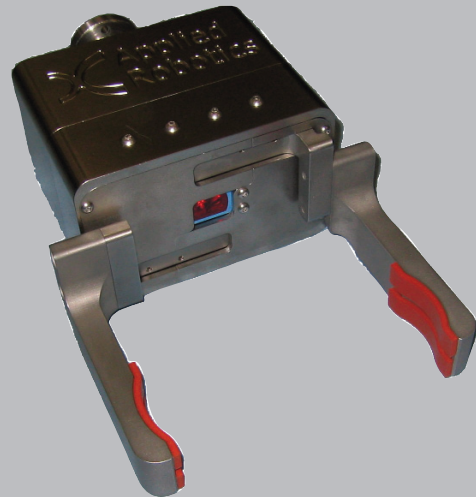


# Smart Gripper™ 3.0

(Patent Pending)

Applied Robotics' Smart Gripper™ 3.0  
Specifically designed for precision and application  
flexibility.



Smart Gripper™ 3.0 pictured with optional fingers

The Smart Gripper (TM) 3.0 is a precision movement gripper for end-of-arm tooling, utilizing a synchronous timing belt, stepper motor, and fail-safe brake drive line to provide a robust and controlled gripping solution.

Integrated control electronics with an encoder provide fully-programmable, closed-loop operation of the gripper that works with robot controllers for a seamless solution to your various material handling needs.

An integrated “object present” sensor provides enhanced programmability and usability.

Interchangeable fingers are designed to hold or carry parts and pieces of all sizes with various degrees of force. Fingers can be designed by the user, or provided by Applied Robotics, Inc.

Not exactly what your application requires? The Smart Gripper 3.0 is fully scalable. Applied Robotics can design a solution that meets your particular application needs.

## Design Targets

### Features

- 0 - 84 mm (42 mm per finger)
- Repeatability 0.25 mm
- Variable and adjustable grip force up to 84 N
- Finger movement up to 345 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 worst-case load for over one million cycles
- Single cable for power and discrete digital inputs and outputs
- Fail-safe brake
- Flexible circuitry allows for NPN or PNP configuration
- USB Programming port

### Benefits

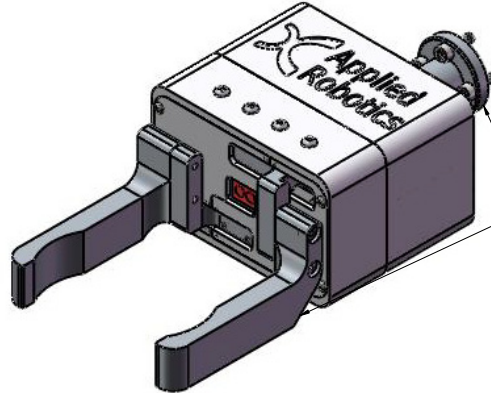
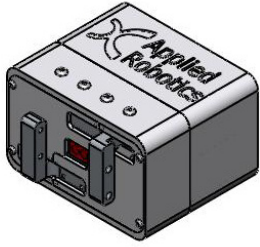
- Accurate positioning of the fingers
- Variable and adjustable grip force
- No proprietary software or controllers required
- Simple integration with a variety of controllers
- RoHS Compliant

### Accessories/Options

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

For more information please contact  
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## Engineering Data



SMART GRIPPER 3.0 SHOWN WITH ISO31.5 ADAPTER AND OPTIONAL CUP FINGER ACCESSORIES. (ARI PART NO. 0805-C76A & 0805-C97A, RESPECTIVELY)



Maximum Payload : 45 N (both fingers)  
Maximum  $M_x$ : 6750 N-mm

Maximum Grip : 42 N(per finger)  
Maximum  $M_y$  : 6300 N-mm (per finger)

## Technical Specifications

Overall Dimension	99 x 122 x 77 mm [3.90" x 4.30" x 3.03"] (Length x Width x Thickness)	
Weight	1.8 kg	[3.97 lbs]
Max. Arm Length (from face)	150 mm	
Mounting Surface	Rear with ISO 50 Bolt Pattern (adapters available)	
Stroke	0 - 84 mm (42 mm per finger)	
Grip Force	84 N	
Accuracy	0.29 mm	
Repeatability	0.25 mm	
Homing repeatability*	= 0.500 mm (0.020 inch)	
Movement repeatability*	= 0.025 mm (0.001 inch)	
Finger Velocity	0 - 345 mm/s	
Min. Open/Close Time	0.12 sec	
Max. Payload (at max arm length)	45 N (supported by 2 fingers)	
Input Voltage	24 VDC	
Nominal Current	1.5 A	
Max. Current	2.0 A	
Interface	Discrete I/O & USB	
IP Rating	IP 14	
RatedLife	1,000,000 open/close cycles	

\* The gripper has a relative encoder, which means it needs to be homed after being powered up. Homing closes the fingers completely, and assigns that completely closed position the position value of zero. This homing is repeatable to within 0.500 mm (0.020 inch). After a particular homing has been completed, the gripper can repeatedly return to within 0.025 mm (0.001 inch) of any programmed location.

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