SUMMARY SPECIFICATION

Model Number	Input Voltage	Output Voltage	Setting Range	Output Current	Current Limit	Cooling	Dimensions
TRA2800H54	176 – 264V a.c.	54.9V	Up to 57V	0 – 50A	50 – 55A	Fan Assisted	275 x 135 x 456 mm 10.83 x 5.32 x 17.95 in.
TRA2800B54		54.9V	Up to 58V	0 – 50A	50 – 55A	Fan Assisted	
TRA2800B27		27.4V	Up to 29V	0 – 100A	100 – 110A	Fan Assisted	

INPUT SPECIFICATION

Voltage	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 table of models. 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 table of models. 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 I_{MAX} (fan assisted) point. The integral fans, arranged to assist the vertical movement of cooling air operate automatically if the average load current exceeds 60% of the maximum rated output current.
Combined Regulation	A worst case combination of input voltage variation of 176V 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.
Ripple and Noise	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. Rectifier outputs meet "equipment noise limits" of BTR2511 Issue 3.

PROTECTION

Hold Up	With the output loaded to 2700W, a hold up time of at least 15ms is available when operating at 176V input (10ms on B27 model).
Output Current Limit	These rectifiers are designed to be able to operate continuously in current limit and are fully protected against output overload. There are two limit points, one for fans operational and a lower one which will turn the fans on if it is exceeded and will also override the higher limit in the event of fan failure.

Output Overvoltage	An output voltage in excess of the trip point of 59.5V on 54V units and 31.5V on 27V units, will cause the rectifier to latch into a shutdown condition. The rectifier is reset by interrupting the mains input.
Series Output Diode	Supplied on TRA2800H54 to enable 'hot plugging'.
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

Remote Sense	Available as an option.
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 input is provided to allow for remote switching of the rectifier.
Voltage Trim	An optional 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 range.
Current Signal	Analogue output with a voltage proportional to output current.
Fan Test/Run	An external link will force the fan to run continuously, independent of load current. This provides an easy means of testing the fan from a remote location. Once actioned, the fan will run for a minimum period of 8 seconds, even if the activation signal is removed.
Fan Enable Indicator	A green LED indicates that the integral fans should be running.
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 normal operating limits.
Current Limit	Isolated open collector output and LED indicating that the current limit circuitry is operative.
Overvoltage Trip/Fan Fail	Isolated open collector output and two LED's indicating that either the units overvoltage trip has operated or the fan fail detect circuit has latched.

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	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
Earth Leakage Current	The earth leakage current meets the requirements of EN60950.

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).

MECHANICAL SPECIFICATION

Mechanical Format	All units are fully enclosed with integral fans 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 of the units are ventilated and must not be obstructed. Fans are also included which will assist air flow when the output current exceeds a preset level or the internal temperature rises above a preset level.

ENVIRONMENTAL CONDITIONS

Operating Temperature	–5°C to +55°C operating.
Operating Humidity	0 to 85% R.H. non-condensing.

INTERNATIONAL SAFETY APPROVALS

Units as detailed below have been tested by the following approval bodies to the standards listed and have been approved as being compliant with those standards or with the relevant sections of those standards.

TRA2800B54, H54

CE marked to the Low Voltage Directive

BABT EN60950

UL UL1950 (TRA2800B54 only).

For more detailed information on these units please contact your local sales office or agent.

