MorphoAccess SIGMA TWIC

Connected Objects

Access control fingerprint reader meeting
TWIC (Transportation Worker Identification Credential) requirements

Supports TWIC operating modes for all MARSEC Levels

TWIC card authentication capabilities using TWIC Privacy Keys (TPK), PIV, CHUID, CAK

Supported by HID pivClass (FASC-N) and Identity One TWIC Link (TWIC Card S/N)

FBI certified fingerprint sensor

FIPS 201 approved template generator and matcher

IP65 rated design

The MorphoAccess SIGMA TWIC (or MA SIGMA TWIC) sets benchmarks for performance and versatility. This fully integrated biometric terminal is completely self-contained.

The MA SIGMA TWIC firmware is designed to execute TWIC workflow, as defined in the TSA TWIC Reader specifications in a physical access environment. It is capable of using the TWIC Privacy Keys from the card to decrypt the encrypted biometric data read from the contactless interface.

The terminal's high performance results from its powerful processor - running best-in-class fingerprint algorithms - and its FBI PIV IQS approved biometric sensor. The MA SIGMA TWIC utilizes FIPS 201 certified algorithms for template generation and matching. This provides end-users better performance in terms of throughput and reduced false rejection rates in day-to-day access to gates and doors.

The MA SIGMA TWIC reader is the product of 40 years of continuous improvement measures, which include engineered improvements to both the biometric sensor and algorithms:

- Correction of finger rotation,
- Identification, filtering and repair of false minutae points (dirt, grease, scars, wrinkles, cuts, foreign objects),
- Identification and filtering of latent prints that build up on the biometric sensor.

The Transportation Worker Identification Credential, also known as TWIC, is required by the Maritime Transportation Security Act for workers who need access to secure areas of the U.S. maritime facilities and vessels. TSA conducts a security threat assessment (background check) to determine a person's eligibility and issues the credential. U.S. citizens and immigrants in certain immigration categories may apply for the credential. Most mariners licensed by the U.S. Coast Guard also require a credential.

Technical specifications

- **CPU:** ARM® Cortex™-A9 core 1GHz
- **Linux Operating System**
- **TWIC compliant firmware**
- **5" WVGA color Touchscreen**
- **VGA Camera**
- Face detection and picture logging
- Videophone function (standard IP based interface)
- **Loudspeaker & Microphone**
- **Audio & Video player**
  Can play a tutorial video about TWIC mode
- **FBI PIV IQS certified optical fingerprint sensor**
- **ISO 14443 compliant contactless reader**
- **Decryption with TPK**

- **Active card authentication**
- **Network/Communication:** Ethernet, RS485, RS422, USB Wi-Fi and 3G options
- **Internal storage capacity:** 512MB Flash, 512MB RAM + 8GB microSD Card
- 5000 user records (2 fingers + 1 duress each), extendable up to 100,000 with licenses
- 250,000 IDs in authorized user list
- 1 Million transaction logs
- 10,000 face picture logs
- **Inputs/outputs:** Wiegand In & Out (customizable up to 512 bits), Door Relay, 3 GPI (including Door monitoring), 3 GPO

- **Power supply:** 12V-24V DC Power over Ethernet (PoE), compatible with PoE+ switches
- **Tamper switches**
- **Operating conditions:**
- Temperature: -20°C to 60°C (-4°F to 140°F)
- Humidity: 10% to 80% (non condensing)
- **Ingress Protection:** IP65
- **Compact with slim profile:** HxWxD = 153x151x58,5 mm (6x5,9x2,3 inches)
- **Ultra-light:** about 470 grams (~1 lb.)
- **EMC/Safety standards:**
- CE, CB, FCC, BIS
- UL294 (for indoor use only)
- **RoHS, REACh and WEEE compliant**