

### FRIWO Highlights:

- Global manufacturing in Europe and Asia
- Local Engineering
- High Quality
- Reliability / Long life cycle
- Robust, compact design
- Short development cycles
- Customized solutions
- Rapid Prototyping
- Certified according to
  - ISO 9001:2008
  - DIN EN ISO 14001:2009
  - TS16949

### Safety and compliance

- RoHS, WEEE and REACH conform
- Reliability
  - Long term stability
  - Drop tests
  - X-Ray
  - 100% inspection
- Medical safety standard 3rd Edition EN60601-1, ES60601
- Expert knowledge and close relationships with approval agencies (SIQ, VDE, UL,...)

### Mechanic / Electrical Design

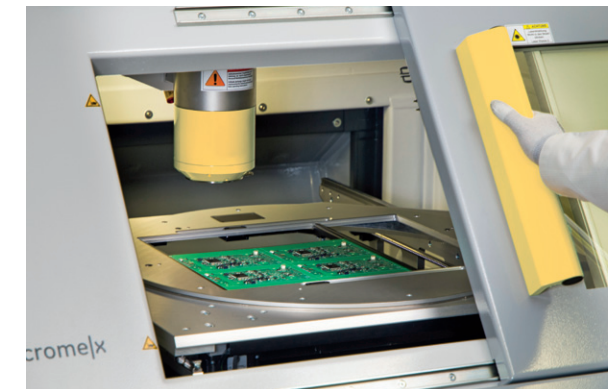
- PCB layout
- Short development cycles
  - EMI laboratory
  - 3D Printer
  - Prototyping
- Proprietary IC
  - Low Standby
  - High efficiency (Valley detection)
  - Universal operation mode
  - Optimized IU curve for constant current and constant voltage
  - Know- How – protection / copy protection
- Potting
  - Protection against harsh environmental conditions
  - IP67
  - Robustness
  - Shock resistance
- Peak current concepts
- Direct access to FRIWO engineers
- Lowest leakage requirements (no Y-capacitor)

## FRIWO – Industry Partner of Choice



FRIWO stands for technical expertise when it comes to standard or customized engineering, from outline to finished product. FRIWO develops, produces, and sells innovative, efficient, and competitive power supplies worldwide with local engineering support, face to face.

40 years of experience in power supply and charging technology combined with modern production and testing facilities have paved FRIWO's way for today's market success and have set new highlights for power supplies, charging technologies and LED drivers.



The FRIWO medical power supplies are designed for use under the harshest conditions and meet the most stringent criteria. Whether the task is to withstand a drop from more than one meter height, undamaged or guarantee extra small leakage currents – with FRIWO power supplies you and your patients are always on the safe side!

FRIWO has been certified in accordance with DIN EN ISO 9001:2008, DIN EN ISO 14001:2009 and ISO/TS 16949 and therefore guarantees an optimal safety standard for all power supplies and chargers.



## Excellence In Medical Power Solutions



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# Medical Power Supplies

## Technical Data:

- Input voltage: 100 to 240V AC (±10%)
- Frequency: 50 to 60Hz
- Leakage current:
  - ≤ 10µA PP8, DT12, GPP USB, GPP6, GPP10, GPP18, MPP15, MPP30, DT50
  - ≤ 100µA DT80, DT150, OF65, OF100, O150, OF250
- Protection class: II
- IP protection: ≤ IP40
- MTBF: 200.000 hrs.
- MOPP: PP8, DT12, GPP USB, GPP6, GPP10, GPP18, MPP15, MPP30, DT50
- MOOP: DT80, DT150, OF65, OF100, OF150, F250
- Standards: IEC 60601-1:2005, ANSI/AAMI ES 60601-1:2005, CA/CSA-C22.2 No. 60601-1:08
- EMI: IEC55011 / 55022 IEC61000-3-2, -3 IEC61000-4-2, -3, -4, -5, -6, -8, -11

## Characteristics:

- Constant voltage, current limited
- Continuously short-circuit proof
- Lowest leakage current
- Fulfils class B /BF / CF for medical applications
- Worldwide use
- LED indicator light
- Operator Protection (MOOP) / Patient Protection (MOPP)
- Compact design



