Blueline by mascot

POWER SUPPLIES
BATTERY CHARGERS

Quality since 1938

INTRODUCTION

Founded in 1938, Mascot was one of the radio manufacturing pioneers in Norway. The "Trollsuper" was our first radio. The manufacture of power supplies came out of the need for battery eliminators for our radios in the beginning of the 1960s. From day one, our focus has been on meeting our customers' demands, relentlessly finding ways to improve the quality of our products and develop innovative solutions for our customers.

CELEBRATING 80 YEARS IN BUSINESS

POWER SUPPLY 9320

TYPE 6820

TYPE 696

CHARGER MODELS 2541 AND 2241
FOR LA, LI-ION AND LFP BATTERIES

DC/DC CONVERTER MODEL 9260

DC/AC INVERTER MODEL 2286

MASCOT HQ FREDRIKSTAD

MASCOT TALLINN

MASCOT NINGBO

ALL AROUND THE WORLD

Today, Mascot is a leading manufacturer of power supplies and battery chargers. Our main offices are located in Fredrikstad, Norway. Production can either take place in our own facilities in Tallinn, Estonia or Ningbo in China. This flexibility is made to better serve our customers' needs for quality products at competitive prices and lead times. Mascot has been certified according to ISO 9001 since 1993.

New! Blueline by mascot

This new range of compact and lightweight power supplies and battery chargers feature:

- Universal input voltage (90-264VAC)
- Exchangeable AC and DC plugs on most models
- ECO-design compliance:
  Power S. : CoC Tier 2, DoE level VI, CEC, MEPS
- Approvals:
  - Medically certified
    Safety: EN 60601-1 ed. 3.1
    EMC: EN 60601-1-2 ed. 4
  - UL approved

CUSTOM DESIGN

In addition to our standard product range, we have broad experience in developing and manufacturing power supplies designed from our customers' own specifications. These can range from small modifications of existing standard models to entirely new units:

• CONNECTORS

• CHARGE PARAMETERS
• HOUSING / OPEN FRAME

TABLE OF CONTENT

ICONS

AC-X Exchange AC Plugs — Exchangeable AC plugs

MEDICAL — For medical use (EN/UL 60601-1)

DC-X Exchange DC Plugs — Exchangeable DC plugs

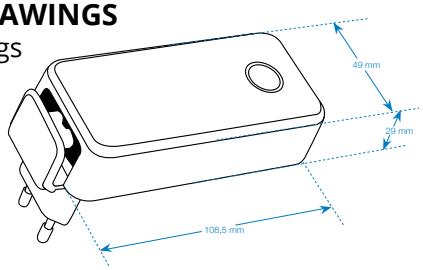
On request (dotted line)

IP67 — Waterproof

3-step — 3-step charge control

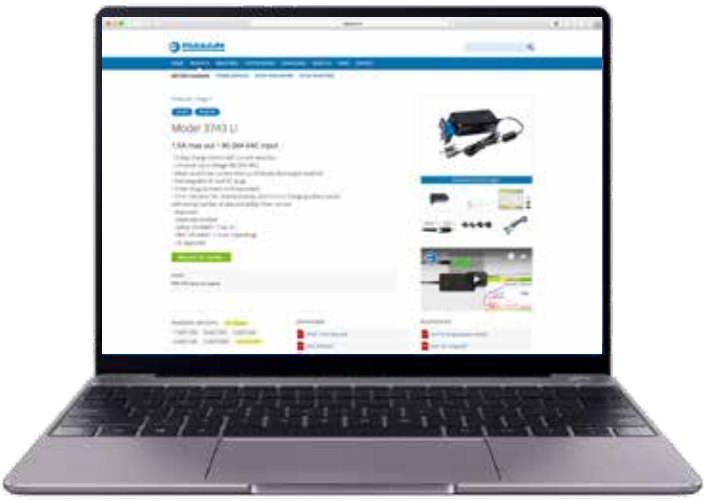
TECHNICAL DRAWINGS

Technical drawings are available on our website.



WWW.MASCOT.NO

For more detailed and updated information about our products, please visit our website. It's open around the clock!

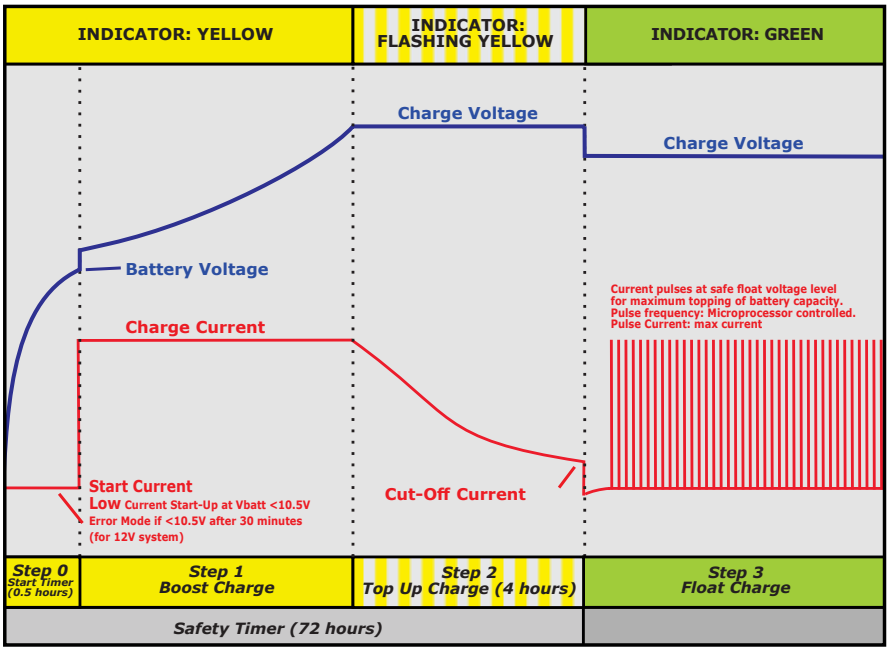


Lead Acid Battery Chargers

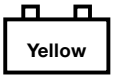
This new range of chargers for lead acid batteries uses a 3-stage charging profile with a microcontroller to maximise battery performance. They are also capable of waking up deeply discharged batteries and soft-start charging with low current until voltage is normalized. The chargers are medically certified according to EN 60601-1 edition 3.1 and EMC EN 60601-1-2 ed. 4 and are also UL-approved, and meet the latest DoE and CEC energy efficiency requirements.

Alternative chargers that terminate the charge on reaching the battery's threshold voltage can shorten charging time but always leave some capacity unfilled. The 3-stage charge control first restores the full battery voltage and then applies the saturation charge needed to fill the battery completely. This ensures the longest possible battery run-time. These chargers also feature a single 3-colour LED indicator light for charge, error or standby status.

