

Biometric Fingerprinting for Industrial Applications

Biometric Fingerprinting is not just for the F.B.I. and cell phones anymore. When you use fingerprint recognition in the Industrial Process and Control Industry you are able to save a significant amount of time and money. By utilizing the ease of just a fingerprint, operators and technicians are able to access control systems and HMIs by literally only lifting a finger. Once access is granted, not by a password that can be passed around, but by Biometrics, you can be sure who is accessing your systems. This will increase the overall security of the system and prevent unauthorized personnel from changing critical operations that could be costly.

Biometric Fingerprinting Explained

So, how does Biometric fingerprinting work? First of all you need to take a scan of your fingerprint, it can be taken in a few different ways:

- Optical - Fingerprint imaging which is captured with a digital image using visible light.
- Ultrasonic - Using the principles of medical ultrasonography to create a visual image of the fingerprint.
- Capacitance - Uses two plates, the dermal layer is electrically conductive and the non-conductive epidermal layer which acts as a dielectric plate to take an image.



Using the image taken by the scanners, math algorithms are created from the principle patterns of the fingerprint ridges. The arch, loop, and whorl are all utilized to identify each individual and unique pattern in fingerprints. Biometric fingerprint technology is able to effectively and securely replace traditional key switches which can be compromised if the key is copied, lent, lost, or stolen.

Schneider Electric Harmony Biometric Switch

The Harmony XB5S biometric USB switch from Schneider Electric controls and secures access to systems and machines by

checking users authorization through fingerprint recognition. The biometric USB switch is connected permanently with the Magelis HMI via the USB port to communicate and manage the user database. They are widely used in industry and buildings, including:

- Process Equipment - Protect your processes, identify, authorize, and track user operations through the HMI
- Forklifts/Special Vehicles - Limit the unauthorized operation of specific equipment, prevent unwarranted access to the start function of special vehicles
- Automated Machines - Safeguard your automation line, improve security of your production lines and tool machines
- High Value Areas/Stock Area - Restrict access to technology, control and track the comings and goings into restricted areas

Typical applications include machine access via the controller, PLC or HMI, maintenance mode management, or unlocking machine protection devices. The Schneider biometric fingerprint solution is a completely autonomous product, which is both comprehensive, and simple to use and implement. It has a front panel LED display screen as well as communication functions and it is easy to mount with a 22mm diameter panel mount and nut kit.

Schneider



GTH Technical Field Support

For better access to your HMI, controllers, or panels the George T. Hall Company offers the biometric fingerprinting solution as an add-on to most of our custom panel solutions. Increase your security level by decreasing the amount of unauthorized people who may change parameters or disable safe guards that have been put in place.

Contact your local George T. Hall Company representative today for more information!