sPass DESFire reader

Contactless smart card reader

FEATURES

OVERVIEW

The CEM sPass reader is a low cost, contactless smart card reader with powerful security and encryption features. The sPass reader utilises 3DES (Triple DES) encryption and highly secure DESFire technology. It is designed to be connected to the CEM eDCM 350 encrypted two-door controller, with encrypted RS485 serial communications between the sPass reader and the controller. Combined as one solution, the sPass reader and eDCM 350 controller offer a cost effective solution which combats against the threats of card cloning and Wiegand controller signal cloning.

The sPass enclosure encapsulates all the electronics into one weather proof, durable and easy to install unit, making it ideal for both indoor and outdoor installations. Bright LED's also provide a visual indicator to confirm entry and an audible sounder provides clear feedback to the user.

For an extra layer of security the sPass reader is available as a keypad option which supports Card & PIN transactions (two factor authentication).

The sPass reader is designed for use with CEM's pre-personalised DESFire smart card. With a pre-personalised card memory, the CEM DESFire smart card holds up to 28 different security applications. Also using 3DES encryption, memory keys are securely stored on the DESFire smart card. No keys permanently reside within the sPass reader, with each card having uniquely encrypted keys for high levels of security.

- 3DES (Triple DES) card verification

- Secure RS485 serial encrypted communications between sPass reader & eDCM 350 controller

- 13.56 MHz smart card read frequency

- Combats against card cloning & Wiegand signal controller cloning

- Three onboard LED indicators to visually confirm/deny entry

- Built in Tamper switch

- Built in Sounder

- Suitable for indoor or outdoor applications

- Compatible with CEM range of AC2000 security management systems

sPass reader (with keypad)

sPass reader (no keypad)

PRODUCT HIGHLIGHTS

Cost effective
The sPass reader is a low cost reader that is designed for use with the CEM eDCM 350 encrypted two-door control module. It offers a cost effective controller solution for a high level of security.

Card Technology
The sPass reader features Triple DES (3DES) card verification and RS485 encrypted serial data communications to the eDCM 350 controller. Both these features are essential to protect against developments in card cloning and Wiegand controller signal cloning. Card cloning is the interception and replay of electronic communications from the card to the reader and Wiegand controller signal cloning is the recording or 'sniffing' of the pulses, (wired or wireless) between a card reader and its control panel.

Ease of Installation
The sPass reader is designed for simple installation. One cable delivers power and communications to the reader for ease of installation.
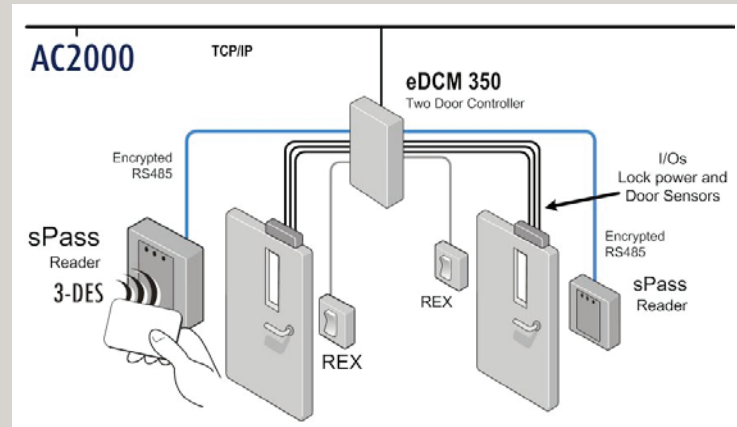
ABOVE: CEM sPass readers connected to an eDCM 350 two door controller in Master/Master & Master/Exit modes.

TECHNICAL SPECIFICATIONS

PHYSICAL

Size	86 x 86 x 22mm (3.4" x 3.4" x 0.87")
Weight	222.7g (7.9oz) with connectors
Housing	Flame retardant polycarbonate containing fully encapsulated electronics.
Colour:	Grey & optional blue keypad

POWER

- Voltage	9 – 15Vdc
- Current	consumption 250mA (passive) 300mA (Peak)

Environmental

- Temperature	-10º to +55ºC (14º to 122ºF)
Indoor/Outdoor:	Both

The reader is designed to mount directly onto a standard UK or European (French) electrical containment box (American versions are provided with a compact adapter plate), meaning that standard conduit and fittings may be used.

Certifications/Approvals
CE
RTTE compliant
CLASS A

Security
Encryption keys are secured in tamper-resistant chips designed to zeroise if out-of-specification conditions are detected.
Supports 128 to 256 bit encryption keys and Triple DES (3DES) block cipher algorithm. 32 bit card number output, encrypted between reader and controller

Tamper: Optical sensor will send alarm up to host system and trigger local sounder if the reader is disconnected from is mounting.

COMMUNICATION INTERFACE

Card Transmit Frequency	13.56 MHz
Output format	To System Host RS485
Termination	Three metre Pig tail
Cable Distance	150 metres
Recommended cable	Belden 8778 EQ or equivalent stranded cable with overall shield. 2 pair minimum.
LED Indicators	Three high intensity LED indicators red, amber and green
Keypad	Optional. 12 character, standard layout, tactile response keypad.
Sounder	Piezo Electric

CARD TECHNOLOGY
A 13.56 MHz technology will allow the CEM sPass smart card reader to verify the unique ID of the following smart cards. The list is not exhaustive. For other card types please contact CEM Systems. (ISO14443A). The following cards are supported:

Type of Card	Read Range
CEM Desfire	40mm (1.57in)
MiFare Classic	30mm (1.18in)
MiFare Ultra Lite	30mm (1.18in)
MiFare DesFire	30mm (1.18in)
MiFare Plus	30mm (1.18in)

PRODUCT CODES

SPASS/D10/101	sPass DESFire reader with keypad
SPASS/D10/100	sPass DESFire reader no keypad

Product specifications and availability is subject to change without notice. Certain product names mentioned herein may be trade names and/or registered trademarks of their companies.

CEM Systems Ltd, 195 Airport Road West, Belfast BT3 9ED Northern Ireland
Tel: +44 (0)28 9045 6767 Fax: +44 (0)28 9045 4535 email: cem.sales@tycoint.com

www.cemsys.com