

# HP12-TR

## 12 CHANNEL 2.4 kW HIGH PERFORMANCE DIMMER RACK



### DESCRIPTION

The Jands HP12-TR is a high quality, rugged, 12 channel 2.4 kW per channel dimmer rack specifically designed for demanding touring and theatre applications.

### FEATURES

- \* Microprocessor control
- \* Opto-fired triac output devices
- \* Easy to use menu driven software
- \* 14.3 bit firing resolution for optimum power control
- \* Function keypad with LED indicators/"LOAD" & "DRIVE" LED per channel
- \* "DMX IN" LED & "1/2/3 PASE" LEDs (indicates 3-phase supply OK)
- \* Scrolling 4-digit 16-segment alpha-numeric display
- \* "SELECT" switch per channel (controls function)
- \* "STATUS" LED per channel (indicates modified output, i.e. 110V, 60V)
- \* Quiet 75mm DC speed-controlled fan (temperature sensitive)
- \* Rotary encoder for function/level select
- \* DMX start address code selected by banks or specific start channel
- \* Neutral failure detect with override facility
- \* Over-temperature detect/warning
- \* User lock facility
- \* Front panel software update capability
- \* Dimmer "wakes-up" in previously selected mode
- \* Built-in test facilities
- \* Stand alone operation with individual channel level control
- \* Pre-heat facility on a per channel basis
- \* Selectable output voltage (240V/120V/60V chopped) on a per channel basis
- \* Six built-in factory programmed chase functions
- \* Switched output selectable on a per channel basis
- \* Dimmer will hold last DMX value should control data be interrupted
- \* Ability to store up to three DMX snapshots
- \* Ability to build two (non-volatile) custom scenes which can be stored and recalled later
- \* Acoustically quiet Ferrodisp™ chokes
- \* Rear panel DMX port provisions



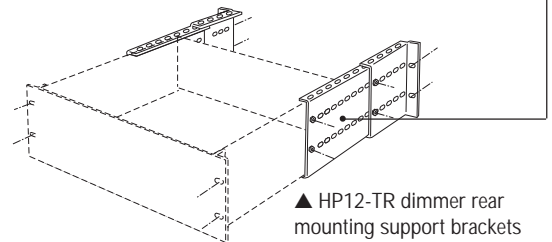
### OVERALL SPECIFICATIONS

Channels: 12  
 Power rating: 2.4 kW (10A/240V) per channel  
 Power supply type: 3-phase, 240V phase-to-neutral (415V phase-to-phase) with earth (single phase version available)  
 Power requirements: Nominally 240V/50 Hz (limits 47Hz - 54Hz)  
 Under-voltage symptoms appear if all phase voltages fall below 190V  
 Internal electronics will tolerate 415V on all phases

Mains input connector rating: 40A as standard, 50A available on request  
 Current: 40A per phase (max.)  
 Dissipation: <1.0% of output load (288W max.)  
 Dimmer curve: Linear power/switched  
 Max. ambient operating temp: 40°C maximum for 100% duty cycle. Warning message displayed at 75 °C heatsink temperature. Cut out at 85 °C heatsink temperature  
 Control input: USITT DMX-512/1990 protocol  
 Input connector: 5-pin AXR with loop-through socket  
 Mains injected tone limits: 15Vrms @ 750 Hz, 25Vrms @ 1050Hz  
 Output connectors: 1 × 3-pin Australian 10A outlet (JND-HP12TR-A) per channel (hard-wired, Wieland and Socapex configurations also available)  
 Output risetime: 280 microseconds with 2400W incandescent load. Output current risetime 50mA/μs  
 Output protection: Magnetic circuit breakers (0.1 ~ 1 sec. delay @ 200% overload, instantaneous @ 700% overload)  
 Test facility: Individual channel selection using channel select switches and software menu  
 Dimensions: 483mm(19")(W)×350mm(D)×132mm(3RU)(H)  
 Net/shipping weight: 21.3 / 25.5 kg

