

Switchmode Chargers

Chargers

Conform to IEC 60335 and IEC 60601-1



Applications

- Medical applications
- Electrical vehicles
- Stair lifts/patient lifts
- Mobile lighting
- Cleaning machines
- Professional photographic technology
- Mobile measuring technology
- Starter batteries
- Diving lamps

Characteristics

- Universal input 100-240 V AC (DTC 60 only 230 V)
- Constant voltage, current limited
- Exchangeable primary adapters (MPP and GPP system)
- Low leakage current
- Low standby power
- LED charge indication
- Continuously short circuit proof
- Reverse polarity protection (not MPP 15 Li-Ion and PP 8 Lead Acid)

Technical data

Input voltage

100 to 240 V ($\pm 10\%$), (DTC 60 230 V)
PP 8 (0.13 – 0.2 A), MPP 15 (0.25 – 0.3 A),
DTC 60 (0.45 A), MPP 30 (0.4 – 0.5 A),
GPP 36 (0.18 – 0.45 A)

Frequency

50 to 60 Hz

Efficiency

75 % at full load, resp.

EMC

80 % (NiCd/NiMH and GPP 36)

Conforms to EN 55011

EN 55014, EN 55022/B, FCC 47 part 15,
EN 61000-3-2, EN 61000-4-2, EN 61000-4-3,
EN 61000-4-4, EN 61000-4-5, EN 61000-4-6,
EN 61000-4-11

Output current tolerance (NiCd/NiMH)

$\pm 10\%$

Environmental specification

Operating temperature

0 to 40° C at maximum load

Storage temperature

-40 to 70° C resp. -25 to 70° C (DTC 60)

Humidity

5 % to 95 % non condensing

Input transient susceptibility

Complies with IEC 61000 requirements

Safety specification

Standards

Fulfils Class II SELV for the following applications:

IEC 60601-1 (NiCd/NiMH only MPP 15)
UL 60601-1 (only Lead Acid),
IEC 60335-2-29, UL 1310 (only NiCd/NiMH),
UL 2601-1 (only Li-Ion),
VDE, CE label, CSA (only Li-Ion)

Reliability specification

MTBF calculation

200.000 hours resp. 100.000 hours
(NiCd/NiMH) at maximum load
and an ambient temperature of 25° C
(in accordance with MIL-HDBK-217)

Mechanical specification

Weight

PP 8 (approx. 80 g), PP 8 Li-Ion (approx. 125 g),
MPP 15 (approx. 140 g), MPP 30 (approx. 278 g),
DTC 60 (approx. 450 g), GPP 36 (approx. 320 g)

Plug connector

AC input:
(MPP/GPP) FRIWO exchangeable mains plug
system, PP 8 (Euro, USA/Japan, UK) DTC 60
(C8-socket)
DC output:
Universal output plug system
(partially with stripped and tinned ends)

Li-Ion



NiCd/NiMH



Lead Acid



For primary adapters see page 26

