

Technische Daten

On-Line USV-Anlage proTECTO D 6500-1000 TM

proTECTO D TM is an On-line UPS-system in double conversion technology according to DIN EN 62040-3 (VFI-SS-111) with ratings from 6500 to 10000 VA with three-phase input and single phase output. These UPS-systems of the latest generation are variable applicable, because they can be used as a tower or mounted as in a 19" Rack.

The proTECTO D TM systems have a SNMP-Slot as well as 2 serial interfaces (RS 232 and USB). Including Shutdown-Software for Windows NT / 2000 / XP / 2003 / Vista, Novell and Linux system software.



The back-up time of the systems can be increased by connecting additional external battery modules.

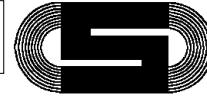
model	proTECTO D	6500 TM	8000 TM	10000 TM
rating				
rating in VA		6500	8000	10000
rating in Watt		5200	6400	8000
back-up time in minutes				
at 100% load		5	5	3
at 50% load		14	14	12
input				
nominal voltage	400 V tree-phase nominal (terminal)			
accepted range	318 to 478 V AC			
voltage range without battery operation				
Maximum:	276 V AC			
Minimum:	184 V AC at 100 % load 138 V AC at 50 % load			
Switch back to mains operation at	190 V AC			
nominal frequency	50 Hz / 60 Hz ± 5 Hz			
Maximum current (nominal load, input voltage 180 V per phase and battery charge)		12 A	14 A	17 A



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input				
nominal current (nominal load, nominal voltage and battery charge)		8 A	10 A	12 A
power factor		≥ 0,95		
harmonic distortion		≤ 26 %		
Hold-Up time (back-up time which can be realized without switching on the battery – no interruption of the output voltage occurs)		≥ 40 ms		
output				
nominal voltage		optional 220 / 230 / 240 V AC		
tolerance of output voltage – static		≤ 1,5 %		
tolerance of output voltage – dynamic (load impact from 0 to 100%)		≤ 5% above 20 ms		
waveform of the output voltage		Sinus		
nominal frequency		50 Hz or 60 Hz		
voltage distortion/ linear load		≤ 3%		
voltage distortion / non-linear load		≤ 6%		
crestfactor measured according to EN 50091-1 (peak current to RMS-current)		≥ 3 : 1		
efficiency of the system AC / AC		90 %		
overload				
normal operation 100 % < load < 110%		switch over to bypass after 2 sec. blockage after 120 sec.		
normal operation 110 % < load < 150%		switch over to bypass after 2 sec. blockage after 4 sec.		
normal operation load > 150%		switch over to bypass immediately blockage after 1 sec.		
battery operation 100 % < load < 110%		blockage after 60 sec.		
battery operation 110 % < load < 150%		blockage after 4 sec.		
battery operation load > 150%		blockage after 0,5 sec.		
by - pass				
accepted voltage range		180 bis 264 V AC		
accepted frequency range		selected frequency ± 5%		
Time to switch over inverter / Bypass		0,1 ms		



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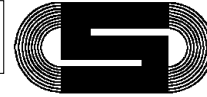
battery				
nominal voltage	240 V DC			
number of modules	20			
nominal capacity per module	7 Ah	9 Ah		
type	closed and maintenance-free			
life duration	5 years (depending on environmental conditions)			
recharge time	4 to 8 hours			
battery test	automatic each 40 hours			

display	
LED display for	normal operation output on inverter battery operation mains present input- / output- / battery voltage recharge current state of recharge of the battery internal temperature remaining back-up time output load operating status

operating elements	
switch	main switch
button	ON
button	Stand by
button	selection display
switch	commutation on by-pass

interfaces	
Sub-D 9 Pin	RS 232 interface and potential-free messages for battery operation and battery nearly discharged
USB	serial interface
Slot	slot for: SNMP card, 2. serial interface or J-Bus

connections	
input	terminals
output	terminals + 2 x IEC 10 A (Powershare)
DC connection	for battery extension



