DC motor of the week.

**Brushless DC motor for geotechnical instrumentation application with modifications to the motor shaft, bearing system and a custom connector configuration.**

This 250W 36V brushless DC servomotor is normally supplied in an IP54 configuration that includes 550mm cables for the 3 motor windings, hall sensors and encoder signals. The cables pass through rubber grommets on the rear alloy housing. The ball bearings on the motor as standard have IP54 stainless steel shields. This brushless DC motor form of supply has proven itself robust and reliable for many years however when you need to use a motor in the harsh conditions of an Australian coal mine, further precautions are often necessary. In this instance the motors front bearing has been replaced with an IP66 sealed bearing with relatively low running resistance, such that the brushless motors performance is minimally changed. The motors high torque capability of over 300Nm continuously and 3.3Nm of stall in reality mean the added bearing friction does not even result in a calculable current increase, because the motor in the application is constantly overcoming high and fluctuating loads. This is one of the many “in theory – not practice” scenarios that often occur with motor applications where drastic extremes of temperature and load are often unpredictable. The DC motor is also fitted with mil spec connectors. Even though all the connector pins are not required the unused locations are still fitted with their gold pins. This ensures that all motor phases and hall sensor feedback lines maintain the IP65 rating of the connector. The end result is a customised IP65+ DC motor suitable for mining applications that exhibits high performance and ruggedness with a minimal overhead.

Contact maxon motor Australia in our Sydney office for assistance with getting a motor right for your application.

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045 mm brushless DC
250w 36V motor ©
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