

## Switchmode Chargers

### Applications

- Diving lights
- Cleaning machines
- Stair lifts/patient lifts
- Electrical vehicles
- Medical technology (IEC 60601-1)
- Industrial applications
- Mobile lighting

### Characteristics

- Universal input 100 to 240 V AC (DTC 60 und DT 80 input 230 V)
- Low standby power
- Constant voltage, current limited
- Light weight, compact size
- High performance
- LED charging display



### Li-Ion

Output data						
Voltage	Current	No. of cells	Capacity*	Characteristics	Housing	Worldwide
8.4 V	800 mA	2	0.8 to 10 Ah	IUI0	MPP 15	•
12.6 V	800 mA	3	0.8 to 10 Ah	IUI0	MPP 15	•
16.8 V	800 mA	4	0.8 to 10 Ah	IUI0	MPP 15	•
with NTC						
8.4 V	800 mA	2	0.8 to 10 Ah	IUI0	MPP 15	•
12.6 V	800 mA	3	0.8 to 10 Ah	IUI0	MPP 15	•
16.8 V	800 mA	4	0.8 to 10 Ah	IUI0	MPP 15	•

### NiCd/NiMH

Output data				Switch-off criteria			Worldwide
Voltage	Current	No. of cells	Housing	Time	T. grad	-delta-U	
1.0 to 20.0 Ah	2600 mA	4 to 12	DTC 60	•	•	•	EURO/UK
1.0 to 20.0 Ah	1700 mA	10 to 20	DTC 60	•	•	•	EURO/UK
3.5 to 7.0 Ah	950 mA	10 to 20	MPP 30	•	•	•	•
2.8 to 7.0 Ah	1000 mA	10 to 12	MPP 30	•	•	•	•
2.5 to 4.5 Ah	1400 mA	8 to 12	MPP 30	•	•	•	•
2.5 to 10.0 Ah	2000 mA	5 to 6	MPP 30	•	•	•	•
1.0 to 10.0 Ah	800 mA	4 to 10	MPP 15	•	•	•	•
1.0 to 10.0 Ah	800 mA	4 to 10	MPP 15	•	•	•	•
0.8 to 1.6 Ah	550 mA	5 to 8	PP 8	•	•	•	EURO/UK/USA

### Lead Acid

Output data						
Voltage	Current	No. of cells	Capacity*	Characteristics	Housing	Worldwide
6 V	900 mA	3	2.4 to 16.0 Ah	IU0U	PP 8 EU	•
6 V	900 mA	3	2.4 to 16.0 Ah	IU0U	PP 8 UK	•
6 V	900 mA	3	2.4 to 16.0 Ah	IU0U	PP 8 US	•
6 V	1600 mA	3	4.8 to 32.0 Ah	IU0U	MPP 15	•
6 V	3000 mA	3	9.0 to 60.0 Ah	IU0U	MPP 30	•
12 V	500 mA	6	1.5 to 10.0 Ah	IU0U	PP 8 EU	•
12 V	500 mA	6	1.5 to 10.0 Ah	IU0U	PP 8 US	•
12 V	1000 mA	6	3.0 to 20.0 Ah	IU0U	MPP 15	•
12 V	2000 mA	6	6.0 to 40.0 Ah	IU0U	MPP 30	•
12 V	5000 mA	6	25.0 to 40.0 Ah	IU0U	DT 80 EU/UK	•
24 V	500 mA	12	1.5 to 10.0 Ah	IU0U	MPP 15	•
24 V	1000 mA	12	3.0 to 20.0 Ah	IU0U	MPP 30	•
24 V	1500 mA	12	4.5 to 30.0 Ah	IU0U	MPP 30	•
24 V	2000 mA	12	10.0 to 16.0 Ah	IU0U	DT 80 EU/UK	•

## Switchmode Single Range Power Supplies (SP)

3 to 24 Watts



### Applications

- Audio
- Bluetooth/WLAN
- Communication accessories
- Measurement and weighing technology
- Modems DSL, VDSL
- Security technology

### Characteristics

- Universal input 100 to 240 V AC
- EMC conformity
- Constant voltage, current limited
- Light weight and compact size
- Low leakage current
- Low standby power
- Continuously short circuit proof

