

Smart Gripper™ 2.1

(Patent Pending)

Applied Robotics' Smart Gripper™ 2.1
Specifically designed for precision and application
flexibility.



Smart Gripper™ 2.1 pictured with optional fingers

Featuring a universal operating platform and accurate positioning of robotic fingers, Applied Robotics' Smart Gripper meets your stringent requirements for precision and application flexibility, while bringing greater efficiencies to your application.

The Smart Gripper is operated using 24Vdc discrete signals for use with any robot controller. The user pre-programs motions into the Smart Gripper's non-volatile memory for later recall triggered by the robot controller's discrete output lines. Up to 32 programs can be selected using the Smart Gripper's five discrete input lines. The Smart Gripper includes a fail safe brake to prevent object drop upon power loss. Status about the motions, such as "motion complete" and "object gripped" is provided by the Smart Gripper's three discrete output lines.

A PC-based Integrated Development Environment (IDE) assists in program development.

Interchangeable fingers are designed to hold or carry micro plates (in either landscape or portrait orientation), test tubes and other media. Fingers can be designed by the user, or provided by Applied Robotics, Inc.

The Smart Gripper comes with an internal motion controller and precision motor. The Smart Gripper is powered by 24Vdc at 2 Amps maximum.

Not exactly what your application requires? The Smart Gripper 2.1 is fully scalable. Applied Robotics can design a solution that meets your particular application needs.

Design Targets

Features

- 75 mm of finger travel
- Repeatability 0.02 mm
- Variable and adjustable grip force up to 10 N
- Finger movements greater than 200 mm/sec.
- Easy to integrate
- Five discrete 24 Vdc inputs for control
- Three discrete 24 Vdc outputs for status and feedback
- PC-based Integrated Development Environment (IDE) for program development
- 12-bit relative encoder closed loop architecture
- Proven and tested under "real-life" conditions on articulated robots, along with precise lab bench monitoring for millions of cycles
- Single cable for power and communication
- Fail-safe brake
- Visual power-on indicator
- Flexible circuitry allows for NPN or PNP configuration
- CE Certification pending
- USB Programming port

Benefits

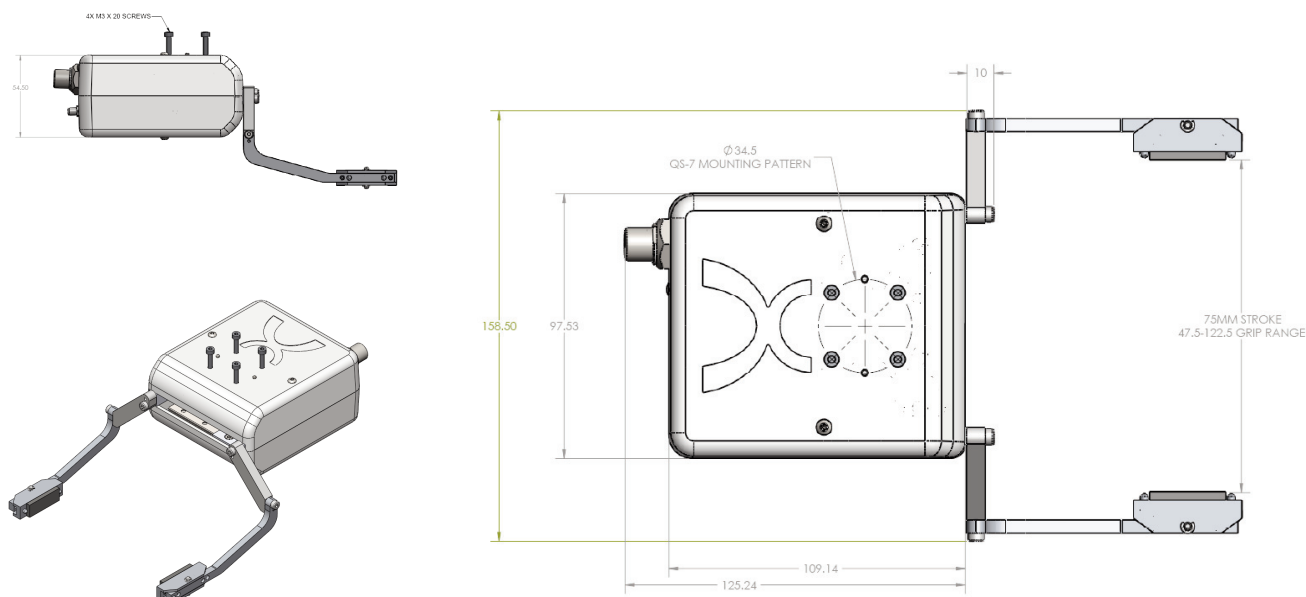
- Accurate positioning of the fingers
- Variable and adjustable grip force
- No proprietary software or controllers required
- Simple integration with a variety of controllers
- Safe, reliable --> will never drop anything
- Direct drive --> minimizes backlash
- RoHS Compliant

Accessories/Options

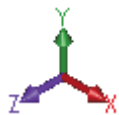
- Quick connect options for flexible automation
- Collision sensing options
- Various or custom finger sets available
- Vertical mount bracket
- Programming Box

For more information please contact
info@arobotics.com

Engineering Data



Above displayed with optional fingers



Maximum Payload : 13.3 N (both fingers)
Maximum M_x : 964 N-mm (both fingers)

Maximum Grip : 10 N/5N (per finger)
Maximum M_y : 725N-mm (per finger)

Technical Specifications

Overall Dimension	97.5 x 109.5 x 54.5mm [3.84" x 4.31" x 2.15"]
Weight	0.9 kg [1.9 lbs]
Stroke	75 mm [2.95"]
Mounting Surface	Top or Rear Bracket
Velocity	(max) 2000 mm/s
Force	(max) 10 N
Operating Temperature	10 to 40°C [50 to 104°F]
Max Power Consumption	24 W
Operating Voltage	24 VDC
IP Rating	IP 20
RatedLife	2,000,000 open/close cycles

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