tSec Reader



Sleek and stylish, and with a range of optional features, the tSec Multi-Technology Card Reader series has a solution for every environment. Supporting RS-485 and Wiegand communication interfaces and leading credential technologies, ICT card readers allow rapid deployment of secure access control technology.

Available in three sizes, multiple card capabilities, with optional keypad and a choice of black or white, you can select the model to fit the needs and decor of any installation.

Feature Highlights

- Multi card technology provides support for DESFire, MIFARE, and 125kHz cards from a single reader
- Encrypted RS-485 or standard Wiegand connection
- Optional **Bluetooth**® / NFC credential reading
- Supports OSDP communication protocol with secure channel
- Read range up to 60mm (2.36") with proximity ISO cards
- Configurable LED strip: 2 color control (blue and green) via external LED wiring, 16 color selectable for Protege function codes (RS-485 connection only)
- Fully encapsulated design with environmental IP Rating of IP65 for outdoor and indoor operation
- Three sizes, making it suitable for any situation
- Optional accessories expand the range of installation possibilities

Optional Features

A range of optional features means there is a model to suit everyone.

- Available with or without capacitive touch keypad
- Choose from the 125kHz or MIFARE/DESFire models, or the Multi Technology model that supports all formats
- Optional Bluetooth® / NFC connectivity to allow access via a smartphone
- Optional vandal resistant cover
- Opt for either black or white according to your decor
- Choose from three sizes to fit any situation

Multi Card Technology

Available with 13.56MHz smart card capability, 125kHz low frequency proximity, or as a multi technology reader that combines both 125kHz proximity and 13.56MHz capabilities in a single unit, delivering maximum compatibility while providing a path forward to the latest technology. The multi technology reader is ideal for organizations that wish to transition to smart technology at their own pace, as it means they don't need to replace all their cards up front.

Optional Bluetooth® / NFC Credential Reading

Bluetooth® / NFC capability enables you to use your smartphone as your access credential for maximum convenience.

Equipped with support for most modern iOS and Android devices, you can unlock the door using a unique access credential that is entered against your user record in Protege, and authenticated by a secure cloud based server.

Convenient Programming

The convenient Protege Config App allows you to easily program a wide range of card reader functionality.

Flexible Communication

Choose between the intelligent RS-485 connection for fast, flexible, secure communication, or Wiegand for compatibility with all standard access control systems. RS-485 provides the added benefits of being easier and more cost effective to wire and deploy, and allows for direct integration with Protege systems, enabling you to make changes on the fly once readers are installed. RS-485 also allows for longer cable runs and offers a simpler firmware update process.

OSDP 2.2 Communication

The OSDP protocol improves interoperability and adds scalability, flexibility and ease of implementation.

OSDP with secure channel offers additional security with AES-128 encryption and predefined key management and authentication.

For more information, see *Application Note 321: Configuring ICT Readers for OSDP Communication*, available from the ICT website.

Configurable LED Strip

The card reader provides the ability to change the color of the LED strip (16 colors available) to show when a function has started, succeeded or failed. For example, for a function that is used to arm an area you might set the LED to change to orange to show that the function has started, yellow to show that the area has armed successfully, and red to indicate when the function has failed.

*This feature is only supported when wired using RS-485.

IP65 Protection

The IP65 environmental rating provides a high degree of protection from the elements, making the reader suitable for harsh environments. Readers can be mounted indoors or outdoors, located anywhere from the car park gate to the office door.

Optional Vandal Resistant Cover

Designed to withstand some of the harshest settings, the optional vandal resistant covers are ideal for locations where a card reader may be exposed to damage, including corridors, parking buildings, correctional facilities, and other public places. Highly resistant to impact, such as from the swing of a hammer or baseball bat, its robust construction provides greater durability and protection against vandalism and malicious damage. The flush design also serves as an anti-ligature measure for an additional level of safety.



