LIMIT SWITCH

Limit switch is a device that activated by contacting any object, pressure etc. These switches

are using in many different fields, such as industry, robots and even in your home (light bulb circuit of fridge). Especially for robotic systems, limit switches help robots to recognizing their environment by impact detection. This provides to getting useful data, so robots can figured out how they must behave.

PROXIMITY SWITCHES

Proximity switches observe closeness, working by controlling the changes in the electromagnetic or electrostatic field it creates. Those fields are so low-ranged (it measured in millimeters) but they less affected by the environment than other sensors. They have transformed over the years. Even after so many years, their task is just answering a yes or no question, “Is something there?”.

TACTILE AND IMPACT SENSING

Tactile and impact sensing are getting physical data and giving logical reaction to the action that coming from around. Reaction depends on situation, so it doesn’t appears like others (like diffrence between handshake and weight lifting).

There are so many various tactile sensors that using in different fields. That technology makes robots more human like.

POSITION SENSING

Position sensing is simply determining location (like GPS). It has two main types of control system, open loop and closed loop .

Open loop systems are very optimistic that accept everything working well, because of not enough information about environment or there is no feedback. Closed loop systems are sending control pulse to getting information about movement. For example, open loop systems like a commander that giving direction to soldier without any control mechanism. In Close loop systems, commander gives direction to soldier as well, but he wants to see a status report about soldier’s mission to make sure it’s done.

SOUND SENSING

Sound sensing is observing phonic responses from environment. That covers huge area to working in (like position detection by sound, receiving data from sound etc).

With ultrasonic sensors, robots move around more secure.

It helps robots to find their way. Microphones provide to getting and digitalizing sound data to making data more understandable for robots.

VISION SYSTEM

Vision system is observing visual data with cameras and process image datas with software to give useful information to robots.

Robots that include those systems are taking pictures or video to finding location, determining objects (shape,color etc.) or help area exploring missions. They might use autonom or controlled by human.