

# Power supply unit 10 A, DIN rail

77 3410 00



## General description

Power supply unit for supplying the nurse call system with safety extra-low voltage SELV.

The number of rooms or individual components, that can be connected, is project specific.

2x MOPP acc. to EN 60601-1.

EMC tested acc. to EN 60601-1-2.

Wide range input for international use. Short-circuit and overload protected.

DC ok LED and DC ok relay contact for further fault processing.

Designed for the installation onto a 35 mm DIN rail in an enclosure providing protection against electrical, mechanical and fire hazards. The power supply unit is designed for convection cooling and does not require an external fan.

## Technical data

### Input

Nominal voltage: 100 – 240 V AC  
(-15%/+10%)

Input frequency: 50 – 60 Hz  $\pm$ 6%

### Output

Nominal current: 10 A

Nominal voltage: 24 V DC

Adjustment range: 24 – 28 V DC

Output power: 240 W

### Conformities

Safety: EN 60601-1:2006+A1:2013  
CE marked acc. to: 2014/35/EU, 2014/30/EU,  
2014/34/EU, 2011/65/EU

Fulfilled standards:  
EN 60601-1; EN 61000-6-1;  
EN 61000-6-2; EN 61000-6-3;  
EN 61000-6-4;  
EN IEC 63000

Testing voltage: PRI – SEC: 4 kV

Class of protection: Class I (acc. EN 61140)

Ingress protection code: IP20

### Connections

Input, output: Quick-connect spring clamp terminals

DC ok signal: Push-in terminals

### Permissible ambient conditions

Ambient temperature: -25 to +70 °C

Relative humidity: 5 to 95% (non-condensing)

Pollution degree: 2 (No condensation or frost is allowed.)

### General

MTBF SN 29500: 661.000 h at 10 A, +40 °C

Weight: 620 g

Dimensions (HxWxD): 124 x 39 x 117 mm

# Power supply unit 10 A, DIN rail

77 3410 00

- Page 2 -



Order no.	Product name	Note
77 3410 00	Power supply unit 10A, DIN rail	
<b>Wall mounting cabinets, suitable for the installation of devices of the modular power supply, order if required:</b>		
77 3510 06	10" Wall mounting cabinet, 6U, GD	see appendix "Accessories"
77 3519 07	19" Wall mounting cabinet, 7U, GD	see appendix "Accessories"
77 3519 12	19" Wall mounting cabinet, 12U, GD	see appendix "Accessories"
<b>Equipment support for the installation of devices into wall mounting cabinets, order if required:</b>		
76 0900 01	19" Mounting set	see appendix "Accessories"
76 0900 02	Mounting set for 10" wall mounting cabinet	see appendix "Accessories"

# Power supply unit 5 A, DIN rail

**77 3410 50**



*(Image similar)*

## General description

Power supply unit for supplying the nurse call system with safety extra-low voltage SELV.

The number of rooms or individual components, that can be connected, is project specific.

2x MOPP acc. to EN 60601-1.

EMC tested acc. to EN 60601-1-2.

Wide range input for international use. Short-circuit and overload protected.

DC ok LED and DC ok relay contact for further fault processing.

Designed for the installation onto a 35 mm DIN rail in an enclosure providing protection against electrical, mechanical and fire hazards. The power supply unit is designed for convection cooling and does not require an external fan.

## Technical data

### Input

Nominal voltage: 100 – 240 V AC (-15%/+10%)  
Input frequency: 50 – 60 Hz ±6%

### Output

Nominal current: 5.0 – 4.3A  
Nominal voltage: 24 V DC  
Adjustment range: 24 – 28 V DC

### Conformities

Safety: EN 60601-1:2006+A1:2013  
CE marked acc. to: 2014/35/EU, 2014/30/EU, 2014/34/EU, 2011/65/EU

Fulfilled standards: EN 60601-1; EN 61000-6-1; EN 61000-6-2; EN 61000-6-3; EN 61000-6-4; EN IEC 63000

Testing voltage: PRI – SEC: 4 kV

Class of protection: Class I (acc. to EN 61140)

Ingress protection code: IP20

### Connections

Input, output: Quick-connect spring clamp terminals

DC ok signal: Push-In-Terminals

### Permissible ambient conditions

Ambient temperature: -25 to +60 °C

Relative humidity: 5 bis 95% (non-condensing)

Pollution degree: 2 (No condensation or frost is allowed.)

