

# 2440 LA Max. 4.0 A

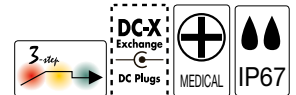
## Charger for lead acid batteries

- 3-step charge control with microprocessor
- Low current start up of deeply discharged batteries (step 0)
- Unaffected by fluctuations in mains voltage
- Protected against reverse polarity and short circuit proof
- IP67 version available (both housing styles)
- Custom design on request: timer, charge current, other
- Temp. comp. charge voltage w. external temp sensor available
- Approvals:
  - Home Healthcare EN 60601-1-11
  - Medically certified
  - Safety: EN 60601-1 ed. 3.1
  - EMC: EN 60601-1-2 ed. 4
  - UL-approved

For updates: see [www.mascot.no](http://www.mascot.no)



## TECHNICAL SPECIFICATIONS 12V



### GENERAL INPUT/OUTPUT

<b>Input voltage:</b>	90 - 264 VAC
<b>Line frequency:</b>	47 - 63 Hz
<b>Max output power:</b>	58W (24V: 74W)
<b>Ripple:</b>	< 100 mV p-p
<b>Efficiency (at 100% load):</b>	> 85%
<b>Switch frequency approx.:</b>	40 kHz
<b>Leakage current with mains disconnected:</b>	<200uA (0,15Ah/month)
<b>Temperature range</b>	
• <b>Operating:</b>	-25 to +40 °C
• <b>Storage:</b>	-25 to +85 °C
<b>Dimensions (LxWxH):</b>	135 x 80 x 44 mm
<b>Weight:</b>	390 g (890 g IP67)