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protection				
protective systems	over voltage – short-circuit - overvoltage – low voltage heat – deep discharge protection of the batteries			
surge voltage stability	IEC 801-5 6 KV 1.2 / 50 µsec; 3 KA 8/20 µsec; 300 Joule			
norms				
safety	EN 62040-1-1; EEC regulation 73/23			
EMV / RFI	EN 62040-2; EEC regulation 89/336			
operation requirements	EN 62040 – 3 VFI-SS-111			
environmental conditions				
environmental temperature	0 to 40 °C			
noise level in 1m distance	< 45 dB(A)			
cabinet				
material	steel sheet / front plastics			
colour	Metallic grey			
protective system	IP 205			
dimensions				
dimensions (h x w x d) as tower-version	2 x 455 x 175 x 660 mm			
dimensions (h x w x d) as rack-version	2 x 4 HE x 19" x 660 mm			
weight				
weight in kg	113	119	120	
delivery				
manual	yes			
mains cable	-			
connection cable	-			
connection plug	-			
cable ducts	2			
communication cable	RS232 9-pin			
tool	for dismantling and turning of the LED display			
CD	PowerShield ³ Shutdown Software			
handgrip-kit	1			
connection cable UPS – battery modul	1			
Fuses for battery modul	2			



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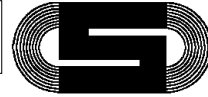
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options

battery extension modul	Typ BB 240-9			
increase of the back-up time on				
dimensions (h x w x d) in mm	455 x 175 x 660			
weight in kg	90			

battery extension modul	Typ BC 240-9			
increase of the back-up time on				
dimensions (h x w x d) in mm	455 x 175 x 660			
weight in kg	90			

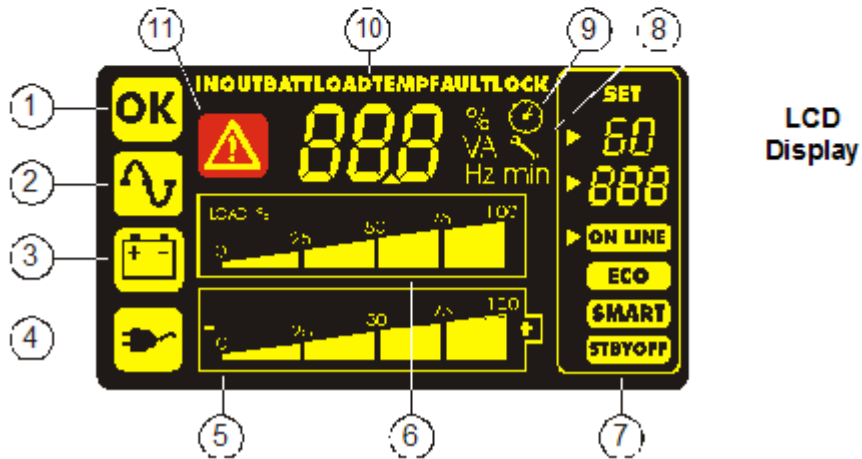
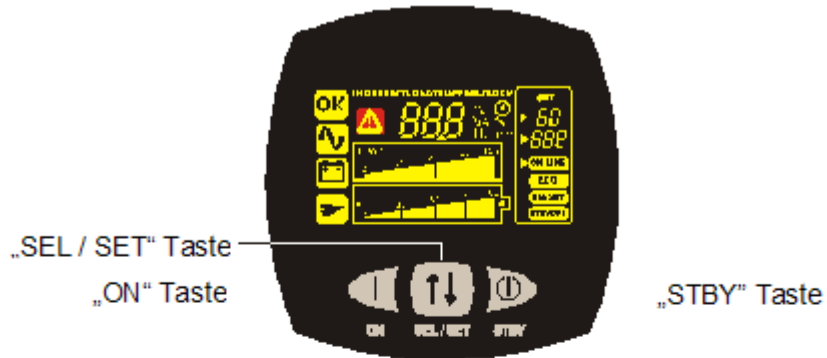
software				
network version of PowerShield2 Shutdown-Software for Windows NT/2000/XP/3000, Vista, Novell, UNIX and Linux system software			X	



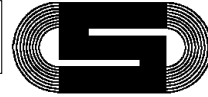
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display proTECTO D 6500 TM – 10000 TM

