

Protect MIP INV BROCHURE

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PROTECT MIP INV

MODULAR SWITCH-MODE
INDUSTRIAL APPLICATIONS
INVERTER



Input

24 / 48 / 60 / 110 / 220 VDC

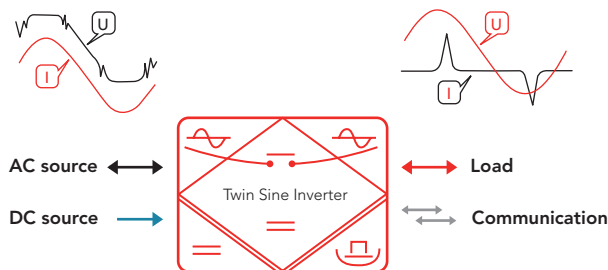
Output

230 VAC

Applications

The inverter system is design for all industrial applications and provides secured power for all types of AC loads. The design is modular and scalable with hot- swappable inverter modules which ensures low Mean Time to Repair (MTTR), reduction in service costs and meets the changing needs for future expansion.

The inverter uses "Twin Sine Inverter" (TSI) technology that eliminates all single points of failure with full scalability; up to 32 modules in parallel and high efficiency of up to 96 % reducing operating costs.



Main features

- » Compact design
- » High efficiency
- » Hot-swappable solution
- » Modular and scalable architecture
- » No external static switch required as the static switch functionalities are integrated in each Protect MIP Inv module
- » Dual input sources (AC & DC) with wide AC input range 150 VAC to 275 VAC
- » Transfer time reduced to naught
- » Pure sine wave AC output
- » Control and alarm functions for remote management
- » RoHS compliant
- » Easy to operate: compact, light, hot-pluggable, ready to use
- » Easy installation, commissioning and maintenance

PROTECT MIP INV

SPECIFICATIONS

MODEL	24 / 230	48 / 230	60 / 230	110 / 230	220 / 230
GENERAL					
EMC (immunity)	EN 61000-4 EN 61000-5-2		EN 61000-4		ETSI EN 300-132-2
EMC (emission) (class)	EN 55022 (A)	EN 55022 (B)	EN 55022 (A)	EN 55022 (B)	
Safety	IEC 60950				IEC 60 950-1 & 62040-1
Cooling / isolation	Forced / doubled				
MTBF	240,000 hrs.				
Efficiency (Typical): Enhanced power conversion / on line	94 % / 89 %	96 % / 91 %			96 % / 92.5 %
Dielectric strength DC / AC	4300 V DC				
True Redundant Systems – compliant	3 disconnection levels on AC _{out} and DC _{in} power ports 4 disconnection levels on AC _{in} port				
RoHS	Compliant				
Connection I / O	Terminal block: Protected against inversion of polarity				
Operating conditions	Self-adaptive to wide operating conditions and comprehensive table of troubleshooting codes				
Altitude above sea without de-rating	<1500 m / derating >1500 m – 0.8 % per 100 m				
Ambient / storage temperature / relative humidity	-20 to 50 °C / -40 to 70 °C / 95 %, non-condensing				
Width x depth x height (mm) / weight (kg)	102 x 435 x 2U / 5 kg				
Material (casing)	Coated steel				
AC OUTPUT POWER					
Nominal Output power (VA) / resistive load (W)	1500 / 1200	2500 / 2000			
Short time overload capacity	150 % 15 seconds / permanent 110 %				
Admissible load power factor	Full power rating from 0 inductive to 0 capacitive				
Internal temperature management and switch off	Yes				
DC INPUT SPECIFICATIONS					
Nominal voltage (DC)	24 V	48 V	60 V	110 V	220 V
Voltage range (DC)	19 – 35 V	40 – 60 V	48 – 72 V	90 – 160 V	170 – 270 V
Nominal current (at 24 VDC and 1200 W output)	56 A		35 A	19 A	9.8 A
Maximum input current (for 15 second) / voltage ripple	84 A	84 A / <2mV	52 A	29 A	15.9 A
Input voltage boundaries	User selectable				
AC INPUT SPECIFICATIONS					
Nominal voltage (AC)	230 V				
Voltage range (AC)	150 – 300 V	150 – 265 V			
Brownout	150 – 185 V				
	1070 W@150 V	1784 W@150 V			
Conformity range	Adjustable				
Power factor	>99 %				
Frequency range (selectable) / synchronization range	50 – 60 Hz / range 47 – 53 Hz / 57 – 63 Hz				
AC OUTPUT SPECIFICATIONS					
Nominal voltage (AC*)	230 V (200 – 240 V range / accuracy 2 %)				
Frequency / frequency accuracy	50 – 60 Hz / 0.03 %				
Total harmonic distortion (resistive load)	<1.5 %				
Load impact recovery time	0.4 ms				
Turn on delay	20 s	40 s	20 s		
Nominal current. Protected against reverse current	6.6 A	10.9 A			10.87 A
Crest factor at nominal power. With short circuit management and protection	2.8:1 I _n	3.1:1 I _n			
Short circuit clear up capacity	10 x I _n for 20 ms – Available while mains is available at AC input port. With magnitude control and management				
Short circuit current after clear up capacity	2.1 I _n / after 15 sec 1.5 I _n				
IN TRANSFER PERFORMANCE					
Max. voltage interruption / total transient voltage duration (max)	0 s / 0 s				
SIGNALING & SUPERVISION					
Display	Synoptic LED				
Alarms output / supervision	Dry contacts on shelf / use optional devices				
Remote on / off on rear connectors	-				Yes

*Operation within lower voltage networks leads to de-rating of power performances.

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