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TELECOM POWER

SUMMARY SPECIFICATION

Model Number	Input Voltage	Nominal Output Voltage	Output Current	Current Limit	Cooling	Dimensions
TRC 0800 B 54	176 – 264V a.c.	54.9V	0 – 14A	14 – 16.1A	Convection	244 x 80 x 350 mm 9.65 x 3.15 x 13.8 in.
TRC 0800 C 54		54.6V ⁽¹⁾	0 – 14A	14 – 16.1A		
TRC 0800 B 27		27.4V	0 – 28A	28 – 31A		

(1) The TRC0800C54 has a temperature dependant output voltage and also features an internal low voltage disconnect circuit.

158 INPUT SPECIFICATION

Voltage Range	176 – 264V a.c.
Frequency	45 to 66Hz
Supply Type	Single phase TN-S system (as defined in IEC 364).
Efficiency	Greater than 85% for output loads in excess of 50% I_{MAX} . Typically 87%.
Power Factor Correction	Greater than 0.9, typically 0.99.

OUTPUT SPECIFICATION

Voltage	The output voltage is factory set to the voltage, V_{NOM} , shown in the summary specification. The nominal voltage may be reduced to a second preset voltage by shorting V_{LINK} to +SENSE on the 'D' connector. Alternative output voltage settings are possible up to 58V on 'B54' models and up to 29V on 'B27' models. The output voltage on 'C54' models reduces by 72mV/°C. Please contact the factory to discuss your requirement.
Current	Continuous output current is available up to the current limit point I_{LIM} . For test purposes, measurements are made at the maximum rated output current, I_{MAX} .
Combined Regulation	A worst case combination of input voltage variation between 176 to 264V and output load variation between zero and I_{MAX}

Ripple and Noise

results in an output voltage change of less than 0.2% nominal.

Optional output droop: This is available to assist current sharing when rectifiers are connected in parallel in a passive sharing system.

The wideband differential output noise over the frequency range 10Hz – 100MHz does not exceed 50mV r.m.s. individual harmonics do not exceed 2mV r.m.s. (typically 200µV). The psophometrically weighted noise, in accordance with C.C.I.T.T. No 1, does not exceed 2mV r.m.s. The rectifiers output meet "equipment noise limits" of BTR2511 Issue 3.

PROTECTION

Hold Up	With the output loaded to 800W, a hold up time of at least 20ms is available when operating at any input within the specified range.
Output Current Limit	These rectifiers are designed to be able to operate continuously in current limit and are fully protected against output overload.
Series Output Diode	Units are supplied with an output diode fitted internally in series with the positive output.

Output Overvoltage	An output voltage in excess of 59.5V on 54V models and 31.5V on 27V models, will cause the rectifier to latch into a shutdown condition. The rectifier is reset by interrupting the mains input.
Parallel Voltage	The rectifier can withstand voltages of up to 63V on 54V models and up to 35V on 27V models applied to the output terminals when it is inoperative.
Thermal Overload	A thermal sensor is fitted to the main heatsink which, under thermal overload conditions, will cause the unit to inhibit until the temperature has reduced to an acceptable level.

AUXILIARY FUNCTIONS (B54 AND B27 MODELS)

Remote Sense	Available as an option. Internally linked as standard.
Parallel Operation	Units may be operated with outputs connected in parallel without limitation. Passive or active current sharing can be used.
Remote On/Off	An isolated TTL compatible input is provided to allow for remote switching of the rectifier.
Voltage Trim	A standard facility is available to allow external adjustment of the output voltage to suit battery environment.
Output Healthy Relay	Isolated changeover relay contacts. Indicating that the output voltage is within the normal operating limits.
Current Signal	Analogue output with a voltage proportional to output current.
Input Healthy	Isolated open collector output and LED indicating that the mains input is within specification.
Output Healthy	Isolated open collector output and LED indicating that the output voltage is within the normal operating limits.
Current Limit	Isolated open collector output and LED indicating that the current limit circuitry is operative.
Overvoltage Trip	Isolated open collector output and LED indicating that the overvoltage protection circuitry has been triggered.

AUXILIARY FUNCTIONS (C54 MODEL)

Output Healthy Alarm	Relay contacts open if output voltage is outside specified range.
Input Healthy Alarm	Relay contacts open if input voltage is outside specified range.
Forced Current Share	Allows up to 10 units to current share
Battery Voltage Low	Relay contacts open if battery voltage drops below specified limit
Battery Healthy	Relay opens if battery voltage low, rectifier output voltage low or temperature sensor open circuit.
Internal LVD	Disconnects the battery from the load if the battery voltage drops below the LVD threshold.

ELECTRICAL ISOLATION

Primary to Earth	Units are tested to 1.5kV a.c. r.m.s. from input to earth with both input lines connected together.
Secondary to Earth	Units are tested to 500V a.c. r.m.s. from output to earth, with all outputs and secondary ports (signals) connected together.
Primary to Secondary	Input to output isolation barriers, including layout and wiring, are specified to 4kV a.c. r.m.s. for one minute. This is tested prior to assembly by applying an input to earth isolation test voltage of 2.5kV a.c. r.m.s. simultaneously and in phase with a 1.5kV a.c. r.m.s. output to earth test voltage.
Earth Leakage Current	The earth leakage current meets the requirements of EN60950. It is measured as the voltage across a 1.5k Ω resistor in parallel with a 1.5nF capacitor, inserted in series with the earth line.