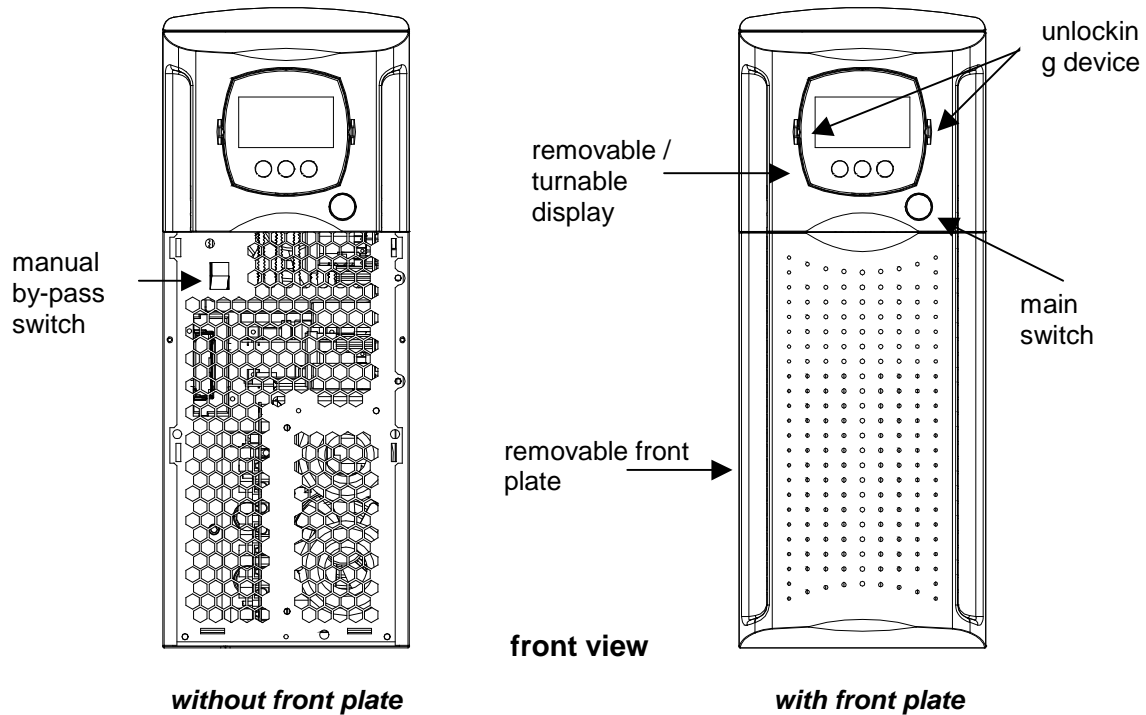


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|-------------------------------|--------------------|
| ① normal operation | ⑩ measured value |
| ② mains operation | ⑪ stand-by / alarm |
| ③ battery operation | |
| ④ bypass operation | |
| ⑤ status of the load | |
| ⑥ display for state of charge | |
| ⑦ operation mode | |
| ⑧ request of maintenance | |
| ⑨ Timer | |

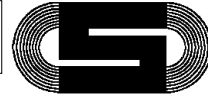


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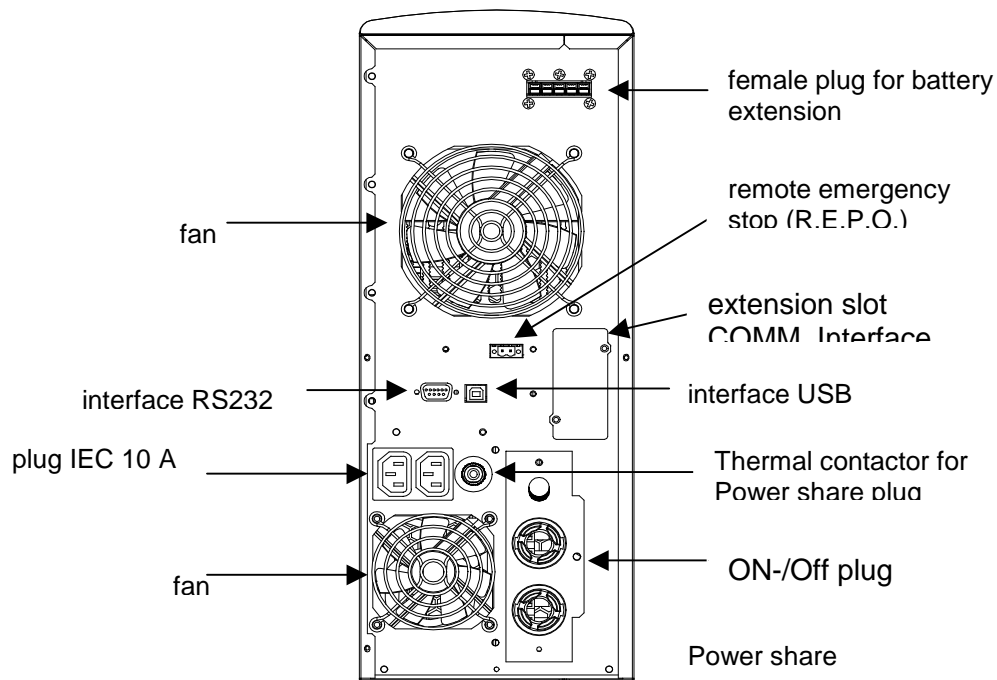
proTECTO D 6500 TM till 10000 TM

