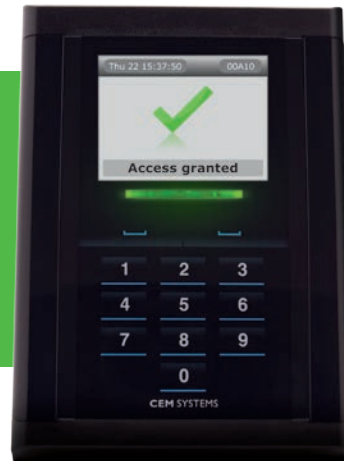


# S700e

## Combined Multi-Technology Intelligent IP Reader and Controller



### Features that make a difference:

- Intelligent IP card reader and combined controller designed for use as part of the CEM Systems AC2000 access control software range
- Contactless card presentation with the option to enable Personnel Identification Number (PIN) for two stage authentication
- Integral reading support for 13.56MHz smart card and 125 kHz proximity technology
- Communicates directly with the host server - no requirement for an intelligent control panel in the system design
- Secure transfer of DESFire and AES encryption keysets
- 10/100 Mbps Ethernet host connection
- Large reader database for offline card verification and alarms
- Large graphical LCD which is used to display a number of predefined messages
- Light touch capacitive keypad
- Four analogue inputs to monitor door or alarm conditions
- Two changeover relay outputs to activate door strike or other equipment
- Remote programming facility to download updated firmware
- Weather-proof casing: IP65-rated
- Easy to install

The S700e Card Reader is the next generation fully integrated combined IP card reader and controller, designed for use with AC2000 as part of an integrated online access control system. The S700e can be deployed to control access to restricted areas or in special applications where card activation of machinery is required. The reader, which has an onboard 10/100Mbps Ethernet connection, communicates directly with the CEM Systems AC2000 host server eliminating the need for an intelligent control panel in the system design.

Using a powerful 32-bit processor, the S700e gives full off-line card verification and decision making at the point of entry, even when host communication is not available.

Exit reader options include an S700 Exit Reader, push button, a third party Wiegand or OSDP v2 Exit read head for IN/OUT control.

The IP65-rated polycarbonate enclosure houses the reader electronics and comes with a large 4x3 capacitive light touch keypad, graphical display screen and high intensity multi-colour LED light bar. The S700e reader has four analogue inputs (voltage supplied), which can be used to monitor door and alarm conditions for transmission to the host server. All four inputs are four state (tamper detect) capable. Two outputs are also fitted to control the activation of door locks or other equipment.

### Host Communications

The S700e has an on-board 10/100 Mbps TCP/IP v4 Ethernet connection allowing it to communicate directly with the AC2000 host server, removing the need for an intelligent control panel in the system design.

### On-board Card Reading Technology

Designed to support 13.56 MHz smart card technology MIFARE® (CSN), DESFire® (CSN), CEM DESFire 3DES, CEM DESFire AES, iCLASS, iCLASS SE, PicoPass) and 125 kHz HID proximity technology. A single Wiegand or OSDP v2 interface is also provided to connect third party readers.

### Offline Operation

A full offline database is downloaded to the reader from the host server with subsequent changes to cardholder data automatically sent as updates. This ensures the reader has up-to-date card information when operating in offline mode. Alarms and transactions recorded in offline mode are passed automatically to the AC2000 system when reader communications are re-established. This ensures zero downtime at system critical locations.

### Reader Messages

The S700e has a large 2.4 inch graphical LCD which is used to display a number of predefined messages to cardholders depending on their privileges e.g. Wrong Zone, Lost/ Stolen Card, Card About to Expire, Access Granted and many more.

### Easy to Install

The S700e is designed to be extremely easy to install. The installer assigns an IP address to the S700e on the AC2000 workstation. The S700 is then provided with power and setup with the same IP address as AC2000. The S700e is connected via an Ethernet cable to a local network where it receives configuration information from the AC2000 host server.

## Proximity to Smart Card Migration

The S700e multi-tech version supports the simultaneous reading of traditional Proximity, MIFARE, MIFARE DESFire or iCLASS SE smart cards. This enables existing sites using proximity cards a seamless path to migrate to a more secure smart card solution with zero system downtime and with no effect on security. Once migrated, smart cards can then be used for other applications such as cashless vending, biometric storage, logical access and much more. The S700e reader is the perfect migration tool, allowing a seamless, cost-effective transition to smart cards over time.

