ARMATURA

ARCHITECTURAL AND ENGINEERING SPECIFICATIONS

Explorer Series
EP10
All Weather Outdoor
Multi-tech Smart Reader

All trademarks, logos and brand names are the property of their respective owners.

Address: 190 Bluegrass Valley Parkway Alpharetta, GA 30005
Email: sales@armatura.us

Date: 1 Aug 2024
Version Number: Version 1.2

ARMATURA

Table of Contents

Section 1 3

1. Purpose 3
2. Goals and Objectives 3
3. Key Features and Requirements 3
4. Design and Implementation Constraints 4
5. Existing Standards and Regulations 4
6. Submittals 5
7. Qualifications 5
8. Warranty 5

Section 2 6

1. Key Features and Requirements 6
2. Maintenance and Support 8
3. Documentation 8
4. Technical Specifications 9
5. Armatura Card Module Supporting List 10
6. Installation and Configuration 12
7. Warranty and Support 12
8. Training and Documentation 12

Address: 190 Bluegrass Valley Parkway Alpharetta, GA 30005
Email: sales@armatura.us

Date: 1 Aug 2024
Version Number: Version 1.2

ARMATURA

Section 1

1. Purpose

This architectural and engineering specifications document (A&E) outlines the minimum requirements for the design, supply, installation, and commissioning of the EP10, all-weather outdoor multi-tech smart reader.

2. Goals and Objectives

The A&E specifications aim to achieve the following goals and objectives:

- Provide a highly secure and reliable multi-tech smart reader with advanced authentication and access control capabilities.
- Ensure scalability and flexibility to accommodate varying user and system requirements.
- Meet or exceed relevant industry standards and regulations.
- Provide a clear and detailed specification for the design, supply, installation, and commissioning of the EP10 multi-tech smart reader.

3. Key Features and Requirements

The EP10, multi-tech smart reader shall have the following key features and requirements:

- Support over 100 RFID card types in standard package with varies optional RFID modules that cover up to over 10 extra advanced secured RFID protocols.
- Mobile credential capability for access control on iOS and Android OS. With the Armatura ID mobile app that supports NFC (Android OS only) and Bluetooth, allowing users to open doors by presenting their smartphone to the reader, extending access to most all smartphone users.
- Supports Open Supervised Device Power (OSDP; version 2.2) for secure communication between the control panel and reader.
- Complies with AES-128 standards to prevent against interleaving and replay attacks. Complies with AES-256 encryption standards between mobile NFC (Android OS only) or Bluetooth and reader communication.
- Utilizes certified crypto chips with EAL6+ certification for advanced data protection.

Address: 190 Bluegrass Valley Parkway Alpharetta, GA 30005
Email: sales@armatura.us

Date: 1 Aug 2024
Version Number: Version 1.2

- Supports multi-tech reading including 125kHz,13.56MHz and 2.4GHz Bluetooth frequency credentials.
- Compact design for mullion mounting, includes optional gang box
- Compliant with CE, FCC, RoHS 3.0, WEEE and UL294 standards.
- Housing material made of Polycarbonate, and it is strictly UL94-V0 and UL746C (F1) compliant.
- IK10 Vandal-proof and IP68 waterproof & dustproof protection levels enable operation under any installation environment.
- The system shall comply with GDPR privacy standards.

4. Design and Implementation Constraints

The design and implementation of the EP10 multi-tech smart reader shall adhere to the following constraints:

- The design shall be scalable and flexible to accommodate varying user and system requirements.
- The implementation shall be done by trained installers who have been certified by the manufacturer.
- The implementation shall comply with relevant standards and regulations.
- The implementation shall ensure high-level cybersecurity to protect against unauthorized access or data breaches.

5. Existing Standards and Regulations

The EP10 C all-weather outdoor multi-tech smart reader shall comply with the following standards and regulations:

- FCC Standards
- CE Standards
- WEEE Standards
- UL294 Standards
- RoHS 3.0 Standards

Address: 190 Bluegrass Valley Parkway Alpharetta, GA 30005
Email: sales@armatura.us

Date: 1 Aug 2024
Version Number: Version 1.2

6. Submittals

The following submittals shall be provided by the manufacturer.

