Barrett™
ADVANCED ROBOTICS

Datasheet

BH8-282

Intelligent Underactuation
Light: 980 grams
High Payload: 6 kg

Barrett's versatile BH8-Series robotic hands give you the flexibility you need to reduce costs and increase production

BarrettHand shown with Tactile Array Option

Big Functionality, Compact Form

The BH8-series BarrettHand™ is a multi-fingered programmable grasper with the dexterity to secure target objects of different sizes, shapes, and orientations. Even with its low weight and super-compact base, it is totally self-contained.

Communicating by industry-standard serial communications or high-speed CANbus (USB adapters included), integration with any arm is fast and simple. The BarrettHand immediately multiplies the value of any arm requiring flexible automation.

The BarrettHand neatly houses its own communications electronics, servo-controllers, and all four brushless motors. Of its three multi-jointed fingers, two have an extra degree of freedom with 180 degrees of lateral mobility supporting a large variety of grasp types. All joints have high-precision position encoders.

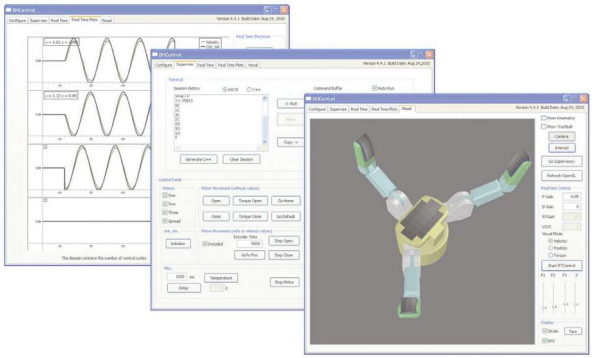
Combined with its versatile software routines, a single BarrettHand matches the functionality of an endless set of custom grippers – yet switches part/tool shapes electronically within half a second.

The BarrettHand integrates with your application by consolidating many custom gripper tools into a single smart grasper.

Simple Control

Barrett Technology's full-source code and examples are included with every purchase and provide comprehensive ways of controlling the BarrettHand.

The pyHand application works under both Linux and Windows and presents an easy-to-use graphical user interface (GUI) for control of the BarrettHand. It exposes all of the functionality provided by the BarrettHand C++ and Python libraries in a graphical environment, without writing any code.



Additional Applications

- Component assembly
- Food handling
- Assembly-line part orientation
- Quality-control measurements for continuous process control
- Realtime environment interaction
- Handling castings, glass, and ceramics
- Remote manipulation
- Biohazard material handling
- Nuclear-waste management
- Search and Rescue
- Bomb disposal

Hand Tool Automation

Material Handling

Packaging/Palletizing

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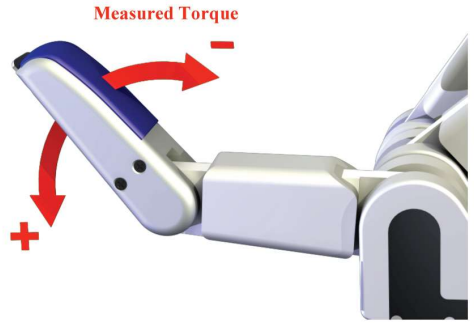
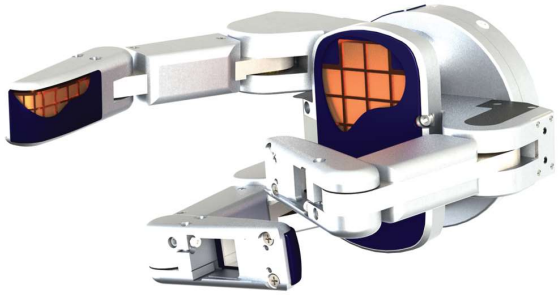
Fingertip Torque Sensors P/N: B0106

Function	Senses torques about last joint in each finger
Quantity	3 (1 per finger)
Element Type	Metal foil strain gage
Range	+/- 1 N-m
Resolution	0.04 N-m

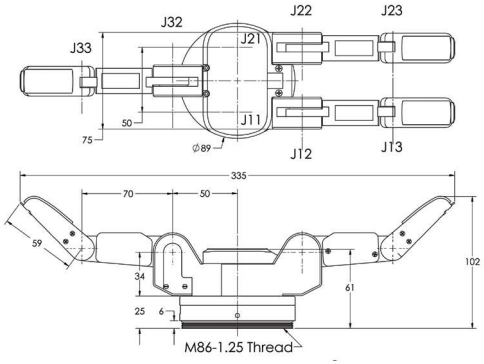


BarrettHand with Tactile Sensors P/N: B4335

Function	Localizes pressure across palm and fingers
Quantity	96 active cells
Element Type	24 capacitive cells per sensor pad
Range	10 N/cm^2
Resolution	Palm: 0.02 N/cell; cell area 1.0 cm^2
	Finger: 0.01 N/cell; cell area 0.3 cm^2
	Fingertip: 0.01 N/cell; cell area 0.15 cm^2



All dimensions are in millimeters and for reference only.



FEATURES & BENEFITS

Lightweight	Maximizes host arm's payload capacity Reduces accelerated inertia Enhances Safety
Compact fist	Reaches tight spots
Self-contained	Minimizes space, wires, and signal noise
All electric	Clean and quiet, no pneumatics or hydraulics No pumps, no hoses, no seals, no filters, no leaks
Human-scale	Immediately adaptable to hand-held tools Intuitive application development
Failsafe, non-backdrivable fingers	Object remains secure without power Payload capacity not limited by active force
Brushless rare-earth motors	Rare-earth magnets for high torque, low mass Explosion proof (no brushes, no sparks) No brush replacements or brush debris Vacuum compatibility
Proprietary clutch mechanism and spreading fingers	Grasps a wide variety of objects Eliminates tool changer's cost and wait time
Supervisory control mode	Easily issue high-level commands
RealTime control mode	Enables user to close control loops externally
Flexible Communications	Controllable from any host PC Easy integration with PLCs

BH8-282 SPECIFICATIONS

Payload		6.0 kg
Weight		980 grams
Motor Encoder Resolution		4096 counts
Motor Type		Brushless Electric
Communication		CAN, RS-232
		(USB adapters provided)
Finger Speed	Finger full open to close	1.0 sec
	Full 180 degree spread	0.5 sec
DC Operation	Voltage	20-80 VDC
	Idle/typ/peak	7/15/250 W
AC Operation	Single phase	85-260 VAC, 50/60 Hz
	Idle/typ/peak	10/20/300 W
AC Power Supply	Dimensions, L x W x H	204 x 90 x 54 mm
	Weight	0.7 kg
Kinematics	Total fingers	3 (1 fixed, 2 rotatable)
	Total hand axes	8
	Total hand motors	4
Range of motion	Finger base joint	140°
	Fingertip joint	45°
	Finger Spread	180°

TECHNICAL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

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