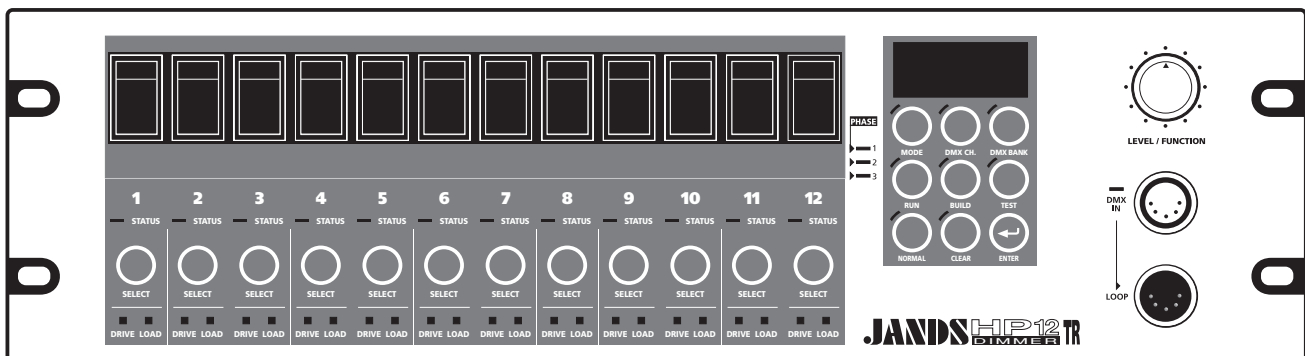
### SUPPLIED ACCESSORIES

- Operating manual
- 2m 3-phase lead and plug (Clipsal 56 P540 40A)\* Others available
- 2 × heavy duty rear mounting adjustable support brackets



### ORDERING INFORMATION

MODEL/PART	PART NO.
• HP12-TR with 12 x Australian 3-pin/10A outlet pack panel	JND-HP12TR-A
• HP12-TR with hard wired output back panel	JND-HP12TR-H
• Roobar II (3RU) stackable equipment rollcage	JND-ROOBARII-3RU



▲ HP12-TR dimmer front panel

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### ARCHITECTS & ENGINEERS SPECIFICATION

#### Electronics

The dimmer shall receive and decode banks of twelve (12) control signals complying with the industry standard USITT DMX-512/1990 protocol. The DMX start channel shall be adjustable to any DMX channel, or in banks of twelve (12). If the DMX signal is interrupted, the dimmer outputs shall default to the last received DMX packet.

The dimmer shall have a control response time of not more than twenty (20) milliseconds, input to output.

The dimmer shall utilise a highly visible four (4) character alpha-numeric LED display to provide parameter and editing information to the operator. The dimmer shall also utilise red and green LEDs to show channel status and output level information to the operator.

The dimmer shall have a memory capacity of at least 512 Kbytes and shall be battery-backed to prevent memory loss when switched off. The battery shall have a life of at least four (4) years.

For heatsink temperatures above 40°C (104°F) the temperature controlled fan shall run at full speed. The dimmer shall feature temperature monitoring electronics that will display a warning message when the internal heatsink temperature exceeds 75°C (149°F), and will trigger a thermal shut-down mode when the heatsink temperature exceeds 85°C (185°F).

The dimmer shall utilise FerroDip™ inductors which are acoustically quiet and provide a risetime in excess of 280 microseconds. Dimmers using conventional gapped iron core chokes will not be acceptable.

The dimmer shall utilise a digitally-generated dimmer curve to accurately match a linear control voltage versus power output relationship. The dimmer shall also feature a switching curve for on/off applications. Each of the twelve (12) dimmer channels shall smoothly control loads from 25 watts to 2400 watts.

The dimmer shall detect and inform the operator of substantial mains supply imbalances and a bad (soft) neutral connection.

The dimmer shall be factory tested and cyclically burned-in for a minimum of 24 hours.

The dimmer operating software shall incorporate diagnostic test routines that exercise the different systems on the CPU card. These test routines shall indicate to the operator (using LEDs and/or displays) the result (pass/fail) of the tests.

The dimmer shall display an error message to the operator should the software malfunction or be corrupted. The dimmer shall indicate the current operating mode of the dimmer by means of the alpha-numeric display or individual LEDs on the keypad.

The dimmer shall be capable of selecting an alternative output voltage (e.g. 110 volts) for designated channels. The dimmer shall provide the means to test outputs by allowing the operator to manually fade individual channels from zero to full. The dimmer shall provide the means to disable individual channel outputs. The dimmer shall provide a selectable lamp filament preheat voltage to reduce mains inrush to lamps.

The dimmer shall be factory tested and cyclically burned-in for a minimum of 24 hours.

