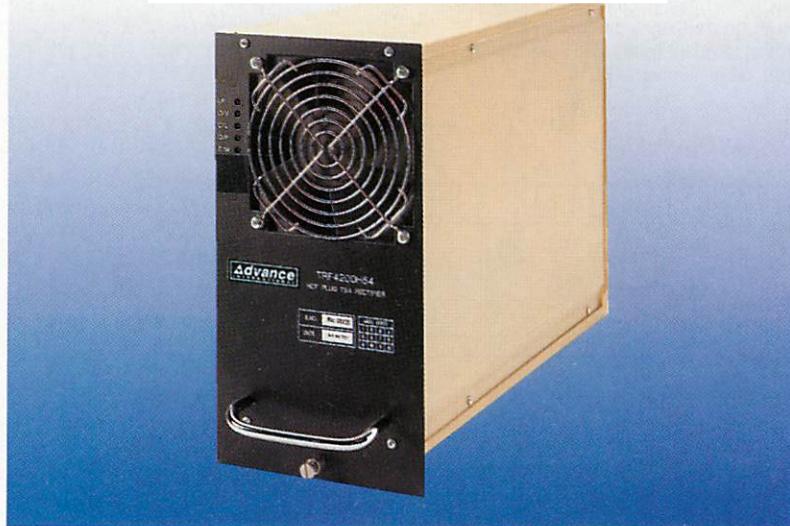




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**SUMMARY SPECIFICATION**

Model Number	Input Voltage	Output Voltage	Setting Range	Output Current	Current Limit	Cooling	Dimensions
TRF4200H27	176 – 264V a.c.	27.4V	Up to 29V	0 – 150A	150 – 164A	Internal Fan	266 x 149 x 450 mm
TRF4200H54		54.9V	Up to 58V	0 – 75A	75 – 82A	Internal Fan	10.47 x 5.86 x 17.72 in.
TRF5600H54		54.9V	Up to 58V	0 – 100A	100 – 110A	Internal Fan	356 x 133 x 380 mm 14.02 x 5.24 x 14.96 in.

**INPUT SPECIFICATION**

Voltage Range	176 – 264V r.m.s.
Frequency	45 – 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	All units have input current correctors to comply with the requirements of EN61000-3-2.

**OUTPUT SPECIFICATION**

Voltage	The output voltage is factory set to the voltage 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 in the range up to $V_{SET}$ max. shown in the summary specification. 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  $I_{MAX}$  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" BTR2511 Issue 3.

**Ripple and Noise****PROTECTION****Hold Up**

With the output loaded to the maximum rated output current, a hold up time of at least 10ms is available when operating at 176V input. Typical hold up is 15ms.

