

EV2 ADVANCED WATER COOLED MODULAR RESISTOR

A new range of water cooled resistors for low and medium voltage applications, especially severe conditions in automotive, traction or marine systems.



Applications

Rheostatic braking of all types of low and medium voltage AC drives in:

- Hybrid and all-electric vehicles
- Winches and cranes
- Cable laying vessels
- Propulsion drives on ships or oil rigs
- Dummy loads and discharge resistors for MV electrical systems
- Liquid heating

Patented design that encapsulates and totally separates the resistor elements from the coolant.

System voltage up to 12kV -

Continuous operating voltage - EV2: 1.5kV,
4EV2: 6kV

Advanced materials -

Light weight, low volume, high (10kW/kg)
power density

Modular construction -

EV resistors can be combined to handle any
power inputs from 10kW to 1MW or more.

Extensively tested -

Proven to meet all major shock and vibration
standards for automotive/traction use.

IP56 ingress protection -

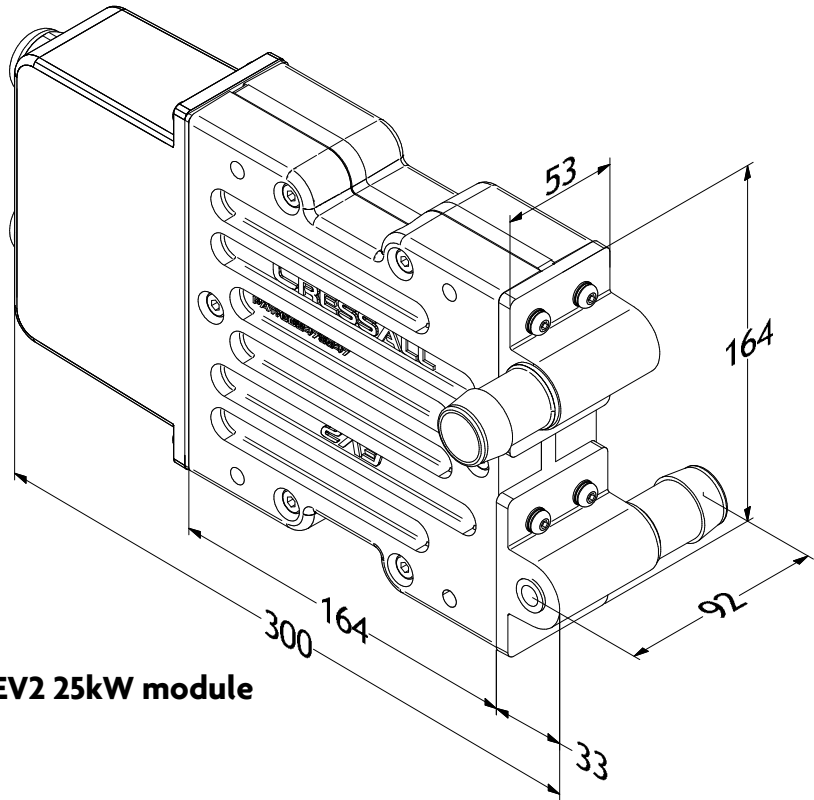
Suitable for for automotive/traction/marine use.