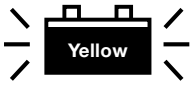
Below are the charging characteristics and LED indications



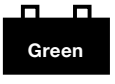
STEP 1 - BOOST CHARGE
LED-indicator: YELLOW
The charger is in constant current mode (CC), charging with the maximum current until battery voltage reach Top-Up level.



STEP 2 – TOP-UP CHARGE
The charger is in constant voltage mode. The LED-indication will be FLASHING YELLOW during Top-up charge. The charger stays in this mode until the charge current decreases to charge termination level or the Top-Up Charge Timer runs out. The battery is charged to its full capacity at the end of this step



STEP 3 – FLOAT CHARGE
The LED-indication on the charger is GREEN and the battery is fully charged.
The charger is in standby mode. The charge voltage is at standby level and the charger may remain connected to the battery. The charger will return to boost charge if the battery is used.



BATTERY NOT CONNECTED
Battery not connected is indicated by FLASHING GREEN. In this mode charger will apply short pulses attempting to wake up deeply discharged batteries.

ERROR INDICATIONS
2 red blinks: Battery is connected to charger with wrong polarity.
3 red blinks: Charger output is shorted. Check output cable connection.
4 red blinks: Charging of wrong lower voltage battery pack
will be limited to 100mA and terminated after 30min
5 red blinks: Safety timer has run out. Check battery status or capacity.
6 red blinks: Defect battery
LED off: Battery voltage is too high. Check battery voltage.

3743 LA Max. 1.5A

- 3-step charge control with current detection
- Universal input voltage (90-264 VAC)
- Wake up and low current start-up of deeply discharged batteries
- Error indication for reverse polarity, short circuit, charging of lower voltage batt., safety timer run-out
- Exchangeable AC and DC plugs
- Order plugs and mains cord separately
- ECO-design compliance: DoE and CEC
- Approvals:
  - Medically certified
    Safety: EN 60601-1 ed. 3.1
    EMC: EN 60601-1-2 ed. 4
  - UL approved

For updates: see www.mascot.no

TECHNICAL SPECIFICATIONS

GENERAL INPUT/OUTPUT

Input voltage:	90-264 VAC, 47 – 63Hz
Switch frequency:	56 kHz
Leakage current from batt. with mains switched off:	<0,3mA @ nom. batt. volt.
Temp. range:	
• **Operating:**	-25°C ± 40°C
• **Storage:**	-25°C ± 85°C
Input terminal:	2-pin IEC 60320 conn. C8
Output terminals:	DC conn., batt. clips, push on term. or open ends
IP-code:	41
Dim. (L×W×H):	108,5 × 49 × 29 mm
Weight:	150g

SAFETY PROTECTION EMC

Protection:	Against reversed polarity and short circuit
Insulation:	Class II
Insulation voltage:	Primary-secondary 4000VAC-5700VDC
Electrical safety std:	EN/IEC 60335-2-29, EN 60601-1-11, EN/IEC/ANSI 60601-1
EMC standards	
• **Medical:**	EN 60601-1-2
• **Emission:**	EN 55014-1, EN 61000-6-3
• **Immunity:**	EN 55014-2, EN 61000-6-1

VERSIONS

	Step 0 < 30 min	Step 0 > 30 min	Step 1	Step 2	Step 3	Float charge	Rec. batt. capacity
	(Yellow)	(Red=error)	(Yellow)	(Flash Yellow)	(Green)		
6V	100mA ± 0.25mA (batt volt< 5V)	0A/0V	1.5A ± 5% (batt volt > 5V) (until Vbat = 7.35V)	7.35V ± 0.1V (until I charge <0.4A or >4hr) tapering charge current	6.85V ± 0.1V (until I charge > 1.5A) supply current up to max 1.5A for possible parallel load	Pulsing current at safe float volt. level for max topp. of batt.	7.5-75Ah
12V	100mA ± 0.25mA (batt volt< 10.5V)	0A/0V	1A ± 5% (batt volt >10.5V) (til Vbat = 14.7V)	14.7V ± 0.1V (until I charge <0.25A or >4hr) tapering charge current	13.7V ± 0.2V (until I charge > 1A) supply current up to max. 1A for possible parallel load		5-50Ah
24V	100mA ± 0.25mA (batt volt< 21V)	0A/0V	0.56A ± 5% (batt volt< 21V) (until Vbat = 29.4V)	29.4V ± 0.1V (until I charge <0.15A or >4hr) tapering charge current	27.4V ± 0.2V (until I charge > 0.56A) supply current up to max 0.56A for possible parallel load		2.8-28Ah
48V	100mA ± 0.25mA (batt volt< 42V)	0A/0V	0.3A ± 5% (batt volt > 42V) (until Vbat = 58.8V)	58.8V ± 0.3V (until I charge <0.1A or >4hr) tapering charge current	54.8V ± 0.3V (until I charge > 0.3A) supply current up to max 0.3A for possible parallel load		1.5-15Ah

3546 LA Max. 2A

- 3-step charge control with current detection
- Universal input voltage (90-264 VAC)
- Wake up and low current start-up of deeply discharged batteries
- Error indication for reverse polarity, short circuit, charging of lower voltage batteries and safety timer run-out
- Temp. compensated charge voltage on request
- Order plugs and mains cord separately
- ECO-design compliance: DoE and CEC
- Approvals:
  - Medically certified
    Safety: EN 60601-1 ed. 3.1
    EMC: EN 60601-1-2 ed. 4
  - UL approved

For updates: see www.mascot.no

TECHNICAL SPECIFICATIONS

GENERAL INPUT/OUTPUT

Input voltage:	90-264 VAC
Line Frequency:	47 – 63Hz
Switch frequency, approx.:	40 kHz
Leakage current from batt. with mains switched off:	<0.3mA @ nominal battery voltage
Temperature range	
• **Operating:**	-25 °C - +40 °C
• **Storage:**	-25 °C - +85 °C
Ripple:	< 100 mV p-p
Input terminal:	2-pin IEC 60320 connector C8
Output terminals:	DC connector, battery clips, push on terminals or open ends
IP-code:	4X
Dimensions (L×W×H):	124 × 50 × 37 mm
Weight:	220g

SAFETY PROTECTION EMC

Protection:	Protected against reversed polarity and short circuit proof
Insulation class:	Class II
Insulation voltage	
Primary – secondary:	4000VAC / 5700VDC
Electrical safety std:	EN/IEC 60335-2-29, EN/IEC/ANSI 60601-1
EMC standards	
• **Medical**	EN 60601-1-2
• **Emission**	EN 55014-1, EN 61000-6-3
• **Immunity**	EN 55014-2, EN 61000-6-1