### General

MTBF SN 29500: 867.000 h at 5 A, +40 °C

Weight: 440 g

Dimensions (HxWxD): 124 x 32 x 102 mm

# Power supply unit 5 A, DIN rail

77 3410 50

- Page 2 -



(Image similar)

Order no.	Product name	Note
77 3410 50	Power supply unit 5A, DIN rail	
<b>Wall mounting cabinets, suitable for the installation of devices of the modular power supply, order if required:</b>		
77 3510 06	10" Wall mounting cabinet, 6U, GD	see appendix "Accessories"
77 3519 07	19" Wall mounting cabinet, 7U, GD	see appendix "Accessories"
77 3519 12	19" Wall mounting cabinet, 12U, GD	see appendix "Accessories"
<b>Equipment support for the installation of devices into wall mounting cabinets, order if required:</b>		
76 0900 01	19" Mounting set	see appendix "Accessories"
76 0900 02	Mounting set for 10" wall mounting cabinet	see appendix "Accessories"

# UPS Control unit 10A

for power supply units, order no. 77 3410 xx

**77 3411 00**



## General description

UPS control unit used in combination with a 24 V DC power supply unit and an external 12 V battery to bridge power failures. When the power supply voltage fails, the energy stored in the battery is released to the load in a regulated process.

Use with power supply unit 10A, DIN rail (order no. 77 3410 00) and battery module (order no. 77 3412 00) for uninterrupted operation with 60 minutes backup power supply at 80% load.

Use with power supply unit 5A, DIN rail (order no. 77 3410 50) and battery module (order no. 77 3412 00) for uninterrupted operation with 150 minutes backup power supply at 80% load.

Superior battery management for charging and monitoring of the external battery as well as a stable output voltage over the entire period of battery operation.

Comprehensive diagnostic and monitoring functions; "replace battery" signal included.

Short-circuit and overload protected.

Designed for the installation onto a 35 mm DIN rail in an enclosure providing protection against electrical, mechanical and fire hazards. The device is designed for convection cooling and does not require an external fan.

## Technical data

### Input

Nominal voltage: 24 V DC (-20%/+25%)

### Output in mains operation

Output current: nom. 15 A

Output power: nom. 360 W

Output voltage: Input voltage minus 230 mV (at 10 A load)

### Output in battery operation

Output current: 10 A

Output voltage: 22.25 V DC (at 10 A load)

Battery voltage: nom. 12 V DC

Bridging time with power supply unit 10A, DIN rail (77 3410 00) and battery module (77 3412 00):

- at nominal current

10A: typ. 55 minutes

- at 80% load: typ. 60 minutes

Bridging time with power supply unit 5A, DIN rail (77 3410 50) and battery module (77 3412 00):

- at nominal current 5A: typ. 130 minutes

- at 80% load: typ. 150 minutes

Battery charging time: typ. 17 hours

### Conformities

CE marked acc. to: 2014/30/EU, 2014/34/EU, 2011/65/EU

Fulfilled standards: EN 61000-6-3; EN 61000-6-4; EN 61000-6-2; EN 61000-6-1; EN 60079-0; EN 60079-7; EN 60079-15; EN IEC 63000

Class of protection: Class III (acc. to EN 61140)

Ingress protection code: IP20

# UPS Control unit 10A

for power supply units, order no. 77 3410 xx

**77 3411 00**



### Connections

Input, output, battery: Quick-connect spring clamp terminals

Signal connection: Screw terminals

### Permissible ambient conditions

Ambient temperature: -25 to +70 °C

Relative humidity: 5 to 95% (non-condensing)

Pollution degree: 2 (No condensation or frost is allowed)

### General

Power reserves: 50%

MTBF SN 29500: 886,000 h at 10 A, +40 °C

Weight: 530 g

Dimensions (HxWxD): 124 x 49 x 117 mm

Order no.	Product name	Note
77 3411 00	UPS Control unit 10A	
<b>Required accessories, order separately:</b>		
76 0900 04	DIN rail raiser HAGER HYA036	see appendix "Accessories". 1 DIN rail raiser required per UPS control unit.

# Battery module

for UPS control unit 10A (77 3411 00)

**77 3412 00**



## General description

Module incl. battery, mounting bracket, wiring and fuse, which is used in combination with a 24V DC power supply unit and a UPS control unit 10A (order no. 77 3411 00) to bridge power failures.

