

DFX6048A



- For industrial and residential applications
- Wide input range: 100 - 240 - 277 Vac
- Flexible power continuity up to 65 W
- Output: 48 Vdc
- Wide temperature range: -25 to 70 °C
- Overload, overvoltage and short-circuit protection
- DIN Rail and wall mounted - IP20
- Extremely small size
- 3 years warranty

Input Data

Nominal Input Voltage (2 x Vac)	100 – 240 – 277
AC Input Voltage range (Vac)	85 – 305
DC Input Range (Vdc)	95 – 370
AC Frequency	45 – 65 Hz ± 5%
DC Frequency	0 Hz
Current consumption (Approx..)	1.2 A (120 Vac) 0.65 A (230 Vac)
Inrush Current limitation (Vn and In Load) I _{pt}	≤ 25 A ≤ 5 msec.
Hold-up Time (Typ.)	> 15 msec (120 Vac) > 30 msec (230 Vac)
Internal Fuse (slow – blow, Internal)	2.5 A
External Fuse (recommended)	10 A curve B
External Circuit Breaker (recommended)	10Acurve B or 6Acurve C

Output Data

Output Voltage isolated DC Voltage (Vn)	48 Vdc ± 3%
Adjustment range (Vadj)	41 – 55 Vdc
Start up with Strong Load (capacitive load)	≤ 30.000μF
Turn-On delay after applying mains voltage	1 sec. (max)
Continuous Current -25 - +55°C In	1.25 A
Continuous Current +55 - +70°C In	Derating 2%/K
Power Boost Current at 24 Vdc 55° C In	1.5 A ≤ 3 min.
Max Short Circuit current (I _{sc})	1.5 A
Enduring Short Circuit current RMS max.	1.5 A
Residual Ripple (with nominal value)	≤ 100 mV _{ss}
Peak	≤ 150 mV _{ss}
Parallel connection to increase power	No
Series Connection	Yes (max four device)
Redundancy Connection	Yes

Efficiency

Efficiency at Vout rated, Iout rated, approx.	85%
Power loss at Vout rated, Iout rated, approx.	3 W
Power loss [W] during no-load operation maximum	0.3 W
Reliability: MTBF at 40°C IEC 61709	> 980.000 h

Closed-loop control

Dynamic mains compensation (Vin rated ± 15 %), max.	-0.2 %
Dynamic load smoothing (Iout: 10/90/10 %), Uout ± typ.	2 %
Load step setting time 10 to 90%, typ.	1 ms
Load step setting time 90 to 10%, typ.	1 ms

Protection and monitoring

Output over voltage protection	Hiccup. Shut-down output and automatic restart.
Short-circuit protection	Hiccup. Shut-down output and automatic restart.
Over Load capability	150% In typ. 200ms
Over Voltage Output protection	Yes (typ. 35 Vdc)
Status output voltage OK	Green LED

Environmental Conditions

Ambient Temperature operation	-25 up to +70 °C
Ambient Temperature Storage	-40 up to +85 °C
Humidity at 25 °C in acc. to EN 60721	95 % no condensation
Vibration (operation) IEC 60068-2-6	< 15 Hz, amplitude ± 2.5mm < 15Hz-150Hz, 2.3G 90 min.
Shock IEC 60068-2-6	30g in all directions

Safety

Primary/secondary isolation	Yes
Pollution Degree Environment	2
Insulation voltage (IN/OUT)	4000 Vac
Insulation voltage (Input / Earth, PE)	2000 Vac
Insulation voltage (Out Load & Battery / Earth, PE)	500 Vac
Galvanic isolation to: EN 62368 and EN 50178	Safety extra-low output voltage Uout
Degree of protection (EN 60529)	IP20

Mechanics Data

Screw type connection	0.6 - 0.8 Nm
Connections Supply Input: L, N: 1	0.2 - 2.5 mm ² (24–12 AWG)
Connections Output: +, -	0.2 - 2.5 mm ² (24–12 AWG)
Protection class	II
MTBF at 40°C	> 4.300.000 h
Housing material	Polycarbonate
Dimension (WxHxD) DIN 43880	54 x 90 x 55 mm
Weight (approx.)	0.2 Kg

Regulatory Compliance

- CE mark in conformity with EU Directives: EMC, LVD and RoHS.
- UKCA mark in conformity with UK S.I. 2016/1091, 2016/1101, 2012/3032.
- REACH Regulation 1907/2006.

Approvals (Pending)

- UL 61010-2-201 Safety requirements for electrical equipment for measurement, control and laboratory use.
- UL 1310 NEC class 2 Limited Power Source.

EMC

- EMC Immunity EN 61000-6-2 for industrial environments: EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11.
- EMC Emission EN 61000-6-3 for residential environments (Class B).