VERSIONS

	Step 0 < 30 min	Step 0 > 30 min	Step 1	Step 2	Step 3	Float charge
	(Yellow)	(Red=error)	(Yellow)	(Flash Yellow)	(Green)	
12V	100mA +- 0.25mA (batt volt< 10.5V)	0A/0V	2A ±0.1A (batt volt >10.5V) (until Vbat = 14.7V)	14.7V ± 0.2V (until I charge <0.5A or >4hr) tapering charge current	13.7V ± 0.2V (until I charge > 2.0A) supply current up to max. 2.0A for possible parallel load	Pulsing current at safe float volt. level for max topp. of batt.
24V	100mA ± 0.25mA (batt volt< 21V)	0A/0V	1A ± 0.1A (batt volt< 21V) (until Vbat = 29.4V)	29.4V ± 0.2V (until I charge <0.25A or >4hr) tapering charge current	27.4V ± 0.2V (until I charge > 1A) supply current up to max 1A for possible parallel load	

3540 LA Max. 294W

- 3-step charge control with current detection
- XLR output plug for wheelchairs and scooters available
- Input voltage 198-264 VAC
- Wake up and low current start-up of deeply discharged batteries
- Error indication for reverse polarity, charging of wrong lower voltage battery pack, defect battery and safety timer run-out
- Mounting bracket included
- ECO-design compliance: DoE and CEC
- Approvals:
  - Medically certified
    Safety: EN 60601-1 ed. 3.1
    EMC: EN 60601-1-2 ed. 4
  - UL approved

For updates: see www.mascot.no

TECHNICAL SPECIFICATIONS

GENERAL INPUT/OUTPUT

Input voltage:	198-264 VAC
Line Frequency:	47 – 50Hz
Switch frequency, approx.:	65 kHz
Leakage current from batt. with mains switched off:	<130µA @ 24V
Temperature range	
• **Operating:**	-25 °C - +40 °C
• **Storage:**	-25 °C - +65 °C
Temp. compensation of charge voltage	-3 to -4mV/°C pr. cell (w. batt. clips only)
Ripple:	< 100 mV p-p
Dimensions (L×W×H):	210 × 113 × 53 mm
Weight:	With mains cable 1400g With IEC60320 1150g

SAFETY PROTECTION EMC

Protection:	Protected against reversed polarity, short circuit proof and thermal run-off. Prevents sparking. Charge timer: 4h Safety timer: 72h
Insulation class:	Class II (Double insulated)
Insulation voltage	
Primary – secondary:	4000VAC / 5700VDC
Electrical safety std:	EN 60601
EMC standards	EN 60601-1-2:2015
Input terminal:	2-pin IEC 60320 or fixed mains cable
Output terminals:	XLR plug or cord with insulated battery clips and temp. sensor
IP-code:	IP44

VERSIONS

	Charge control (LED indication)						
	Step 0 < 30 min	Step 0 > 30 min	Step 1	Step 2	Step 3	Float charge	Restart
	(Yellow)	(Red=error)	(Yellow)	(Flash Yellow)	(Green)		
12V	2,4A ± 0,5A (batt. volt< 10,5A)	< 0A	20A ± 0,3A (batt. volt >10,5V) (to Vbat = 14,7V)	14,7V ± 0,1V (until I charge <2,4A or >4hr) tapering charge current	13,7V +- 0,1V (until I charge > 18A) supply current up to max 20A for possible parallel load	20V ± 01,V Pulsing curr. at safe float volt level for max. topping of batt. capacity	>18A or <13V in 10 sec
24V	1,4A ± 0,5A (batt. volt< 21V)		10A ± 0,3A (batt. volt >21V) (to Vbat = 29,4V)	29,4V ± 0,2V (until I charge <1,4A or >4hr) tapering charge current	27,4V ± 0,1V (until I charge > 8,5A) supply current up to max 10A for possible parallel load	27,4V ± 01,V Pulsing curr. at safe float volt level for max. topping of batt. capacity	>8,5A or <26V in 10 sec

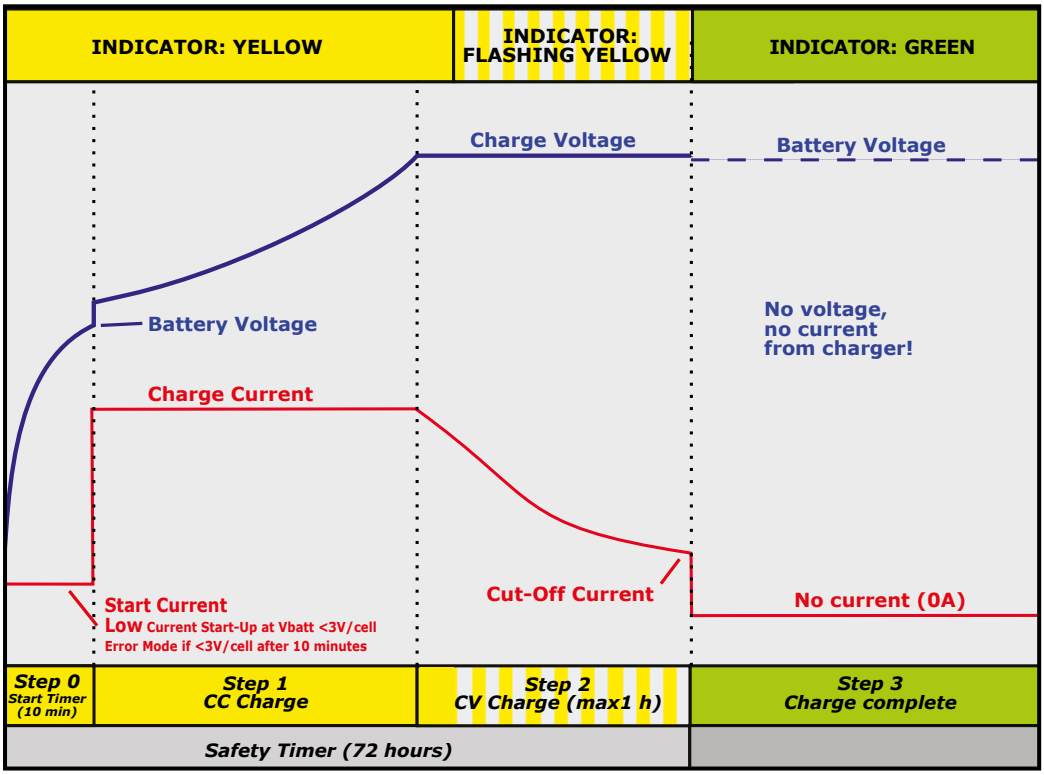
Li-Ion Battery Chargers

This new range of chargers for Li-Ion batteries uses a 3-stage charging profile with a microcontroller to maximise battery performance. They are also capable of waking up deeply discharged batteries and soft-start charging with low current until voltage is normalized. The new chargers are all medically certified according to EN 60601-1 edition 3.1 and EMC EN 60601-1-2 ed. 4 and are also UL-approved, and meet the latest DoE and CEC energy efficiency requirements.

