

ADA SERIES

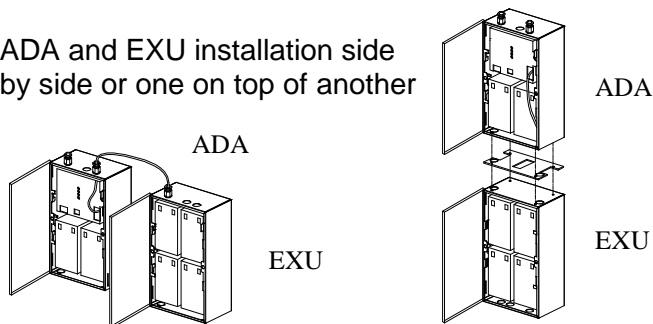
Battery back-up power supplies 12/24/48VDC



- 12/24/48VDC • Compact size • Easy to install • Safe construction • EMC EN55022B
- Temperature compensation • Deep discharge protection • Power fail signal
- Mains connection with plug or screw terminal • 15A output MCB • Optional tamper switch

More battery capacity available with EXU extra battery unit

ADA and EXU installation side by side or one on top of another



POWER SUPPLIES WITH BATTERY BACK-UP						
Type	Available <u>x</u> selection codes (others on request)	Input Voltage	Nominal Output Voltage	Output Current	Battery Capacity	Installation / dimensions (Width x Height x Depth)
ADA473 <u>x</u>	<u>x</u> = 0	230 VAC	12 VDC	10 A	14 Ah	Wall / 188 x 317 x 110mm
ADA474 <u>x</u>	<u>x</u> = 0, 2, 3	230 VAC	24 VDC	5 A	7 Ah	Wall / 188 x 317 x 110mm
ADA498 <u>x</u>	<u>x</u> = 0, 2, 3	230 VAC	24 VDC	10 A	7 Ah	Wall / 188 x 317 x 110mm
ADA457 <u>x</u>	On request	230 VAC	48 VDC	2.5 A	2 Ah	Wall / 188 x 317 x 110mm
ADA499 <u>x</u>	On request	230 VAC	48 VDC	5 A	2 Ah	Wall / 188 x 317 x 110mm
EXU708 <u>x</u>	On request	External battery unit 12VDC 28Ah				Wall / 188 x 317 x 110mm
EXU709 <u>x</u>	On request	External battery unit 24VDC 14Ah				Wall / 188 x 317 x 110mm
EXU710 <u>x</u>	On request	External battery unit 48VDC 7Ah				Wall / 188 x 317 x 110mm

x selection code: 0 = with batteries / without tamper switch 1 = without batteries / without tamper switch
 2 = with batteries / with tamper switch 3 = without batteries / with tamper switch

INPUT

Input voltage range	184...264 VAC		
Frequency	45...65Hz		
Efficiency ($U_{in} = 230$ VAC, 100% load)	ADA473x / 85%, ADA474x / 87%, ADA498x / 88% ADA457x / 87%, ADA499x / 89%		
Safety	EN 60950 Class 1		
Isolation:	input / ground	1500 VAC RMS 50Hz, 1min	
	input / output	3000 VAC RMS 50Hz, 1min	
	output / ground	500 VDC	
EMC	EN 55022 class B		
Inrush-current	Limited by 7R NTC-resistor		
Overvoltages	Protected by 275V 72J VDR-resistor		
Input fuse	T4A		
Approvals	CE-marking		

OUTPUT

	12 V	24 V	48V
Charging voltage (50% load)	13.7 V	27.3 V	54.6 V
Output adjustment (user adjustable)	11...15 V	23...29 V	45...58V
Minimum voltage (deep discharge protection)	10V±0.3V	20V±0.5V	40V±0.5V
Ripple voltage ($f = 20$ Hz...300kHz, $T_{amb} = 25^{\circ}$ C)	<15mV _{rms}	<15mV _{rms}	<15mV _{rms}
Load regulation ($I_{out} = 10...100\%$)	± 1.5 %	± 1 %	± 0.5 %
Line regulation ($U_{inmin}...U_{inmax}$)	± 0.1 %	± 0.1 %	± 0.1 %
Output current, charger	10 A	5 A, 10 A	2.5 A, 5 A
Current limit, charger	< 11 A	< 6 A, < 11A	< 3 A, < 6 A
Short circuit current limiting, charger + battery	circuit breaker 15A		

BATTERY BACK-UP

	12 V	24 V	48V
Battery capacity	14Ah	7Ah	2Ah
Battery type Genesis / Yuasa	NP 7-12 7Ah 12V	NP 7-12 7Ah 12V	NP 2-12 2Ah 12V
Battery back-up time (appr. values)	10A / 45min 2A / 5h	5A / 45min 1A / 5 h	2A / 25 min 0.5A / 2.5 h
Temperature compensation for battery	2k2 NTC-resistor		
Deep discharge protector for battery	release at 10V	release at 20V	release at 40V

INDICATIONS AND ALARMS

Charger output OK	Green LED is on
Power Fail (mains or module failure)	Potential free open and closing relay contacts; Relay 24VDC/0.3A or 30VAC/0.5A
Door open tamper switch (option)	Microswitch, open and closing contact

MECHANICS

Dimensions	See table on first page
Mounting	Wall / screw mounting
Weight	Without batteries < 3kg With batteries 12V/8kg, 24V/8kg, 48V/5kg
Locking of the cover	By tool (screwdriver)
Enclosure	Steel case IP21

ENVIRONMENTAL

Operation temperature	-40°C...+55 °C without batteries -20°C...+45 °C with standard batteries
Humidity	85% RH IEC68-2-30
Ventilation	Natural convection

