



The Software House Multi-Technology Readers provide the industry's first single reader solution that reads serial numbers from multiple 13.56 MHz smart card technologies, MIFARE® encrypted sectors, and most common 125 KHz proximity cards, providing an incredibly versatile access control solution. This cost-effective solution enables customers to transition from proximity to smart cards over time or to utilize both smart cards and proximity cards in their facility.

The Multi-Technology Readers are available as a basic fixed model or a flex model that allows users to update the readers with new functionality or enhancements at any time with flash firmware. The flex readers save significant time and money by allowing users to simply flash new card protocols or formats directly to the reader. Flex versions are configurable to read MIFARE® sectors and can also simultaneously support Federal Information Processing Standard (FIPS 201) government-issued smart cards. The Multi-Technology Readers provide the only available solution today that supports all of the following: proximity, MIFARE (serial number or sectors), and FIPS 201 PIV-II cards in a single reader.

The Multi-Technology Readers also feature a keypad model which outputs keypad commands and PIN code in 8-bit burst Wiegand data. The keypad reader also supports a PIN-on-smart card feature for secure token exchange application. The PIN is verified at the reader and can be enabled by using a program card.

KEY FEATURES

- Supports FIPS 201
- ISO compliant
- Supports multiple frequencies, technologies, and protocols for credentials¹
- Outdoor/indoor use
- Mount on metal with isolation spacer
- Plug-in screw terminals
 - o External beeper control
 - o Power and ground
 - o Two-wire Wiegand
 - o External green and red LED control
 - o Two-wire RS485 (available with "flex" readers only)
- Configurable Wiegand output
- Available as mullion, single gang, and single gang with keypad
- Tamper switch

¹ Reader continuously cycles between 125 KHz and 13.56 MHz and, depending on the frequency cycle when card is presented, the reader will either output the proximity card number or the unencrypted smart card serial number.

PROGRAMMING AND FORMAT INFORMATION

	Multi-Tech Fixed Reader	Multi-Tech Flex Reader
Card Technologies Supported	√	√
HID Proximity	√	√
CASI® ProxLite®	√	√
Deister Proximity	√	√
ISO 14443A serial number	√	√
MIFARE® serial number	√	√
DESFire® serial number	√	√
ISO 14443B serial number	√	√
ISO 15693 serial number	√	√
iCLASS® serial number	√	√
MIFARE sectors		√
FIPS 201 PIV-II		√
Controller Communications		
Wiegand	√	√
Flashable via RS485		√
Open Standards Compliance		
ISO 14443A	√	√
ISO 14443B	√	√
ISO 15693	√	√
Configurable Using Program Card		
Pass-through ²	√	√
Fixed length ³ (26-bit, 32-bit, 35-bit, 37-bit, 64-bit)		√
CASI ProxLite 44-bit pass-through		√
MIFARE sectors Select a sector (0-15) Customize encryption keys Specify data format (number of bits output) Enable PIN-on smart card functionality		√
FIPS 201 PIV-II Customize FASC-N Wiegand BCD output 64-bit 128-bit (default) 200-bit Customize the HMAC by changing the site key Output HMAC Output expiration date		√

TECHNICAL SPECIFICATIONS

Agency Certifications	.FCC Part 15, CE, UL 294 full outdoor (pending)
Minimum Wiring	.4 conductors
Cable Recommendations	.22 AWG, stranded
Color	.Black or light gray (custom colors & patterns available)
Accessories	.European surface mount kit Isolation spacer
Dimensions	
Model SWH-3000 and SWH-4000	.120 mm x 45 mm x 25 mm (4.73 in x 1.77 in x 0.98 in), mullion
Model SWH-3100 and SWH-4100	.111 mm x 84 mm x 28 mm (4.37 in x 3.31 in x 1.10 in), single gang
Model SWH-4200 ⁴	.111 mm x 84 mm x 28 mm (4.37 in x 3.31 in or 1.10 in), single gang with keypad
Environment	.UL listed for interior or exterior
Operating Temperature Range	.-35° to 67°C (-31° to 151°F)
Humidity Range	.0 to 100%
Index of Protection	.IP65
Power Supply	.8 – 16 VDC 125 mA max @ 12 VDC
Read Range	.Up to 102 mm (4 in) depending on technology of card
Read Time	.Technology dependent (typically < 300 msec)

² Pass-through — the default setting for the Software House Multi-Technology Readers which allows the reader to send all the data on the card.

³ Fixed length — the reader can be configured to output a fixed length by padding or truncating data on the card.

⁴ Enabling PIN-on smart card functionality will disable 125 KHz Prox read functionality