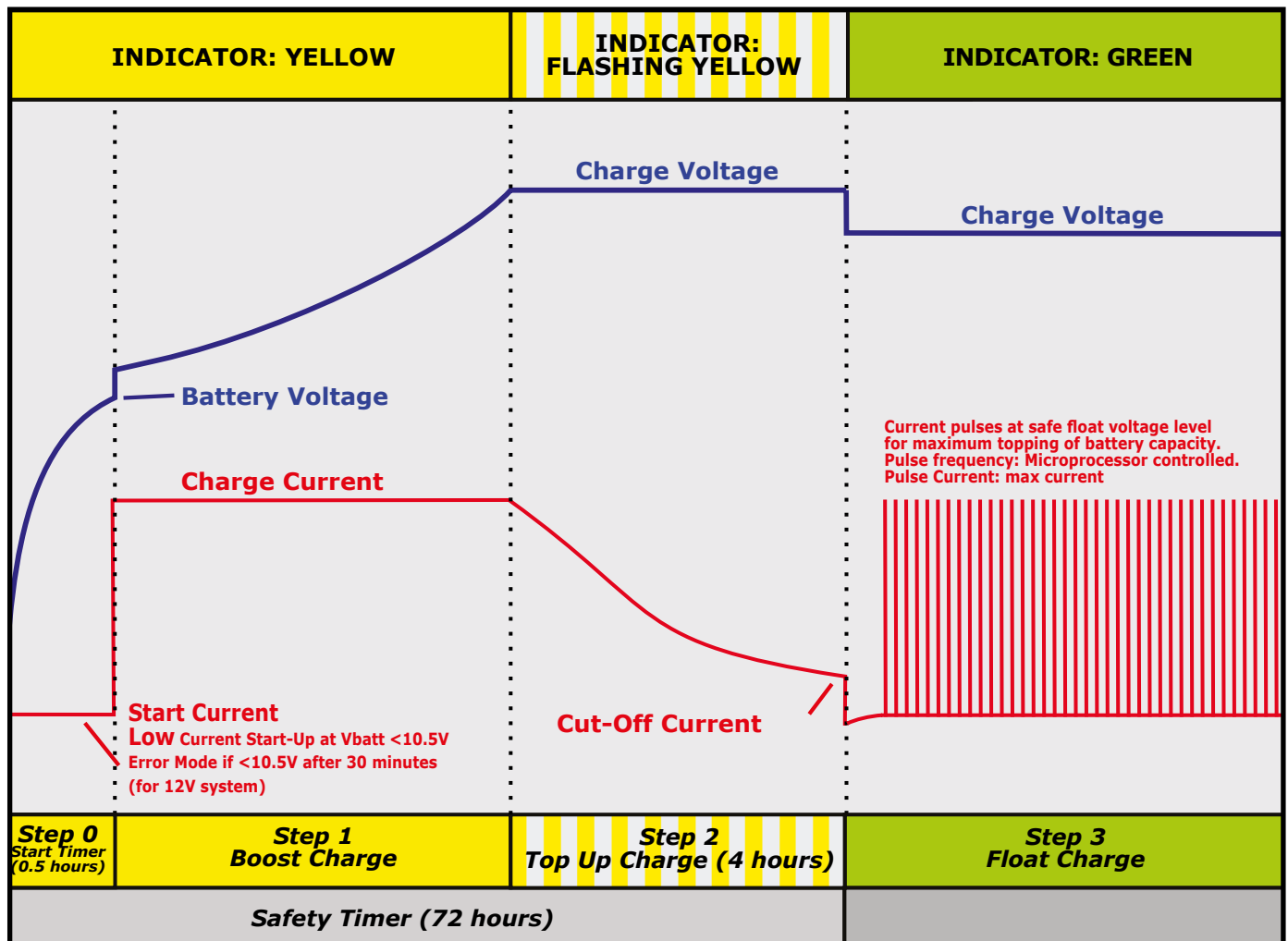
### SAFETY PROTECTION EMC

<b>Protection</b>	Against reversed polarity and short circuit proof. Safety timer: charging of lower voltage batt (e.g. 6V/12V) will be limited to 1,2A/0,6A and term. after 30 min.
<b>Insulation class:</b>	Class II (Class I on request)
<b>Insulation voltage</b>	
<b>Primary-secondary:</b>	4000VAC / 5700 VDC
<b>Electrical safety std:</b>	EN/IEC 60335-2-29, EN/IEC/ANSI 60601-1 (3.1 Ed) & EN/IEC 60601-1-11
<b>EMC standards:</b>	EN 55014-1 and -2, EN/IEC 61000-6-3, EN/IEC 61000-6-1, EN/IEC 60601-1-2
<b>Input terminal:</b>	2-pin IEC60320/C8 (3-pin C14) or fixed cord on request
<b>Output terminals:</b>	Battery clips or DC conn
<b>IP-grade:</b>	41 (IP67 on request)
<b>Rec. battery capacity:</b>	20 - 200 Ah

