

Mini modules DC-DC converters with:

- large input range,
- maximum thermal dissipation facilitated by epoxy resin internal casting and 2 lateral dissipators,
- protection against humidity, dust, shocks and vibrations,
- mounting on DIN rail (A2RD 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 = 12V/15V/24V
    - 18 to 75V (accidental max.: 100V / 0.1s) for Vout = 12V
  - no load consumption: 70mA to 250mA (see table)
  - possible external fuse: 25A (12A for 18 to 75V)
  - optional "ON/OFF" remote control
- ◆ **"Vout" Output** (soft start in 20ms)
  - 12V/15V/24V (Vin : 9 to 36V) and 12V (Vin : 18 to 75V); accuracy: 1%
  - optional fit with embedded "10 revolutions" axis: ±10%
  - line and load regulation: <math>< 10^{-3}</math> of Vout
  - temperature coefficient:  $2.10^{-4}$  of Vout, per °C
  - switching frequency: fixed (210 to 300 kHz)
  - residual ripple: ≤1% of Vout
  - nominal efficiency: 87 to 90% (losses ≤ 15W)
  - dynamic response: <math>< 1\%</math> of Vout / 150µs / load 50% to 75%
  - permissive capacitive load: 2200µF to ≥22,000µF depending on load

**Protections**

- input-output insulation: 2000V 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: -55 to +125°C ; operating: -40 to +100°C
- cooling: natural convection (derating 3.3% per °C)
- temperature rise of the case, at full load: +30°C
- maximum ambient temperature:
  - 70°C at full power
  - 85°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: > 5.10<sup>5</sup> 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
DIN rail	69 + 15 mm	64 x 48 mm	PA 2002 340g	A 2 R D	screw terminal wires ≤ 2mm <sup>2</sup>

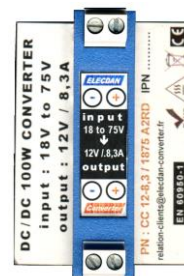
OPTIONS and their SKU				
Vout fit with axis "10 revolutions"	AJ	"inversion" protection	PI	
inductive load driving	L	wired outputs	F	
"ON / OFF" remote control	H	Vout presence indicator	V	
other Vin and/or Vout	value	personalized case	P	
remote sense	T	solid state relay " Vout "	R	

Range & No. sequence	Input range (Volts)	Outputs		no load consu. (mA)	SKU add A2RD	Pre-tax price
		Volts	Amp			
5 - 1	9V to 36V	12	8.3	180	CC 12-8.3 / 936	
5 - 2		15	6.6	250	CC 15-6.6 / 936	
5 - 3		24	4.1	120	CC 24-4.1 / 936	
5 - 4		28	3.5	140	CC 28-3.5 / 1136	
5 - 5	18V to 75V	12	8.3	70	CC 12-8.3 / 1875	

NB: model No. 5-4 (output 28V) requires Vin min = 11V



Case **A2RD**  
DIN rail mounting  
width: 9 + 69 + 6 mm  
height: 64 mm  
depth: 48 mm



Front view  
(64 x 48 mm)



**Case 1CIHR**, output voltage 12V

- dimensions in mm: 64 x 64 x height 33
- weldable on printed circuit ("half-brick" type of location)
- cooling by built-in fan, pluggable