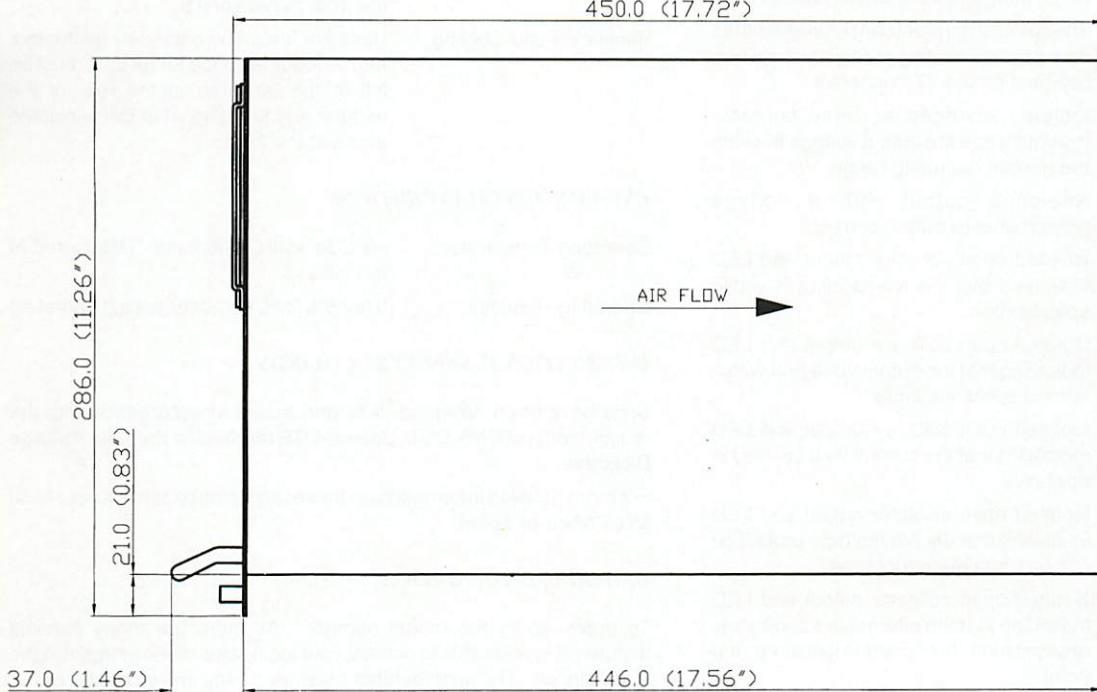
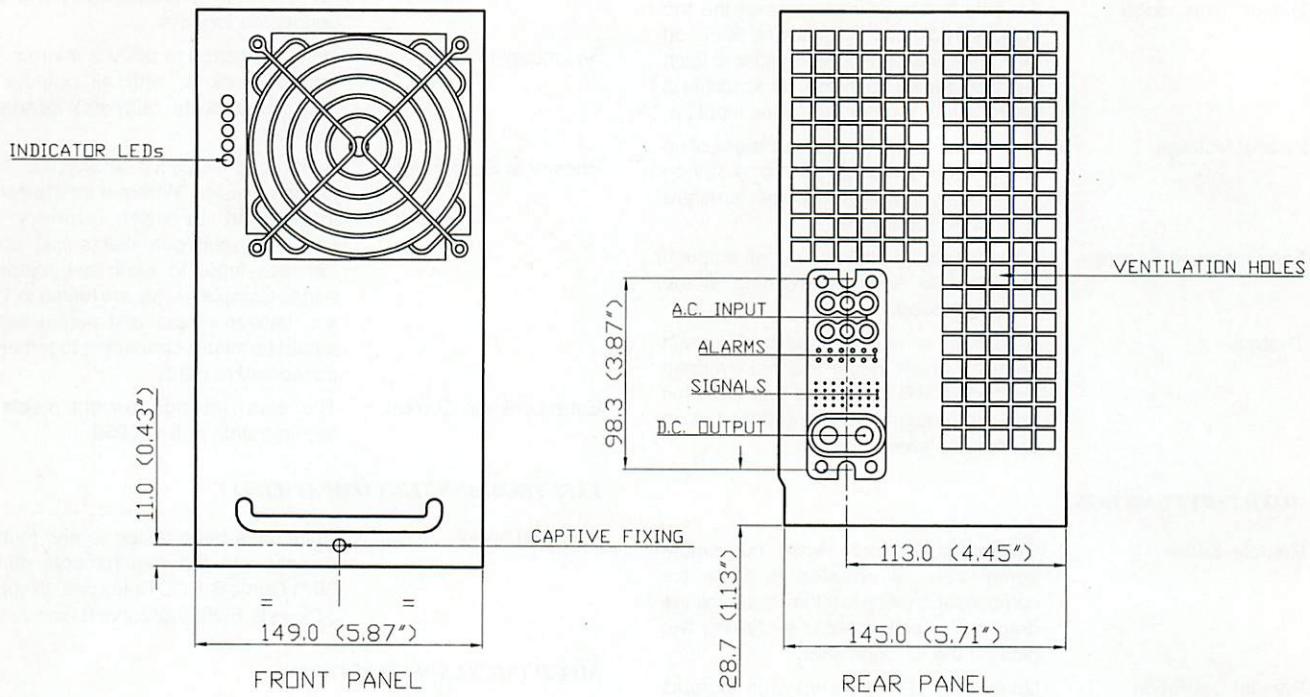
**Output Current Limit**

These rectifiers are designed to be able to operate continuously in current limit, current limit point is given in the summary specification.