- Product data sheets
- Installation manuals
- Operation manuals
- Test reports

7. Qualifications

The manufacturer shall have the following qualifications:

- ISO 9001, ISO27001, ISO27701, ISO27017, CMMI5 certification.
- Minimum of 5 years' experience in producing access control equipment

8. Warranty

The manufacturer shall provide a limited (36) month warranty for the product to be free of defects in material and workmanship.

Address: 190 Bluegrass Valley Parkway Alpharetta, GA 30005
Email: sales@armatura.us

Date: 1 Aug 2024
Version Number: Version 1.2

Section 2

1. Key Features and Requirements

1.1 Key Features

i. Multi-tech RFID & Mobile Credential

Supports over 100 RFID card types and both mobile NFC (Android OS) and Bluetooth (Low Energy).

ii. Support Multi-card Types

The standard package supports over 100 RFID card types, with optional modules available to cover an additional RFID protocol. This provides high flexibility for multi-card types and mobile credential situations, satisfying most end-user requests.

iii. Support operating frequency at 125kHz, 13.56MHz: ISO14443 types A & B, ISO15693 and 2.4GHz Bluetooth.

iv. The reading distance of 13.56MHz operating frequency credential is up to 2.3" or 60mm, depend on environment and transponder.

v. The reading distance of 125kHz operating frequency credential is up to 393.7" or 10m with a Bluetooth smartphone and it is configurable on each reader.

vi. Provides two modes of mobile credential through the Armatura ID mobile App across the iOS and Android operating systems on smartphones. The card mode presents your smartphone to the reader like an access card. The remote mode conducts the verification on the reader by clicking a button in the Armatura ID App.

vii. Reached IP68 waterproof and dustproof protection level and the device can fully operate in all weather conditions.

viii. Reached IK10 for a reinforced vandal-proof structure and protect against malicious physical attacks.

ix. Effectively prevents external malicious attacks including, anti-SPA, DPA, EMA

Address: 190 Bluegrass Valley Parkway Alpharetta, GA 30005
Email: sales@armatura.us

Date: 1 Aug 2024
Version Number: Version 1.2

and DEMA attack. Fully protects all communication and data.

x. Reached the safety standard of UL746C (F1) and the housing material meets UL 94V-0 standards ensure burning combustion is not sustained for more than 10 seconds after applying a controlled flame.

xi. Support Wiegand communications between the reader and control panel. Also, it supports OSDP (v2.2) via RS-485 with up to 128bits SCP secure communication.

xii. Adopts AES-128 encryption to secure communication between reader and controller for enhanced data protection.

xiii. Complies with AES256 encryption standards between mobile NFC (Android operating system only), Bluetooth, and reader communication.

xiv. Utilizes EAL6+ certified crypto chip to secure data storage.

xv. Provides red, green and blue (RGB) LEDs visual indicator and it is configurable by Armatura Connect mobile App.

xvi. EP10 series is compatible with the Armatura Connect mobile App for both iOS and Android systems. This App which allows the installer to easily connect their smartphones to the EP10 series using Bluetooth communication. They can then configure the reader by adjusting settings such as card types, RFID reading distance, Bluetooth communication distances, and enabling or disabling features using their phone or tablet.

xvii. A compact mullion-mount design which suits most architectural and interior designs. Provides optional gang box (Asian, European or single-gang box) to cover all installation environments.

xviii. A tamper switch with magnetic tamper detection system.

xix. Power supply ranges from 9 VDC to 24 VDC.

xx. The standard cover is 1.89" in width;4.52 in height; 0.97" in depth, which is equivalent to 48mm in width; 114.8mm in height and 24.7mm in depth.

Address: 190 Bluegrass Valley Parkway Alpharetta, GA 30005
Email: sales@armatura.us

Date: 1 Aug 2024
Version Number: Version 1.2

xxi. The gang box cover is 3.00" in width; 4.84" in height; 0.97" in depth, which is equivalent to 76.2mm in width; 123.0mm in height and 24.7mm in depth.

xxii. The operating temperature ranges from -22°F to 158°F, which is equivalent to -30°C to 70°C.