Covers can be ordered using the following part codes:

- **tSec Standard Reader**: PRX-SVRC
- **tSec Extra Reader**: PRX-XVRC
- **tSec Mini Reader**: PRX-MVRC

Mounted correctly, the card reader vandal resistant cover is compliant to DHF TS 001:2013, the ENHANCED REQUIREMENTS & TEST METHODS FOR ANTI-LIGATURE HARDWARE to grade B4 for vertical direction devices and to impact level IK10.

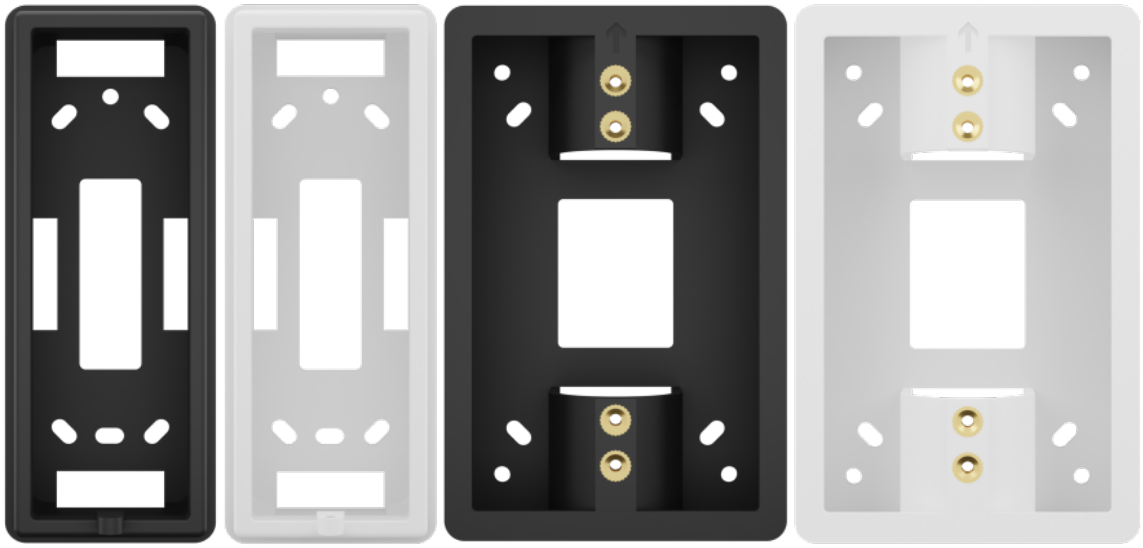
Keypad Support

Regular keypad variations of the tSec reader range do not operate correctly with the vandal resistant covers that are provided separately. You must order the reader as a kit (including the cover) using one of the following part codes:

- **tSec Standard Reader**: PRX-TSEC-STD-KP-VRC (Multi Technology), PRX-TSEC-STD-DF-KP-VRC (13.56MHz), PRX-TSEC-STD-KP-BT-B-VRC (Multi Technology with Bluetooth® Wireless Technology).
- **tSec Extra Reader**: PRX-TSEC-EXTRA-KP-VRC (Multi Technology), PRX-TSEC-EXTRA-DF-KP-VRC (13.56MHz), PRX-TSEC-EXTRA-KP-BT-B-VRC (Multi Technology with Bluetooth® Wireless Technology).

Optional Surface Mount Box

This optional accessory allows you to mount the card reader projected from the wall, providing space for an external conduit.



The surface mount box is ordered separately using the following product codes:

- **tSec Standard Reader (Black)**: TSEC-SMB-STD-B
- **tSec Standard Reader (White)**: TSEC-SMB-STD-W
- **tSec Extra Reader (Black)**: TSEC-SMB-EXT-B
- **tSec Extra Reader (White)**: TSEC-SMB-EXT-W

Reader Editions: tSec Standard Reader

The tSec Standard reader is available in multiple editions, with a range of optional features:

Standard	117 x 46 x 18mm (4.61 x 1.81 x 0.71")				
	Keypad	125kHz	MIFARE/ DESFire/ NFC	Bluetooth® Technology	Vandal Resistant Cover*
PRX-TSEC-STD-B tSec Standard Multi-Technology Card Reader		✓	✓		
PRX-TSEC-STD-KP-B tSec Standard Multi-Technology Card Reader with Keypad	✓	✓	✓		
PRX-TSEC-STD-125-B tSec Standard 125kHz Card Reader		✓			
PRX-TSEC-STD-DF-B tSec Standard 13.56MHz Card Reader			✓		
PRX-TSEC-STD-DF-KP-B tSec Standard 13.56MHz Card Reader with Keypad	✓		✓		
PRX-TSEC-STD-BT-B **PRX-TSEC-STD-BT-W** tSec Standard Multi-Technology Card Reader with Bluetooth® Wireless Technology		✓	✓	✓	
PRX-TSEC-STD-KP-BT-B **PRX-TSEC-STD-KP-BT-W** tSec Standard Multi-Technology Card Reader with Keypad and Bluetooth® Wireless Technology	✓	✓	✓	✓	
PRX-TSEC-STD-KP-BT-B-VRC tSec Standard Multi-Technology Card Reader with Keypad, Vandal Resistant Cover and Bluetooth® Wireless Technology	✓	✓	✓	✓	✓
PRX-TSEC-STD-DF-BT-B tSec Standard 13.56MHz Card Reader with Bluetooth® Wireless Technology			✓	✓	
PRX-TSEC-STD-DF-KP-BT-B tSec Standard 13.56MHz Card Reader with Keypad and Bluetooth® Wireless Technology	✓		✓	✓	

* Keypad editions with vandal resistant cover included. Covers may be purchased separately for readers without keypads, but regular keypad editions do not support vandal resistant covers.

Reader Editions: tSec Extra Reader

The tSec Extra reader is available in multiple editions, with a range of optional features:

Extra	117 x 75x 18mm (4.61 x 2.95 x 0.71")				
	Keypad	125kHz	MIFARE/ DESFire/ NFC	Bluetooth® Technology	Vandal Resistant Cover*
PRX-TSEC-EXTRA-KP-B tSec Extra Multi-Technology Card Reader with Keypad	✓	✓	✓		
PRX-TSEC-EXTRA-125-B tSec Extra 125kHz Card Reader		✓			
PRX-TSEC-EXTRA-DF-B tSec Extra 13.56MHz Card Reader			✓		
PRX-TSEC-EXTRA-DF-KP-B tSec Extra 13.56MHz Card Reader with Keypad	✓		✓		
PRX-TSEC-EXTRA-BT-B **PRX-TSEC-EXTRA-BT-W** tSec Extra Multi-Technology Card Reader with Bluetooth® Wireless Technology		✓	✓	✓	
PRX-TSEC-EXTRA-KP-BT-B **PRX-TSEC-EXTRA-KP-BT-W** tSec Extra Multi-Technology Card Reader with Keypad and Bluetooth® Wireless Technology	✓	✓	✓	✓	
PRX-TSEC-EXTRA-KP-BT-B-VRC tSec Extra Multi-Technology Card Reader with Keypad, Vandal Resistant Cover and Bluetooth® Wireless Technology	✓	✓	✓	✓	✓
PRX-TSEC-EXTRA-DF-BT-B tSec Extra 13.56MHz Card Reader with Bluetooth® Wireless Technology			✓	✓	

***** Keypad editions with vandal resistant cover included. Covers may be purchased separately for readers without keypads, but regular keypad editions do not support vandal resistant covers.

