Motor of the week. An encoder?

Something different: For this week’s motor of the week article we are talking encoders.

Small encoders for DC motor positioning and speed control applications are easy to find. With the range of MR incremental encoders for maxon rare earth brushed and brushless DC motors and the new Easy line of encoders for the DCX permanent magnet brushed DC (PMDC) motors, there are many choices for small and miniature encoders. In fact, these encoders are so small they can’t be supplied separately. They rely on the DC motor housing and shaft for their own mechanical structure. When you need a very small encoder to mount with the load or any other rotating component the standard incremental encoders will not suffice. Another interesting requirement for the use of small encoders is very high resolution positioning of DC motors that are fitted with gearheads. The backlash in the gearbox can often cause a positioning error in the system. To counter this the new EPOS2 miniature position controller has an advanced functionality whereby two encoders can be used. The first encoder is used on the rear of the motor for speed regulation and the second is mounted directly to the load for positioning. This results in the need for a small externally mounted (structurally independent) incremental or absolute encoder. Two such encoders that were specified for a robotics application this week were the Gurley R112 and A19. Both of these encoders are tiny, with diameters of 12mm and 19mm. Both have 3mm hollow bore shaft inputs and mounting flanges. The R112 has a 500 counts per turn incremental output and the A19 has a 12bit absolute SSI output. Either of these tiny encoders can be used with maxon brushless DC motors and brushed DC motors in a dual encoder loop to achieve accurate position control via the EPOS2 position control devices. matching the truly tiny proportions if the DC motor and controllers from maxon these miniature encoders offer solutions previously unattainable with standard products.

Contact maxon motor in Sydney for further information or assistance on how to match Gurley encoders with maxon DC motors and positioning systems. Ph: +61 2 9476 4777
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