2. Maintenance and Support

The EP10 multi-tech smart reader shall be supported by a comprehensive support program, which shall include the following:

- Regular software updates and security patches.
- Technical support via phone and email.
- Spare parts availability.
- Training for system administrators and end-users.

3. Documentation

The supplier shall provide the following documentation for the EP10 multi-tech smart reader:

- User manual
- Installation guide
- Technical specifications
- Software release notes
- Warranty terms and conditions

Address: 190 Bluegrass Valley Parkway Alpharetta, GA 30005
Email: sales@armatura.us

Date: 1 Aug 2024
Version Number: Version 1.2

ARMATURA

4. Technical Specifications

Dimensions of Mullion and Single-Gang box cover

Specifications	
Internal Number	EP10C
Operating Frequency / Standards	125 kHz 13.56 MHz: ISO14443 types A & B, ISO15693 2.4 GHz Bluetooth®
Functions	RFID and Bluetooth®
Communications & Panel Connection	Wiegand OSDP (v2.2) via RS-485 (Up to 128bits SCP Secure Communication)
Reading Distance	13.56MHz & 125kHz: Up to 2.3"/60 mm (depending on environment and transponder) Up to 393.7"/ 10m with a Bluetooth Smartphone (configurable distances on each reader)
Data Protection	AES128 (Secured Communication between Reader & Controller) Secure Data Storage in EAL6+ Certified Crypto Chip
Visual Indicator	RGB LEDs (Configurable By 'Armatura Connect' Mobile APP)
Audio Indicator	Internal buzzer with adjustable intensity (Configurable By 'Armatura Connect' Mobile APP)
Power Requirement / Power Supply	9 VDC to 24 VDC
Operating Temperature	-22°F - 158°F /-30°C to 70°C
Dimensions	Standard Cover: 1.89" W x 4.52" H x 0.97" D (48 x 114.8 x 24.7mm) Gangbox Cover: 3.00" W x 4.84" H x 0.97" D (76.2 x 123.0 x 24.7 mm)
Tamper Switch	Magnetic tamper detection system
Certifications	CE, FCC, RoHs3.0, WEEE, UL294
Mounting	Suited for mullion-mount door installations or any flat surface mounting Optional Asian / European / single-gang-box back-box spacing
Protection / Resistance	Weather & Dust Proof Protection Rating compliant with IP68 Reinforced Vandal-proof Structure IK10 certified
UV Stability	Nil structural degradation for the life of the reader in 3 years
Housing Material	Polycarbonate UL94-V0 & UL746C (F1)

Remarks:
"Standard version provides "Read only" function. Customization is required for "Read & Write" function.
#This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org/)

Address: 190 Bluegrass Valley Parkway Alpharetta, GA 30005
Email: sales@armatura.us

