Media Release

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Brushless motor with right angle gearhead and position control.

When a Sydney based packaging company needed greater accuracy, maxon motor had the solution.

A common problem faced when using 3 phase AC motors in multiple lane packaging equipment and conveyor systems is motor drift. The Sydney company was using a 415V AC 3 phase 0.37Kw motor that had a 1380 rpm output driving through a 115:1 right angle gearhead. The motor is driven by a PLC which commands 60.5mm moves on a conveyor but without a true absolute closed loop positioning system, over the course of the day the AC motor system would develop a drift of a few millimetres with respect to other components on the machine. The AC motor and drive system employed was using a relative step positioning system that on paper was able to deliver the required position resolution, however it is the motor and drive system accuracy that leads to drift or offset when hundreds or even thousands or repetitive moves are carried out over the course of a day. maxon were able to offer a solution using a brushless DC servo system and a DC motor position controller that conducts absolute movement based on high accuracy optical encoders. The motor is a 3 phase 60mm diameter 0.4Kw 48V brushless DC type fitted with an 81mm 93:1 180Nm planetary gearhead and an additional 1.5:1 stainless steel right angle transfer gearbox rated at 238Nm peak. The three phase DC motor controller EPOS2 (easy to use motor positioning system) has the unique feature of being able to conduct absolute moves measured directly from the load by using a dual encoder loop function; Whereby the position is taken from a load mounted absolute SSI encoder and high speed motor regulation is taken from a second encoder mounted directly to the rear shaft of the dual shaft motor. A stand-alone motor control system was required via a customised keypad. To set up the motor control system with an application unique human machine interface maxon recommended the local Sydney company Robotic Systems who have in-depth knowledge of mechatronic systems. Robotic systems chief engineer and CEO Adam Amos has conducted many successful custom motor control implementations using maxon motor products. The successful relationship between Robotic Systems Pty ltd and maxon motor creates a full solution service from hardware, firmware, and software to programming and support.

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The media release is available on the internet at: www.maxonmotor.com.au

Brushless DC servo motor with encoder and right angle gearbox © 2013 maxon motor Australia.

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