

FAQ Guide

GE Transition Series

Multi-Technology Access Readers
Model T-5xx Series



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Introduction

Overview

This guide contains a wide range of frequently asked questions about the GE Transition™ Series multi-technology access readers. GE Transition Series multi-technology access readers feature simultaneous compatibility with multi-vendor credential technologies, key fobs, and disc tag credentials—GE and HID® 125 kHz Proximity, HID Corporate 1000 Proximity, 13.56 MHz contactless smart card technologies for MIFARE® Card Serial Number (ISO 14443A), MIFARE/DESFire Card Serial Number, and Vicinity Card Serial Number (ISO 15693), including HID iCLASS® Card Serial Number—all in one reader.

The FAQ guide is divided into the following subsections:

- **Contactless Technology**
- **GE Readers and Credentials**

For additional information about GE readers and credentials, please reference the product data sheet, A&E specification, or installation guide. The complete line of GE Transition readers and credentials includes:



Model T-500 Contactless Reader



Badge Credentials



Model T-520 Contactless Reader



Model T-525 Keypad Contactless Reader



Key Fobs Credentials



Disc Tag Credentials

Contactless Technology

Q: What types of credentials does the GE Transition Readers Series support?

A: The Transition contactless readers and credentials communicate with several protocols including:

- GE ProxLite™, ISO ProxLite, and ProxLite key fobs and tags
- HID 125 kHz ProxCard II, ISOProx II, ProxKey II, ProxCard and all Corporate 1000 (custom formats)
- MIFARE ISO 14443A Card Serial Number (CSN)
- MIFARE/DESFire CSN
- Vicinity ISO 15693 CSN
- HID iCLASS CSN

Q: Do GE Transition readers comply with any International Standard Organization (ISO) formats?

A: Yes, the new GE Transition multi-technology readers comply with ISO 15693 and ISO 14443A standards, and communicate at 13.56 MHz RF. The ISO 14443A specification employs a 32-bit data format that translates into a unique 12-digit BID number for credential identification. The ISO 15693 specification employs a 64-bit data format that translates into a unique 16-digit BID number for credential identification.

Q: How do GE Transition readers and credentials work?

A: When a cardholder presents their credential (badge, key fob, or disc tag) at the reader, the reader's RF signal excites the processor embedded within the credential—causing it to transmit its encoded serial number to the reader. Then, the reader sends the unique BID (badge ID) serial number to the connecting access control system to grant or deny access.

Q: Is contactless technology designed for physical access applications?

A: Contactless smart card technology is ideal for physical access control applications. Because ID credentials and readers are typically exposed to the elements and have high-usage, sealed contactless technology prevents damage when cards and readers are exposed to dirt, water, cold, and other harsh environmental conditions. With no mechanical read heads or moving parts, maintenance costs are minimal.

Additional benefits to using contactless smart card technology for physical access include:

- High-speed access and read throughput
- Durability even in harsh and dirty environments
- User-friendly
 - Less intrusive
 - Does not require insertion of a card into the reader
 - No issues with orientation of the card
 - May be kept in a wallet or purse for personal security during use

- Reduced maintenance costs for card readers (as compared to magnetic stripe and contact readers)
- More durable and reliable cards (no external parts that can wear out or be contaminated)
- Established International Standards (ISO)
- Badge ID (BID) cannot be duplicated

Q: How does contactless technology compare with other physical access technologies?

A: One way to understand how contactless ISO 15693 technologies work is by comparing their Badge Identification (BID) formats to other conventional technologies like Mifare® (ISO 14443A), Proximity (125 KHz) and Wiegand.

- ISO 15693 uses a 64-bit data format that translates into a unique 16-digit credential identification number
- Mifare ISO 14443A uses a 32-bit data format that translates into a unique 12-digit credential identification number
- GE Proximity uses a 32-bit data format that translates into a unique 12-digit credential identification number
- HID Proximity uses various data formats that translate into unique credential identification numbers. Some common data formats include 26-, 28-, 35-, and 40-bit, respectively

GE Readers and Credentials

Q: What GE contactless smart card readers and credentials are available?