Alternative chargers that terminate the charge on reaching the battery's threshold voltage can shorten charging time but always leave some capacity unfilled. The 3-stage charge control first restores the full battery voltage and then applies the saturation charge needed to fill the battery completely. This ensures the longest possible battery run-time. These chargers also features a single 3-colour LED indicator light for charge, error or standby status.

Below are shown the charging characteristics and LED indications

Charging characteristics and LED indication



BATTERY NOT CONNECTED INDICATIONS
Battery not connected is indicated by FLASHING GREEN. In this mode charger will apply short pulses attempting to wake up deeply discharged batteries.

ERROR INDICATIONS
2 red blinks: Battery is connected to charger with wrong polarity!
3 red blinks: Charger output is shorted. Check output cable connection!
4 red blinks: Battery voltage is low. Check battery status or voltage.
5 red blinks: Safety timer has run out. Check battery status or capacity.
LED off: Battery voltage is too high. Check battery voltage.

WAIT MODE INDICATIONS
Yellow with 1 red blink: Battery temperature is too low (<0°C)
Yellow with 2 red blink: Battery temperature is too high (>45°C)

3745 LI Max. 6,3W

3845 LI: Std plug-in housing

- 3-step adaptive charge control.
- Charge adapts to battery pack type, which is automatically identified.
- Order plugs (3845) and mains cord separately
- Automatic battery temperature monitoring and thermal control to prevent charge of cold/warm batteries.
- Universal input voltage. (90-264 VAC)
- Wake up and low current start-up of deeply discharged batteries.
- Error indication for reverse polarity, short circuit, charging battery packs with wrong number of cells and safety timer run-out.
- Approvals:
  - Medically certified
    Safety: EN 60601-1 ed. 3.1
    EMC: EN 60601-1-2 ed. 4
  - UL approved

For updates: see www.mascot.no

TECHNICAL SPECIFICATIONS 3745 LI

GENERAL INPUT/OUTPUT

Input voltage:	90-264 VAC
Line Frequency:	47 – 63Hz
Switch frequency, approx.:	55 kHz
Leakage current from batt. with mains switched off:	≈ 0A
Temperature range	
• **Operating:**	-25 °C - +40 °C
• **Storage:**	-25 °C - +85 °C
Ripple:	< 100 mV p-p
Dimensions (L×W×H):	115 × 56 × 35 mm
Weight:	175g

SAFETY PROTECTION EMC

Protection:	Protected against reversed polarity and short circuit proof.
Insulation class:	Class II
Insulation voltage	
Primary – secondary:	4000VAC / 5700VDC
Electrical safety std:	
• **Medical:**	EN/IEC/ANSI 60601-1
• **Household batt. charger:**	EN/IEC 60335-1 and -2-29
• **A/V and Comm. tech:**	EN/IEC/UL 62368-1 Replaces IEC 60950-1 and IEC 60065
EMC standards	
• **Generic:**	EN 61000-6-1 and -3
• **Medical:**	EN 60601-1-2
• **Household:**	EN 55014-1 and -2
• **Information tech.:**	EN 55022 and EN 55024
• **Multi media:**	EN 55032
Input terminals:	2-pin IEC 60320/C8
Output terminals:	Battery docking
IP-code:	4X

VERSIONS

CHARGE CONTROL		Step 0 (yellow)	Step 1 (yellow)	Step 2 (Flash yellow)	Step 3 (green)	
Battery Pack	**Max output power (W)**	**Low Current start-up for deeply discharged batt.**	**Charge Current**	**Charge Voltage**	**Charge termination when Ich:**	**Restart when Vbat**
EasyPack S	1.9W	CC 40mA±10mA when batt. < 3V	0.45A ±50mA	4.2V ±0.05V	< 25mA or max. 1 hr.	< 4.1V±0.05V
EasyPack L	3.6W	CC 55mA±15mA when batt. < 3V	0.85A ±0.1A		< 55mA or max. 1 hr.	
EasyPack XL	6.3W	CC 125mA±30mA when batt. < 3V	1.5A ±0.15A		< 125mA or max. 1 hr.	
EasyPack PLUS	6.3W	CC 200mA±50mA when batt. < 3V	1.5A ±0.15A		< 260mA or max. 1 hr.	

3743 LI Max. 16W

- 3-step charge control with current detection
- Universal input voltage (90-264 VAC)
- Wake up and low current start-up of deeply discharged batteries
- Error indication for reverse polarity, short circuit, charging battery packs with wrong number of cells and safety timer run-out
- With NTC input on request
- Order plugs and mains cord separately
- ECO-design compliance: DoE and CEC
- Approvals:
  - Medically certified
    Safety: EN 60601-1 ed. 3.1
    EMC: EN 60601-1-2 ed. 4
  - UL approved

For updates: see www.mascot.no

TECHNICAL SPECIFICATIONS

GENERAL INPUT/OUTPUT

Input voltage:	90-264 VAC
Line Frequency:	47 – 63Hz
Switch frequency, approx.:	56 kHz
Leakage current from batt. with mains switched off:	<0,3mA @ nominal battery voltage
Temperature range	
• Operating:	-25 °C - +40 °C
• Storage:	-25 °C - +85 °C
Ripple:	< 100 mV p-p
Dimensions (L×W×H):	108,5 × 49 × 29 mm
Weight:	150g

SAFETY PROTECTION EMC

Protection:	Protected against reversed polarity and short circuit proof
Insulation class:	Class II
Insulation voltage	
Primary – secondary:	4000VAC / 5700VDC
Electrical safety std:	EN/IEC 60335-2-29, EN 60601-1-11 EN/IEC/ANSI 60601-1
EMC standards	
• Medical	EN 60601-1-2
• Emission	EN 55014-1, EN 61000-6-3
• Immunity	EN 55014-2, EN 61000-6-1
Input terminal:	2-pin IEC 60320 connector C8
Output terminals:	DC connector, battery clips, push on terminals or open ends
IP-code:	41