Use with power supply unit 10A, DIN rail (order no. 77 3410 00) and UPS control unit 10A (order no. 77 3411 00) for uninterrupted operation with 60 minutes backup power supply at 80% load.

Use with power supply unit 5A, DIN rail (order no. 77 3410 50) and UPS control unit 10A (order no. 77 3411 00) for uninterrupted operation with 150 minutes backup power supply at 80% load.

Long life battery: 10 to 12 years acc. to EUROBAT. In a typical application it is recommended to replace the batteries at least every 5 years.

Low space requirement. Easy access to the terminals and the fuse. Heavy duty fuse holder and spare fuse included

Designed for the installation inside an enclosure providing protection against electrical, mechanical and fire hazards. Ensure sufficient ventilation by following

the requirements of the EN 62485-2.

## Technical data

### Battery characteristics

Battery type:	VRLA, lead acid
Battery voltage:	12 V DC
Battery capacity:	approx. 26 Ah
Battery current:	max. 30 A for discharging max. 5.5 A for charging
Self-discharge rate:	3% per month at 20 °C
Battery fuse:	30 A (ATOF)

### Conformities

CE marked acc. to:	2014/30/EU; 2014/34/EU; 2011/65/EU (excluding battery)
Fulfilled standards:	EN 61000-6-3; EN 61000-6-4; EN 61000-6-2; EN 61000-6-1; EN 60079-0; EN 60079-7; EN 60079-15; EN IEC 63000
Class of protection:	Class III (acc. to EN 61140)
Ingress protection code:	IP00

### Permissible ambient conditions

Ambient temperature:	
- for charging:	-10 to +50 °C
- for discharging:	-15 to +60 °C
- for transport and storage:	-20 to +50 °C (performance and lifetime might change for storage at temperatures higher than 25 °C)
Relative humidity:	5 to 95% (non-condensing)
Pollution degree:	2 (No condensation or frost is allowed.)

### Allgemein

Dimensions (HxWxD):	179 x 214 x 158 mm
Weight:	10.1 kg (incl. battery)
Connection:	Screw terminals

Order no.	Product name	Note
77 3412 00	Battery module	

# DC-UPS with capacitor storage 24V, 6kWs

for power supply units, order no. 77 3410 xx

**77 3413 00**



## General description

DC-UPS with built-in storage capacitors, which is used in combination with a 24V power supply unit to bridge short-term power failures or voltage fluctuations. When the power supply voltage fails, the energy stored in the capacitors is released to the load in a regulated process. Suitable for nurse call systems with a central UPS mains supply.

Use with power supply unit 10A, DIN rail (order no. 77 3410 00) for short-term uninterrupted operation with 16.5 seconds backup supply.

Use with power supply unit 5A, DIN rail (order no. 77 3410 50) for short-term uninterrupted operation with 39 seconds backup supply.

Maintenance-free DC-UPS with electrochemical double layer capacitors (EDLC). Typically >10 years operational lifetime expectancy.

Comprehensive diagnostic and monitoring functions.

Short-circuit and overload protected.

Designed for the installation onto a 35 mm DIN rail in an enclosure providing protection against electrical, mechanical and fire hazards. The device is designed for convection cooling and does not require an external fan.

## Technical data

### Input

Nominal voltage: 24 V DC (-20%/+25%)

### Output in power supply mode

Output current: nom. 15 A

Output power: nom. 360 W

Output voltage: Input voltage minus 230 mV (at 10 A load)

### Output in buffer mode

Output current: max. 15 A

Output voltage: 22.25 V DC (at 10 A Last)

Buffer time at nominal current 10A: typ. 16.5 seconds

Buffer time at nominal current 5A: typ. 39 seconds

Charging time, when capacitor is completely discharged: typ. 16 minutes

Charging time after discharging with 5A until buffering stops: typ. 4,5 minutes

### Conformities

CE marked acc. to: 2014/30/EU, 2014/34/EU, 2011/65/EU

Fulfilled standards: EN 61000-6-3; EN 61000-6-4; EN 61000-6-2; EN 61000-6-1; EN 60079-0; EN 60079-7; EN 60079-15; EN IEC 63000

Class of protection: Class III (acc. to EN 61140)