CONNECTORS

Input	2.5mm ² 3-pole screw terminal (L-N-PE) Inlet through the cover, 1.5m power cord included
Output	2.5 mm ² 9-pole screw terminal (+, -, Alarm, Battery) 2.5 mm ² 2-pole screw terminal (Door alarm) Inlet through the cover

ADA 19" SERIES

Battery back-up power supplies 24VDC, 48VDC 250W



DC UPS system in one compact module

- Charging unit, batteries and alarm functions included in same enclosure
- 19" 3U rack mounting
- Connection for external battery
- Mains terminal IEC320
- Output connection by screw terminals



Intelligent control and monitoring features

- Mains failure
- Battery test, remote test automatic or manual and local manual test
- Charger fail, charger output low / high alarm
- Battery alarm
- Output over voltage protection
- Temperature compensation
- Deep discharge protection

Led indications:

- Battery test
- Battery operation (=mains OFF)
- Battery alarm
- Charger OK

POWER SUPPLIES WITH BATTERY BACK-UP						
Type	Available \underline{x} selection codes (others on request)	Input Voltage	Nominal Output Voltage	Output Current	Battery Capacity	Installation / dimensions (Width x Height x Depth)
ADA713 \underline{x}	$\underline{x} = 0$	230 VAC	24 VDC	10 A	14 Ah	19" 3U / 482 x 133 x 180mm
ADA714 \underline{x}	$\underline{x} = 0, 1$	230 VAC	48 VDC	5 A	7 Ah	19" 3U / 482 x 133 x 180mm
70130751	Mains power cord 2.5m					

\underline{x} selection code: 0 = with batteries 1 = without batteries

BATTERY TEST SOFTWARE VERSIONS	
Type	Description
713B0v01	Standard version for 24V. Batteries are tested automatically every three months. 1.0 Ah capacity is discharged during the test.
714B1v09	Standard version for 48V. Batteries are tested automatically every three months. 1.0 Ah capacity is discharged during the test.
714B0v12	Optional quick test for 48V. Test is started manually or by remote +5V signal. 10mAh capacity is discharged during the test

All versions also include the possibility for local manual test by pressing the button in the front panel.

Optional software versions can be re-programmed.

INPUT

Voltage	184...264VAC
Frequency	45...65Hz
Power factor	>0.5
Efficiency ($U_{in} = 230VAC$, $I_{out} = 5A$)	48V models >89%, 24V models > 87%
Safety	According to EN60950, Class I
Hold up time without batteries ($U_{in} = 230VAC$, $P_{out} = 250W$)	>10ms
Isolation	
- Input / ground	1500VAC RMS 50Hz, 1min
- Input / outputs	3000VAC RMS 50Hz, 1min
- Output / ground	500VDC
Inrush current protection	Limited by NTC 7R 5A
Over voltage protection	VDR 275 VAC 72J
Input current protection	Fuse T4A, high breaking

EMC

Radio interference	EN55022, class B
Electrostatic discharge immunity	EN 61000-4-2, 8kV air / 4kV contact
Radiated electromagnetic field immunity, AM	EN 61000-4-3 (ENV 50140), 10V/m
Radiated electromagnetic field immunity, pulse modulated	ENV 50204, 10V/m
Electrical fast transient immunity	EN 61000-4-4, 2kV / 1kV
Surge immunity	EN 61000-4-5, 4kV / 2kV
RF common mode immunity	EN 61000-4-6 (ENV 50141) 10V
Power Frequency Magnetic Field	EN 61000-4-8, 30A
PQT immunity	EN 61000-4-11
Approvals	CE marked

OUTPUT 54.6V 5A 250W

	24VDC	48VDC
Nominal output voltage	24VDC	48VDC
Factory setting (50% load)	27.3VDC	54.6VDC
Adjustment range (typical), access through the cover	21.5...29.5 VDC	48.0...59.0VDC
Ripple voltage ($f = 20Hz...300kHz$, $T_{amb} = 25^{\circ}C$)	< 15mV _{rms}	< 15mV _{rms}
Load regulation ($I_{out} = 0...100%$)	< 1.1 %	< 0.4 %
Line regulation ($U_{inmin}...U_{inmax}$)	< 0.02 %	< 0.02 %
Temperature coefficient	< 0.02 % / °C	< 0.02 % / °C
Output current	10A	5A
Current limit	<11A	< 6A

MECHANICAL SPECIFICATIONS

Dimensions	Width 19" Height 3U Depth 180mm excluding the front panel handles and mating connectors on the rear panel.
Weight	5 kg without batteries (15.4 kg including batteries)
Enclosure	Steel / Aluminum cabinet, IP20

ENVIRONMENTAL

Temperature range	Storage Operation	-40°C...+85 °C without batteries -40°C...+55 °C without batteries -20°C...+45 °C with batteries
Humidity		85% RH IEC68-2-30
Cooling		Natural convection
Vibration & shocks		ETS 300 019-2-4, class 4M5

CONNECTION

Input	IEC 320 on the rear panel
Output	12-pole PCB mounting terminal block, R 5.08mm
1 - OUTPUT +	
2 - OUTPUT +	
3 - OUTPUT -	
4 - OUTPUT -	
5 - RELAY 1 (CHARGER OK), NO	
6 - RELAY 1 (CHARGER OK), NC	
7 - RELAY 1 (CHARGER OK), COM	
8 - SIGNAL 1 (CHARGER OK)	
9 - BATTERY TEST INPUT	
10 - SIGNAL 2 (BATTERY ALARM)	
11 - RELAY 2 (BATTERY ALARM), COM	
12 - RELAY 2 (BATTERY ALARM), NO	

External batteries

1 - OUTPUT +	3-pole PCB mounting terminal block, R 5.08mm
2 - NC	
3 - OUTPUT -	