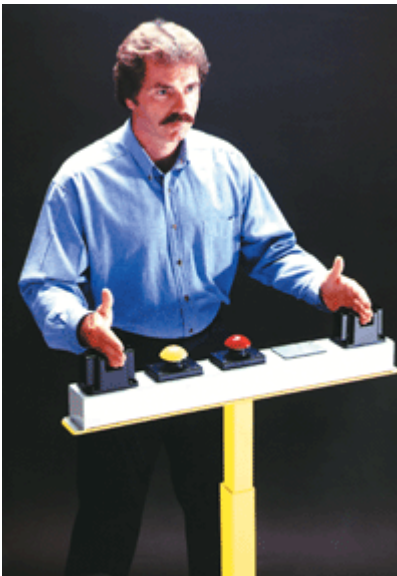


Safety Sensors and Controls for Industry

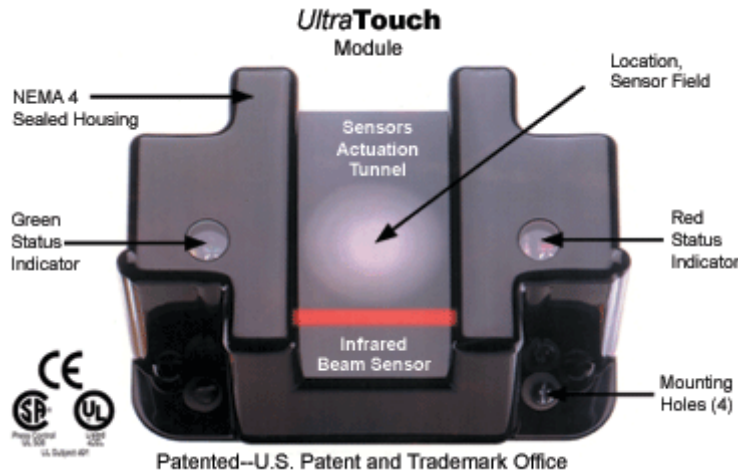
UltraTouch

Ergonomic Palm Buttons

The patented Pinnacle *UltraTouch* system has been designed as a direct replacement for standard spring loaded mechanical palm buttons and is designed to fit into existing operator palm button stations without modification.



The *UltraTouch* enclosure is a molded high strength NEMA 4 polycarbonate module designed to meet the high impact and vibration requirements of industry. The solid state electronics of the *UltraTouch* switch incorporates an advanced redundant diverse sensor design. This means that each module has two different sensors with isolated circuits along with a monitoring redundant circuit. The circuitry of the *UltraTouch* is also designed to provide second-order failure protection. This gives the *UltraTouch* an unparalleled level of safety and assurance against inadvertent actuation, or failing in the "on" or conducting mode, which is a common problem found throughout industry with competitive ergonomic switch replacements. The *UltraTouch* design is so safe against inadvertent actuation, that two *UltraTouch* modules when spaced and located properly in accordance to OSHA and ANSI hand control distance formulas (the same formula is used for mechanical palm buttons), permit its use as an operator safety two hand control device. The *UltraTouch* dual dissimilar sensor format is designed for the machine operator to actuate the switch, and that no inadvertent foreign objects such as sleeves, insects, broomsticks, playing cards, rags, mists or droplets can activate or trigger the switch. This gives *UltraTouch* an unparalleled level of safety while giving the operator the benefit of using the correct ergonomic hand position of neutral, 0° deviation and 100% hand power.



UltraTouch Configuration

The *UltraTouch* dual dissimilar sensor ergonomic palm switch is configured in the following manner:

The U-shaped sensors actuation channel provides a triggering point for the machine operators hand. This is where the invisible infrared light beam is located and is crossing the channel. There is also a unique U-shaped location sensor mounted on the inside of the *UltraTouch* enclosure that hugs the sensor channel and is insulated by the enclosure itself. When the

machine operator inserts their hand into the sensors actuation tunnel, both the infrared sensor and the location sensor must be satisfied in order to energize an electromechanical relay to send a cycle start signal to the machine. Both individual sensors within each module are time interlocked, and if both sensors are not triggered concurrently by the operators hand, the *UltraTouch* output will be inhibited to the machine control. The module also contains two visible LED indicators which inform the status of the *UltraTouch* module to the operator. A green LED indicates that the relay contacts are closed, both sensors have been activated and no failures have been detected. The red LED indicates that the relay contacts are open and no satisfactory conditions were detected on both sensors. This advanced patented *UltraTouch* design is not available on any competitive units and gives the *UltraTouch* user an unparalleled level of safety when using ergonomic zero force actuation devices. Additionally, the operator will be activating the machine properly by using the correct ergonomic hand position of neutral, 0° deviation and 100% hand power.

Easy to Install

UltraTouch installs with ease and comes with complete installation instructions. Simple module design permits direct exchange for existing spring loaded mechanical palm buttons and even utilize the existing screw holes on the run bar. All systems have normally open (NO) and normally closed (NC) contacts, and are also available in a four (4) pole wiring configuration depending on the machine control requirements. The ultimate in versatility!

New installations and retrofit projects are completely installed in minutes by a qualified electrician. Also supplied is a toll free 800 number if any questions should arise by your installation personnel.

UltraSafe Design

Each *UltraTouch* switch module incorporates the following safety design features:

- Two dissimilar sensors
 - Infrared sensor
 - Positive location sensor
- Redundant circuitry
- Chatter free design circuit
- Anti-noise circuit
- No false trip on power up circuit
- Captive contact safety relays
- Operator status indicators
- Interlock circuit between the diverse sensors
 - Immune to EMI and RFI noise
 - Immune to weld field interference
- Control reliable design

The mounting locations of *UltraTouch* must conform to all State, Province and Federal codes and all regulations pertaining to the subject machine on which the *UltraTouch* is to be applied.

Point of Operation Guarding

The *UltraTouch* System is a machine cycle initiation component that is designed to be a two-hand control device for the machine operator. If a point of operation guarding device is desired or required, please contact your local Pinnacle distributor or the factory for devices to comply with ANSI B11.1 or the various OSHA regulations.

