation automatically (if not already in operation switch on your UPS (again)). You'll find the description of the status displayed on the panel in chapter 4.

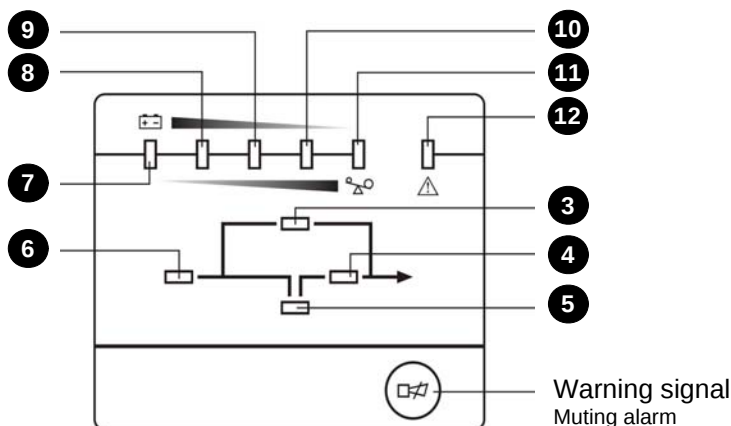
If remote panel doesn't work (not any LED lights up on the display) firstly check the auxiliary power supply at the UPS. „Power“-LED at the driver card should light up. Then follow the advices in chapter 2 acc. the LED's "Power" and "Signal" at the remote panel itself. Avoid the installation wiring of the network cable close to strong power cable.

5. If you prefer wall surface mounting, you'll find at the back of the remote panel two mounting lugs (distance 90mm).



Rear view of the Remote Panel

4 Display unit



3. **LED BYPASS:** The orange - coloured LED lights up when voltage is supplied via the integrated bypass of the UPS.
4. **LED INVERTER:** The green LED lights up when voltage is supplied via the inverter of the UPS system.
5. **LED BATTERY:** The orange - coloured LED lights up when power is supplied from the battery system.
6. **LED LINE (mains status):** The green LED lights up when the mains voltage is within the specified tolerance range.
7. to 11. **LED bar graph** as the measure of UPS load level, respectively the remaining battery capacity.
12. **LED FAULT:** The red LED lights up with an acoustic warning signal when a fault is present in the UPS system.

Overview Table of LED Displays/ Acoustic Warning Signals

No.	Operating mode		LED display										Warning signal
			12	11	10	9	8	7	6	5	4	3	
1	Normal mode (mains present)	0% – 35% load level						✱	✱		✱		none
2		36% – 55% load level					✱	✱	✱		✱		none
3		56% – 75% load level				✱	✱	✱	✱		✱		none
4		76% – 95% load level			✱	✱	✱	✱	✱		✱		none
5		96% – 105% load level		✱	✱	✱	✱	✱	✱		✱		none
6	Batteriebetrieb	0% – 20% capacity		✱						✱	✱		1 acoustic signal per second
7		21% – 40% capacity		✱	✱					✱	✱		1 acoustic signal every 4 seconds
8		41% – 60% capacity		✱	✱	✱				✱	✱		1 acoustic signal every 4 seconds
9		61% – 80% capacity		✱	✱	✱	✱			✱	✱		1 acoustic signal every 4 seconds
10		81% – 100% capacity		✱	✱	✱	✱	✱		✱	✱		1 acoustic signal every 4 seconds
11	Load supply via bypass of the UPS			■	■	■	■	✱	✱			✱	1 acoustic signal every 2 minutes
12	Unit overload UPS in INV mode		✱	✱	✱	✱	✱	✱	✱		✱		2 acoustic signals per second
13	Unit overload UPS in BYPASS mode		✱	✱	✱	✱	✱	✱	✱			✱	2 acoustic signals per second
14	Mains abnormal (e.g. reversed L1 / N)			■	■	■	■	✱	⋯	■	■	■	■
15	Overload in battery mode, early warning			✱	■	■	■	■	■	✱	✱		2 acoustic signals per second
16	Overload in battery mode, switch-off		✱	✱					■				Continuous warning signal
17	Overtemperature fault		✱					✱	■			■	Continuous warning signal
18	Inverter fault		✱				✱		■			■	Continuous warning signal

Note: ✱ = LED lights up

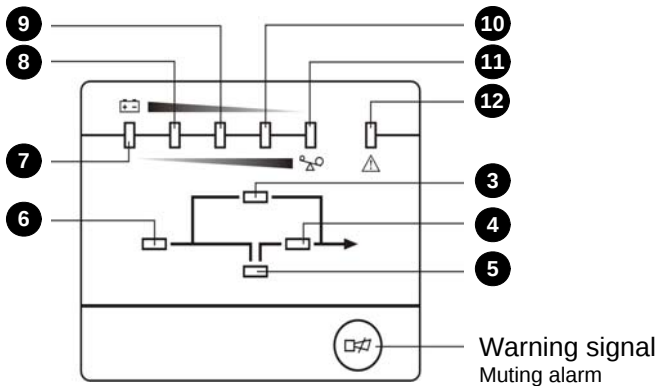
⋯ = LED flashes

■ = Display / acoustic signal state undetermined;
unimportant for displayed operating mode

Overview Table of LED Displays/ Warning Signals, cont.

No.	Operating mode	LED display										Warning signal
		12	11	10	9	8	7	6	5	4	3	
19	Short - circuit at UPS output side	✱	✱			✱		■				Continuous warning signal
20	BUS - voltage abnormal	✱			✱			■			■	Continuous warning signal
21	DC circuit faulty; poss. battery fault	✱						■	✱✱	■	■	1 acoustic signal per second
22	Battery charger faulty	✱		✱			✱	■			■	Continuous warning signal
23	Fan fault	✱	✱				✱	■	■	■	■	1 acoustic signal per second
24	Fault in inverter output relay	✱			✱		✱	■			■	Continuous warning signal
25	UPS communication internally faulty	✱		✱	✱			■			■	Continuous warning signal
26	Parallel operation fault	✱	✱	✱			✱	■				Continuous warning signal
27	Communication fault UPS Remote Panel	✱✱	✱✱	✱✱	✱✱	✱✱	✱✱	✱✱	✱✱	✱✱	✱✱	Continuous warning signal

Note: ✱ = LED lights up
✱✱ = LED flashes
■ = Display / acoustic signal state undetermined; unimportant for displayed operating mode



Guarantee certificate

Type:

Serial-No.:

Date of purchase:

Trading stamp / Signature

Specifications are subject to change without notice.

AEG

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Operating Instructions
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