

# POWERBOX 40A



The 40A voltage regulator and powerbox is designed to be used in combination with a permanent magnet alternator. The variable three-phase input voltage from the alternator is full-wave rectified and smoothed to provide a DC low-impedance source to the regulator. The output voltage can be set to the customer's requirements.

Small and lightweight, it has been designed to withstand the harsh motorsport environment and should be cooled by forced convection.

## Electrical

- 3-phase alternator input
- Alternator output voltage must not exceed 200V
- RMS input current must not exceed 35A
- Main Stabilised Output (VEMSW) Voltage 14V ±100mV at 25A
- Main Output Current 45A max \*
- Secondary Stabilised Output (IGP) Current 45A max
- Total Output Current 40A typ
- IGP protected by an internal, resettable fuse
- Output Impedance <15mohm in normal regulator mode
- Output Voltage Drift less than -2mV/°C
- Internal regulator output can be connected to a lead-acid battery. This brings the battery supply under the control of the emergency switch
- A Hall effect sensor measures the output current of the regulator
- A sensor measures the internal unit temperature
- An "emergency" toggle switch turns off the VEMSW and IGP and simultaneously connects two 'fire extinguisher' pins to the battery positive terminal

## Electro Magnetic Compatibility

- Complies with the essential protection requirements of 89/336/EEC

## Mechanical

- Case material Magnesium, chromate converted and painted with black epoxy
- Weight less than 950g

## Application

- Single seat racing cars

\* The total current drawn from the unit must not exceed 45A, but both outputs are capable of carrying the full output current if required.

## Connection Definition

- Integral, sealed, military standard connectors
- Input connector CGK-0T 14N-35PN
 

Pins 1 to 6	Ground
Pins 7 to 10	Input Phase 3
Pins 11 to 14	Input Phase 2
Pins 15 to 18	Input Phase 1

Phases are interchangeable

- Input connector CGK-0T 18N-35SN
 

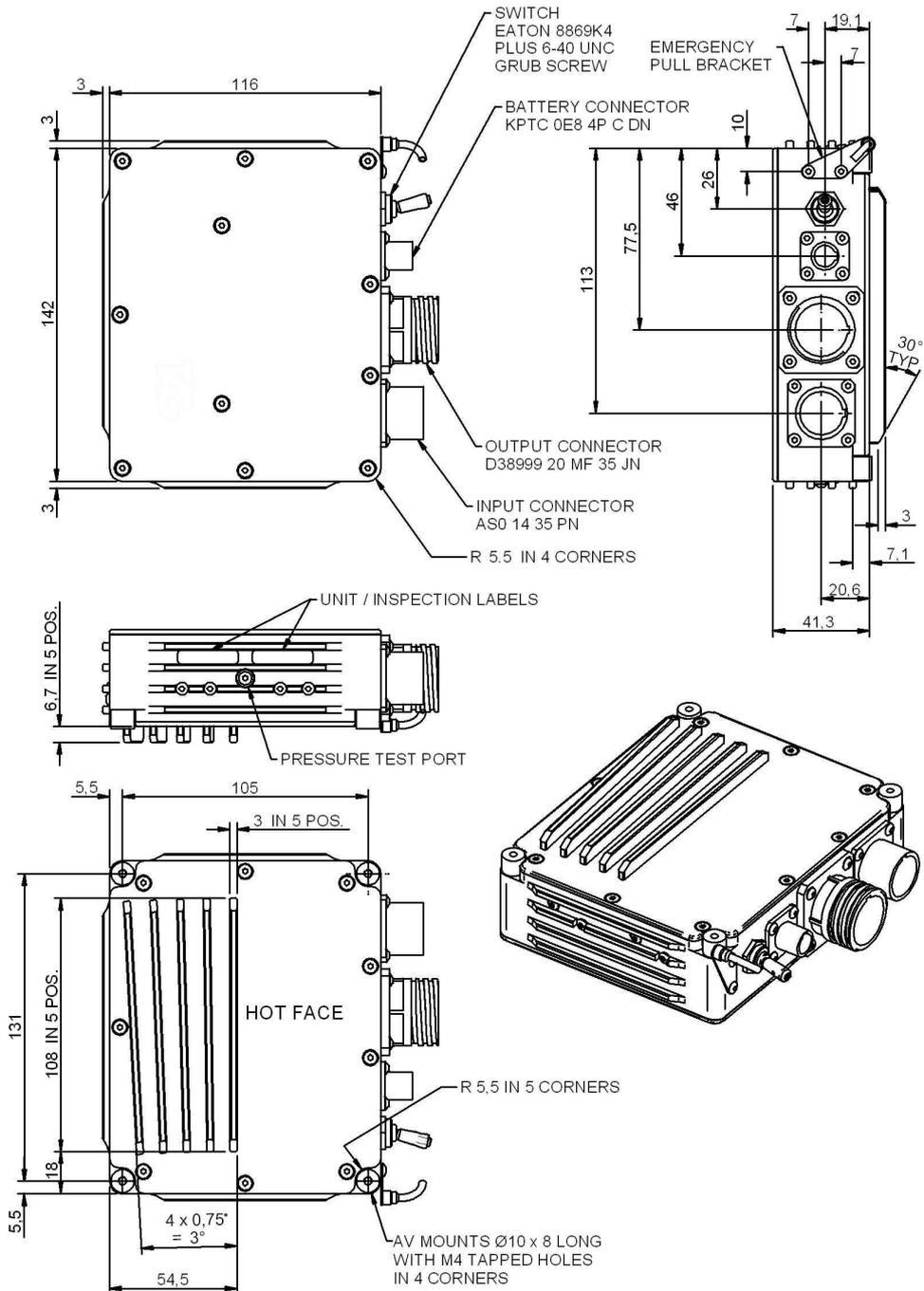
Pins 1 to 15	VEMSW Main Output
Pins 16 to 39	IGP Switched Output
Pin 40	IGP Protected
Pins 41 to 59	Ground
Pin 60	IGP Control
Pin 61	Current Sensor Output
Pin 62	Sensor Ground
Pin 63	Temperature Sensor Output
Pin 64	n/c
Pin 65	Fire Ext Supply
Pin 66	Fire Ext Return
- Battery connector KPTC 0E8-4P-C-DN
 

Pin A	V+
Pin B	Ground
Pin C	Ground
Pin D	V+

## Environmental

- Splash resistant to standard motorsport fluids
- Lids and screws sealed with silicone rubber
- Maximum humidity 100%
- Minimum Operating temperature -10°C
- Temperature not to exceed 70°C as measured by the internal temperature sensor. Forced convection cooling is necessary.
- Storage temperature -20 to +85°C

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**Description**  
40A Powerbox

**Order Code**  
O 030 650 026 000