A: The new GE Transition Series multi-technology readers include the Model T-500 (door-frame mount), Model T-520, and the Model T-525 keypad reader. The following describes each reader and their features.

Model T-5xx Multi-Technology Contactless Readers

The Model T-5xx contactless smart card readers are 100% compatible with the major proximity and smart card technologies—including GE and HID Proximity, MIFARE and Vicinity—and offer exceptional read-range performance in a wide range of applications. The readers are built with durable polycarbonate material, and are equally suited for both interior and exterior environments. The readers come with a lifetime warranty, and are easy to install on door-framing and one-gang US electrical box housings. The reader features include:

- Universal compatibility with multi-vendor credential technologies, key fobs, and disc tag credentials including GE and HID 125 kHz Proximity, HID Corporate 1000 Proximity, 13.56 MHz contactless smart card technologies for MIFARE Card Serial Number (ISO 14443A), MIFARE/DESFire Card Serial Number, and Vicinity Card Serial Number (ISO 15693), including HID iCLASS Card Serial Number (no sector programming required)
- Supervised four-state (open, closed, wire cut, and wire short) monitoring and reporting for door contacts, REX (request to exit), and reader communications

- UL-approved, sealed electronics for deployment in both interior and exterior environments
- Door Inputs (DI) and Request-to-Exit (REX) connections to the reader—eliminating the need to run additional control cables back to a field controller
- 12-button tactile membrane keypad for two-factor identification (Model T-525 only)
- Tamper detection/reporting

Contactless Credentials—Badges, Disc Tags, and Key Fobs

No matter what the application or site constraints, the Model T-5xx readers allow for continued use of GE and HID Proximity credentials, in addition to providing you the freedom to begin migrating to Mifare (ISO 14443A) or Vicinity (ISO 15693) smart credential badges for one- or two-side sublimation printing.

Q: Can GE Transition readers and credentials be used with any existing access control system?

A: Yes, if the target system employs GE and HID Proximity, MIFARE ISO 14443A, and ISO 15693 credentials. If the target access system employs Proximity technology, you could first install GE Transition readers and later phase in new ISO 14443A and/or ISO 15693 technologies without having to immediately replace all credentials in the card-carrying community. This new multi-technology allows organizations to continue using their existing credentials, and economically migrate to new smart credential access technologies.

Q: What GE access control systems are compatible with GE Transition readers?

A: GE System Compatibility:

- Microcontrollers: Micro/5-PX and Micro/5-PXN, Micro/PX-2000 and Micro/PXN-2000
- Access Control Software: Picture Perfect Editions 1.7 or higher
- Access Control Software: Secure Perfect Editions 5.0 or higher

Q: What do GE Transition readers and credentials offer that competitors do not?

A: Even though several companies offer ISO 15693 compliant readers and cards, beware of closed or exclusive (single-supplier) designs that limit you to proprietary packaged solutions. GE Transition readers and credentials do not employ proprietary encryption or authentication algorithms, so you are welcome to purchase cards, tags, and key fob credentials from GE or any other ISO 15693-compliant credential reseller. Benefits to deploying GE Transition readers and credentials include:

- Promotes an open and competitive market for organizations to choose any ISO 14443A or 15693-compliant reseller
- Avoids single-supplier dependencies and potentially restrictive pricing structures
- Ensures lower cost of total system ownership as ISO 15693 technology increases in popularity and acceptance
- Allows security integrators to employ future technologies based on ISO 15693 standards, and circumvents entire security system replacement in order to leverage new technology that offer greater protection for personnel and property

Q: How can I buy Transition readers and credentials from GE?

A: You can contact an authorized GE systems integrator nearest you to purchase GE Transition Series readers or GE contactless ISO 15693 credentials. For a list of authorized integrators, visit http://www.geindustrial.com/ge-interlogix/wtb/wtb_home.jsp or www.gesecurity.com/transitionreaders for complete details.