### SP

Typ	Output data		EURO	USA/Japan	UK	Australia
	Voltage	Current				
SP 3	5 V	650 mA	•	•	•	•
	6 V	550 mA	•	•	•	•
	7.5 V	450 mA	•	•	•	•
	9 V	360 mA	•	•	•	•
	12 V	270 mA	•	•	•	•
SP 7	15 V	220 mA	•	•	•	•
	24 V	135 mA	•	•	•	•
	5 V	900 mA	•	•	•	•
SP 12	12 V	600 mA	•	•	•	•
	5 V	1300 mA	•	•	•	•
	12 V	1000 mA	•	•	•	•
SP 18	24 V	375 mA	•	•	•	•
	9 V	2000 mA	•	•	•	•
	12 V	1500 mA	•	•	•	•
SP 24	15 V	1200 mA	•	•	•	•
	24 V	750 mA	•	•	•	•
	12 V	2000 mA	•	•	•	•
	15 V	1500 mA	•	•	•	•
	24 V	1000 mA	•	•	•	•

Switchmode Chargers

## Accessories Universal Plug System

Accessories

### Straight coaxial connectors

o. Ø	i. Ø	Length mm
3.5	1.3	9.5
4.0	1.7	9.5
4.0	1.7	11.0
4.8	1.7	9.5
5.5	2.1	9.5
5.5	2.1	11.5
5.5	2.1	14.0
5.5	2.5	9.5
5.5	2.5	11.5
5.5	3.3	9.5

### Straight jack connectors

o. Ø	Length mm
2.5	13
3.5	14

### Primary Adapter

Country
EURO
UK
USA
Australia MPP 15
Australia MPP 30/MPP 6
IEC

### Angled coaxial connectors

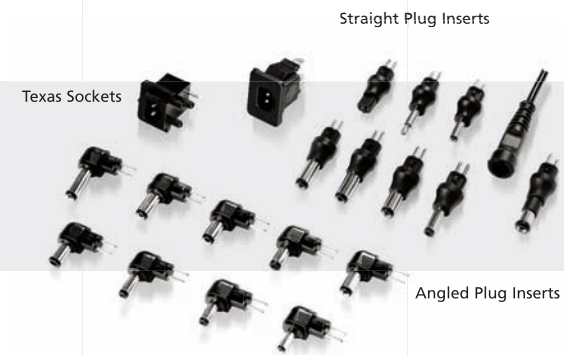
o. Ø	i. Ø	Length mm
3.5	1.3	9.5
4.0	1.7	9.5
4.0	1.7	11.0
4.8	1.7	9.5
5.5	2.1	9.5
5.5	2.1	11.5
5.5	2.1	14.0
5.5	2.5	9.5
5.5	2.5	11.5
5.5	3.3	9.5

### Angled jack connectors

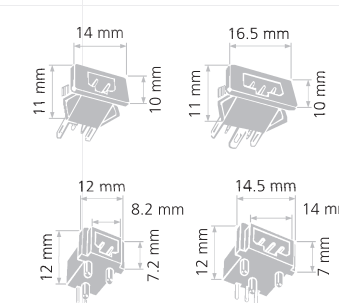
o. Ø	Length mm
2.5	13
3.5	14

### Connectors/Sockets

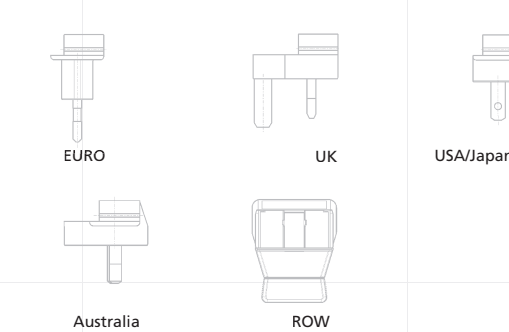
Description
Texas connector
Connector 2-pin
Angled Texas connector
Connector 2-pin
Texas socket
Snap-in type
PCB type



### Texas Sockets



### Primary adapters for MPP power supplies and chargers



All units have a 2 meter long output lead.

