



> Description

The ACR series is a range of medium power inverters that provide a 230Vac true sinewave output with very low distortion. Designed for connection directly to the train auxiliary supply, the inverters incorporate surge and transient filtering ensuring compliance with both the traditional and latest rail specifications and norms for protection and EMC. The rugged construction and various mounting options ensure compliance with vibration and shock requirements.

Special features include:

- True sinewave output
- 750W continuous output power (800W peak)
- Very low distortion
- Protected to IP65

> Input Specifications

The following input voltages versions are available as standard:

110V	(66.0 - 137.5V)	dc	(Suffix A)
72V	(43.2 - 90.0V)	dc	(Suffix D)
52V	(31.2 - 65.0V)	dc	(Suffix C)
36V	(21.0 - 50.4V)	dc	(Suffix F)
24V	(16.8 - 33.6V)	dc	(Suffix B) (24V version de-rated to 600W)

**Other ranges are available to order**

Parameter	Detail
Input Ripple	To RIA 13 and EN50155
Input Protection	Reverse polarity protection via shunt diode that will trip an external circuit breaker. Surges and transients EN50155
Inrush Current	5 x nominal current (after 0.1ms)
Efficiency	85% typically
Hold up time	10ms to EN50155 Class S2

> Output Specifications

Parameter	Detail												
Maximum Output Power	750W continuous 800W peak (for 15 seconds)												
Output Voltage	230Vac												
Setting Tolerance	±1% at 50% load, 15°C to 25°C												
Output frequency	50Hz												
Frequency Tolerance	±2%												
Waveform	True Sinewave												
Harmonic Distortion	<6%												
Output Current	Nominal 3.3 Amps												
Line & Load Regulation	±4.0% combined												
Temperature Coefficient	<0.02% / °C												
Output Ripple	Typically 5% Pk-Pk of Output Voltage												
Short circuit protection	Operates instantaneous if output exceeds 10A (typically). Auto recovery.												
Overload protection	Inverter shuts down if output power exceeds approximately 800W for longer than 16 to 20 seconds. LED indications provided. Resets automatically after approximately 10 seconds.												
Isolation	<table border="0"> <tr> <td>Input to Output</td> <td>1.5kV ac</td> <td>(tested at 2.2kV dc)</td> </tr> <tr> <td>Input to Case</td> <td>1.5kV ac</td> <td>(tested at 2.2kV dc)</td> </tr> <tr> <td>Output to Case</td> <td>1.5kV ac</td> <td>(tested at 2.2kV dc)</td> </tr> <tr> <td>Relay Contacts</td> <td>1.5kV ac</td> <td></td> </tr> </table>	Input to Output	1.5kV ac	(tested at 2.2kV dc)	Input to Case	1.5kV ac	(tested at 2.2kV dc)	Output to Case	1.5kV ac	(tested at 2.2kV dc)	Relay Contacts	1.5kV ac	
Input to Output	1.5kV ac	(tested at 2.2kV dc)											
Input to Case	1.5kV ac	(tested at 2.2kV dc)											
Output to Case	1.5kV ac	(tested at 2.2kV dc)											
Relay Contacts	1.5kV ac												
Indicators & signalling	<table border="0"> <tr> <td>Input present</td> <td>Green LED</td> </tr> <tr> <td>Output present</td> <td>Green LED</td> </tr> <tr> <td>Overload trip</td> <td>Red LED</td> </tr> <tr> <td>Relay contacts</td> <td>NO /NC volt-free contacts changeover to indicate output is present. Contact rating 1A.</td> </tr> </table>	Input present	Green LED	Output present	Green LED	Overload trip	Red LED	Relay contacts	NO /NC volt-free contacts changeover to indicate output is present. Contact rating 1A.				
Input present	Green LED												
Output present	Green LED												
Overload trip	Red LED												
Relay contacts	NO /NC volt-free contacts changeover to indicate output is present. Contact rating 1A.												





> Environmental Details

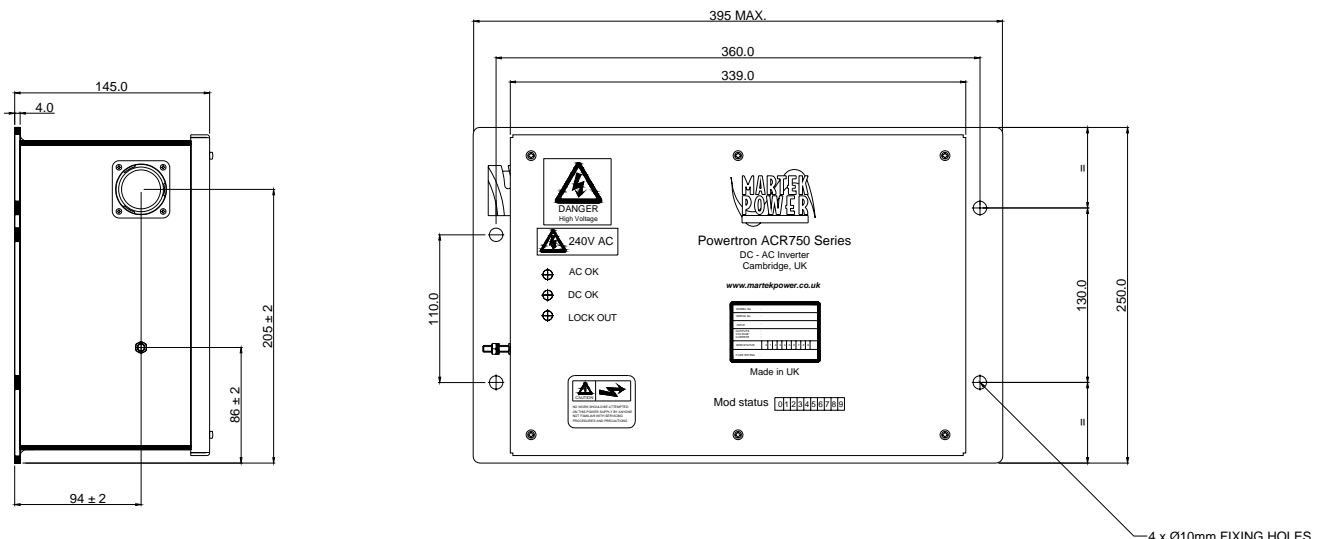
Parameter	Detail
Operating Temperature	-25°C to +55°C (no derating)
Storage Temperature	-40°C to +80°C
Cooling	By convection
Relative Humidity	95% max.
Shock & Vibration	EN 50155 (EN 61373), RIA 20
Environmental Protection	IP65

> Applicable Norms

Parameter	Detail
EMC	RIA 12, 18, EN50155 (2007), EN50121-3-2 (2006)
Other	RIA 13, 18, 20, EN50155 (2007)

> Mechanical Characteristics

Parameter	Detail
Construction	Fully enclosed in sealed aluminium case
Dimensions	Length = 339mm (395mm including plate) Width = 250mm Height = 145mm
Weight	<6kg
Connections	19 way circular bayonet connector (shell size 22-14)
Fixings	See below for guidance.



SEE SPECIFICATION 858-951 FOR ELECTRICAL DATA.

**INPUT / OUTPUT CONNECTOR:**  
19 way CIR shell size 22-14  
AB Connectors: ABCIRH-03T-2214-PCN F80 VO  
or an approved equivalent.

**PIN OUTS:**  
C, D, E & P: +Ve dc input  
A, B, M & N: -Ve dc Input

H & J = Output Status, voltage free relay contacts  
(N/O) closed = Good

R = AC out (Live)  
T = AC out (Neutral), connected to chassis.

V = Chassis