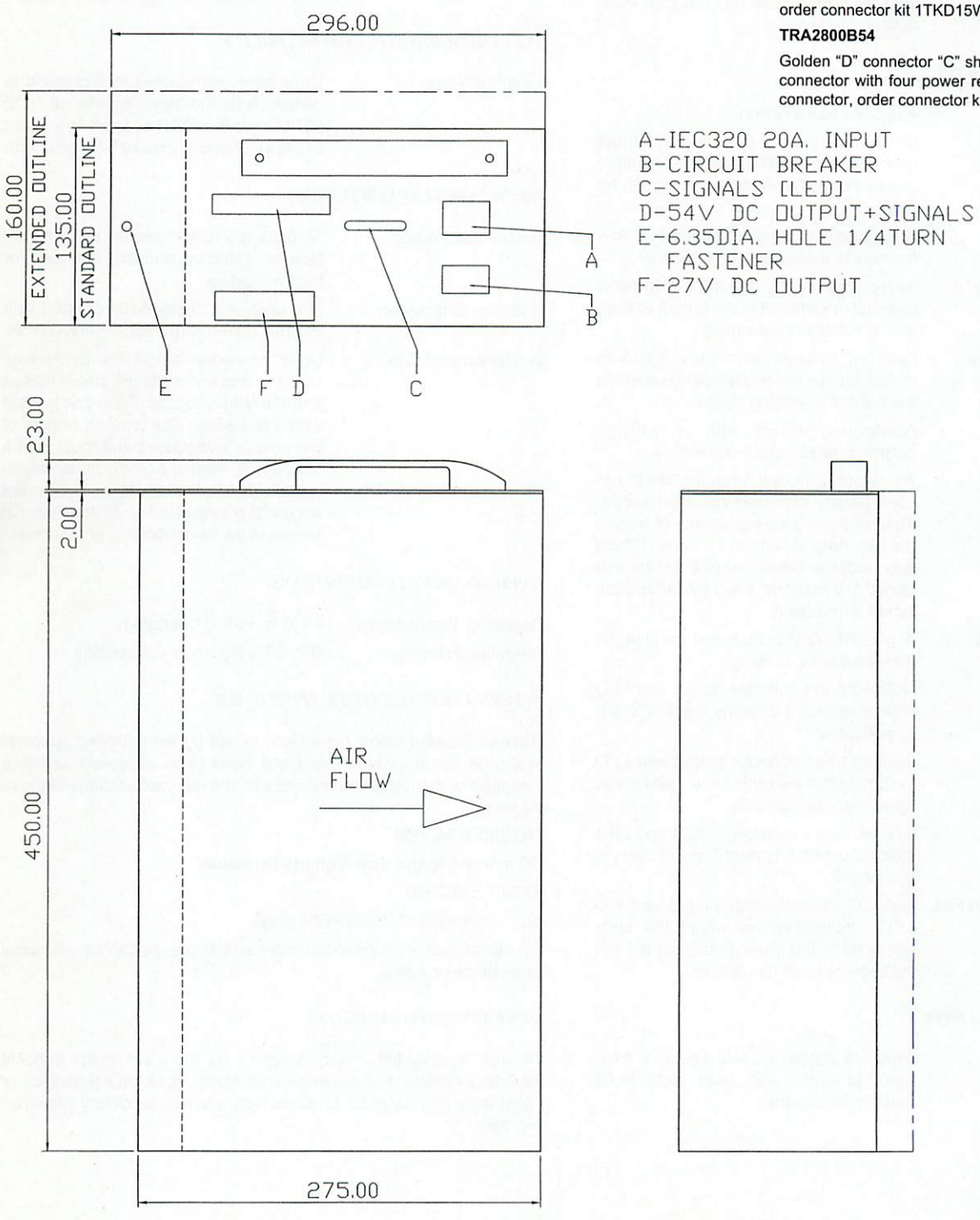
ORDERING INFORMATION

To order specify the model number. As there are many optional features available, 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 DRAWINGS

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

TRA2800B27 and B54



A-IEC320 20A. INPUT
B-CIRCUIT BREAKER
C-SIGNALS [LED]
D-54V DC OUTPUT+SIGNALS
E-6.35DIA. HOLE 1/4TURN
FASTENER
F-27V DC OUTPUT

External Dimensions and Mass

275 (10.83) high x 135(5.32) wide x 450 (17.72) deep. A larger front panel and offset side runner can be fitted to suit applications for 160mm wide rectifier. 12kg (26.5lb)

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

Connectors — The following connectors are required for connection to the rectifier:

Input — **TRA2800B27, B54:** IEC 320/C20 16A/20A. For mating connector order connector kit 1TKI20A01.

Output and Signals — **TRA2800B27**

4 x 60A Anderson power poles. For mating connector, order connector kit 1TKP100A01.

15 way female 'D' connector. For mating connector, order connector kit 1TKD15W02.

TRA2800B54

Golden "D" connector "C" shell size, 21WA4 female connector with four power receptacles. For mating connector, order connector kit 1TKD21W02.

TRA2800H54

Elcon 'Lower Drawer' socket for input, output and signals. For mating connector, order connector kit 1TKL01 (5 signal pins) or 1TKL02 (20 signal pins). Signal pins are also available in bags of 10, order number 1TKS10.

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