

Mini modules DC-DC converters with:

- large input range,
- maximum thermal dissipation facilitated by epoxy resin internal casting and lateral dissipator,
- protection against humidity, dust, shocks and vibrations,
- 3 presentations, for mounting either: on DIN rail or wall (A1RD case) / on wall (A1P case) / on printed circuit board with "half-brick" connection (A1CI case)

Electrical data

- ♦ **"Vin" Input** (protected against undervoltage and surge pulses)
 - two voltage input ranges available:
 - 9 to 36V (accidental max.: 50V / 0.1s) for Vout = 5V/12V/15V/24V
 - 18 to 75V (accidental max.: 100V / 0.1s) for Vout = 12V/15V
 - no load consumption: 90mA to 270mA (see table)
 - possible external fuse: 20A (10A for 18 to 75V)
 - optional "ON/OFF" remote control
- ♦ **"Vout" Output** (soft start in 50ms)
 - 5V/12V/15V/24V (Vin : 9 to 36V) & 12V/15V (Vin : 18 to 75V); accuracy: 1%
 - optional fit with embedded "10 revolutions" axis: $\pm 10\%$
 - line and load regulation: $< 2 \cdot 10^{-3}$ of Vout
 - temperature coefficient: $2 \cdot 10^{-4}$ of Vout, per °C
 - switching frequency: fixed (210 to 300 kHz)
 - residual ripple: $\leq 1\%$ of Vout
 - nominal efficiency: 88 to 91% (losses $\leq 10W$)
 - dynamic response: $< 1\%$ of Vout / 150µs / load 50% to 75%
 - permissive capacitive load: 4700µF to $\geq 22,000\mu F$ depending on load

Protections

- input-output insulation: 1500V DC. Internal filter on the input
- against overload and short circuit (even constant) by pulsed flow
- in case of inductive load: option "L" will reinforce protection
- inversion Vin ; this option reduces the efficiency
- abnormal temperature rise: automatic shutdown and restarting
- sealing: IP67 protection against water and dust

Thermal and environmental performances

- storage: -40 to +125°C ; operating: -40 to +85°C
- cooling: natural convection (derating 5% per °C)
- temperature rise of the case, at full load: +20°C
- maximum ambient temperature:
 - 65°C at full power
 - 75°C at half power
- vibrations, shocks, humidity: protection by epoxy resin

Standards and specifications

- marking CE/UL60950-1, ICE60950-1, EN60950-1 / RoHS
- flammability: UL94HB, horizontal test
- MTBF: $> 8 \cdot 10^5$ hours, case at 25°C
- worldwide manufacturers for active parts
- assembling and final controls: ELECDAN-CONVERTER

Case mountable on	Length	Width x depth	Material Weight	add SKU	Connections
① DIN rail or wall	69 + 15 mm	64 x 32 mm	240g	A1RD	screw terminal
② Wall	64 + 8 mm	64 x 32 mm	230g	A1P	wire $\leq 2mm^2$
③ Printed circuit	64 mm	64 x 31 mm	225g	A1CI	pin $\varnothing 1mm$

OPTIONS and their SKU				
Vout fit with axis "10 revolutions"	AJ	"inversion" protection	PI	
inductive load driving	L	wired outputs	F	
"ON / OFF" remote control	H	Vout presence indicator	V	
other Vin and/or Vout	value	personalized case	P	
remote sense	T	solid state relay " Vout "	R	

Range & No. sequence	Input range (Volts)	Outputs Volts	Amp	no load consu. (mA)	SKU add A1RD or A1P or A1CI	Pre-tax price
4 - 1	9V to 36V	5	15	185	CC 5-15 / 936	
4 - 2		12	6.2	75	CC 12-6.2 / 936	
4 - 3		15	5	270	CC 15-5 / 936	
4 - 4		24	3.1	110	CC 24-3.1 / 936	
4 - 5		28	2.6	130	CC 28-2.6 / 1036	
4 - 6	18V to 75V	12	6.2	90	CC 12-6.2 / 1875	
4 - 7		15	5	90	CC 15-5 / 1875	

NB: model No. 4-5 (output 28V) requires Vin min = 10V



Case **A1RD**
 DIN rail or wall mounting
 width: 9 + 69 + 6 mm
 height: 64 mm
 depth: 32 mm



2 holes $\varnothing 3.2mm$
 48.2mm
 50.8mm
 wall mounting
 Case **A1P**
 wall mounting
 width: 64 + 8 mm
 height: 64 mm
 depth: 32 mm



Case **A1CI** 64 x 64 x 31 mm, weldable on printed circuit ("half-brick" type of location, pins $\varnothing 1mm$)