VERSIONS

CHARGE CONTROL		Step 0 < 10min (yellow)	Step 0 > 10min (Red: 4 blinks)	Step 1 (yellow)	Step 2 (Flash yellow)	Step 3 (green)	
Cells	Max output power (W)	Low Current start-up for deeply discharged batt.	Battery voltage too low	Charge Current	Charge Voltage	Charge term when current is:	Restart
1	6W	CC 100mA±25mA when batt. < 3V	0A/0V	1.5A ±0.1A	4.2V ±0.1V	< 100mA or max. 1 hr.	4.1V
2	13W	CC 100mA±25mA when batt. < 6V		1.5A ±0.1A	8.4V ±0.1V		8.2V
3	15W	CC 100mA±25mA when batt. < 9V		1.2A ±0.1A	12.6V ±0.1V		12.3V
4	16W	CC 100mA±25mA when batt. < 12V		1.0A ±0.1A	16.8V ±0.1V		16.4V
5	16W	CC 100mA±25mA when batt. < 15V		0.8A ±0.1A	21V ±0.1V		20.5V
6	16W	CC 100mA±25mA when batt. < 18V		0.66A ±0.1A	25.2V ±0.1V		24.6V
7	17W	CC 100mA±25mA when batt. < 21V		0.56A ±0.1A	29.4V ±0.1V		28.7V
14	18W	CC 80mA±25mA when batt. < 42V		0.3A ±0.1A	58.8V ±0.1V	< 56mA or max. 1 hr.	57.4V

3546 LI Max. 28W

- 3-step charge control with current detection
- Universal input voltage (90-264 VAC)
- Wake up and low current start-up of deeply discharged batteries
- Error indication for reverse polarity, short circuit, charging battery packs with wrong number of cells and safety timer run-out
- With NTC input on request
- Order plugs and mains cord separately
- ECO-design compliance: DoE and CEC
- Approvals:
  - Medically certified
    Safety: EN 60601-1 ed. 3.1
    EMC: EN 60601-1-2 ed. 4
  - UL approved

For updates: see www.mascot.no

TECHNICAL SPECIFICATIONS

GENERAL INPUT/OUTPUT

Input voltage:	90-264 VAC
Line Frequency:	47 – 63Hz
Switch frequency, approx.:	40 kHz
Leakage current from batt. with mains switched off:	<0,4mA @ nominal battery voltage
Temperature range	
• **Operating:**	-25 °C - +40 °C
• **Storage:**	-25 °C - +85 °C
Ripple:	< 100 mV p-p
Dimensions (L×W×H):	124 × 50 × 37 mm
Weight:	220g

SAFETY PROTECTION EMC

Protection:	Protected against reversed polarity and short circuit proof
Insulation class:	Class II
Insulation voltage	
Primary – secondary:	4000VAC / 5700VDC
Electrical safety std:	EN/IEC 60335-2-29, EN/IEC/ANSI 60601-1
EMC standards	
• **Medical**	EN 60601-1-2
• **Emission**	EN 55014-1, EN 61000-6-3
• **Immunity**	EN 55014-2, EN 61000-6-1
Input terminal:	2-pin IEC 60320 connector C8
Output terminals:	DC connector, battery clips, push on terminals or open ends
IP-code:	4X

VERSIONS

CHARGE CONTROL		Step 0 < 10min (yellow)	Step 0 > 10min (Red: 4 blinks)	Step 1 (yellow)	Step 2 (Flash yellow)	Step 3 (green)	
Cells	Max output power (W)	Low Current start-up for deeply discharged batt.	Battery voltage too low	Charge Current	Charge Voltage	Charge term when current is:	Restart
2	23W	CC 100mA±25mA when batt. < 6V	0A/0V	2.5A ±0.3A	8.4V ±0.1V	< 100mA or max. 1 hr.	8.2V
3	28W	CC 100mA±25mA when batt. < 9V		2.2A ±0.2A	12.6V ±0.1V		12.3V
4	28W	CC 100mA±25mA when batt. < 12V		1.6A ±0.15A	16.8V ±0.1V		16.4V
7	29W	CC 100mA±25mA when batt. < 21V		1.0A ±0.1A	29.4V ±0.2V		28.7V
10	29W	CC 100mA±25mA when batt. < 30V		0.7A ±0.07A	42V ±0.3V		41V

3540 LI Max. 10A

- 3-step charge control with current detection
- Input voltage 198-264 VAC
- Wake up and low current start-up of deeply discharged batteries
- Error indication for reverse polarity, short circuit, charging of wrong (lower Voltage) battery pack, defect battery and safety timer run-out
- Mounting bracket included
- Approvals:
  - Medically certified EN 60601-1 3ed
  - UL Approved

For updates: see www.mascot.no

TECHNICAL SPECIFICATIONS

GENERAL INPUT/OUTPUT

Input voltage:	198-264 VAC
Line Frequency:	47 – 50Hz
Switch frequency, approx.:	65 kHz
Leakage current from batt. with mains switched off:	<170µA@29.2V
Temperature range	
• **Operating:**	-25 °C - +40 °C
• **Storage:**	-25 °C - +65 °C
Derating:	Approx. - 30 % at 40°C
Ripple:	< 100 mV p-p
Dimensions (L×W×H):	210 × 113 × 53 mm
Weight:	With mains cable 1400g With IEC60320 1150g

SAFETY PROTECTION EMC

Protection:	Short circuit proof and protected against reversed polarity and thermal run-off. Prevents sparking. Charge timer: (step 2): 1h Safety timer: 72h
Insulation class:	Class II (Double insulated)
Insulation voltage	
Primary – secondary:	4000VAC / 5700VDC
Electrical safety std:	EN 60601
EMC standards	EN 60601-1-2:2015
Input terminal:	2-pin IEC 60320 or fixed mains cable
Output terminals:	Cord with open ends
IP-code:	IP44 (IP41 with 2-pin IEC 60320)

VERSIONS

		Step 0 < 10min (yellow)	Step 0 > 10min (Red: 4 blinks)	Step 1 (yellow)	Step 2 (Flash yellow)	Step 3 (green)	
Cells	**Max output power (W)**	**Low Current start-up for deeply discharged batt.**	**Battery voltage too low**	**Charge Current**	**Charge Voltage**	**Charge term when current is:**	**Restart**
7	294W	CC 0.8A±0.4A when batt volt < 21V	0A/0V	10A +0/-0.3A	29.4V ±0.2V	< 0.8A or max. 1 hr.	28.7V ±0.1V

AC/DC Power Supplies

We power up a wide variety of industries and applications.

Medical
Mascot has been a supplier to the medical equipment industry for many years, providing power supply solutions to numerous companies. Our proven range of products meet international medical standards.

