



## DC/AC inverter for railway applications



### Description

The 750W 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)

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) Maximum base plate temperature of 65°C for full power
Output Voltage	230Vac
Setting Tolerance	±1% at 50% load, 15°C to 25°C
Output frequency	50Hz

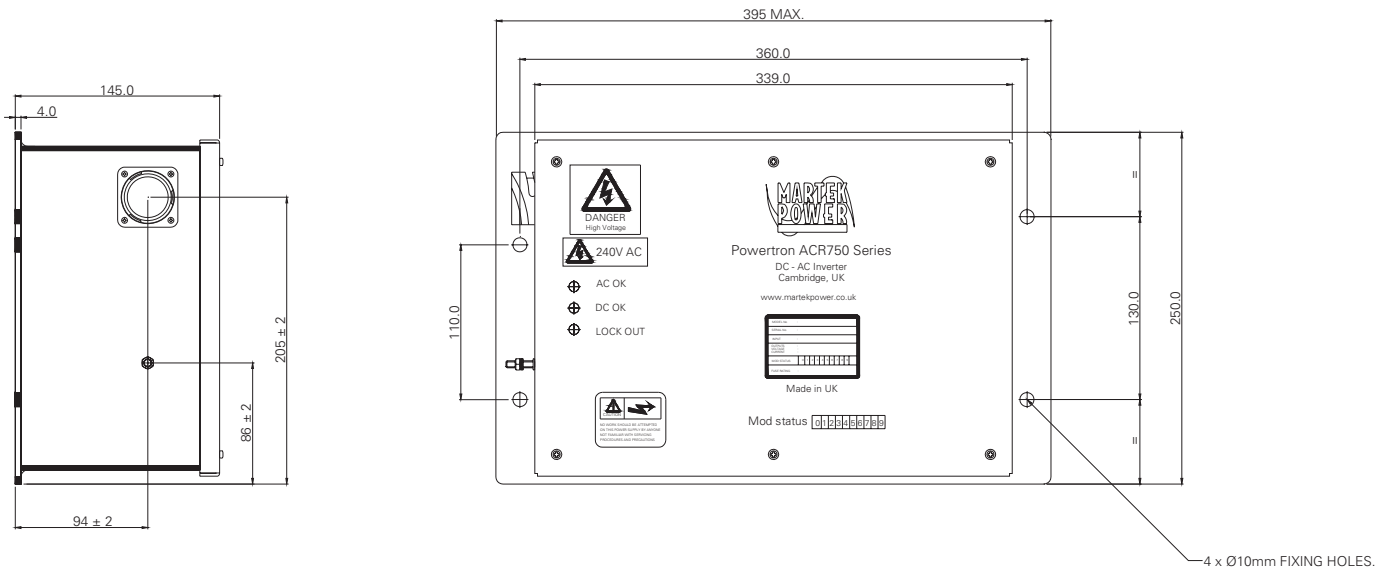


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## Output specifications (Continued)

Parameter	Detail
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 instantaneously 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.
Thermal Protection	Output shuts off when safe internal temperature is exceeded. Auto recovery
Isolation	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	Input present Green LED
	Output present Green LED
	Overload trip Red LED
	Relay contacts NO/NC volt-free contacts change over to indicate output is present. Contact rating 1A.

## Technical drawing



SEE SPECIFICATION 858-951 FOR ELECTRICAL DATA.

### INPUT / OUTPUT CONNECTOR:

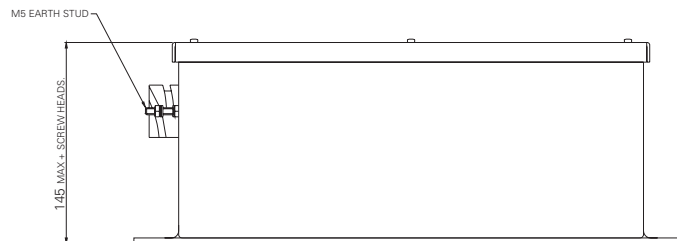
19 way CIR shell size 22-14  
AB Connectors: ABCIRH-03T-2214-PCN F80 VO  
or an approved equivalent.

### PIN OUTS:

C, D, E, F, & P: +Ve dc input  
A, B, M, N & U: -Ve dc input  
Note: F & U connected on 24V input model only  
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



## Environmental details

Parameter	Detail
Operating Temperature	-25°C to +55°C (no derating)
Storage Temperature	-40°C to +80°C
Cooling	By convection. Note: Maximum base plate temperature of 65°C for full power
Relative Humidity	95% max.
Shock & Vibration	EN 50155 (EN 61373)
Environmental Protection	IP65

## Applicable norms

Parameter	Detail
EMC	EN50155 (2007), EN50121-3-2 (2006)
Other	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.