ELECTROMAGNETIC COMPATIBILITY

Exported Noise	Units have been tested to and found to comply with the requirements of VDE 0871 Curve B, FCC Rules part 15 subpart J Class B, EN55022 curve B (conducted).
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MECHANICAL SPECIFICATION

Mechanical Format	All units are supplied fully enclosed as standard and are intended for rack mounting.
Mounting Orientation	The units are designed to operate with the front panel and the cooling fins vertical.
Ventilation and Cooling	Units require vertical air flow for cooling. Both top and bottom faces are ventilated and the left hand side of the unit is fitted with a heatsink. The top and bottom ventilated panels must not be obstructed.

ENVIRONMENTAL CONDITIONS

Operating Temperature	-5°C to +55°C operating. Wider temperature ranges are available. Contact the sales office to discuss your requirements.
Operating Humidity	0 to 85% R.H. non-condensing operating

INTERNATIONAL SAFETY APPROVALS

TRC0800B27 and TRC0800B54 units are approved to the following standards by the approval authorities listed:

CE marked to the Low Voltage Directive.

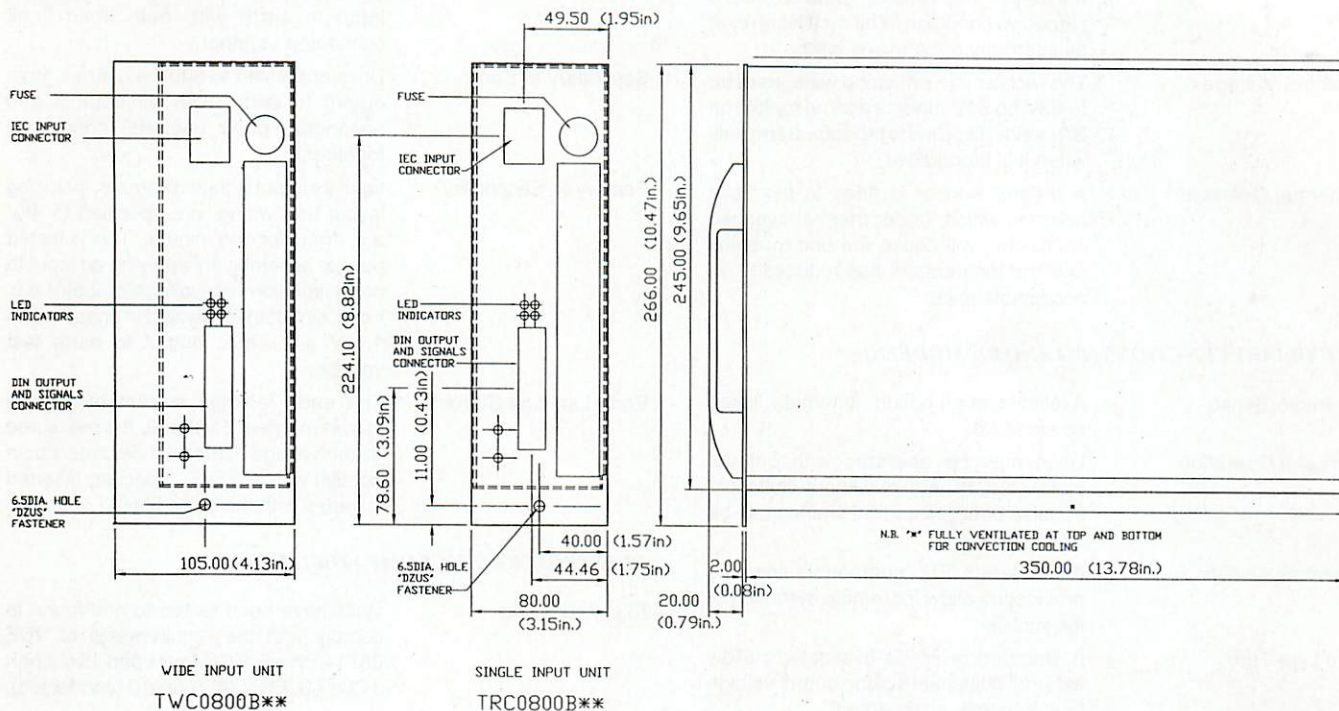
UL UL1950, CSA C22.2 #234

ORDERING INFORMATION

To order, specify the model number. As there are many optional features it is advisable to contact your local sales office or agent in the first instance. Optional features must be clearly shown on the order.

OUTLINE DRAWING

All dimensions are nominal and are in mm (inches)



External Dimensions

TRC models 244 (9.65) high x 80 (3.15) wide x 350 (13.8) deep.

TWC models 245 (9.65) high x 112 (4.4) wide x 350 (13.8) deep.

Alternative mechanical formats are available contact your local sales office or agent to discuss your requirements.

Fixings

Optional 'DZUS' fastener at bottom of front panel for rack mounting applications.

Connectors

The following connectors are required for connection to the rectifier:

Input IEC 320 10A female connector.

Output and Signals

Units require a Golden "D" connector "C" shell size, 21WA4 female connector with two power receptacles for the main power connection. These are available as an accessory kit part number 1TKD21W03 (1TKD21W04 for C54). See accessories section for further details.