Accessories

## FRIWO Distributors



FRIWO Gerätebau GmbH  
P.O. Box 1164  
Von-Liebig-Strasse 11  
D-48346 Ostbevern  
Tel.: +49 25 32 81 - 0  
Fax: +49 25 32 81 - 112  
sales@friwo.de  
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Member of CEAG AG  
www.ceag-ag.com

# Switchmode Power Supplies

3 to 12 Watts



DT 12



PP 3/6/8 EURO

### Applications

- Office equipment
- Data transmission devices
- IT equipment
- Measurement and weighing technology

### Characteristics

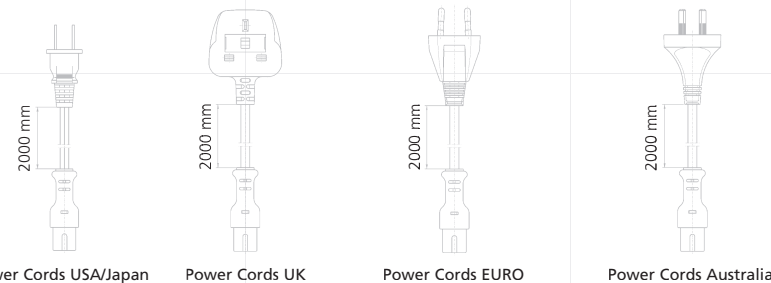
- Universal input 100 to 240 V AC
- EMC conformity
- High performance
- Constant voltage, current limited
- Compact desktop unit
- Low leakage current  $\leq 10 \mu\text{A}$
- Low standby power  $\leq 0.5$  Watts
- Continuously short circuit proof

### DT 12\*

Output data	
Voltage	Current
5 V	2000 mA
6 V	1700 mA
7.5 V	1400 mA
9 V	1200 mA
12 V	1000 mA
15 V	800 mA
18 V	660 mA
24 V	500 mA
48 V	250 mA

\* all versions with IEC socket (two pin IEC 320, C8 input socket)

Power cords	
Type	
EURO	
UK	
USA/Japan	
Australia	



### Applications

- Audio
- Bluetooth/WLAN
- Communication accessories
- Measurement and weighing technology
- Modems, DSL, VDSL
- Security technology

### Characteristics

- Universal input 100 to 240 V AC
- EMC conformity
- High performance
- Constant voltage, current limited
- Light weight, compact size
- Continuously short circuit proof

### PP 3 EURO/UK/USA

Output data	
Voltage	Current
3 V	1300 mA
5 V	1000 mA
6 V	850 mA
7.5 V	650 mA
9 V	550 mA
12 V	450 mA
15 V	360 mA
18 V	300 mA
24 V	220 mA

### PP 6 EURO/UK/USA

Output data	
Voltage	Current
3 V	1700 mA
5 V	1300 mA
6 V	1150 mA
7.5 V	900 mA
9 V	800 mA
12 V	700 mA
15 V	530 mA
18 V	440 mA
24 V	330 mA

Output data	
Voltage	Current
5 V	650 mA
6 V	550 mA
7.5 V	450 mA
9 V	360 mA
12 V	270 mA
15 V *	220 mA
24 V *	135 mA

\* on request

### PP 8 EURO/UK/USA

Output data	
Voltage	Current
3 V	1700 mA
5 V	1300 mA
6 V	1150 mA
7.5 V	900 mA
9 V	800 mA
12 V	700 mA
15 V	530 mA
18 V	440 mA
24 V	330 mA

# Switchmode Power Supplies

6 to 30 Watts



MPP 6



MPP 15/30

### Applications

- PDA's
- MPEG Players
- Digital Cameras
- Office equipment
- Data transmission devices
- IT equipment
- Measurement and weighing technology

### Characteristics

- Universal input 100 to 240 V AC
- Interchangeable primary adapters
- Constant voltage, current limited
- Light weight and universal use
- Continuously short circuit proof

### MPP 6

Output data		
Voltage	Current	Worldwide
3 V	1300 mA	-
5 V	1000 mA	-
6 V	850 mA	-
7.5 V	650 mA	-
9 V	550 mA	-
12 V	450 mA	-
15 V	360 mA	-
18 V	300 mA	-
24 V	220 mA	-