#### Electrical

The dimmer shall operate from a three-phase plus neutral and earth supply of 415 volts AC phase-to-phase with a nominal supply frequency of 50 Hz. The dimmer shall draw 40 Amps per phase when all output channels are fully loaded. All channel outputs shall be protected by fast-acting magnetic circuit breakers.

The dimmer shall be supplied with a two (2) metre power cable fitted with a 40 Amp three-phase connector (Australia only).

A range of optional output connectors to suit different termination requirements shall be available.

#### Mechanical

The dimmer shall be designed to mount in a standard 19-inch equipment rack, and be 483mm wide x 275mm deep x 132mm (3RU) high. The dimmer shall be constructed of 1.2 mm steel, and shall be provided with a removable lid for access to internal electronics. All metal surfaces shall be properly treated and

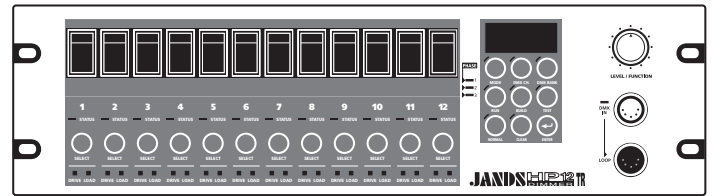
finished in powdercoat or zinc dichromate passivating.

The control surface shall be scratch-resistant 0.25 mm Lexan with legends reverse silk-screen printed from behind.

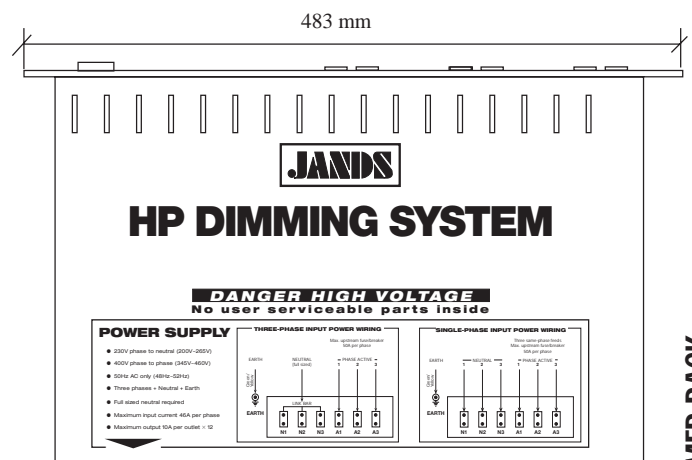
Standard accessories shall include rear support brackets.

Adequate ventilation should be provided.

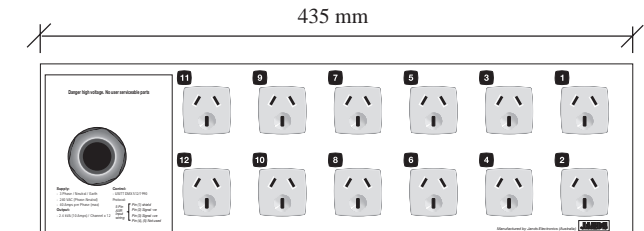
The dimmer shall be the JANDS HP12-TR.



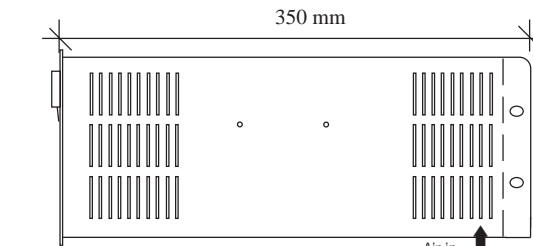
▲ HP12-TR dimmer - front panel



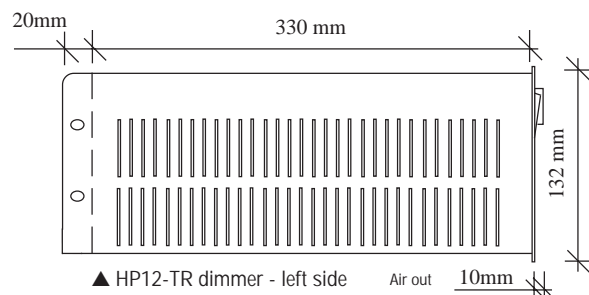
▲ HP12-TR dimmer - top view



▲ HP12-TR-A dimmer - back panel



▲ HP12-TR dimmer - right side



▲ HP12-TR dimmer - left side

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