Date: 1 Aug 2024
Version Number: Version 1.2

ARMATURA

5. Armatura Card Module Supporting List

ARMATURA RFID Card Module Supporting List — ArmaSec-13112023

Frequency	Classification	Card Module Abbreviation / Compatible Readers	[DF] EP10C/ EP20C/ EP20CK/ EP20CQ/ EP20CKQ/ EP20ENC/ EP30 Series	[SFMH] EP10C/ EP20C/ EP20CK/ EP20CQ/ EP20CKQ/ EP20ENC/ EP30 Series/ VG10CKQ*	[NC] EP10C/ EP20ENC	[NF] EP10C/ EP20ENC	[NI] EP10C/EP20CQ/ EP20CKQ/ EP20ENC	[NPL] EP10C	[NIH] EP10C	[RNP] OmniAC20/ OmniAC30/ EP20CQ*/ EP20CKQ*/ VG10CKQ*	[RNI] OmniAC20/ OmniAC30/ EP20CQ*/ EP20CKQ*/ VG10CKQ*
13.56MHz	ISO14443A	LEGIC Advant		√	√①	√①	√①		√①		
		MIFARE Classic, Mini S50,S70	√④	√	√	√	√		√	√④	√④
		MIFARE Classic EV1	√④	√②	√②	√②	√②		√②	√④	√④
		MIFARE DESFire Light		√②	√②	√②	√②		√②	√④	√④
		MIFARE DESFire EV1	√④	√	√	√	√		√	√④	√④
		MIFARE DESFire EV2/ EV3	√④	√①③	√①③	√①③	√①③		√①③	√④	√④
		MIFARE Plus S, X		√	√	√	√		√	√④	√④
		MIFARE Smart MX		√②	√②	√②	√②		√②	√④	√④
		MIFARE Ultralight		√	√	√	√		√	√④	√④
		MIFARE Ultralight C		√	√	√	√		√	√④	√④
		MIFARE Ultralight EV1		√②	√②	√②	√②		√②	√④	√④
		NFC (NTAG2xx)	√		√	√	√		√		
		SLE44R35		√②	√②	√②	√②		√②		
		SLE66Rxx (my-d move)		√②	√②	√②	√②		√②		
		Topaz			√	√	√		√		
		HID iCLASS SEOS					√②④		√②④		√②④
		NFC(HCE & NTAG2xx)		√	√	√	√		√		
	ISO14443B	Calypso		√②	√②	√②	√②		√②		
		Calypso Innovatron protocol		√②	√②	√②	√②		√②		
		CEPAS		√②	√②	√②	√②		√②		
		CTS			√	√	√		√①④		
		Pico Pass		√①	√④	√④	√④		√④		
		SRI4K, SRIX4K		√	√	√	√		√		
		SRI512, SRT512			√	√	√		√		
	ISO18092/ ECMA-340	Sony FeliCa		√②	√②	√②	√②		√②	√①	√①
	ISO15693	EM4x33		√②	√②	√②	√②		√②		
		EM4x35		√②	√②	√②	√②		√②		
		HID iCLASS		√①	√①	√①	√①④		√①④	√①	√①④
		HID iCLASS SE/ SR/ Elite		√①	√①	√①	√①④		√①④	√①	√①④
		ICODE SLI		√	√	√	√		√		
		LEGIC Advant		√①	√①	√①	√①		√①		
		M24LR16/64		√	√	√	√		√		
		MB89R118/119			√	√	√		√		
		SRF55Vxx (my-d vicinity)		√②	√②	√②	√②		√②		
		Tag-it		√	√	√	√		√		
		Pico Pass		√①	√④	√④	√④		√④		
		LEGIC Prime		√							
		CPU Card									

*To be released

Address: 190 Bluegrass Valley Parkway Alpharetta, GA 30005
Email: sales@armatura.us

