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SMAC Introduces Programmable Micro Gripper for Handling Fragile Parts

SMAC Moving Coil Actuators introduced details for their new MGR5 Series Micro Gripper. The SMAC MGR5 Series Micro Gripper is very light - around 30 grams - and can be used as an end effector on third party robots. The unit sells for less than $1,000, providing a reasonable cost for the solution.

The MGR5 Series Micro Gripper was developed to handle small very fragile parts - in SMAC's case - the assembly of small and precise rotary encoders. It includes the company's patented Soft-Land feature, programmable force down to 5 grams, and two independently controlled gripper fingers to pick up asymmetric parts.

The MGR5 enables increased small part assembly - particularly of complicated small products that are made in very high quantities. Small part assembly is increasing - due to consumer product trends - such as smart phones and watches. These parts are too small and fragile to be handled by most humans. The product also feeds back what happened during the process - i.e. pick up occurred - correct position achieved - part was put down - etc.

MGR5 Series Micro Gripper Specs:

- Dimensions [mm]: 30x47x19.5
- Stroke [mm]: 10 (5 each)
- Peak Force [N]: 1.7 @ 1.5 Amp (24VDC)
- Encoder Resolution [µm]: 5 standard, 1.0 optional

The stroke of the MGR5 Series Micro Gripper is 10 mm (i.e., 5 mm per axis).

Small grippers are primarily pneumatic. Guides are not good, forces are too high due to seal friction, and gripper is single axis so off-set parts can be damaged.

SMAC's built-in sensor feedback system gives SMAC's devices, including the Micro Gripper, the unique mechatronic ability to "perform a task and verify its quality at the same time." This would allow the actuators to quality check key processes 100% in real time and feedback the results.

SMAC Moving Coil Actuators is primarily known for its true "mechatronic solutions." By that they mean their actuators have unique capabilities such as programmable and controllable position, velocity, and force, high accelerations, cycle life well over 100M, and a patent-pending "Soft-Land" capability. The Soft-Land capability is very useful when performing fragile part assembly, measurement, moving objects, etc.

SMAC electric grippers incorporate programmable speeds, positions and forces with data feedback. The ability to independently control each jaw allows precise force control, measurement and positioning. This makes them ideal for a wide range of positioning, measuring, and inspection applications, particularly where 100% verification is required.

For more information, visit www.smac-mca.com