



> Description

Specially designed for truck, bus or off-road construction vehicles markets, this DC/DC converter allows customers to use 12 VDC electric equipments with a 24 VDC original installation. This series offers several output powers, depending on customer applications.

> Input Specifications

Product reference	All references
Nominal input voltage	24 VDC
Input voltage range	16 to 34 VDC
Input transients voltage	36 V during 2 h 48 V during 2 min
Reverse input voltage protection	Yes (30 V continuous)

> Output Specifications

Product reference	CCA 140	CCA 154	CCA 210	CCA 280
Nominal output voltage	14 VDC			
Output voltage ripple p-p (WB 0 to 30MHz)	150 mV			
Maximal output current	10 A	11 A	15 A	20 A
Crossed regulation (load + line)	± 0.7 V			
Nominal output power	140 W	154 W	210 W	280 W
Efficiency	> 92%			
Long term stability during 8 hours (after 1/2 hour operating)	< 0.3%			
Thermal protection	No			
Switching frequency	> 25 kHz, fixed			
Output current limitation	1,2In			
Over voltage protection	Yes, by fuse			
Permanent short circuit protection	Yes			

> Environmental details

Product reference	All references
Operating temperature range	-25°C to +70°C
Derating	Without derating
Storage temperature range	-40°C to +85°C
Temperature coefficient	$< 2 \cdot 10^{-4}/^{\circ}\text{C}$
Relative humidity at 40°C	> 93%
Cooling	Natural convection
Insulation resistance	No
Dielectric strength	No
MTBF (according to MILHDBK.217F)	GM 40°C: >90 000 h
Coating	PCB coated with varnish
Protection index	IP 20





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> Applicable Norms

Item	Reference	Level	Compliance
	ISO/DIS 16750-X (1, 2, 5, 6)		X
Vibrations and shocks	ISO/DIS 16750-3 (F)		X
Climatic load	ISO/DIS 16750-4	-40°C to +70°C	X
EMC	CISPR 25		X

> Mechanical Characteristics

Product reference	CCA 140	CCA 154	CCA 210	CCA 280
Box material	Aluminium			
Potting	No			
Dimension	130 x 129 x 40 mm			130 x 129 x 52 mm
Weight	< 500 g		< 550 g	
Fixing	2 x Ø 7mm			
Input connector	FCI RT 94BR08WH*T	AMP 82 88 01-3	AMP 82 88 01-4	AMP 96 61 40-3

> Pinout

Product reference	CCA 140	CCA 154	CCA 210	CCA 280
1	+Vin	+Vin accessory	-Vin	+Vout2 accessory
2	GND (Vin)	+Vout2 accessory	+Vin power	+Vout2 accessory
3	+Vout	+Vout1 power	+Vin accessory	+V accessory
4	GND (Vout)	+Vout1 power	+Vout1 power	+Vout1 power
5	+Vout	+Vout1 power	GND	+Vout1 power
6	GND (Vout)	GND (Vout)	+Vout1 power	GND
7	NC	GND (Vin)	GND	+Vin power
8	NC	Vin power	+Vout2 accessory	GND
9			+Vout2 accessory	GND
10			+Vout2 accessory	+Vin power
11				GND
12				GND

> Technical drawing