Date: 1 Aug 2024
Version Number: Version 1.2

ARMATURA

ARMATURA RFID Card Module Supporting List

ArmaSec-13112023

Frequency	Classification	Card Module Abbreviation	[DF]	[SFMH]	[NO]	[NP]	[NI]	[NPL]	[NIH]	[RNP]	[RNI]
		Compatible Readers	EP10C/ EP20C/ EP20CK/ EP20CQ/ EP20CKQ/ EP20ENC/ EP30 Series	EP10C/ EP20C/ EP20CK/ EP20CQ/ EP20CKQ/ EP20ENC/ EP30 Series/ VG10CKQ*	EP10C/ EP20ENC	EP10C/ EP20ENC	EP10C/EP20CQ/ EP20CKQ/ EP20ENC	EP10C	EP10C	OmniAC20/ OmniAC30/ EP20CQ7/ EP20CKQ7/ VG10CKQ*	OmniAC20/ OmniAC30/ EP20CQ7/ EP20CKQ7/ VG10CKQ*
125kHz		AWID			√	√	√	√			
		Cardax			√	√	√	√			
		CASI-RUSCO			√6)	√6)	√6)	√6)		√	√
		Deister			√6)	√6)	√6)	√6)			
		EM4100, 4102, 4200	√		√7)	√7)	√7)	√7)		√	√
		EM4050, 4150, 4450, 4550			√	√	√	√			
		EM4305			√	√	√	√			
		Ultra Prox			√	√	√	√			
		G-Prox				√6)	√6)	√6)			
		HID DuoProx II (1336)				√	√	√		√1)	√1)
		HID ISO Prox II (1386)				√	√	√		√1)	√1)
		HID Micro Prox II (1391)				√	√	√		√1)	√1)
		HID Prox III (1346)				√	√	√		√1)	√1)
		HID Prox				√	√	√		√1)	√1)
		HID Prox II (1326)				√	√	√		√1)	√1)
		HITAG 1, 2, S			√9)	√9)	√9)	√9)			
		ICT			√8)	√8)	√8)	√8)			
		IDTECK			√	√	√	√			
		Indala				√	√	√			
		ioProx				√	√				
		ISONAS			√	√	√	√			
		Keri			√	√	√	√			
		Mifo			√	√	√	√			
		Nedap			√6)	√6)	√6)	√6)			
		Nexwatch				√	√	√			
		Pyramid			√	√	√	√			
		Q5			√	√	√	√			
		T5557, T5567, T5577			√	√	√	√			
		TITAN (EM4050)			√	√	√	√			
		UNIQUE			√	√	√	√			
		ZODIAC			√	√	√	√			
		Globally Available		Y				Y	Y	Y	Y
	Availability	Globally Available Except for U.S., E.U., Japan, Australia, Canada, U.K., Albania, Iceland, Liechtenstein, Monaco, North Macedonia, Norway, San Marino, Serbia, Switzerland, Turkey, and the United Kingdom	Y		Y	Y	Y				

√) UID only, customization upon request for reading encryption content
1) UID only
2) Read/ write (customisation) enhanced security features on request
3) Read/ write (customisation) in direct chip command mode
4) UID only, read/ write (customisation) on request
5) UID + read/ write (customisation) public area
6) Hash value only
7) Only emulation of 4100, 4102
8) On request
9) Without encryption
10) UID + PAC (CSN & Facility Code), read/ write(customisation) on request
11) In preparation
13) EV2/ EV3 supported as part of the EV1 downward compatibility
14) From FW V4.05
15) 134.2 kHz only
20) PAC (CSN & Facility Code), read/ write (customisation) on request

The final interpretation of this data sheet belongs to Armatura LLC.
All information regarding the card formats supported by the RFID card modules are claimed by the provider(s) of the card modules. Armatura LLC accepts no liability.

Address: 190 Bluegrass Valley Parkway Alpharetta, GA 30005
Email: sales@armatura.us

Date: 1 Aug 2024
Version Number: Version 1.2

6. Installation and Configuration

The EP10 multi-tech smart reader shall be installed and configured in accordance with the following requirements.

- The installation shall be carried out by qualified and experienced personnel in accordance with applicable codes, standards, and regulations.
- The controller shall be configured using the on-board webserver or through software provided by the manufacturer.
- The configuration shall include setting up access levels, user accounts, time schedules, and other relevant parameters.
- The controller shall be tested and commissioned to ensure proper operation and compliance with the specified requirements.

7. Warranty and Support

The EP10 multi-tech smart reader shall be covered by a minimum of 36 months manufacturer's warranty that covers defects in materials and workmanship. The manufacturer shall provide remote technical support and assistance to the installer and end-user during the installation and operation of the controller.

8. Training and Documentation

The manufacturer shall provide the following training and documentation for the EP10 multi-tech smart reader:

- User manuals and technical documentation for installation, configuration, and operation of the controller.
- Online training courses and videos for system administrators and operators.
- On-site or remote training sessions for system integrators and installers.
- Technical support and assistance for system integrators, installers, and end-users.

Address: 190 Bluegrass Valley Parkway Alpharetta, GA 30005
Email: sales@armatura.us

Date: 1 Aug 2024
Version Number: Version 1.2

*Note Certifications may vary by region and country. Please consult the manufacturer for specific certifications applicable to your location.

Address: 190 Bluegrass Valley Parkway Alpharetta, GA 30005
Email: sales@armatura.us

Date: 1 Aug 2024
Version Number: Version 1.2