

# ALTERNATOR

## Permanent Magnet



Permanent magnet alternators can tolerate high ambient temperatures and vibration allowing them to be directly mounted to racing engines. The separate regulator can be mounted in a location where the temperatures and vibration levels are lower. When used together with the DC2 "Buck" regulator, the alternator provides high current, at stable voltage, over a large range of rotation speeds from a very small and lightweight package.

### Electrical

- Output 3 phase alternating current
- Rectified output current when used with a DC2 regulator 25A (typ.), 30A (max\*)
- Rectified output current when used with a PB2006 powerbox 55A (typ), 60A (max)
- Frequency 750Hz on each phase at 15000rpm

A detailed performance chart is shown on the next page.

### Environmental

- Splash resistant to standard motorsport fluids
- Maximum humidity 100%
- Maximum temperature:
 

Stator	220°C (250°C short term)
Bearings	170°C
Rotor	150°C

### Mechanical

- Aluminium alloy body, hard anodised and dyed black
- Maximum speed 18000rpm
- Bi-directional rotation
- Rotor balanced to <0.7gmm at 4700rpm
- Spline to NF-E22-144, Major dia. 9.48mm  
Other splines of similar diameter can be provided
- Weight, including cable, is shown on the order details.

\* An output of 40A can be achieved with special cooling

### Application

- Single seat racing cars and motorcycles

Design and manufacture is in-house, so if our existing designs do not suit your application, we can provide cost effective customised parts to suit even the most demanding application. We can provide special mounting and shaft arrangements and can optimise the output characteristics to suit your application. Please contact our technical consultancy service who will be pleased to help.

### Connection Definition

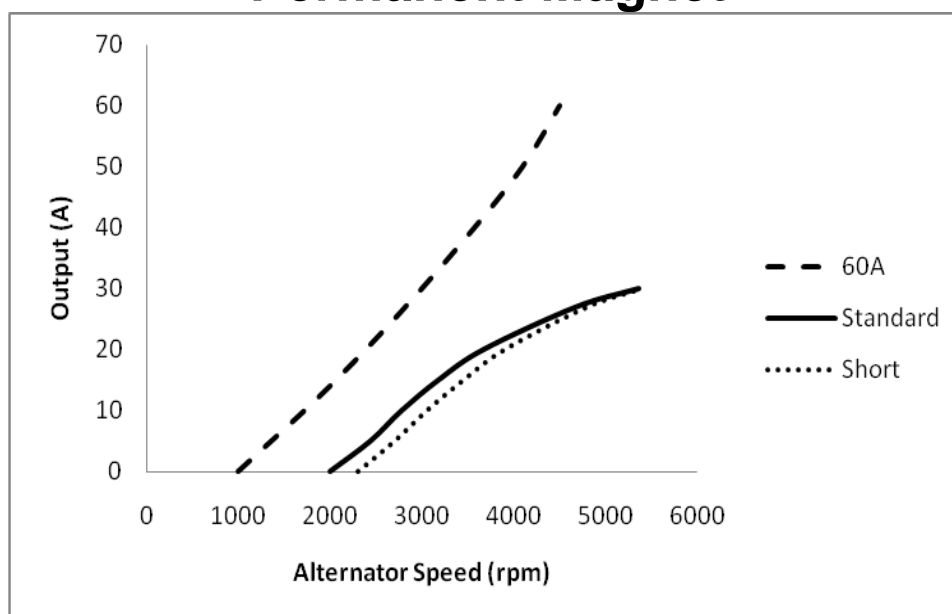
- 55 spec 22AWG cable (4 wires for each phase)
- Cable length is shown on the order details but any length is available on request
- Various automotive and military standard connectors are available
- Connection
 