Ingress protection code: IP20

### Connections

Input, output: quick-connect spring-clamp terminals

Signal connection: pluggable spring-clap terminals



# DC-UPS with capacitor storage 24V, 6kWs

for power supply units, order no. 77 3410 xx

**77 3413 00**

**- Page 2 -**



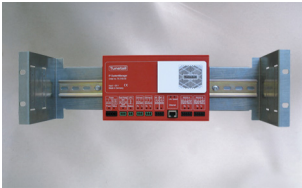
### Permissible ambient conditions

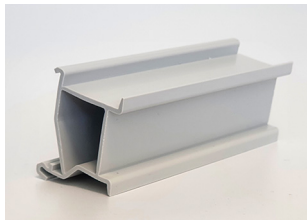
Ambient temperature: -40 to +60 °C  
 Relative humidity: 5 to 95% (non-condensing)  
 Pollution degree: 2 (No condensation or frost is allowed.)

### General

Power reserve: 50%  
 MTBF SN 29500: 899.000 h at 10 A, +40 °C  
 Weight: 1150 g  
 Dimensions (HxWxD): 124 x 126 x 117 mm

Order no.	Product name	Note
77 3413 00	DC-UPS with capacitor storage 24V, 6kWs	
<b>Required accessories, order separately:</b>		
76 0900 04	DIN rail raiser HAGER HYA036	see appendix "Accessories". 2 DIN rail raisers required per DC-UPS.

Specification	Order no.	
<p><b>19" Mounting set</b></p> <p>Mounting set for the installation of power supply modules or control units of the nurse call system in a 19" system cabinet or a 19" wall mounting cabinet. Width of the top hat rail: 425 mm.</p> <p>Sheet steel frame with pre-mounted top-hat rail and front cover. Integrated cable catch, strain relief and necessary accessories are included.</p> <p><i>Dimensions (HxWxD): 132,5 x 482,6 x 180 mm</i></p> <p><i>Mounting type: 19", 3 U</i></p> <p><i>Zinc-coated frame, red front cover.</i></p> <p><i>Frame material: Zinc-coated sheet steel</i></p> <p><i>Top-hat rail: TS 35/7.5, width: 425 mm</i></p>	<p>76 0900 01</p>	 <p>IP-SystemManager not included in scope of delivery</p>

Specification	Order no.	
<p><b>Mounting set for 10" wall mounting cabinet</b></p> <p>Mounting set for the installation of power supply modules or control units of the nurse call system in a 10" wall mounting cabinet. Width of the top hat rail: 203 mm.</p> <p>Sheet steel frame with pre-mounted top-hat rail. Integrated cable catch, strain relief and necessary accessories are included.</p> <p><i>Dimensions (HxWxD): 132,5 x 260 x 180 mm</i>  <i>Mounting type: 10", 3 U</i>  <i>Frame material: Zinc-coated sheet steel</i>  <i>Top-hat rail: TS 35/7.5, width: 203 mm</i></p>	76 0900 02	
<p><b>DIN rail raiser HAGER HYA036</b>  <i>for insulated mounting of modular units</i></p> <p>Required accessory for insulated mounting of modular units, e.g. for UPS control unit 10A (order no. 77341100) or DC UPS with capacitor storage, 6kWs (order no. 77341300).</p> <ul style="list-style-type: none"> <li>• Length: 10.6 cm</li> <li>• Packing unit: 3 pieces</li> <li>• For insulated mounting, a distance of at least 1 cm to earthed parts must be maintained.</li> <li>• Max. 2 DIN rail raisers can be mounted in mounting set for 10" wall mounting cabinet (order no. 76 0900 02)</li> <li>• Max. 4 DIN rail raisers can be mounted in 19" mounting set (order no. 76 0900 01)</li> </ul> <p><i>Dimensions (HxWxD): 42 x 106 x 35 mm</i></p>	76 0900 04	
<p><b>Network isolator LAN</b></p> <p>External network isolator for galvanic network separation according to EN 60601-1.</p> <ul style="list-style-type: none"> <li>• Dielectric strength of signal and shielding: 5000 V</li> <li>• Operating mode: Continuous operation</li> <li>• Data throughput: 10/100/1000 Mbit/s</li> <li>• Ports: 2x RJ45</li> <li>• Network specifications: IEEE 802.3</li> <li>• Standards:            Safety: EN / IEC 60601-1 3rd            EMC: EN / IEC 60601-1-2</li> </ul> <p><i>Dimensions (HxWxD): 23 x 29 x 65 mm</i>  <i>Weight: approx. 50 g</i></p>	76 5000 00	