

Glossary

Total gripping force

Average jaws gripping force.

Total gripping force

Average jaws gripping torque.

Swivelling torque

Average provided torque on the rotary plate.

Stroke

Average value of the total jaws stroke.

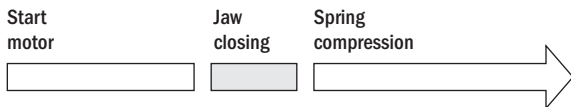
Frequency

Mean frequency value for a cycle comprising opening, closure and cooling time to prevent the motor from overheating. This value is calculated with no load connected to the actuator.

$$F_{\text{cycle}} \text{ (Hz)} = \frac{1}{(t_{\text{working gripper}} + t_{\text{cooling}}) \times 2}$$

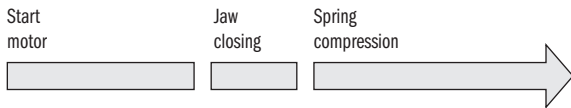
Closing jaws time

Mechanical moving jaws time after motor starts running and before spring compression.



Working gripper time

Start motor, jaws movement and spring compression total time.



Duty cycle

Ratio of time that actuator spends in an active state to the time spent to make the total cycle with cooling time included.

$$D \text{ (\%)} = \frac{t_{\text{working gripper}}}{(t_{\text{working gripper}} + t_{\text{cooling}})}$$

$$t_{\text{cooling}} \text{ (s)} = \left(\frac{t_{\text{working gripper}}}{D \text{ (\%)}} \right) - t_{\text{working gripper}}$$

Power supply

Necessary continuous voltage to power supply actuator.

Peak current

Maximum motor supply current, limited by the BUS voltage, the motor's electrical resistance (at a set temperature) and constructive factors. For linear motors, electrical linear actuators and electric linear guideways, it is the maximum rms value.

Brushless motor power

Maximum mechanical brushless motor power.

Connection

Standard metal round M8x1, 3 pole connector.

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Open/closed input signal

Open collector logic system drivable with 24Vdc and GND.

Operating temperature

Room temperature refers to the nominal operating conditions. It is limited by the characteristics of the materials and the viscosity of the lubricant.

Environmental Degree

Degree of protection provided against intrusion of solid objects and water in mechanical casings with electrical enclosures.

Noise level

Industrial area noise level expressed in decibel.

Mass

Total actuator mass with brushless motor included.

IPA Clean Room Certification

ISO 146444-1 clean room certification made by Fraunhofer Institute.

CE certification

Electromagnetic compatibility (EMC) accordingly with EN61000-06-2:2005; EN61000-6-3:2007; EN61000-6-4:2007.

BUS voltage

Peak voltage supplied at motor start-up.

Peak force

Peak current force.

Force coefficient

Constant of direct proportionality between the feed current and the motor force output.

Cogging

Interaction between permanent magnets and stator that causes a periodic detent force at every pole.

Continuous force

Motor force output capacity with continuous current.

Continuous current

Current which can be supplied to the motor indefinitely, at which it reaches the maximum rated internal temperature (without overheating).

Phase resistance

Value of equivalent electric resistance measured across the terminals of a phase at a predetermined temperature.

Phase inductance

Equivalent electric inductance measured across the terminals of a phase.

BEMF constant

Back voltage generated when the motor is 1 m/s moved.

Thermal resistance

Overheating for every Watt power dissipate from the motor.

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Thermal constant

Time taken from the motor to reach the maximum temperature.

Max phase temperature

Maximum permissible winding temperature.

PTC value

Resistance value of the temperature sensors (PTC).

PTC max voltage

Maximum feed voltage applicable to the terminals of the PTC thermistor.

Feedback transducer

Electronic device to check and measure the motor/slider respective positions.

Circuit output

Type of signal generated by the feedback transducer toward the controller.

ABZ: square wave incremental output.

SIN/COS: sinusoidal wave encoder output.

HALL: low resolution feedback for motor phasing.

Output signal

Communication standard used.

Current consumption

Maximum sensor current consumption provided from power supply.

Working speed

Maximum sensor speed to get correct position information.

Resolution

Smallest incremental pitch that system can perform.

$$\text{Resolution } (\mu\text{m}) = \frac{\text{Pole pitch}}{\text{pulses}}$$

Repeatability

Ability of a system to perform and maintain same measure in routine circumstances.

Pole Pitch

Linear distance between the consecutive same poles (North > North; South > South).

Impulses / Sinusoid

Incremental impulses or sinusoidal waveforms included in a single pole pitch.