Red wires	(4)	Phase 1
Green wires	(4)	Phase 2
White wires	(4)	Phase 3

Phases are interchangeable

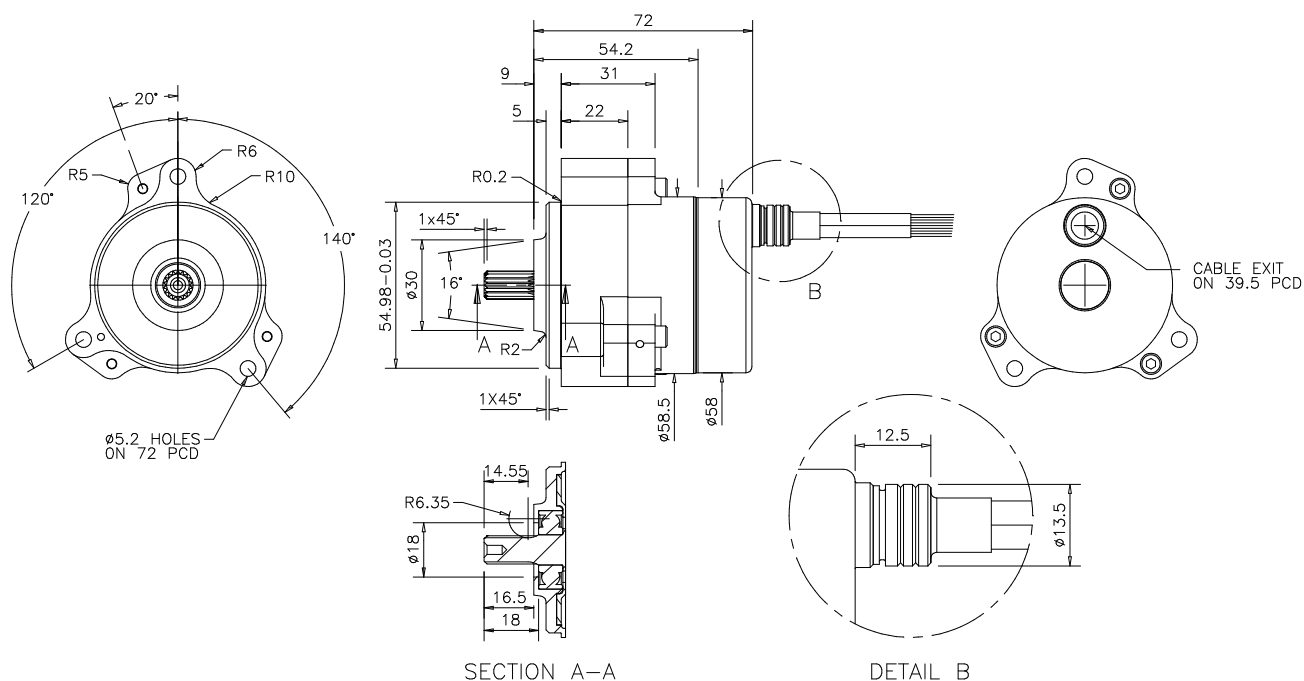
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Performance with a DC2 regulator (13.5V into a resistive load with 1500mm cable at 25°C) for short and standard parts, with a Powerbox PB2006 into a resistive load with 1000mm cable at 25°C for the 60A version:

Current (A)		0	5	10	15	20	27	30	48	60
Speed (rpm)	Std	2000	2440	2780	3180	3670	4680	5360		
	Short	2300	2700	3050	3450	3900	4800	5400		
	60A	1000	1250	1750	2100	2400	2800	3000	4000	4500