Reader Editions: tSec Mini Reader

The tSec Mini reader is available in multiple editions, with a range of optional features:

Mini	85 x 46 x 17mm (3.35 x 1.81 x 0.67”)				
	Keypad	125kHz	MIFARE/ DESFire/ NFC	Bluetooth® Technology	Vandal Resistant Cover*
PRX-TSEC-MINI-B tSec Mini Multi-Technology Card Reader		✓	✓		
PRX-TSEC-MINI-125-B tSec Mini 125kHz Card Reader		✓			
PRX-TSEC-MINI-DF-B tSec Mini 13.56MHz Card Reader			✓		
PRX-TSEC-MINI-BT-B **PRX-TSEC-MINI-BT-W** tSec Mini Multi-Technology Card Reader with Bluetooth® Wireless Technology		✓	✓	✓	
PRX-TSEC-MINI-DF-BT-B tSec Mini 13.56MHz Card Reader with Bluetooth® Wireless Technology			✓	✓	

* Keypad editions with vandal resistant cover included. Covers may be purchased separately for readers without keypads, but regular keypad editions do not support vandal resistant covers.

Technical Specifications

Ordering Information	
Order Codes	See Reader Editions.
Power Supply	
Operating Voltage	12VDC (9.5 to 14VDC)
Startup Voltage	10.5VDC
Operating Current	Standard Reader: 254mA (Peak, Reading) Extra Reader: 298mA (Peak, Reading) Mini Reader: 203mA (Peak, Reading)
Communications	
Card Read Range	MIFARE 60mm (2.36") * DESFire EV1 ISO 15mm (0.6") * DESFire EV2/3 ISO 36mm (1.4") * 125kHz Clamshell 40mm (1.57") †
Tag Read Range	MIFARE 30mm (1.2") * DESFire EV1 6mm (0.23") * DESFire EV2/3 23mm (0.90") * 125kHz 25mm (0.98") †
Wiegand Interface	Multiple format 26 or 34 Bit data 0 and data 1, card defined
Frequency	13.56 MHz ISO/IEC 14443 Type A * 125KHz pulse width modulated †
Multi Conductor Cable	Wiegand: 22AWG alpha 5196, 5198, 18AWG alpha 5386, 5388. Max Distance 150m (492ft) Module comms/RS485: Minimum 24AWG (0.51mm) shielded twisted pair. Max distance 900m (3000ft)
OSDP Communication	OSDP standard 2.2 with Secure Channel Protocol ** / ***
Bluetooth® Wireless Technology	
Bluetooth® Read Range	Proximity mode: up to 0.5m (1.6ft) Configurable ** Action unlock (shake): up to 5m (16.4ft) Configurable **
Bluetooth® Electronic Credential Transmission Technology	NRF8001 Bluetooth® version 4.0 compliant Proprietary data exchange protocol. AES128 Encrypted Reader App Version: 1.04.175 and above Credentials can be distinguished by unique site code and card number
Bluetooth® Wireless Device	Protege Mobile 1.0.x
NFC	
NFC Read Range	Up to 60mm ***
NFC (Near-field communication) electronic credential transmission technology	Android 4.4 or above, with phones which support ISO7816-4 Proprietary Secured DESFire credential Credential is AES-256 (NIST certified AES algorithm) Reader App Version: 1.04.175 and above Credentials can be distinguished by unique site code and card number
NFC Wireless Device	Protege Mobile 1.0.x