Low time constant -

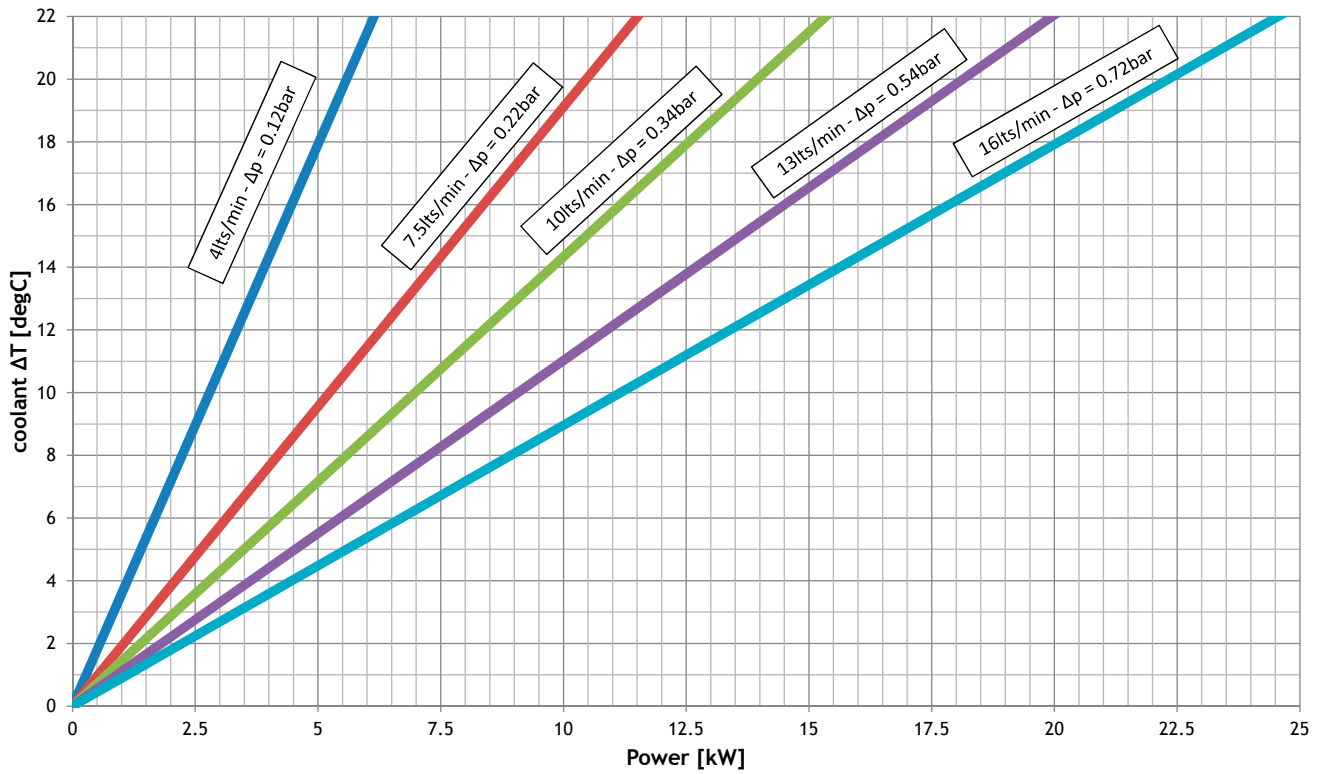
Full output temperature within 2 sec for heating
applications.



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EV2 Single module performance chart



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Ratings

Continuous power: 25kW

Overloads:

10% for 60s, 20% for 15s, 30% for 5s

Ohmic value: min: 0.1Ω, max: 17Ω

Operating conditions

Ambient temperature

-30° to +50°C (operation),

-40° to +80°C (storage)

Dimensions

(excluding pipe connections)

EV2: 300 x 164 x 53 mm

4EV2: 300 x 164 x 208 mm

Dimensions

(including pipe connections)

EV2: 300 x 164 x 90 mm

4EV2: 300 x 164 x 284 mm

Weight (empty)

EV2: 2.6kg

4EV2: 10.2kg

Cooling

Medium: Fresh water or water-glycol

Operating pressure: 3 bar max

Test pressure: 6 bar

Burst pressure: 10 bar

Flow rates, temperature rises

Minimum flow for 20°C temp. rise:

0.3 litres/sec

Pressure drop at 0.3 litres/sec: 0.8 bar

See charts for other flow rates

Electrical

Working voltage (to earth): up to 12kV

Working voltage (terminal - terminal):

up to 1500V

Test voltage: 7.2kV, 1 min to earth

Megger: > 100MΩ

Air clearance, terminal - terminal: 35 mm

Surface creepage, terminal - terminal: 35 mm

Protection degree to EN60529: Body IP65

to BS-EN 60529: IP56

Ingress protection

Thermal Protection

Shock and vibration

Flow rate monitored required

to JLR spec TPJLR.00.047:

