



Brick DC-DC Power Supply Series

Ultra-Wide Input · High Power Density · Railway / Industrial Reliability

Product View

AMCHARD brick DC-DC converters deliver 50W–1300W in industry-standard 1/4, 1/2 and full brick packages. They feature ultra-wide 12:1 / 4:1 / 2:1 input ranges, efficiency up to 96.5%, isolation up to 3000VAC, and comprehensive protection and control functions. Designed for railway, industrial, telecom, power and automotive applications, they offer high reliability, flexible mounting and intelligent PMBus management.



Full-brick



1/2 brick



1/4 brick

Key Features

Ultra-Wide Input, Full Bus Compatibility

- 12:1, 4:1 and 2:1 input ranges cover 9–160VDC, 14–160VDC, 18–75VDC, 36–75VDC and more.
- Surge withstand up to 200V; supports input UVLO, programmable start-up voltage and reverse polarity protection options.
- Compatible with 24V / 48V / 72V / 96V / 110V railway, industrial and telecom bus systems.

High Power Density in Standard Brick Packages

- 50W–1300W output in industry-standard 1/4 brick, 1/2 brick and full brick pin-outs.
- Wide output selection: 3.3–54V; mounting options include PCB, heatsink, baseplate, chassis and DIN-Rail.
- Selected models support parallel current sharing and redundant operation.

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Key Features

High Efficiency and Wide-Temperature Thermal Design

- Efficiency up to 96.5%; low no-load consumption; PFM/PWM operation at 170–340kHz.
- Operating temperature range -40°C to $+105^{\circ}\text{C}$; storage temperature -55°C to $+125^{\circ}\text{C}$.
- Aluminum case or five-sided metal shield; supports free air, forced air and conduction cooling.

Rugged Protection and Reinforced Isolation

- Input under-voltage, output over-voltage, over-current, short-circuit and over-temperature protection.
- Short-circuit protection with hiccup / continuous self-recovery.
- Isolation options: 1500VDC, 2250VDC, 3000VAC; input-output, input-case and output-case isolation.

Flexible Control and Intelligent Power Management

- Remote ON/OFF with positive/negative logic; output Trim 60–110% V_o ; remote sense compensation.
- PMBus on GTF4850 series: monitor V_{in} , V_{out} , I_{out} , temperature, frequency and duty cycle; fault status and NVM configuration.
- UVLO programming, hold-up time, parallel current sharing and SYNC interleaving available on selected models.

Complete Design Support and Broad Applications

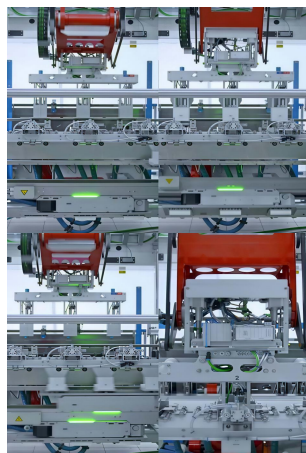
- Full design references: EMC circuits, input/output filtering, hold-up capacitors, parallel sharing, remote sense and thermal test points.
- Typical applications: rail transit, industrial control, telecom base stations, power systems, automotive electronics, renewable energy and robotics.
- Selected models come with a 3-year warranty; customization and matched filter modules are available.

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Typical Applications



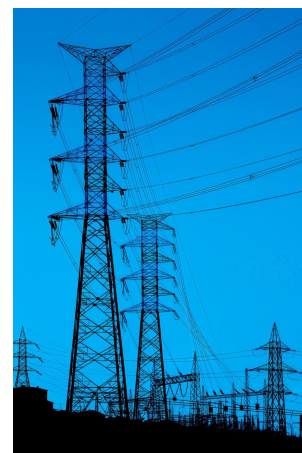
Railway



Industrial Control



Intelligent Robot



Electric Power

Product Series Overview

Series	Power (W)	Isolation Voltage	Input Voltage Range	Output Voltage Range(V)	Package
ATF1DXXFB-400W	400	3KVAC	66-160VDC	5,9,12,15,24,28,36,48,54	full-brick
ATF1DXXHB-150W(H)R3(A5)(A6)	150	3KVAC	43-160VDC	5,12,15,24,48	1/2 brick
ATF1DXXHB-250W(A5)	250	3KVAC	40-160VDC	5,12,15,24,40,48,54	1/2 brick
AT24xxHB-400	400	2.25KVDC	9-40VDC	12,15,24,28,48	1/2 brick
GTF4850HB0-1300	1300	2.25KVDC	36-75VDC	50	1/2 brick
GTB24xxHB-350WR3	350	1.5KVDC	20-36VDC	12,24,28,32	1/2 brick
GTFXXYYHB-500W	500	2.25KVDC	18-36VDC	12,15,24,28	1/2 brick
ATF48xxHB-400WR3-N	400	2.25KVDC	36-75VDC	12,15,24,28	1/2 brick
ATF1DxxQB-75W(H)R3	75	3KVAC	43-160VDC	3.3,5,12,15,24,48	1/4 brick
ATF1DXXQB-100W(H)R3(A5)(A6)	100	3KVAC	43-160VDC	3.3,5,12,15,24,48	1/4 brick
ATF24_QB-100W(F)(H)R3(A5)(A6)	100	2.25KVDC	9-36VDC	5,12,15,24,28,48	1/4 brick
ATF2424QB-150W(F)(H)R3(A5)(A6)	150	2.25KVDC	9-36VDC	24	1/4 brick
ATF48xxQB-200WR3	200	2.25KVDC	18-75VDC	5,12,15,24,36,42,5,48	1/4 brick
ATH1D_QB-100W(H/F)R3	100	3KVAC	14-160VDC	12,15,24,28,48,54	1/4 brick
ATH1D_QB-50W(H/F)R3S	50	3KVAC	14-160VDC	12,15,24,28,48,54	1/4 brick
ATF1D_QB-50W(H)R3(A5)(A6)	50	3KVAC	43-160VDC	3.3,5,12,15,24,48	1/4 brick

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