

DC-DC Converters – Isolated & ISP Series

Isolated Series

As well as voltage conversion, this series provides input/output isolation, allowing use of negative ground electronics on off-highway vehicles which typically employ positive ground battery systems. May also be used as a voltage stabilizer for sensitive equipment (see page 26).

ISP Series

offer the benefits of an isolated converter (above) plus protection against line transients and voltage spikes typically caused by large DC motors and switching transients often encountered on fork lifts, locomotives and light rail. A special circuit clamps input spikes to a safe level, protecting both the converter and the powered equipment.

This product series is further enhanced with extra rugged construction of case and internal components for severe vibration applications.

Features: Isolated & ISP Series

reverse polarity protection; input fuse; output fuse; current limiting, short circuit proof output; automatic resetting thermal shutdown; input transient protection*; high/low input voltage shutdown; polyurethane conformal coating on PC board. Power "ON" light. On/off switch; *ISP Series only



Isolated Series						
Model	Input Voltage	Output Voltage	Output Amps		Case Size	Weight
			Intermittent	Continuous		Lbs Kg
12-12-12I	10-16**	13.6	12	8	C-8	6 2.7
12-24-6I		24.5	6	4		
12-12-35I	10-16**	13.6	35	20	C-9	12 5.5
12-24-18I		24.5	18	10		
48-12-6I	20-56	13.6	6	6	C-7	7 2.7
48-24-3I		24.5	3	3		
48-12-12I	20-56	13.6	12	8	C-8	6 2.7
48-24-6I		24.5	6	4		
48-12-18I	20-56	13.6	18	10	C-8	8 3.6
48-24-9I		24.5	9	5		
48-12-35I	20-56	13.6	35	20	C-9	12 5.5
48-24-18I		24.5	18	10		

**11.5 VDC minimum start-up voltage, then operates @ 10-16 VDC from 1 amp minimum to full load

Performance Specifications: Isolated and ISP Series

Output: 13.6 VDC (internally adjustable 12.6-14.5) or 24.5 VDC (or specify)

Ripple: 150 mV P-P

Regulation: +/- 2% Line/Load

Duty Cycle Ratings*: Intermittent - 20 minutes, max on time, 20% duty, Continuous - 24 hours, 100% duty

*Current limit set at approximately 105% of intermittent rating

Idle Current: (including power "on" indicator light) approx. 50 mA

Operating Temp

Isolated Series: 0-50° C; derate linearly from 100% @ 40° C to 50% @ 50° C
ISP Series: see temperature rating curves (below)

Switching Frequency: 70Khz

Efficiency: 85% - typical.

DC Isolation: Input/Output, Input/Chassis, Output/Chassis:

I Series: 250 VDC

ISP Series: 1,400 VDC

Case Size

Dimensions

	Inches			Centimeters		
	H	W	D	H	W	D
C-6	6.0	4.6	13.7	15.2	11.7	34.8
C-7	4.25	5.9	7.7	10.8	15.0	19.6
C-8	4.25	5.9	14.0	10.8	15.0	35.6
C-9	6.0	6.8	16.5	15.2	17.3	41.9

Options

- operation as a battery charger or parallel/ redundant operation (contact factory)
- High vibration mounting kit (see page 18)
- Other "Special" output voltages available

ISP Surge Protection

Transient Energy Capability:

36 VDC Input:

140 joules (Watt-Seconds)

Peak Current, 2,000 Amps

72 & 110 VDC Input:

100 Joules (Watt-Seconds)

Peak Current, 12,000 Amps

Temperature Specifications - ISP Series

Operating Temperature -40° C to +80° C

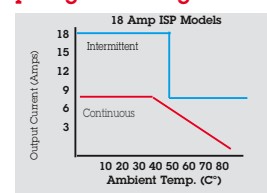
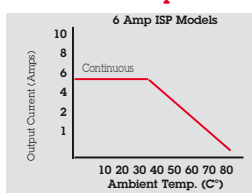
Thermal shutdown @ 85° C Case Temperature

ISP Series						
Model	Input Voltage	Output Voltage	Output Amps		Case Size	Weight
			Intermittent	Continuous		Lbs Kg
36-12-6ISP†	18-65	13.6	6	6	C-7	5 2.3
36-24-3ISP		24.5	3	3		
36-12-18ISP	20-65	13.6	18	10	C-6	8 3.6
36-24-9ISP		24.5	9	5		
36-12-35ISP*	20-65	13.6	35	20	C-9	12 5.5
72-12-6ISP	42-90	13.6	6	6	C-7	5 2.3
72-24-3ISP		24.5	3	3		
72-12-18ISP	42-90	13.6	18	10	C-6	8 3.6
72-24-9ISP		24.5	9	5		
110-12-18ISP	80-140	13.6	18	10	C-6	8 3.6
110-24-9ISP		24.5	9	5		

† This model EMC and safety CE certified for sales within the European Union.

*Build to order only - 10 unit minimum

ISP Series Temperature/Amperage Derating Curves



Powering the Network