GPP USB FW 7721M



L x W x H (mm):  
52.0 x 63.0 x 34.5

### Output data

Voltage	Current
5 V	1500 mA

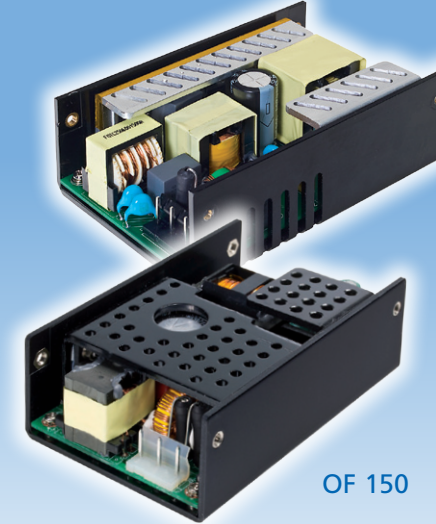


NEW

OF 100



NEW



OF 150



OF 250

OF 65



NEW

OF 65  
OF65

L x W x H (mm):  
101.06 x 51.0 x 25.0

Output data	
Voltage	Current
24 V	2700 mA

OF 100  
OF100

L x W x H (mm):  
121.0 x 62.0 x 38.0

Output data	
Voltage	Current
12 V	7500 mA

OF 150  
OF150

L x W x H (mm):  
127.0 x 81.6 x 41.2

Output data	
Voltage	Current
12 V	10500 mA
24 V	6250 mA
48 V	3125 mA

OF 250  
OF250

L x W x H (mm):  
155.0 x 101.0 x 40.0

Output data	
Voltage	Current
5 V	500 mA
24 V	10500 mA

DT 12



DT 50



DT 80



DT 12  
FW 7401M

L x W x H (mm):  
92.0 x 40.0 x 27.5

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

DT 50  
FW 7405M

L x W x H (mm):  
130.0 x 60.0 x 38.1

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

DT 80  
FW 7488M

L x W x H (mm):  
149.0 x 79.0 x 50.0

Output data	
Voltage	Current
12 V	5500 mA
15 V	5000 mA
24 V	3300 mA

DT 150  
DT 150M

L x W x H (mm):  
210.0 x 62.0 x 38.5

Output data	
Voltage	Current
24 V	6250 mA



DT 150

GPP 10



GPP 18



GPP 6



MPP 15



MPP 30



PP 8



GPP 6  
FW 7662M

L x W x H (mm):  
52.0 x 52.0 x 35.5

Output data	
Voltage	Current
5 V	1100 mA
6 V	1000 mA
7.5 V	800 mA
9 V	600 mA
12 V	500 mA
15 V	400 mA
18 V	330 mA
24 V	250 mA

GPP 10  
FW 7660M

L x W x H (mm):  
58.0 x 66.0 x 35.5

Output data	
Voltage	Current
5 V	1600 mA
6 V	1400 mA
7.5 V	1200 mA
9 V	1000 mA
12 V	800 mA
15 V	700 mA
18 V	560 mA
24 V	420 mA

GPP 18  
FW 7660M

L x W x H (mm):  
52.0 x 85.0 x 39.5

Output data	
Voltage	Current
5 V	3000 mA
6 V	2500 mA
7.5 V	2000 mA
9 V	1800 mA
12 V	1500 mA
15 V	1200 mA
18 V	1000 mA
24 V	750 mA

PP 8  
FW 73335M

L x W x H (mm):  
77.0 x 49.0 x 82.0

Output data	
Voltage	Current
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

MPP 15  
FW 73335M

L x W x H (mm):  
51.5 x 87.5 x 34.0

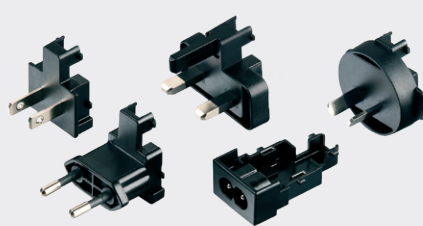
Output data	
Voltage	Current
5 V	2400 mA
6 V	2100 mA
7.5 V	1700 mA
9 V	1500 mA
12 V	1250 mA
15 V	1000 mA
18 V	840 mA
24 V	625 mA

MPP 30  
FW 7362M

L x W x H (mm):  
68.0 x 105.0 x 39.0

Output data	
Voltage	Current
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

## AC adapters GPP system



## AC adapters

The MPP/GPP line is available with region-specific mains plugs. The products are therefore universally applicable. Not only do the plugs enhance mobility and reliability of the corresponding product, they even facilitate the management of the region versions of power supplies and chargers.

In countries with mains plugs which are not covered by EURO, UK, USA/Japan and Australia mains plug types, the IEC adapter with the 2-pin IEC 320 C8 socket provides a standardized alternative.

## AC adapters MPP system

