Brushless DC motor with gear and holding brake.

This brushless DC motor is an example of the new small part combinations from maxon motor Australia that provide increased levels of power density. The unique assembly provides a blend of high speed, zero motor cogging and holding power.

The servo mechanism consists of a stainless steel high power BLDC (brushless DC) 120W 36V 22mm motor which is capable of maximum speeds up to 25,000 rpm and a stall torque rating of over 1Nm. It is fitted with a 22mm ceramic planetary gearhead that further increases the torque and brings the speed down to the application engineers required levels. For holding overhung loads or maintaining position in power cycles the rear of the motor has been re-engineered to accommodate a 0.1Nm holding brake. The brake force multiplied with the gearhead ratio gives holding forces well beyond nominal gearhead ratings. The brake opening reaction time is ≤6ms. This fast response allows the brake to be sequenced in dynamic positioning systems making the new combination particularly suitable for robotic rotary and linear actuators.

To facilitate the customisation of new products like this brushless servomechanism, maxon motor project engineers are now split into dedicated aerospace, medical, industrial and transportation teams. For assistance developing a customised application solution please contact maxon motor Australia on +61 2 9457 7477.

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