Safety and Security
We provide reliability and stability for a host of applications including remote CCTV monitoring.

Industrial
More and more industrial equipment is provided for companies with a global presence, hence flexible options like exchangeable AC adapters and international approvals (CB) are important factors for our customers.

3825 Max. 7.5 W

- Universal input voltage (90-264VAC)
- Fixed output voltages
- Fixed output cord, modular (RJ-11) or USB (5V)
- 2-pin IEC 60320 C8 connector
- Short circuit proof
- Exchangeable AC and DC plugs
- Order plugs and mains cord separately
- ECO-design compliance:
  CoC Tier 2, DoE level VI, CEC, MEPS
- Approvals:
  - Medically certified
    Safety: EN 60601-1 ed. 3.1
    EMC: EN 60601-1-2 ed. 4
  - UL approved

For updates: see www.mascot.no

TECHNICAL SPECIFICATIONS 12 V*

GENERAL INPUT/OUTPUT

Input voltage:	90-264 VAC, 47-63 Hz
Line frequency:	47 - 63 Hz
Load regulation:	< 1 %
Mains regulation:	< 0.5 %
Switch frequency approx.:	20-30 kHz
Overshoot:	
(90 - 10% load variation)	<300 mV
Undershoot:	
(10 - 90% load variation)	<300 mV
Temperature range	
• **Operating:**	-25 - +40°C
• **With derating:**	+ 60°C
• **Storage:**	-25 - +85°C
Derating:	180mW/°C over 40°C
Ripple:	< 120 mV p-p
Efficiency:	approx. 80.5 % at full load
Standby power:	≤ 0,075 W
Dimensions (L×W×H):	85 × 48 × 28mm
Weight:	75g

SAFETY PROTECTION EMC

Insulation class:	II
Insulation voltage	
Primary - secondary:	4000 VAC / 5700 VDC
Electrical safety std:	EN/IEC/ANSI 60601-1
EMC standards	
• **Medical:**	EN 60601-1-2
• **Emission:**	EN 61000-6-3
• **Immunity:**	EN 61000-6-1
Input terminal:	Exch. AC plugs, 2 pin IEC 320 C8 conn.
Output terminal:	USB, Modular (RJ-11) Cord with/without plug, exch. plugs available

*** Some technical specifications may differ for other voltage versions.**

VERSIONS

Output (V) +/- 5%	Max. current (A)	Max. output power (W)
5	1	5
12	0.6	7.2

3823 Max. 16 W

- Universal input voltage (90-264VAC)
- Fixed output voltages
- 2-pin IEC 60320 C8 connector
- Short circuit proof
- Exchangeable AC and DC plugs
- Order plugs and mains cord separately
- ECO-design compliance:
  CoC Tier 2, DoE level VI, CEC, MEPS
- Approvals:
  - Medically certified
    Safety: EN 60601-1 ed. 3.1
    EMC: EN 60601-1-2 ed. 4
  - UL approved

For updates: see www.mascot.no

MEDICAL | AC-X Exchange AC Plugs | DC-X Exchange DC Plugs

TECHNICAL SPECIFICATIONS *

GENERAL INPUT/OUTPUT

Input voltage:	90-264 VAC, 47-63 Hz
Line frequency:	47 - 63 Hz
Load regulation:	< 4 %
Mains regulation:	< 2 %
Switch frequency approx.:	65 kHz
Overshoot:	
(90 - 10% load variation)	<250 mV
Undershoot:	
(10 - 90% load variation)	<350 mV
Temperature range	
• **Operating:**	-20 - +40°C
• **With derating:**	+ 60°C
• **Storage:**	-25 - +85°C
Derating:	0,38W/°C over 40°C
Ripple:	< 300 mV p-p
Efficiency:	approx. 87 % at full load
Standby power:	≤ 0,075 W
Dimensions (L×W×H):	85 × 50 × 29mm
Weight:	130g

SAFETY PROTECTION EMC

Insulation class:	II
Insulation voltage	
Primary - secondary:	4000 VAC / 5700 VDC
Electrical safety std:	EN/IEC/ANSI 60601-1
EMC standards	
• **Medical:**	EN 60601-1-2
• **Emission:**	EN 61000-6-3
• **Immunity:**	EN 61000-6-1
Input terminal:	Exch. AC plugs, 2 pin IEC 320 C8 conn.
Output terminal:	Cord with/without plug, exch. plugs available

*** Some technical specifications may differ for other voltage versions.**

VERSIONS

Output (V) +/- 2,5%	Max. current (A)	Max. output power (W)
5	2.4	12
6	2	12
7.5	1.6	12
9	1.33	12
12	1.33	16
15	1.06	16
18	0.88	16
24	0.66	16

3626 Max. 28 W

- Universal input voltage (90-264VAC)
- Fixed output voltages
- Short circuit proof
- Exchangeable AC and DC plugs
- Order plugs and mains cord separately
- ECO-design compliance:
  CoC Tier 2, DoE level VI, CEC, MEPS
- Approvals:
  - Medically certified
    Safety: EN 60601-1 ed. 3.1
    EMC: EN 60601-1-2 ed. 4
  - UL approved

For updates: see www.mascot.no

TECHNICAL SPECIFICATIONS*

GENERAL INPUT/OUTPUT

Input voltage:	90-264 VAC, 47-63 Hz
Line frequency:	47 - 63 Hz
Load regulation:	< 1%
Mains regulation:	< 0,5%
Switch frequency approx.:	65 kHz
Overshoot:	
(90 - 10% load variation)	<250 mV
Undershoot:	
(10 - 90% load variation)	<300 mV
Temperature range	
• **Operating:**	-20 - +40°C
• **With derating:**	+ 60°C
• **Storage:**	-25 - +85°C
Derating:	0.7W/°C over 40°C
Ripple:	< 100 mV p-p
Efficiency:	Approx. 88.5 % at full load
Standby power:	< 0.075 W
Dimensions (L×W×H):	101 × 48.5 × 37mm
Weight	212g

SAFETY PROTECTION EMC

Insulation class:	II
Insulation voltage	
Primary - secondary:	4000 VAC / 5700 VDC
Electrical safety std:	EN/IEC/ANSI 60601-1
EMC standards	
• **Medical:**	EN 60601-1-2
• **Emission:**	EN 61000-6-3
• **Immunity:**	EN 61000-6-1
Input terminal:	Exch. AC plugs, 2 pin IEC 320 C8 conn.
Output terminals:	Cord with/without plug, exch. plugs available

*** Some technical specifications may differ for other voltage versions.**

VERSIONS

Output (V) +/- 2,5%	Max. current (A)	Max. output power (W)
5	4	20
6	3.33	20
7.5	3.73	28
9	3.11	28
12	2.33	28
15	1.86	28
18	1.55	28
24	1.16	28

