



Standards

Our inverters are tested to the following standards;

- IEC 61373 — Shock and Vibration
- EN 50155 — Electronic equipment for rolling stock
- EN 50121 — Electromagnetic Compatibility
- IEC 61000 — EMC standard
- AS 3000 — Wiring Regulations

Application

The Australian Rail Technology (ART) single phase inverters are used to convert DC to single phase AC. Typically the output is sinusoidal at 50 Hz or 60 Hz. The output is used to power standard mains-connected devices such as lights, computers, air conditioners, refrigerators, kettles and microwave ovens on rolling stock. Our single phase inverters range from 2.5 kW to 20 kW.

Technical Input

Description	Unit	Value
Input Voltage ranges	V DC	72, 110
Output Voltage	V AC	240
Weight	kg	15 to 42
Output Frequency	Hz	50 or 60
Temperature	°C	-20 to 65
Over current		150% for 30 seconds
Total Harmonic Distortion		Less than 3% THD
Isolation between Input and Output	kVrms	1.5

Other Features

ART inverters are design with protection to meet the demands of rolling stock use. They contain polar-ity protection, galvanic isolation between input and output, short term over load, short circuit protec-tion, current limiting and earth fault protection. Connection to the inverter are via Mil-Spec circular plugs and voltage free change over contacts for fault conditions are provided.

General Specifications

Parameter	Conditions	Data
Isolation (prim/sec)		3.3kVac
Isolation Resistance		> 1GΩ
Leakage Current (prim/sec)	Uin = 230Vac, freq = 50Hz	< 200uA
MTBF	SN 29500, TA = +40° C	> 1.5 Million Hrs
Hold-up Time	Uin = 230Vac	≥ 50msec
Ambient Temperature		-25..+70 ° C
Surface Temperature	Surface center of module	96 ° C max
Storage Temperature		≤ 1%
Connector Type		DIN41612 H-Type 15 way
Cooling		Free Convection
Weight		840 g

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Parameter	Standard	Data
Harmonics	EN 61 000-3-2	Class A
EMI/RFI	EN 61 000-6-3 EN 55 011	Class B
Immunity	EN 61 000-6-2	
ESD	EN 61 000-4-2	Air discharge: 15kV
HF-Fields	EN 61 000-4-3	10 V/m
Burst	EN 61 000-4-4	Symmetric: 2kV
Surge	EN 61 000-4-5	Symmetric: 1kV
HF-Fields, Conducted disturbances	EN 61 000-4-6	10 Veff
Power Quality Test	EN 61 000-4-11	

Connections

Model Output	4Z	6D	8Z	10D	12Z	14D	16Z	18D	20Z	22D	24Z	26D	28Z	30D	32Z
12V	Vout+		Vout-					NO	COM	NC			ACin	ACin	
24V	Vout+					Vout-		NO	COM	NC			ACin	ACin	
36V	Vout+				Vout-			NO	COM	NC			ACin	ACin	
48V	Vout+			Vout-				NO	COM	NC			ACin	ACin	
50V	Vout+			Vout-				NO	COM	NC			ACin	ACin	