50 hours random vibration

3-axis shock, 4000 x 30g

Interfaces

Water: 2 x pipe stubs for 25mm ID hose

Electrical: 38 x 1.5 mm copper

Temperature/pressure: 2 x 1/8" BSP

Materials

Body: Glass-filled plastic, colour RAL7031

Cable box: Glass-filled plastic, colour RAL7021

Terminals: copper

Seals: silicone rubber

Patents

GB2478547



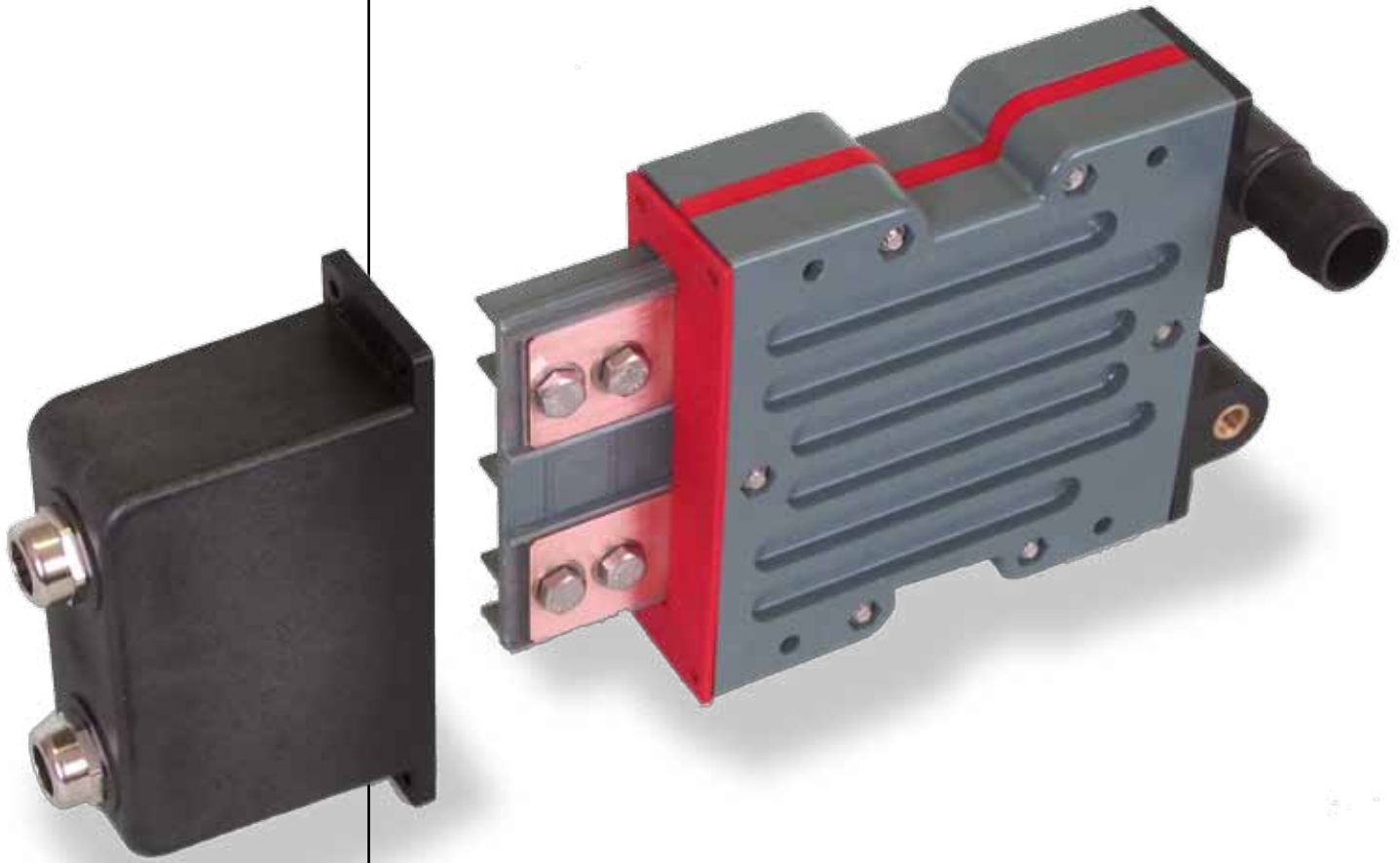
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For more information about this exciting breakthrough in regenerative braking contact our sales engineers at the address below.

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