3721 Max. 42 W

- Universal input voltage (90-264VAC)
- Fixed output voltages
- Short circuit proof
- Exchangeable AC and DC plugs
- Order plugs and mains cord separately
- ECO-design compliance:
  CoC Tier 2, DoE level VI, CEC, MEPS
- Approvals:
  - Medically certified
    Safety: EN 60601-1 ed. 3.1
    EMC: EN 60601-1-2 ed. 4
  - UL approved

For updates: see www.mascot.no

TECHNICAL SPECIFICATIONS *

GENERAL INPUT/OUTPUT

Input voltage:	90-264 VAC, 47-63 Hz
Line frequency:	47 - 63 Hz
Load regulation:	< 1%
Mains regulation:	< 0,5%
Switch frequency approx.:	65~95 kHz
Overshoot:	
(90 - 10% load variation):	<200 mV
Undershoot:	
(10 - 90% load variation):	<350 mV
Temperature range	
• **Operating:**	-20 - +40°C
• **With derating:**	+ 60°C
• **Storage:**	-25 - +85°C
Derating:	1W/°C over 40°C
Ripple:	< 130 mV p-p
Efficiency:	Approx. 89 % at full load
Standby power:	< 0,075 W
Dimensions (L×W×H):	124 × 50 × 37mm
Weight:	240g

SAFETY PROTECTION EMC

Insulation class:	II
Insulation voltage	
Primary - secondary:	4000 VAC / 5700 VDC
Electrical safety std:	EN/IEC/ANSI 60601-1
EMC standards	
• **Medical:**	EN 60601-1-2
• **Emission:**	EN 61000-6-3
• **Immunity:**	EN 61000-6-1
Input terminal:	Exch. AC plugs, 2 pin IEC 320 C8 conn.
Output terminals:	Cord with/without plug, exch. plugs available

*** Some technical specifications may differ for other voltage versions.**

VERSIONS

Output (V) +/- 2,5%	Max. current (A)	Max. output power (W)
5	5	25
6	4.16	25
7.5	3.33	25
9	4.67	42
12	3.5	42
15	2.8	42
18	2.33	42
24	1.75	42

3320 Max. 60 W

- Universal input voltage (90-264VAC)
- Fixed output voltages
- Short circuit proof
- Exchangeable AC and DC plugs
- Order plugs and mains cord separately
- ECO-design compliance:
  CoC Tier 2, DoE level VI, CEC, MEPS
- Approvals:
  - Medically certified
    Safety: EN 60601-1 ed. 3.1
    EMC: EN 60601-1-2 ed. 4
  - UL approved

For updates: see www.mascot.no

MEDICAL | AC-X Exchange AC Plugs | DC-X Exchange DC Plugs

TECHNICAL SPECIFICATIONS *

GENERAL INPUT/OUTPUT

Input voltage:	90-264 VAC, 47-63 Hz
Line frequency:	47 - 63 Hz
Load regulation:	<1%
Mains regulation:	< 0,5%
Switch frequency approx.:	65 kHz
Overshoot:	
(90 - 10% load variation	<200 mV
Undershoot:	
(10 - 90% load variation)	<250 mV
Temperature range	
• **Operating:**	-20 - +40°C
• **With derating:**	+ 60°C
• **Storage:**	-25 - +85°C
Derating:	1,5W/°C over 40°C
Ripple:	< 130 mV p-p
Efficiency:	> 89 % at full load
Standby power:	< 0,15 W
Dimensions (L×W×H):	131 × 57,5 × 36 mm
Weight:	300 g

SAFETY PROTECTION EMC

Insulation class:	II
Insulation voltage	
Primary - secondary:	4000 VAC / 5700 VDC
Electrical safety std:	EN/IEC/ANSI 60601-1
EMC standards	
• **Medical:**	EN 60601-1-2
• **Emission:**	EN 61000-6-3
• **Immunity:**	EN 61000-6-1
Input terminals:	Exch. AC plugs, 2-pin IEC 60320 C8 conn
Output terminals:	Cord with/without plug, exch. plugs available

*** Some technical specifications may differ for other voltage versions.**

VERSIONS

Output (V) +/- 2,5%	Max. current (A)	Max. output power (W)	Cable length	Plug
5	8	40	0,75 m coax	Open end
6	6,66	40		
7.5	7	53		
9	6	54		
12	5	60	1,2 m coax	Female exch DC
15	4	60		
18	3,33	60		
24	2,5	60		
36	1,66	60		

3820 Max. 120 W

- Universal input voltage (90-264VAC)
- Fixed output voltages
- Short circuit proof
- Exchangeable DC plugs
- Order plugs, mains cord and mounting bracket separately
- ECO-design compliance:
  CoC Tier 2, DoE level VI, CEC, MEPS
- Approvals:
  - Medically certified
    Safety: EN 60601-1 ed. 3.1
    EMC: EN 60601-1-2 ed. 4
  - UL approved

For updates: see www.mascot.no

TECHNICAL SPECIFICATIONS *

GENERAL INPUT/OUTPUT

Input voltage:	90-264 VAC, 47-63 Hz
Line frequency:	47 - 63 Hz
Load regulation:	< 1%
Mains regulation:	< 0,5%
Switch frequency approx.:	45 kHz
Overshoot:	
(90 - 10% load variation)	<250 mV
Undershoot:	
(10 - 90% load variation)	<250 mV
Temperature range	
• **Operating:**	-20 - +40°C
• **With derating:**	+ 60°C
• **Storage:**	-25 - +85°C
Derating:	2.2W/°C over 40°C
Ripple:	< 100 mV p-p
Efficiency:	> 91 % at full load
Standby power:	< 0,15 W
Dimensions (L×W×H):	172.5 × 73 × 42 mm
Weight:	530 g

SAFETY PROTECTION EMC

Insulation class:	II
Insulation voltage	
Isolasjonsspenning	
Primary - secondary:	4000 VAC / 5700 VDC
Electrical safety std:	EN/IEC/ANSI 60601-1
EMC standards	
• **Medical:**	EN 60601-1-2
• **Emission:**	EN 61000-6-3
• **Immunity:**	EN 61000-6-1
Input terminals:	IEC 60320 2-pin C8 or 3-pin C14 conn
Output terminals:	Cord with/without plug, exch. plugs available

*** Some technical specifications may differ for other voltage versions.**

VERSIONS

Output (V) +/- 2,5%	Max. current (A)	Max. output power (W)	Cable length	Plug
12	8.33	100	0,75 m coax	Open end
24	5	120	1,2 m coax	Female exch DC
36	3.33	120		
48	2.5	120		