Operating Conditions			
Environment IP Rating	IP65		
Operating Temperature	UL/cUL -35° to 66°C (-31° to 151°F) : EU EN -40° to 70°C (-40° to 158°F)		
Storage Temperature	-10˚ to 85˚C (14˚ to 185˚F)		
Humidity	0%-95% non-condensing, indoor/outdoor use (relative humidity)		
Mean Time Between Failures (MTBF)	520,834 hours (calculated using RDF 2000 (UTE C 80-810) Standard)		
Dimensions			
Reader Dimensions (H x W x D)	Standard Reader: 117 x 46 x 18mm (4.61 x 1.81 x 0.71″) Extra Reader: 117 x 75 x 18mm (4.61 x 2.95 x 0.71″) Mini Reader: 85 x 46 x 17mm (3.35 x 1.81 x 0.67″)		
Vandal Resistant Cover (H x W x D)	PRX-SVRC Standard Reader Cover: 162 x 91 x 22.6mm (6.37 x 3.58 x 0.88″) PRX-XVRC Extra Reader Cover: 162 x 120 x 22.6mm (6.37 x 4.72 x 0.88″) PRX-MVRC Mini Reader Cover: 127 x 88 x 20mm (5.0 x 3.46 x 0.78″)		
Reader with Surface Mount Box (H x W x D)	Standard Reader: 117 x 46 x 51mm (4.61 x 1.81 x 2.00″) Extra Reader 119 x 77 x 52mm (4.69 x 3.05 x 2.05″)		
Reader Weights		**Net Weight**	**Gross Weight**
Standard Reader Standard Reader with Vandal Resistant Cover		110g (3.9oz) 190g (6.7oz)	130g (4.6oz) 280g (9.9oz)
Extra Reader Extra Reader with Vandal Resistant Cover		160g (5.6oz) 270g (9.5oz)	190g (6.7oz) 360g (12.7oz)
Mini Reader		80g (2.8oz)	100g (3.5oz)
Standard Reader Surface Mount Box Extra Reader Surface Mount Box		40g (1.4oz) 70g (2.5oz)	60g (2.1oz) 100g (3.5oz)

* Applies to MIFARE/DESFire and Multi-Technology models only

† Applies to 125kHz and Multi-Technology models only

** Applies to Bluetooth® wireless technology enabled models only

*** Applies to NFC capable models only

The size of the conductor used for power supply should be adequate to prevent voltage drop of more than 5% of the rated supply voltage.

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Regulatory Notices

For a full regulatory and approval list please visit the ICT website.

New Zealand (RSM) and Australia (RCM)

This equipment carries the R-NZ label and complies with EMC and radio communications regulations of the Australian Communications and Media Authority (ACMA) governing the Australian and New Zealand (AS/NZ) communities.

AS/NZS 2201.1 Class 5

Protege systems conform to AS/NZS 2201.1:2007 Class 5 intruder alarm systems standards for the construction, operation, performance and installation of intruder alarm equipment and systems installed in clients' premises.

CE – Compliance with European Union (EU)

Conforms where applicable to European Union (EU) Low Voltage Directive (LVD) 2014/35/EU, Electromagnetic Compatibility (EMC) Directive 2014/30/EU, Radio Equipment Directive (RED)2014/53/EU and RoHS Recast (RoHS2) Directive: 2011/65/EU + Amendment Directive (EU) 2015/863.

This equipment complies with the rules of the Official Journal of the European Union, for governing the Self Declaration of the CE Marking for the European Union as specified in the above directives.

Security Grade 4, Environmental Class II, EN 50131-1:2006+A2:2017, EN 50131-3:2009, EN 50131-6:2008+A1:2014, EN 50131-10:2014, EN 50136-1:2012, EN 50136-2:2013, EN 60839-11-1:2013, Power frequency magnetic field immunity tests EN 61000-4-8, Readers Environmental Class: IVA, IK07.

UK Conformity Assessment (UKCA) Mark

This equipment carries the UKCA label and complies with all applicable standards.

UL/cUL (Underwriters Laboratories)

- UL 294 for Access Control System Units
- CAN/ULC 60839-11-1 for Electronic Access Control Systems
- CAN/ULC S319 for Electronic Access Control Systems

Industry Canada

ICES-003

This is a Class A digital device that meets all requirements of the Canadian Interference-Causing Equipment Regulations.
Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

CAN ICES-3 (A)/NMB-3(A)

Federal Communications Commission (FCC)

FCC Rules and Regulations CFR 47, Part 15, Class A.

This equipment complies with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference; (2) This device must accept any interference received, including interference that may cause undesired operation.

Open Supervised Device Protocol (OSDP) Verified Logo

This equipment carries the OSDP Verified logo which indicates that this device is compliant with the OSDP 2.2 PD Secure profile and all applicable standards.

Designers & manufacturers of integrated electronic access control, security and automation products.
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