Switchmode power supply

INDUSTRIAL / ITE

with interchangeable adapter system.
All products conform to IEC 60950-1.

FRIWO®

FOX6-X

6 W INDUSTRIAL / ITE POWER SUPPLY

LISTED 6P85



Characteristics

- High efficiency: up to 81.6%
- Low no load power consumption <95mW
- Meets DoE efficiency level VI
- CoC version 5 ready
- Ultra-low leakage current ≤10µA
- IEC 60950-1, 4th edition ready
- Wide operating temperature range 0 - 45°C
- Double housing safety: snapped & welded
- IP42 approved interchangeable plug system as additional accessories
- Also available as version with fixed plugs: FOX6-F

FOX6-X

6 W INDUSTRIAL / ITE POWER SUPPLY

FOX power supply units are smaller, more powerful and more efficient than their predecessors. FRIWO's new technical concept has again increased energy density. Thanks to a patented interchangeable adapter system, its devices are suitable for use under the toughest conditions and in the harshest environments. New: the optional IP42 adapter from FRIWO is an interchangeable adapter system that offers additional protection for use in damp environments.

Minimal leakage current means that FRIWO's power supply units are also ideally suited for use with measurement technologies, because they prevent unwanted influences that distort measured values. The FOX product family already meets the U.S. Department of Energy's stringent 2016 DOE energy-efficiency standards, which include stricter requirements regarding the efficiency and standby loss of power supply units. As a result, FRIWO already offers devices that exceed future statutory requirements, ensuring the worldwide use of your application. Choosing FOX today is an investment in the future, offering security tomorrow and beyond.

Model Selection: Output Specifications

Article no.	FW Type	Voltage	Current	Power	Ripple voltage	Efficiency (typ)	No-Load Power
1960487	FW8002.1/05	5 V	1400 mA	7,00 W	180 mV pp	76,4%	≤75mW
1960488	FW8002.1/06	5,9 V	1200 mA	7,08 W	150 mV pp	76,4%	≤75mW
1960489	FW8002.1/08	7,5 V	800 mA	6,00 W	150 mV pp	79,0%	≤75mW
1960490	FW8002.1/09	9 V	800 mA	7,20 W	150 mV pp	80,2%	≤75mW
1960491	FW8002.1/12	12 V	600 mA	7,20 W	200 mV pp	80,2%	≤75mW
1960492	FW8002.1/15	15 V	500 mA	7,50 W	180 mV pp	80,4%	≤75mW
1960493	FW8002.1/18	18 V	400 mA	7,20 W	180 mV pp	80,2%	≤75mW
1960494	FW8002.1/24	24 V	300 mA	7,20 W	240 mV pp	80,2%	≤75mW

* Ripple measured with 20MHz Bandwidth Oscilloscope and 0.1uF/50V ceramic capacitor and 10uF/50V aluminum electrolytic capacitor across the output terminal.

FOX6-X



6 W INDUSTRIAL / ITE POWER SUPPLY

Input Specifications

Input voltage	100-240 V ±10%
Frequency	50-60 Hz
Input current	160-80 mA
Inrush current (@240V)	<35A

General Specifications

Operating temperature	0..+45°C
Operating humidity	10..95 %
Operating altitude	3000 m
Storage temperature	-40°C..+70°C
Storage humidity	10..95 %
Non-operating altitude	3000 m
Atmospheric pressure	70-106kPa
Output voltage tolerance	±5 %
Line regulation	±1 %
Load regulation	±4 %
Turn-on delay	≤2 s
Hold-up time	>5ms (120V) >50 ms (230 V)
MTBF calculation	200.000 h acc. Mil217F (based on calculations at 120Vac/60Hz & 230Vac/50Hz, ambient 25°C and 100% load)
Housing material	PC-ABS
Dimensions	58,0x31,5x41,0mm
Weight	112 g
AC input	FRIWO interchangeable mains plug system: see Primary Adapters
DC output	FRIWO Universal output plug system: see Secondary Adapters

Safety

Safety standards	IEC/EN/UL60950-1
Approbations	Europe, USA, Australia, Japan
Protection class	II
Isolation	Input - Output 2xMOPP, Input - Ground 1xMOPP
Leakage Current	≤ 10 µA
Flame class	UL 94 V0
IP code	IP40 (IP42 adapters optionally available)
Overload protection	Yes
Overvoltage protection	Yes
Short ciruit protection	Yes

