

DATE 11.10.23

MASCOT type 3743 NiMH/NiCd:	2-cell	3-6 cell	4-8 cell	5-10 cell	6-12 cell	10-20 cell	15-30 cell
Input voltage	90 - 264VAC / 47 - 63Hz	90 - 264VAC / 47 - 63Hz	90 - 264VAC / 47 - 63Hz	90 - 264VAC / 47 - 63Hz	90 - 264VAC / 47 - 63Hz	90 - 264VAC / 47 - 63Hz	90 - 264VAC / 47 - 63Hz
Max. output power	6.5W	14W	14.7W	14.9W	15.3W	14.4W	15.3W
Min. output voltage for -ΔV detection	2.5V (min 2 cells x min 1.25V pr. cell)	3.75V (min 3 cells x min 1.25V pr. cell)	5.0V (min 4 cells x min 1.25V pr. cell)	6.2V (min 5 cells x min 1.25V pr. cell)	7.5V (min 6 cells x min 1.25V pr. cell)	12.5V (min 10 cells x min 1.25V pr. cell)	18.75V (min 15 cells x min 1.25V pr. cell)
Max. output voltage for -ΔV detection	3.4V (max 2 cells x max 1.7V pr. cell)	10.2V (max 6 cells x max 1.7V pr. cell)	13.6V (max 8 cells x max 1.7V pr. cell)	17V (max 10 cells x max 1.7V pr. cell)	20.4V (max 12 cells x max 1.7V pr. cell)	34V (max 20 cells x max 1.7V pr. cell)	51V (max 30 cells x max 1.7V pr. cell)
-ΔV sensitivity mV/cell	3mV/cell	3mV/cell	3mV/cell (approx.)	3mV/cell (approx.)	3mV/cell (approx.)	3mV/cell (approx.)	3mV/cell (approx.)
SoftStart current	30mA ± 15mA @ Vbat < 2V	30mA ± 15mA @ Vbat < 3.5V	30mA ± 15mA @ Vbat < 4.8V	30mA ± 15mA @ Vbat < 6V	30mA ± 15mA @ Vbat < 7.2V	25mA ± 10mA @ Vbat < 12.25V	25mA ± 10mA @ Vbat < 18.75V
Fast charge current	1.3A ± 100mA	1.3A ± 100mA	1.0A ± 100mA	0.8A ± 100mA	0.7A ± 100mA	400mA ± 50mA	300mA ± 50mA
Top off charge	160mA ± 30mA	160mA ± 30mA	130mA ± 30mA	110mA ± 30mA	100mA ± 30mA	65mA ± 20mA	55mA ± 20mA
Trickle charge current	30mA ± 15mA	30mA ± 15mA	30mA ± 15mA	30mA ± 15mA	30mA ± 15mA	25mA ± 10mA	25mA ± 10mA
Efficiency at 100% load	70%	76%	78%	80%	81%	84%	84%
Average efficiency	>62%	>72%	>74%	>76%	>77%	>80%	>80%
No load consumption (typical value)	0.5W	0.6W	0.6W	0.65W	0.7W	0.5W	0.75W
-ΔV mask start timer	3 min, no -ΔV detection in this period	3 min, no -ΔV detection in this period	3 min, no -ΔV detection in this period	3 min, no -ΔV detection in this period	3 min, no -ΔV detection in this period	3 min, no -ΔV detection in this period	3 min, no -ΔV detection in this period
SoftStart Timer	10 minutes	10 minutes	10 minutes	10 minutes	10 minutes	10 minutes	10 minutes
Top-off timer	1 hour	1 hour	1 hour	1 hour	1 hour	1 hour	1 hour
Safety timer	5 hours	5 hours	5 hours	5 hours	5 hours	5 hours	5 hours
The charger switch to trickle charge if no -ΔV is detected before the safety timer has run out.							

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Switch frequency	56kHz.						
Temperature range	-20 to +40°C (these values are only for the charger, not for the batteries).						
Charge control	-ΔV principle. Fast charging stops when the voltage has dropped 3mV/cell below its maximum recorded level.						
Voltage changes during charging	-ΔV detection is disabled if the voltage changes quickly. This to avoid false -ΔV if an external load kicks in during charging.						
Leakage current from battery with mains switch off	< 300 μA at nominal battery voltage (< 0.22 Ah/month)						
Fuses	Fuse at input. Mosfet switch at the output protects the unit against wrong polarity.						
Insulation class	Class II.						
Electrical safety	Medical EN 60601-1 / Home Healthcare EN 60601-1-11 ($V_{NOM} \geq 110VAC$) / Battery Charger EN 60335-2-29						
EMC-standards	EN 55014-1 and -2, EN 61000-6-3, EN 61000-6-1, EN 60601-1-2						
Insulation voltage (prim-sec)	4000V AC / 5700V DC.						
Input terminals	2-pins IEC 320 connector for exchangeable mains plug (EU, US, UK and AUS) or mains cord with C7 connector.						
Output terminals	Cord with/without plug. Exchangeable plugs available.						
LED-indication	SoftStart / Fast charge: Yellow Top off charge: Flashing yellow Trickle charge: Green Battery not connected: Flashing green (1s/1s)						
Protection:	Protected against reversed polarity. Error indication: Red (2 blinks) Short circuit proof. Error indication: Red (3 blinks) Low battery voltage (SoftStart timer). Error indication: Red (4 blinks) No charge (or charge terminated) if connecting wrong battery pack with higher voltage. Indication: LED is OFF.						
Thermal control (Optional, requires battery with NTC)	+dT/dt principle. Fast charging stops when the temperature increment is over 0,5°C/min. Battery temperature is too low (<0°C). Wait mode. Indication: Yellow with 1 red blink. Battery temperature is too high (>40°C). Wait mode. Indication: Yellow with 2 red blinks. High temperature (>60°C). Error Indication: Red (5 blinks). NTC missing or shorted. Error Indication: Red (6 blinks).						
Resetting	A new charging cycle starts by reconnecting a battery at the output, or by disconnecting and connecting the mains voltage.						
IP-grade	IP 41.						
Dimensions	108,5 × 49 × 29,3 mm						
Weight	150g.						
Other	Possible options on request: Charger parameters programmable with "Configurator tool". Constant current charge (no battery management). Diode protected batteries charge. 0dV detection for EoC. DoE compliance.						