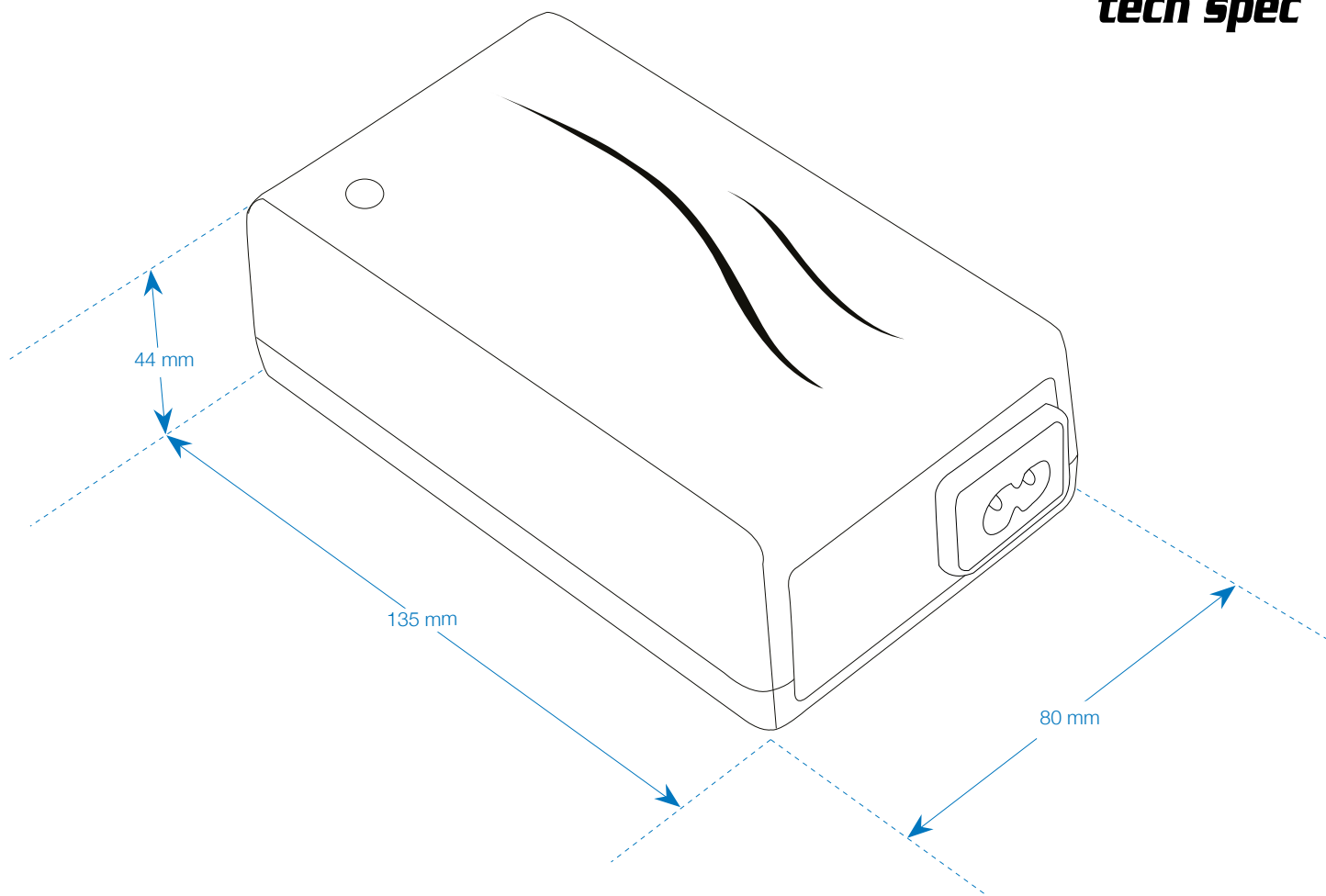
Voltage versions – see next page

**Charge control - Ladekontroll (LED indication)**

	Step 0 < 30 min	Step 0 > 30 min	Step 1	Step 2	Step 3	Float charge
	(Yellow)	(Red=error)	(Yellow)	(Flash Yellow)	(Green)	
<b>6V</b>	1.2A ± 0.2A (batt volt < 5.25V)	< 0.2A	4.0A ± 0.2A (batt volt > 5.25V) (until Vbat = 7.35V)	7.35V ± 0.1V (until I charge < 1.2A or > 4hr) tapering charge current	6.85V ± 0.1V (until I charge > 4.0A) supply current up to max 4.0A for possible parallel load	4.0A Pulsing current at safe float volt. level for max topp. of batt.
<b>12V</b>	1.2A ± 0.2A (batt volt < 10.5V)	< 0.2A	4A ± 0.2A (batt volt > 10.5V) (til Vbat = 14.7V)	14.7V ± 0.1V (until I charge < 1.2A or > 4hr) tapering charge current	13.7V ± 0.2V (until I charge > 4.0A) supply current up to max. 4.0A for possible parallel load	4.0A Pulsing current at safe float volt. level for max topp. of batt.
<b>24V</b>	0.6A ± 0.2A (batt volt < 21V)	< 0.2A	2.5A ± 0.2A (batt volt < 21V) (until Vbat = 29.4V)	29.4V ± 0.1V (until I charge < 0.6A or > 4hr) tapering charge current	27.4V ± 0.2V (until I charge > 2.5A) supply current up to max 2.5A for possible parallel load	2.5A Pulsing current at safe float volt. level for max topp. of batt.
<b>36V</b>	0.4A ± 0.1A (batt volt < 31.5V)	< 0.2A	1.6A ± 0.1A (batt volt > 31.5V) (until Vbat = 44.1V)	44.1V ± 0.2V (until I charge < 0.4A or > 4hr) tapering charge current	41.1V ± 0.2V (until I charge > 1.6A) supply current up to max 1.6A for possible parallel load	1.6A Pulsing current at safe float volt. level for max topp. of batt.
<b>48V</b>	0.3A ± 0.1A (batt volt < 42V)	< 0.2A	1.3A ± 0.1A (batt volt > 42V) (until Vbat = 58.8V)	58.8V ± 0.3V (until I charge < 0.3A or > 4hr) tapering charge current	54.8V ± 0.3V (until I charge > 1.2A) supply current up to max 1.2A for possible parallel load	1.2A Pulsing current at safe float volt. level for max topp. of batt.



Charging characteristics and LED indication (LED) indikasjon (data for 12V version)



**Mounting brackets**

**TYPE 201970**

1 mounting bracket per unit  
Available separately