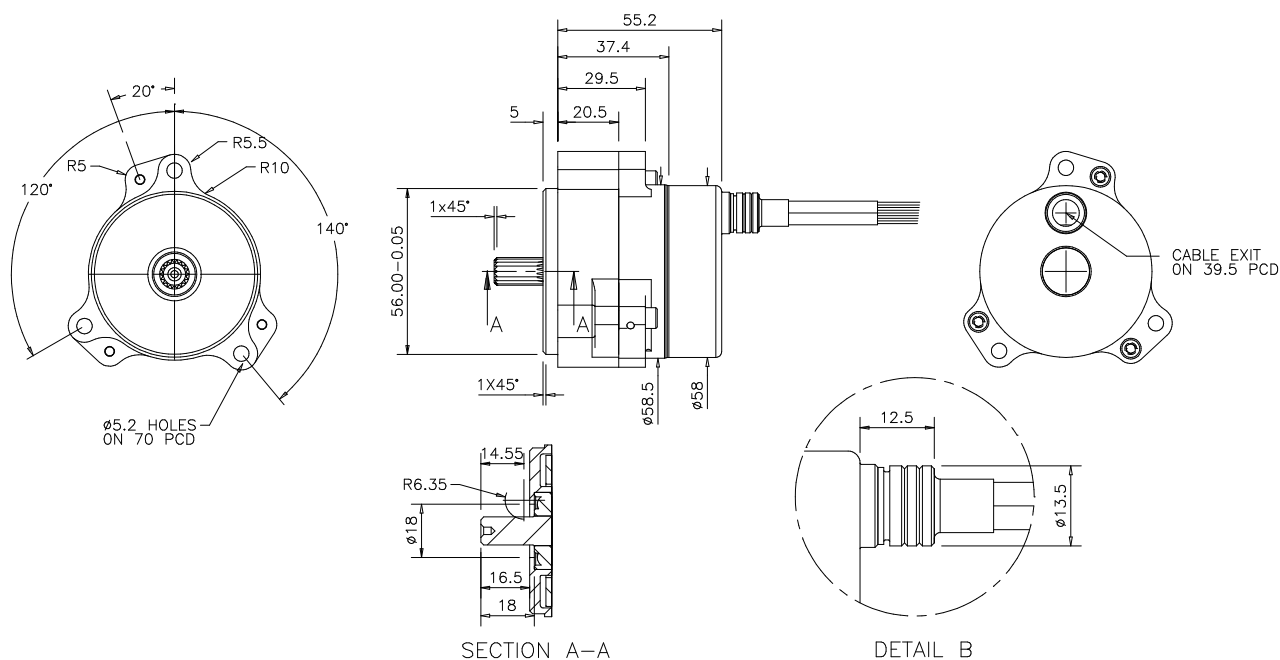


Description	Cable Length	Weight	Order Code
Standard length	1500mm	<900g	O 030 650 017 000

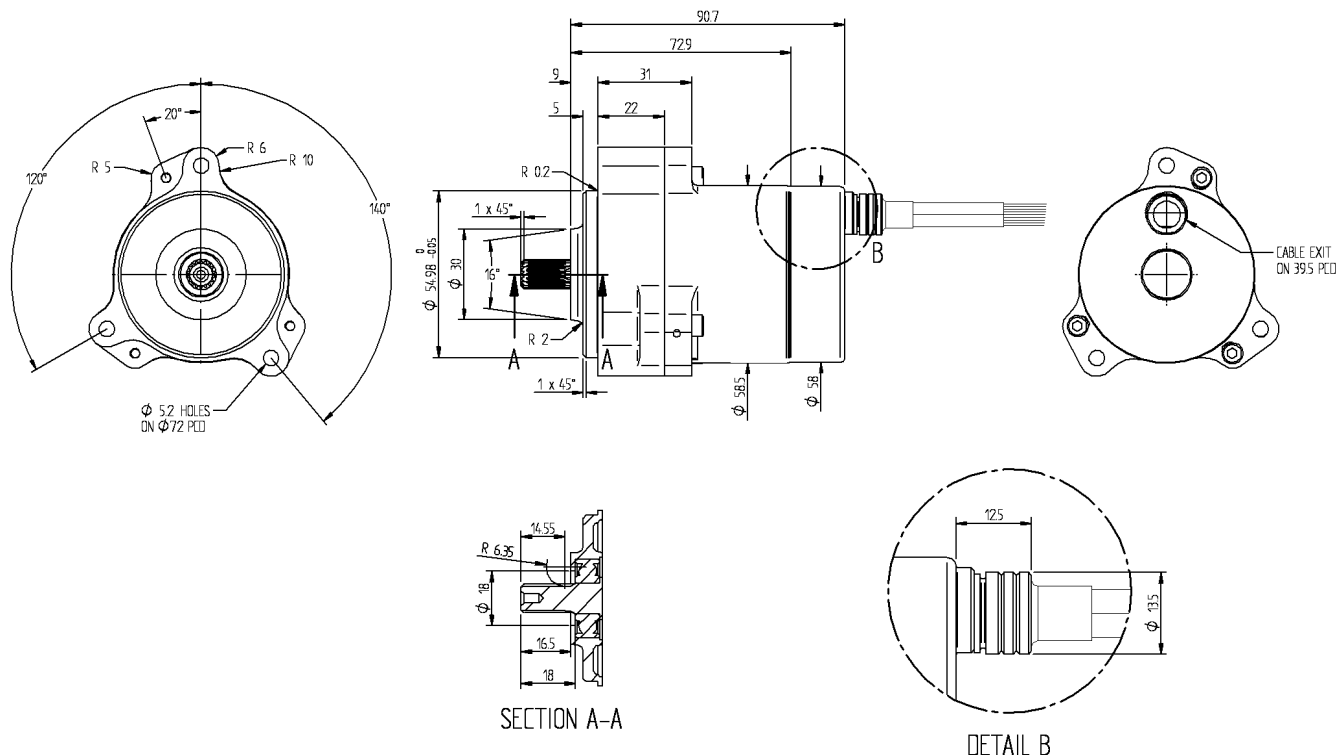
02/12/09

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Description	Cable Length	Weight	Order Code
Short	1500mm	<810g	O 030 650 017 011
Short	2000mm	<835g	O 030 650 017 016



Description	Cable Length	Weight	Order Code
60A	1500mm	1500kg	O 030 650 017 035

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