## Graphical Feedback

The S700e has been designed to be as user friendly as possible and guide the user through intuitive graphical messages displayed via the reader LCD. The S700e screen provides graphical feedback and predefined messages and icons to cardholders depending on access privileges. Cardholders can quickly and efficiently identify why they may have not gained access, or, for example, if their card is expiring.

## Configurable Door Modes

The S700e is a highly flexible and intelligent device. All configuration settings can be remotely set via the AC2000 software platform. Operational parameters such as door operating mode, lock open times, door held open times, are automatically downloaded to the reader over the IP network. Standard Operating Modes include, but are not limited to Door Access, Passenger (extended opening time), Equipment and Turnstile, Turnstile (pulse). This enables the S700e to become a versatile device meeting many different operational requirements.

## High Security Environments

The S700e can be used in conjunction with a CEM Systems Door Interface Unit (DIU) to provide the highest level of security at a door, moving power supply for the lock and input monitoring away from the reader to a secure location. The S700e can also be used in conjunction with the DIU230 (POE+) interface board, removing the requirement to have a fixed mains power source available at the door.

## Examples of Graphical Messages



## Encryption and Security Features

At the card reading level, the S700e can be configured to use highly secure encryption key authentication, such as 3DES or AES. This encryption takes place between the smart card and S700e reader, providing secure transmission of data and enabling only cards with the correct keysets to be read. This also eliminates the possibility to copy or replay card details. When the S700e is used in conjunction with a companion S700 Exit reader, the communications between the readers are secured via AES encryption. This ensures data transmission between the two readers cannot be deciphered. The on-board OSDP v2 interface ensures that even when using a third party exit reader communication channels are always secure.

## Remote Programming

The S700e reader can be remotely programmed from the host computer, providing increased system flexibility and efficiency. The remote programming feature provides new functionality or reader enhancements for a future proof solution.

## Specifications

### Physical

Size . . . . . 144 x 100 x 49 mm (At widest point)  
 Weight . . . . . 300 g  
 Housing . . . . . Flame retardant polycarbonate,  
 with UV stabilisation. RoHS compliant,  
 Black  
 Colour . . . . . Black

### Power Requirements

Voltage . . . . . 9-28 VDC  
 Current Consumption (Watts) . . . . . 2.4W Typical – 4.8W Peak

### Environmental

IP Rating . . . . . IP65  
 Temperature . . . . . -20° to +60° C (-4° to 140° F)  
 LED Indicator . . . . . Lightbar: High intensity multi-coloured  
 LCD Indicators . . . . . 2.4" diagonal, 240 x RGB x 320 TFT full view,  
 Brightness: 400 cd/m2 dimmable,  
 Contrast ratio 400:1  
 Keypad . . . . . 12 key, standard layout, (10 numeric keys,  
 2 function keys), capacitive, light touch

### Functionality

Inputs . . . . . Four analog inputs —voltage supplied,  
 four state (tamper detect)  
 Outputs . . . . . Two relays fitted —Changeover volt  
 free contacts  
 Rating . . . . . 24 VDC @ 2 Amps max  
 Memory . . . . . 32 MB SDRAM  
 Data: 2 Gb flash

### Database Size in Off-line Mode

Cardholders . . . . . 250,000  
 Alarms & Transactions . . . . . 50,000

### Communication Interface

To Exit Reader . . . . . RS-485  
 Interfaces . . . . . Single Wiegand interfaces with a  
 maximum cable length of 50M  
 Connection . . . . . Screw terminal: Relay & Power, Wiegand, Serial  
 To System Host . . . . . 10/100 Base-T TCP/IP using  
 CAT5/CAT6 shielded cable  
 Ethernet Connection . . . . . RJ45

### Regulatory

Agency Certifications . . . . . FCC Part 15, CE

## Requirements

- AC2000 v7.1 and higher
- AC2000 Airport v7.1 and higher
- AC2000 Lite v7.1 and higher
- RTC Ethernet Reader Controller

## Ordering Information

Product Code	Description
RDR/700/003	S700e Card Reader with PIN (125kHz HID Prox and 13.56MHz iCLASS SE)
RDR/700/004	S700e Card Reader with PIN (125kHz HID Prox and 13.56MHz MIFARE DESFire)
RDR/700/006	S700e PicoPass Reader with PIN
RDR/700/007	S700e Card Reader with PIN (13.56MHz Mifare/DESFire)
RDR/700/008	S700e Card Reader with PIN (13.56MHz iCLASS SE)

To order contact [cem.sales@tycoint.com](mailto:cem.sales@tycoint.com) or call +44(0) 2890 456 767

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