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Specification Sheet

Convexs readers

Convexs readers make it possible for customers with an existing access control system to migrate smoothly and without complication to MIFARE or DESFire technology. All Convexs readers are available as surface-mount or flush-mount units (specially designed for wall power sockets).

- Unique combination of card reading technologies
- Suitable for all commonly used access control systems and technologies
- For indoor and outdoor use

Different card technologies

AEOS is capable of combining all commonly used reader and card technologies in a single system. Systems that use Nedap card technology can be converted to MIFARE/DESFire cards and readers without complication. This is because the Convexs reader can be integrated as a replacement for existing antennas. In addition, the existing antenna wiring can be reused. An added advantage is that migration can be implemented in controlled phases, as the Convexs reader is capable of handling several different card types simultaneously.

Enhanced security

Based on the choice of card technology, secure airborne data transfer between the card and card reader is achieved via CRYPTO1, triple DES or 128bits-AES encryption.

As standard, the Convexs features an SAM (Secure Access Module) holder, which allows the use of an SAM for key storage and execution of high-security encryption algorithms.

Configuration and programming

The Convexs reader configuration determines functionality and output. The configuration file is generated using AEreco (AEOS Reader Configuration) software and deployed to the Convexs reader via AEmon or with a configuration card.

Integration with external systems

Convexs readers can be linked to external controllers using a Wiegand interface. A standard RS485 protocol (‘plain’) may also be used.

Special versions

There are two special Convexs ranges. The first reads DESFire EV1, EV2 and EV3 as configured by the Dutch government (Rijkspas). The second is a Convexs reader in a Siedle housing, which is available in 4 colours.

Technical specifications

Dimensions	Surface-mount: L x W x H: 80 x 80 x 32 mm Flush-mount: L x W x H: 80 x 80 x 27 mm, 11 mm protrusion
Weight	Approx. 0.1 kg
Power consumption	90 mA @ 12VDC i.p.v. 70 mA @ 12 VDC
Environmental conditions	Temperature range: Operation: -20 - 55 °C. Storage: -30 - 65 °C Relative humidity: 10 - 93% (non-condensing)
Communication	- RS485 (encrypted AEOS or 'plain' protocol; user-definable) - Wiegand Data 0 and Data 1 (depending on configuration) - RF Modulator (120 kHz for AX1014 or AB350)
Detection range	Nedap: approx. 8 cm, MIFARE: approx. 6 cm, DESFire: approx. 3 cm
Wiring for	- Wiegand: max 150 m; 2 x 2 x 0.25 mm² shielded - RS485 excl. power: 1 x 2 x 0.22 mm² shielded (characteristic impedance 100-120 Ohm), max. 300 m - RS485 incl. power: 2 x 2 x 0.22 mm² shielded (characteristic impedance 100-120 Ohm), max. 150 m - RF Modulator: max. 50 m; 5 x 0.25 mm² shielded, existing wiring (via Convexs adapter)
IP rating	Surface-mount; IP52, Flush-mount; IP54
Certifications/approvals	CE: safety EN60950 EMC: immunity EN50082-2, emission EN50082-1 ISO/IEC 14443: 2016 (and 2018) compliant
Frequency	13.56MHz. For Nedap-models: 13.56MHz and 120KHz

Article number

	Colour	Surface-mount	Number	Flush-mount	Number
Mifare DESFire reader	Grey	MD80G	9856900	MD80FG	9857060
	Charcoal	MD80C	9895680	MD80FC	9895710
Mifare Nedap DESFire reader	Grey	MND80G	9896210	MND80FG	9896350
	Charcoal	MND80C	9896040	MND80FC	9896180
Mounting set (outdoor use)					9945890
Convexs protection		Protector 80	9896864	Protector 80F	9892338