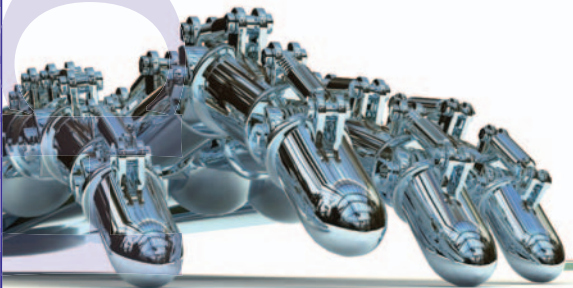


About RoboTouch

PPS' RoboTouch Systems bring world leading tactile sensing to the demanding field of industrial and consumer robotics. Development of our tactile sensing technology began in a robotics lab in the early 1990's. Today, after years of refinement of the sensor design and digital interfaces, RoboTouch is ready to be integrated into your application. PPS offers three distinct configurations to meet a variety of gripper sizes, shapes, tactile capabilities, and interface requirements.

Why RoboTouch?

RoboTouch is the highest performance tactile sensing system on the market today. Our patented capacitive pressure sensing technology provides outstanding sensitivity and repeatability. Not only does tactile sensing allow your robot to manipulate delicate objects, but it also allows for optimized, low-power operation by minimizing grasping force. The simplicity of our sensor design also provides great flexibility in customized patterns which can be molded to fit almost any gripper shape. Talk to PPS today and see why the world's leading robot manufacturers are choosing RoboTouch.



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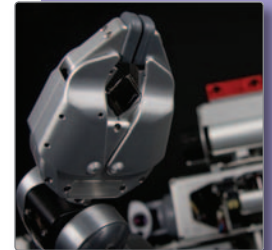
About PPS

Pressure Profile Systems, Inc. (PPS) designs and manufactures the world's most advanced instrumentation systems for measuring distributed tactile and contact pressures. Our core technology in capacitive pressure sensing was conceived at the Harvard University Robotics Lab and later enhanced through funding from the Defense Advanced Research Project Agency, Army Research Laboratory, and National Institutes of Health. PPS's instrumentation capabilities have helped customers improve product performance, optimize manufacturing, and develop new products in fields including automotive components, medical devices, magnetic media processing, sports equipment, and submarine design.

Contact PPS today to see how we can integrate tactile sensing into your robotic system, or choose one of the existing packages for commercially available gripper systems.

ROBOTOUCH

PRESSURE PROFILE SYSTEMS, INC.



Capturing the Sense of Touch



RoboTouch for
BARRETHAND

PPS RoboTouch Sensors were developed to give **BH8-series BarrettHand** robotic hands the sense of touch.

The sensors include 20-24 distinct sensing elements and are constructed using our patented capacitive-based tactile sensing technology, ensuring the high sensitivity needed for robotic applications. Data from each sensor is available in direct digital format via I²C or via USB using PPS' interface electronics.

BarrettHand RoboTouch systems includes 7 sensing pads (sufficient to cover all digits plus the palm), calibration, USB interface, test software, and installation onto your BarrettHand assembly, including molding a protective, compliant layer over each sensor.



BARRETHAND SENSOR SPECIFICATIONS

Pressure Range	0 - 20 psi (0 - 140 kPa)
Sensitivity	0.1 psi (0.7 kPa)
Scan Rate	30 Hz
Temperature Range	-40 to 85° C
Elements Size	25 - 100 mm ²
Interface	I ² C



RoboTouch for
TWENDY-ONE

Only five feet tall, but very powerful. Weighing in at 245 pounds with man-crushing arms, **Twendy-One** may have powerful cybernetic muscles, but thanks to the RoboTouch sensors, this robot is as gentle as she is strong.

The human symbiotic robot built by mechanical engineers from Waseda University in Japan has soft hands and fingers that gently grip with enough strength to lift humans and interact with subtle movements that respond to human touch. She can pick up a loaf of bread without crushing it, serve toast, and even crack open an egg. This dexterity and "gentle touch" can be attributed to the 241 RoboTouch sensors integrated into each of Twendy-One's hands.



TWENDY-ONE SENSOR SPECIFICATIONS

Pressure Range	0 - 30 psi (0 - 205 kPa)
Sensitivity	0.1 psi (0.7 kPa)
Scan Rate	160 Hz
Temperature Range	-20 to 100° C
Elements Size	16 - 56 mm ²
Interface	Custom Proprietary



RoboTouch for
PERSONAL ROBOT 2

RoboTouch sensors embedded in the **Willow Garage Personal Robot 2 (PR2)** help it pick up varying objects such as silverware, pens, to frying pans.

The PR2 RoboTouch sensors were designed for use with the WillowGaragePR2 open-source robot hardware platform. These sensors were designed to the specific shape of the PR2's simple yet capable gripper. Using a SPI interface, the sensors includes 22 different tactile sensing elements covering all possible contact surfaces of the PR2 gripper.

The full system assembly includes the gripper, the sensor, and a durable, non-slip, protective covering. It is ready to plug-and-play with the PR2 platform.



PR2 SENSOR SPECIFICATIONS

Pressure Range	0 - 30 psi (0 - 205 kPa)
Sensitivity	0.1 psi (0.7 kPa)
Scan Rate	35 Hz
Temperature Range	-40 to 85° C
Elements Size	25 - 625 mm ²
Interface	SPI