Convexs readers

Convexs readers enable clients with Nedap AEOS, Nedap XS or a third party access control system to migrate smoothly to Mifare or DESFire (including EV1) technology. The Convexs M80 reader is designed for Mifare cards only. The Convexs MN80 and the Convexs MD80 both feature dual reader technology; the first one can interchangeably read Mifare and Nedap credentials, whereas the second one reads Mifare and DESFire. Finally, the Convexs MND80 accepts Mifare, Nedap and DESFire technology, providing an enhanced security solution. Reader output can be set to different protocols: encrypted RS485, plain RS485, Wiegand or XS RF modulation.

- For smooth migration to Mifare and DESFire technology.
- Suitable for Nedap AEOS, Nedap XS and third party access control systems.
- Can interchangeably read several credentials.
- Stylish and timeless design.
- Available in different colours.

Design
Design was a prime driver in the development of the Convexs reader series. This is evident in its name, which refers to its arched shape. All Convexs readers are available in surface mount and flush mount models in the colours grey and charcoal. The flush mount model has been specially developed to fit in a junction box. For both models, vandal-proof protectors are available.

Migration within Nedap AEOS
The AEOS system allows for the combined use of any type of commonly available reader and card technology in a single system. This is possible by means of several reader-specific AEpacks. Systems using Nedap card technology can easily be switched to Mifare/DESFire cards and readers, without having to change the reader packs. Instead, the Convexs reader can be connected to these units, replacing the former antennas while re-using the existing antenna cabling. An added advantage is that migration can be carried out gradually because the Convexs reader can handle several types of credentials simultaneously.

Migration within Nedap XS
In order to upgrade a Nedap XS system to Mifare technology, all that needs to be done is to replace the existing antenna by the Convexs reader. This way the XS system's Accessor III and SimpleXS can be "opened up" to read Mifare/DESFire credentials. The card population can consist of a combination of Nedap and Mifare/DESFire cards. This makes it possible, for example, to issue temporary Mifare cards to visitors or contractors. There are two major benefits: existing controllers (with corresponding databases) do not need to be replaced, and the antenna cabling already in place can be re-used.

DESCount card
Customers that already have Convexs M80 or MN80 readers can easily upgrade these to DESFire by using the DESCount card. This card contains credits for each reader that must be upgraded. By holding the DESCount card close to a reader, the reader will be upgraded and the amount of credits on the card will be decreased by one.

Secure Mifare and long cabling
When connecting a Convexs reader to an AP1003, AP4x03 or AP6003 via RS485, encrypted data is used for enhanced security. The maximum cabling distance is 1,000 meters. In short, an AEOS system provides for both secure wireless connections as well as wired encrypted connections.

Enhanced security
Extra security can be built in by using NeXS functionality. NeXS, which stands for Nedap Enhanced XS, features triple DES (Data Encryption Standard). DES enhances the secure air encryption between the Convexs reader and NeXS cards by enabling a challenge response cycle between the presented card and the reader. NeXS can be introduced without replacing the Convexs readers.

Integration with third party systems
The Wiegand output option makes it possible to connect Convexs readers to third party controllers that use a Wiegand interface. A plain RS485 protocol can also be used.

Configuration

Functionality and output are determined by the configuration of the Convexs reader. The configuration file is made with the program AEreco, which can be downloaded to the Convexs reader by AEmon or a configuration card.

Convexs adapters

Integration of the Convexs reader with an XS or AEOS reader requires a Convexs adapter. This is a small PCB (printed circuit board) that provides the Convexs reader with power and LED control from the Accessor or AEOS reader packs and extends the cable length between the reader and Accessor to 50 meters, with the use of existing cabling.

Special versions

In addition to the default Convexs readers, there are two special Convexs series. The first one reads DESFire EV1 as defined for the Dutch government. The second one is a Convexs reader in Siedle housing, which is used on the German market. The mounting frames of these readers are available in four different colours.

Technical specifications Convexs readers

Product numbers	Surface mount		Flush mount		
	G	C	FG	FC	Credentials
Convexs M80xx	9856250	9895400	9856420	9895540	Mifare
Convexs MD80xx	9856900	9895680	9857060	9895710	Mifare - DESFire
Convexs MN80xx	9856110	9895850	9856390	9895990	Mifare - Nedap
Convexs MND80xx	9896210	9896040	9896350	9896180	Mifare - Nedap – DESFire
	Grey	**C**harcoal	**F**lush, **G**rey	**F**lush, **C**harcoal	
Detection range	Mifare: up to 60 mm Nedap: up to 80 mm DESFire: up to 30 mm				
Interface	Wiegand: various formats: 26,32,37,64,128 RS485: encrypted protocol and serial RF Modulator: XS reader and reader AEpacks compatible				
Tamper	Optical switch				
Indication	LED green, red, blue (AEOS) LED green, red (XS) Buzzer				
Power	10VDC - 30VDC; 70mA @ 12VDC, 35mA @ 24VDC				
Housing	ABS				
Dimensions	Surface mount version: 80 x 80 x 32 mm (LxWxH) Flush mount version: 80 x 80 x 27 mm (LxWxH), 11 mm protruding				
Weight	~100 grams				
Temperature	Operating: 0-55ºC; Storage: -30-65ºC				
Relative humidity	10 - 93% non-condensing				
Protection	Surface mount version: IP54 Flush mount version: IP65				
Cabling Wiegand RS485 2-wire RF Modulator via Convexs adapter	150 m; 2x2x0,25 mm² shielded 1000 m; 1x2x0,25 mm² shielded, communication only 50 m; 5x0,25mm² shielded, existing cabling				
Configuration	Windows program AEreco: card or RS485 deployment				
Convexs adapter	AX1014: required when using reader AEpacks; product number: 7817401 AB350: required when using XS readers; product number: 7817010				
Convexs protector	Protector 80: for the surface mount version; product number: 9896864 Protector 80F: for the flush mount version; product number: 9892338				
Mounting set	For surface mount version; product number: 9942742				

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