EMC Compliance

Conducted and radiated Emmisions	EN55032, FCC15, Class B, EN60950-1				
Immunity	EN55024,				
Harmonics	EN61000-3-2	Class A			
Flicker noise	EN61000-3-3	Yes			
ESD (contact / air)	EN61000-4-2	4kV /8kV		Criteria B 100V	Criteria B 240V
Immunity against radiated field	EN61000-4-3	10V/m		Criteria A 100V	Criteria A 240V
ETF / Burst	EN61000-4-4	2kV		Criteria B 100V	Criteria B 240V
Surge	EN61000-4-5	1kV / 2kV		Criteria B 100V	Criteria B 240V
Immunity against conducted disturbances	EEN61000-4-6	10V		Criteria A 100V	Criteria A 240V
Voltage dips	EN61000-4-11	0%	0,5 Cycle	Criteria B 100V	Criteria A 240V
		40%	5 Cycle	Criteria B 100V	Criteria B 240V
		70%	25 Cycle	Criteria B 100V	Criteria B 240V
		0%	5s	Criteria B 100V	Criteria B 240V
Immunity against magnetic field	EN61000-4-8	30A/m		Criteria A 100V	Criteria A 240V

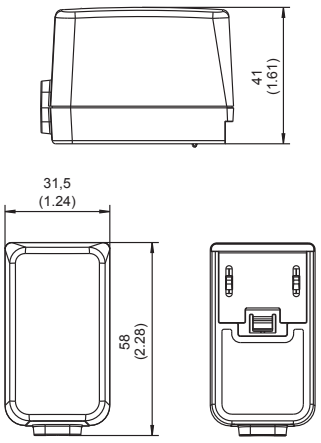
Drop Test

Standard	IEC 60068-2-32
Surface	Steel
Drop height	1 m
Numbers of Drops (total)	3

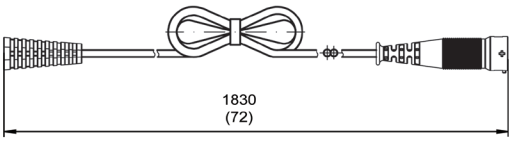
Vibration

Standard	IEC 60068-2-6
Frequency range	10 – 500 Hz
Cross-over-frequency	58 – 62 Hz
Displacement amplitude	0.2 mm
Peak acceleration	3 g
Number of cycles	10 per axis

Mechanical Drawings

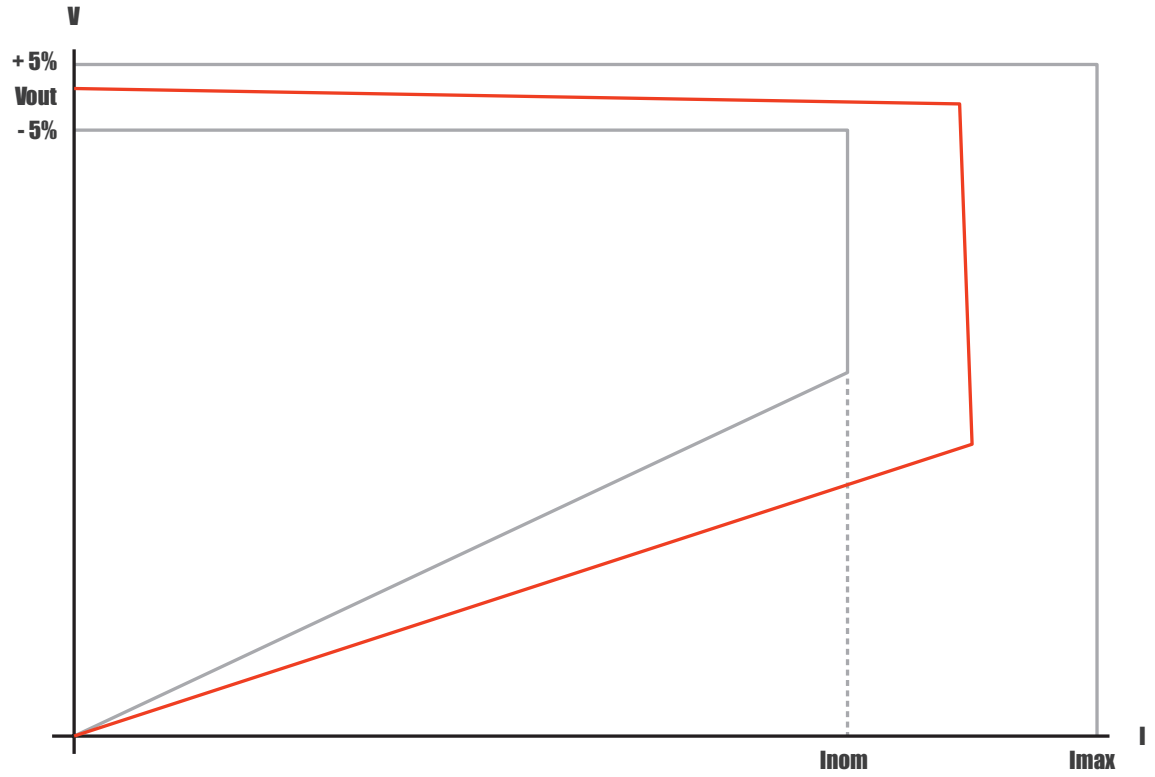


Alle Abmessungen in Millimeter (Inch), Abweichung ± 0,5 (0.02)
All Dimensions in Millimeter (Inch), Deviation ± 0,5 (0.02)