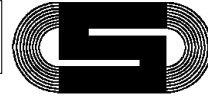


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rear view





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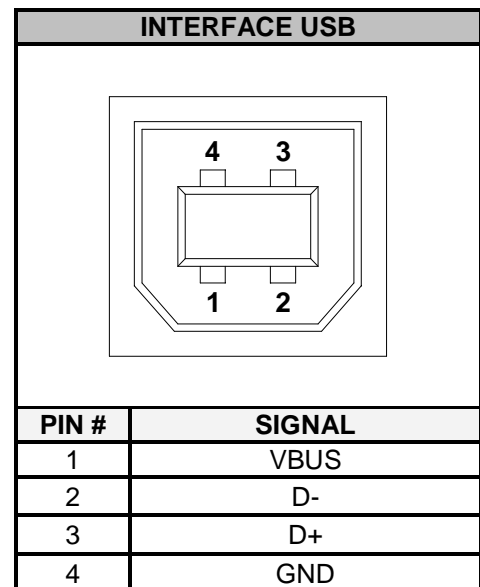
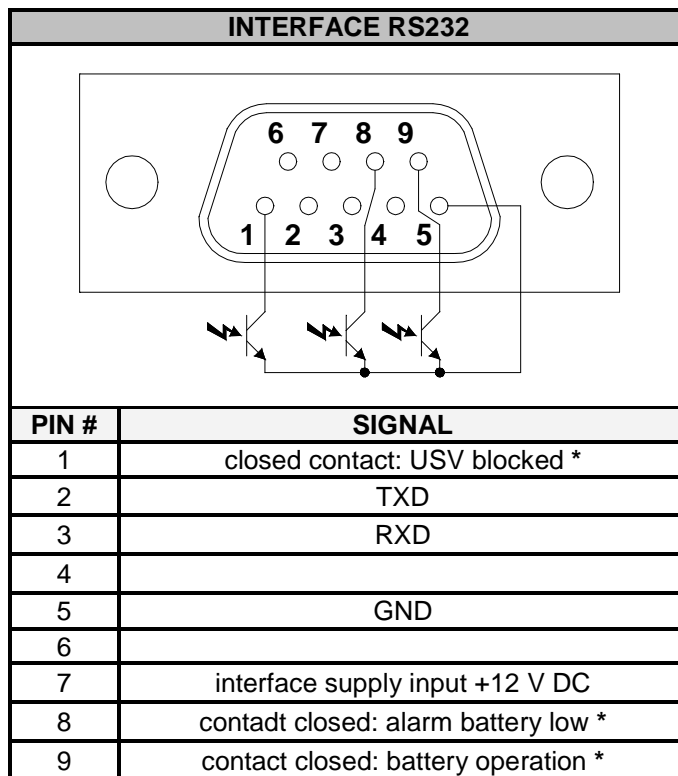
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interfaces proTECTO D 6500 TM – 10000 TM

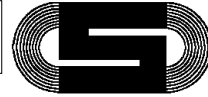
On the rear side of the UPS (see view *UPS*) the following communication interfaces are present:

- interface RS232
- interface USB
- extension slot for additional interface cards COMMUNICATION SLOT

interface RS232 and USB



* optoisolated contact max. +30Vdc / 10mA



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communication slot

The UPS includes an extension slot for optional communication cards (see picture beside), which enables the unit to communicate by using the main communication standards.

Some examples:

- second interface RS232
- serial interface doubler
- Ethernet mains agent with TCP/IP, HTTP and SNMP journal
- interface RS232 + RS485 with JBUS / MODBUS journal