Series Output Diode	Units are supplied with an output diode fitted internally in series with the positive output.	<b>ELECTRICAL ISOLATION</b>
Output Overvoltage	An output voltage in excess of the trip point of 31.5V on 27V units and 59.5V on 54V units, will cause the rectifier to latch into a shutdown condition. The rectifier is reset by interrupting the mains input.	Primary to Earth Units are tested to 1.5kV a.c. r.m.s. from input to earth with both input lines connected together.
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.	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.
Fan Operation Sensor	A fan fail circuit inhibits the unit output if the fan fails or is not running at the required speed.	Primary to Secondary Reinforced insulation to 3kV a.c. r.m.s. for one minute. Where a safety earth is interposed between primary and secondary, this potential is split equally between input to earth and output to earth. Complete units are tested to 1.5kV a.c. between input and output with all output terminals connected together and connected to earth
Thermal	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.	Earth Leakage Current The earth leakage current meets the requirements of EN60950.
<b>AUXILIARY FUNCTIONS</b>		
Remote Sense	Units default to local sense, but remote sense can be enabled to allow for compensation of up to 500mV total voltage drop in the power leads by linking two pins on the 'D' connector.	<b>ELECTROMAGNETIC COMPATIBILITY</b>
Parallel Operation	Units may be operated with outputs connected in parallel without limitation. Passive or active current sharing can be used.	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).
Remote On/Off	An isolated TTL input is provided to allow for remote switching of the rectifier.	<b>MECHANICAL SPECIFICATION</b>
Current Limit	The current limit point can be programmed down by connecting a resistor between two pins on the 'D' connector.	Mechanical Format All units are supplied fully enclosed with integral fans. Units are intended for rack mounting applications.
Output Healthy Relay	Isolated changeover relay contacts indicating that the output voltage is within the normal operating range.	Mounting Orientation The units are designed to operate with the front panel vertical.
Current Signal	Analogue output with a voltage proportional to output current.	Ventilation and Cooling Units are forced air cooled by an internal fan. Adequate space for air inlet must be left in the fan area at the rear of the rectifier and for exhaust in the ventilated areas at the front.
Input Healthy	Isolated open collector output and LED indicating that the mains input is within specification.	<b>ENVIRONMENTAL CONDITIONS</b>
Output Healthy	Isolated open collector output and LED indicating that the output voltage is within normal operating limits.	Operating Temperature -5°C to +55°C operating. (Measured at fan inlet.)
Current Limit	Isolated open collector output and LED indicating that the current limit circuitry is operative.	Operating Humidity 0 to 85% R.H. non-condensing operating
Overvoltage Trip	Isolated open collector output and LED indicating that the overvoltage protection circuitry has been triggered.	<b>INTERNATIONAL SAFETY STANDARDS</b>
Thermal Warning	Isolated open collector output and LED indicating that the internal temperature is approaching the overtemperature trip point.	Units have been designed, built and tested in accordance with the requirements of EN60950. Units are <b>CE marked to the Low Voltage Directive</b> .
Optional Functions (Available to special order)		
Voltage Trim	A facility is available to allow external adjustment of the output voltage to suit battery environment.	For more detailed information on these units please contact your local sales office or agent.
Disable	The Remote On/Off facility may be re-configured to allow a relay contact to be used to turn the rectifier output off	<b>ORDERING INFORMATION</b>

## TRF4200H OUTLINE DRAWING

All dimensions are nominal and are given in mm (inches)



## External Dimensions and Mass

265 (10.43) high with a 286 (11.26) front panel x 149 (5.86) wide x 450 (17.72) deep + 39 (1.54) front panel and handle. Maximum mass, unpacked is 16.8kg (37lb).

## Fixings

## Connectors

An M5 fastener is provided in the front panel.

All connections are made via an Elcon 'top drawer' connector type 296-21-01100. For a mating connector, order connector kit 1TKT01 (with 5 signal pins) or 1TKT02 (with 20 signal pins). Bags of 10 extra signal pins are available, order kit TKS10.

## TRF5600H OUTLINE DRAWING

All dimensions are nominal and are given in mm (inches)

External Dimensions    356 (14.02) high with a 377 (14.84) front panel x 133 (5.24) wide x 380 (14.96) deep + 39 (1.54) front panel and handle.

Mass                    Maximum mass, unpacked is 17kg (37.48lb).

Fixings                An M5 fastener is provided in the front panel.

Connectors            All connections are made via an Elcon 'top drawer' connector type 296-21-01100. For a mating connector, order connector kit 1TKT01 (with 5 signal pins) or 1TKT02 (with 20 signal pins). Bags of 10 extra signal pins are available, order kit TKS10.