3520 Max. 265 W

- Fixed output voltages
- High efficiency and low standby power (ErP Directive)
- 2-pin IEC 60320 conn. or fixed mains cable
- Short circuit proof, thermal protection
- Mounting bracket included
- ECO-design compliance: CoC Tier 2, DoE level VI, CEC, MEPS
- Approvals:
  - Medically certified EN 60601-1 ed. 3.1
  - UL Approved

For updates: see www.mascot.no

MEDICAL

TECHNICAL SPECIFICATIONS *

GENERAL INPUT/OUTPUT

Load regulation:	<0.5%
Mains regulation:	<0.1%
Ripple:	< 20mV p-p
Efficiency (100% load):	> 92%
Switch frequency approx.:	65 kHz
Hold up time:	> 20ms
Temperature range	
• **Operating:**	-20 °C - +40 °C
• **With derating:**	+60 °C
• **Storage:**	-25 °C - +85 °C
Derating:	6.5W/ °C over 40 °C
Electrical safety standard:	EN 60601-1
Dimensions (LxWxH):	210 x 113 x 53mm
Weight:	1400 g

SAFETY PROTECTION EMC

Insulation class:	Class II
Insulation voltage	
Primary - secondary:	4000VAC / 5700VDC
EMC standards	
• **Medical:**	EN 60601-1-2:2015
• **Emission:**	EN 61000-6-3
• **Immunity:**	EN 61000-6-1
Input terminal:	2-pin IES 603440 or fixed mains cable
Output terminal:	Sec. Cord without plug
IP-Code:	44 (IP41 with 2-pin IEC 60320)

*** Some technical specifications may differ for other voltage versions.**

VERSIONS

Input (VAC)	Output (VDC)		Max. current (A)	Max. output power (W)
	Nom.	Adjustable		
198 - 264	12.5	12-13.2	17A (20A int.)	264
198 - 264	24	22-26	10A	265

Custom design:
Let us design a solution for you!

If you don't find a battery charger og power supply matching your requirements in our standard models, please take advantage of our experience in design and manufacture of custom-designed power supplies. We often use our archive as an aid to quickly design new solutions. In addition, our own production facility is specially calibrated for custom design manufacturing – even for production batches as small as 25 units.

Use our thorough knowledge of technology, manufacturing and international standards to develop a power supply solution that meets your lead time, price and quality requirements. OEM / ODM In addition to customised solutions Mascot has extensive experience in providing solutions for OEMs. These can range from small modifications of existing standard models to entirely new projects from scratch:

- CONNECTORS AND CORDS
  - output and input
  - special cabling

- HOUSING / OPEN FRAME

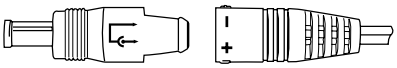
- CHARGE PARAMETERS

Change settings for:
- Safety timer
- Output or charge voltage
- LED indication

- CERTIFICATES AND APPROVALS

- RUGGEDIZING AND WATERPROOFING (IP67)

Exchangeable DC-plugs



Connecting the exchangeable plugs is a snap! All plugs have a snap-lock for added safety. Both plug ends are clearly marked to connect desired polarity.

Art. no. 131123

3615
- L: 14,5
- Dy: 3,5

Art. no. 131120

3617
- L: 12
- Dy: 5,5
- Di: 2,5

EIAJ RC5320A Plugs

Art. no. 131125

53201
- L: 9,5
- Dy: 2,35
- Di: 0,7

Class I

Art. no. 131126

53202
- L: 9,5
- Dy: 4
- Di: 1,7

Class II

Art. no. 131127

53203
- L: 9,5
- Dy: 4,75
- Di: 1,7

Class III

Art. no. 131128

53204
- L: 9,5
- Dy: 5,5
- Di: 3,3
- Dp: 1,0

Class IV

Art. no. 131193

3618
- L: 9,5
- Dy: 5,5
- Di: 2,45

Art. no. 131124

3620
- L: 11,5
- Dy: 2,5

Art. no. 131122

3627
- L: 14
- Dy1: 5
- Dy2: 6,2
- Di: 1,97

Art. no. 131119

3630
- L: 12
- Dy: 5,5
- Di: 2,1

Art. no. 131192

3630A
- L: 12
- Dy: 5,5
- Di: 2,1

Art. no. 131121

3635
- L: 9
- Dy: 3,8
- Di: 1,3

Push on terminals

Type 131341

Exchangable plug packs

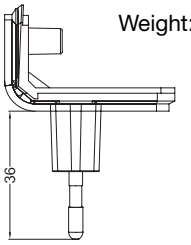
Pack 1: Type 9000-200
All 36-series plugs (8 pcs)

Pack 2: Type 9000-201
All EIAJ plugs (4 pcs)

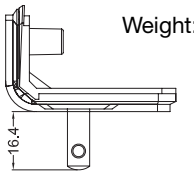
Pack 3: Type 9000-202
1x all plugs (12 pcs)

Exchangeable AC plugs

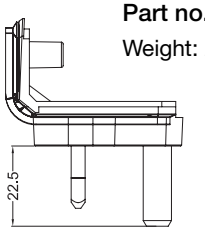
EU plug adapter
Part no. 127000
Weight: 20,9 g



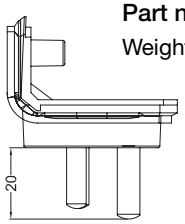
US plug adapter
Part no. 127100
Weight: 13,4 g



UK plug adapter
Part no. 127200
Weight: 29,2 g



AUS plug adapter
Part no. 127300
Weight: 21,4 g



AC Cords

2-pin IEC 60320 *1,8 meter*

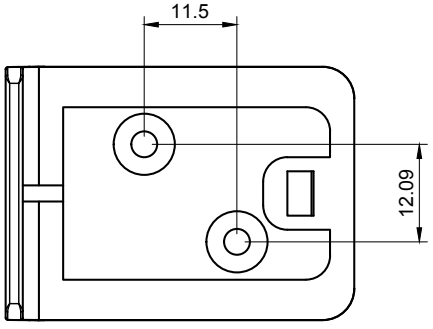
AUS	art.no	013108
EU	art.no	131306
UK	art.no	131148
US	art.no	131147

3-pin IEC 60320
1,8 meter

AUS	art.no	131143
EU	art.no	013095
UK	art.no	131115
US	art.no	131145

Wall mount bracket

Part no. 127400



IDÉverkstedet
PRODUKTFOTO: STENMARCH
DESIGN: KREATIVT KONTOR

True to the power of quality

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Blueline by mascot