### MPP 15

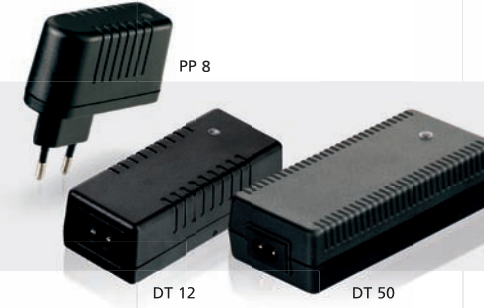
Output data		
Voltage	Current	Worldwide
3 V	2500 mA	-
5 V	2400 mA	-
6 V	2100 mA	-
7.5 V	1700 mA	-
9 V	1500 mA	-
12 V	1250 mA	-
15 V	1000 mA	-
18 V	840 mA	-
24 V	625 mA	-

### MPP 30

Output data		
Voltage	Current	Worldwide
5 V	4000 mA	-
6 V	3600 mA	-
7.5 V	3300 mA	-
9 V	3000 mA	-
12 V	2500 mA	-
15 V	2000 mA	-
18 V	1660 mA	-
24 V	1250 mA	-

# Switchmode Medical

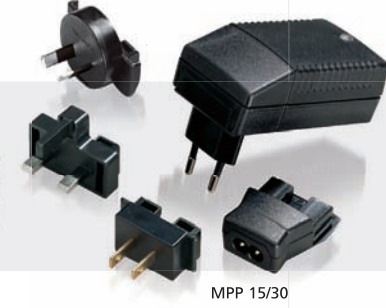
8 to 50 Watts



PP 8

DT 12

DT 50



MPP 15/30

### Applications

- Blood analyser
- Patient monitors
- Measuring instruments
- Laboratory equipment
- Inhalers
- Patient lifts

### Characteristics

- Universal input 100 to 240 V AC
- EMC conformity
- High performance
- Constant voltage, current limited
- Light weight, compact size
- Low leakage current  $\leq 10 \mu\text{A}$
- Continuously short circuit proof

### PP 8 EURO/UK/USA

Output data	
Voltage	Current
3 V	1700 mA
5 V	1300 mA
6 V	1150 mA
7.5 V	900 mA
9 V	800 mA
12 V	700 mA
15 V	530 mA
18 V	440 mA
24 V	330 mA

### DT 12\*

Output data	
Voltage	Current
5 V	2000 mA
6 V	1700 mA
7.5 V	1400 mA
9 V	1200 mA
12 V	1000 mA
15 V	800 mA
18 V	660 mA
24 V	500 mA

### MPP 15

Output data		
Voltage	Current	Worldwide
5 V	2400 mA	-
6 V	2100 mA	-
7.5 V	1700 mA	-
9 V	1500 mA	-
12 V	1250 mA	-
15 V	1000 mA	-
18 V	840 mA	-
24 V	625 mA	-

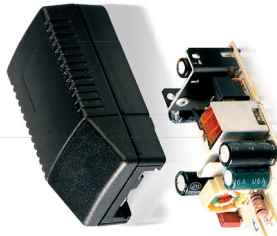
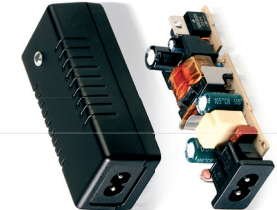
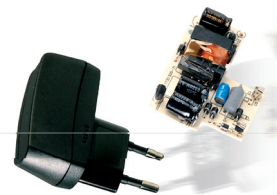
### MPP 30

Output data		
Voltage	Current	Worldwide
5 V	4000 mA	-
6 V	3600 mA	-
7.5 V	3300 mA	-
9 V	3000 mA	-
12 V	2500 mA	-
15 V	2000 mA	-
18 V	1660 mA	-
24 V	1250 mA	-

### DT 50\*

Output data	
Voltage	Current
5 V	5000 mA
12 V	3800 mA
15 V	3000 mA
24 V	2200 mA

\* all versions with IEC inlet (2-pole, IEC 320, C8)



Switchmode Inside

Product Portfolio

