AY-x6x80 Series
Open to Secure (O2S) Readers

Datasheet

Introduction

Rosslare's Open to Secure (O2S) family of readers are highly flexible smart card readers that redefine ease of use and high security for RFID access control solutions. The readers support reading from and writing to the secure memory of the world's most accepted RFID technologies – MIFARE DESFire EV1 and MIFARE Classic EV1.

With MIFARE DESFire EV1 credentials, you have access to the highest levels of cryptographic security with support for 128-bit AES encrypted communications between reader and credential. With O2S preprogrammed readers and credentials, you can have the highest level of secure access control solutions right out of the box.

The AY-x6x80 can be configured using a configuration card that can be programmed using the CP-R27 desktop programmer.

The AY-x6x80 lets you use custom secured credentials. These credentials can be programmed at the customer site using the CP-R27 desktop programmer.

The AY-x6x80 supports SIA Open Supervised Device Protocol (OSDP V2) including SCP mode (Secured Channel Protocol).

The AY-x6x80 and credentials can also come with distinct custom keys and security configuration from the factory.

Choose from a variety of standard configurations to get the functionality that you need – US/UK/Asia or mullion mount, proximity only or proximity & keypad authentication, pigtail or terminal block termination, and multi-format Wiegand or OSDP outputs. You can customize the reader to meet your requirements for maximum configuration flexibility.

General Description

The AY-x6x80 readers read secure O2S ID data and the CSN from MIFARE Classic EV1 credentials.

Main Features

- Contactless smart card reader (13.56 MHz)

- Meets ISO14443 Type A Standard

- AES 128-bit encryption during transmission

- Uses NXP SAM AV2 for identity and communication cryptography

- Supports OSDP V2 including secure channel using AES 128 bit encryption for improved security

- Reads O2S ID data from O2S credentials

- Reads CSN of non-O2S credentials

- Output formats:

  - Wiegand (per format on O2S credential)
  - OSDP via RS-485 (selected models)

- RGB multicolor light indicator

- Blue backlit tact switch keypad

- IP68 water and dust resistant for AY-x6280 pigtail models

- IP65 water and dust resistant for AY-x6280 terminal block models and AY-x6380 models

- IK08 vandal resistant for all AY-x6x80 models

- Optical back tamper sensor

- Two LED control and buzzer control inputs

- Pigtail or terminal block connectivity

- Antimicrobial technology reduces level of microbes on reader by up to 99.99%.

Specifications

ELECTRICAL SPECIFICATIONS		
Operating Voltage Range	6 to 16 VDC	
Input Current at 12V	Standby: 85 mA, Maximum: 110 mA	
OPERATIONAL SPECIFICATIONS		
Read Range (secure credential memory)	AY-H6xx0	AY-G6xx0
MIFARE Classic EV1 MIFARE DESFire EV1	40 to 45 mm (1.5 to 1.8 in.) 25 mm (1 in.)	40 to 45 mm (1.5 to 1.8 in.) 30 mm (1.2 in.)
LED Control	Two Inputs: Green LED CTL and RED LED CTL – TTL	
Auxiliary Input	Buzzer CTL or Hold CTL – TTL	
Auxiliary Output	Tamper Output (OC, active low, max. sink current 30 mA)	
Supported Protocol	Wiegand OSDP Secure Channel V2	
Output Format	O2S - Preprogrammed key (per format on O2S credential) Custom - Wiegand 26, 32, 34, 40, 56, 64, 128-bit and customized[1] Keypad: Four user-selectable standard formats available	
Secured Communication	OSDP V2 including secure channel AES 256-bit symmetric data encryption	
Maximum Cable Distance to Controller	Wiegand: 150 m (500 ft) with 18-AWG cable OSDP (RS-485): 1200 m (4,000 ft) with 2x2 18-AWG twisted shielded cable	
Compatible Cards	MIFARE DESFire EV1 (2K, 4K, 8K) and MIFARE EV1 Classic (1K, 4K)	
ENVIRONMENTAL SPECIFICATIONS		
Operating Temperature	-31ºC to 63ºC (-24ºF to 145ºF)	
Operating Humidity Range	0% to 95% (non-condensing)	
Outdoor Usage	Weather-resistant, epoxy potted, suitable for outdoor use	

Operating Environment	UV-resistant, epoxy-potted, suitable for indoor and outdoor use
	
	• IP68 water and dust resistant
	  • AY-G6280 and AY-H6280 pigtail models
	• IP65 water and dust resistant
	  • AY-G6280 and AY-H6280 terminal block models
	  • AY-G6380 and AY-H6380	

Vandal Resistance	IK08	
Antimicrobial efficacy	Inhibits bacteria proliferation by up to 99.9%	

[1]For custom key operation the AY-x6x80 Series needs to be program using a configuration card.

MECHANICAL SPECIFICATIONS

Dimensions of Pigtail Models (H x W x D)	AY-G6x80: 145.3 x 42.0 x 23.0 mm (5.7 x 1.7 x 0.9 in.) AY-H6x80: 120.0 x 80.0 x 23.0 mm (4.7 x 3.2 x 0.9 in.)
Dimensions of Terminal Block and OSDP Models (H x W x D)	AY-G6x80: 145.3 x 42.0 x 31.0 mm (5.7 x 1.7 x 1.2 in.) AY-H6x80: 120.0 x 80.0 x 31.0 mm (4.7 x 3.2 x 1.2 in.)
Weight	AY-G6x80: 155 g (5.5 oz) AY-H6x80: 217 g (7.7 oz)

Interoperability:The AY-G/H6x80 readers are compatible with Rosslare's controllers and many other third-party Wiegand controllers

Product Warranty: 5-year limited product warranty

For more information regarding support, visit https://support.rosslaresecurity.com.