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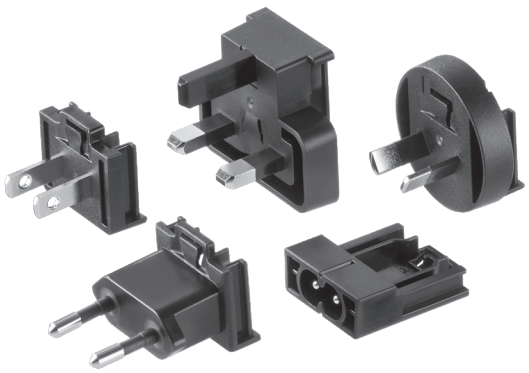
Output Characteristics



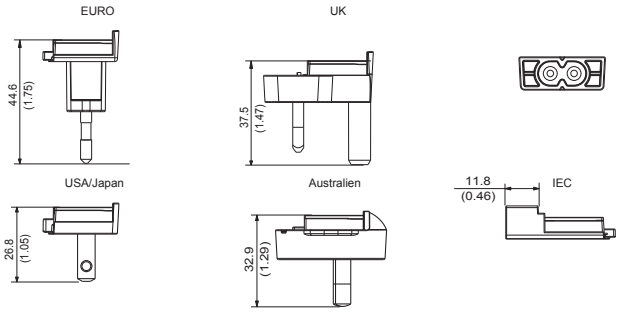
FRIWO Gerätebau GmbH
Von-Liebig-Straße 11 · 48346 Ostbevern · Germany
Tel. +49 2532 81-0 · sales@friwo.com · www.friwo.com

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Primary Adapters



Mechanical Drawings



Alle Abmessungen in Millimeter (Inch), Abweichung ± 0,5 (0.02)
All Dimensions in Millimeter (Inch), Deviation ± 0,5 (0.02)

FOX	IPx0	IPx2	FOX	IPx0	IPx2	FOX	IPx0	IPx2
Country	Article no.	Article no.	Country	Article no.	Article no.	Country	Article no.	Article no.
EURO	1847556	1847618	IEC	1847552	–	IND 2-polig	1847547	–
UK	1847544	1847606	ARG	1847548	–	IND 3-polig	1847546	–
USA / JPN	1847554	1847604	BRA	1847551	–	KOR	1847545	–
AUS	1847553	1847624	CHN	1847550	–	ZAF	1847549	–

Secondary Adapters

Straight coaxial connectors

Ø out.	Ø in.	Length mm	Article no.
3.5	1.3	9.5	1807699
4.0	1.7	9.5	1822557
4.0	1.7	11.0	1811994
4.8	1.7	9.5	1822559
5.5	2.1	9.5	1807700
5.5	2.1	11.5	1807701
5.5	2.1	14.0	1807697
5.5	2.5	9.5	1807698
5.5	2.5	11.5	1807702
5.5	3.3	9.5	1822561
DIN 45323			1807703

Angled coaxial connectors

Ø out.	Ø in.	Length mm	Article no.
3.5	1.3	9.5	1822478
4.0	1.7	9.5	1822558
4.0	1.7	11.0	1822482
4.8	1.7	9.5	1822560
5.5	2.1	9.5	1822479
5.5	2.1	11.5	1822480
5.5	2.1	14.0	1822476
5.5	2.5	9.5	1822477
5.5	2.5	11.5	1822481
5.5	3.3	9.5	1822562
DIN 45323			1822483

Straight jack connectors

Ø out.	Length mm	Article no.
2.5	13	1807704
3.5	14	1807705

Angled jack connectors

Ø out.	Length mm	Article no.
2.5	13	1822484
3.5	14	1822485

Connectors / Sockets

Model	Article no.
Texas connector	
Straight texas connector	1807706
Angled texas connector	1822486
Texas sockets 2-pin	
Snap-in type	1323938
PCB type	1321609
Texas sockets 3-pin	
Snap-in type	1327259
PCB type	1363506