

SINGLE OUTPUT DIRECT CURRENT-DIRECT CURRENT CONVERTERS

ASC SERIES

Overview

Single output DC/DC converters, in PWM switching technology. Particularly developed for industrial automation applications where are requested high reliability and the ability to withstand, in input and output terminals, high overvoltages generated by perturbations on input line.

Electrical characteristics

The most important characteristics that distinguish this type of converter are:

Input voltage	24/48/110 Vdc
Admitted tolerance	±20%
Peak superimposed ripple	less than 10% Vdc
Output voltage	5/12/24/48 Vdc
Warranted tolerances	
Line variations	±1%
Load variations	±1%
AC superimposed ripple	less than 2% RMS
Overvoltages rejection	more than 40 dB
Short circuit current	120% I nominal
Inrush current	less than 4 times the nominal input current
Efficiency	more than 80%
Sustain time	about 50 mS with output voltage at -10%
Single unit MTBF	ab. 250.000 hours
Redundance	Available with the insertion of the dedicated accessory or panel.

Output power

The product range includes the following models as a function of the output powers.

Model	Output power
ASC75	75 Watt
ASC150	150 Watt
ASC300	300 Watt
ASC600	600 Watt
ASC1200	1200 Watt

Accessories

A wide range of accessories is available to equal the converters to the more complex applications and specifications.

The ones foreseen in normal production are the following.

- Input magnetothermic breaker
- Output magnetothermic breaker
- Redundant connection diode
- Not trimmable output voltage breakdown relay
- Analog output instruments (V/ I)
- Forced ventilation
- Trimmable low output voltage relay
- Trimmable bipolar ground output voltage relay
- Output overvoltage protection

Mechanical characteristics

The mechanical construction is 19 inches Rack type according to DIN41612 standard, with stainless steel AISI 316 structure and anodized aluminium front side in black or natural color. The height units and modularity are a function of the supplied power. The overall dimensions are the following.

Model	Units x width	Depth
ASC75	3 x 21TE	270mm
ASC150	3 x 42TE	270mm
ASC300	3 x 84TE	270mm
ASC600	3 x 84TE	402mm
ASC1200	4 x 84TE	402mm

Ambient compatibility

The converters are submitted to typical or production tests to warrant the ambient compatibility. The fundamental tests are the following (* identifies typical tests).

*Vibrations	5 m.s ⁻² - 0,032mm
*Storage temperature	from -25 to 70 °C
*Working temperature	from -10 to 55 °C
*Injected harmonics	less than 40%
1,2/50 µs pulse withstand	2 kVp
Dielectric strenght	2 kV RMS
Insulation resistance	100 MΩ at 500 Vcc
Damped oscillatory waves	1 kVp at 1MHz
CE mark ref. standards	EN50081-2/50082-2

Product range

Model	Redundance with diode	Input voltage 1=24 2=48 3=110	Input breaker	Output breaker	Output breakdown relay	Instruments	Forced ventilation	Low output volatge relay	Overvoltage protection	Ground fault relay	Output voltage	Output current
ASC75-0	R	1/2/3	I1		R1				P1		12	6
ASC75-1	R	1/2/3	I1		R1				P1		24	3
ASC75-2	R	1/2/3	I1		R1				P1		48	1,5
ASC75-3	R	1/2/3	I1		R1				P1		110	0,7
ASC150-0	R	2/3	I1		R1			R6	P1		12	12
ASC150-1	R	2/3	I1		R1			R6	P1		24	6
ASC150-2	R	2/3	I1		R1			R6	P1		48	3
ASC150-3	R	2/3	I1		R1			R6	P1		110	1,3
ASC300-1	R	2/3	I1	I3	R1	S1/4	V1/2	R6	P1	T1	24	12
ASC300-2	R	2/3	I1	I3	R1	S1/4	V1/2	R6	P1	T1	48	6
ASC300-3	R	2/3	I1	I3	R1	S1/4	V1/2	R6	P1	T1	110	2,6
ASC600-1	R	2/3	I1	I3	R1	S1/4	V1/2	R6	P1	T1	24	25
ASC600-2	R	2/3	I1	I3	R1	S1/4	V1/2	R6	P1	T1	48	12
ASC600-3	R	2/3	I1	I3	R1	S1/4	V1/2	R6	P1	T1	110	5
ASC1200-1	R	3	I1	I3	R1	S1/4	V1/2	R6	P1	T1	24	50
ASC1200-2	R	3	I1	I3	R1	S1/4	V1/2	R6	P1	T1	48	25
ASC1200-3	R	3	I1	I3	R1	S1/4	V1/2	R6	P1	T1	110	11

Mechanical dimensions

