ARMATURA

OmniAC Series - OmniAC20

All Weather Outdoor Multi-tech Smart Standalone Terminal

- Multi-Biometric technology combining palm and face authentication
- IP66 water & dustproof protection rating
- Slim design & form factor for a modern aesthetic design
- Supports 125 KHz and 13.56 MHz frequency credentials

OSDP **Bluetooth** **NFC**

Slim Design & Installation Made Easy

The devices slim design with its backplate suits most architectural and any flat surface mounting. Slim design & form factor makes this device easy to install. Mounting accessories for speed gates are also available.

IP66 Water & Dustproof Protection Rating

Certified IP66 water & dustproof rating ensures the readers can withstand dust, dirt, sand, and are resistant to strong winds and rain.

Advanced Security

Secure communication: OSDP (V2.0/ 2.2*) over RS-485 communication between the OmniAC20 and access control panels. Using AES-128 encryption standards ensures the highest levels of data protection & security.

Supports Multi-Card Types

Supports 125 KHz and 13.56 MHz frequency credentials and both mobile NFC and Bluetooth (Low Energy). Supports various card types including EM, IC Card, HID Prox, HID iCLASS, DESFire and FeliCa.

Multi-Factor Authentication Capability

Offering credential options of palm, face, physical cards and QR codes.
*IC Card, Desfire, HID Prox, iClass, SEOS, etc.
*Integrate advanced multiple biometric authentication methods such as palm and face.
*QR code scanning for visitors & employees.
*PIN code option.

Video Intercom

The OmniAC30 supports standard SIP V2.0 protocol, making it suitable for a wide range of visitor scenarios. With two-way audio streaming and advanced echo and noise cancellation, communication with visitors is a breeze.

Tap-To-Wake

The function enables activation of face authentication camera upon detection of face, in case always-on face authentication is not needed, which reduces the heat generated by the always-on face authentication of the camera for better protection and performance of the device.

Modern Aesthetic Design

The build of the OmniAC20 blends a high quality metal enclosure with a tempered glass panel. The elegant design fits perfectly into any usage scenario and its sleek design brings a practical and reliable experience to users.

Industry-Leading Design and User Experience

The OmniAC20 provides an improved user experience with a 2.4" high resolution touchscreen screen and intuitive UI design. Using our advanced algorithms, users can get the best verification experience.
Palm authentication distance range: 7" - 15.7" (18cm-40cm)
Face authentication distance range: 15.7"- 47.2" (40cm-120cm)

Power & Voltage

The device is compatible with 12V-24V input voltages.

Outdoor Rated for Variable Environments

IP66 Weatherproof rating - built to withstand freezing cold winters, heavy rains and dry/hot summers.
14°F -113°F (-10°C to 45°C) operating temperature enables operation even under the most severe weather conditions.

Unrivaled Palm and Face Authentication Performance

ARMATURA's Multi-Biometric technology combines palm and face authentication with our unique deep learning algorithm to give users an efficient authentication experience.
Industry-leading combination of visible and NIR infrared authentication technology provides exceptional authentication accuracy and the industry's top-notch anti-spoofing protection.

Touchless Solution for New standards of the Post-pandemic World

The OmniAC20 meets the needs of the contactless world with features like remote user enrollment, palm, mask detection and face authentication for users with or without masks. Our Palm/ Face/ Card/ QR code authentication technology supports contactless authentication.

Better Images, Faster Authentication

This device supports palm/ face tracking, which can more intelligently capture the user's biometrics and avoid the user's biometric from continuing to be compared after verifying. At the same time, the palm/ face Automatic Exposure function enables the device to obtain higher quality images which improves the authentication accuracy.

Dimensions

2.3"/ 58.47mm

7.3"/ 184.97mm

General Information	
Primary Power	DC 12V@3A-24V@1.5A, Power Max. 10W
RS-485 connection	RS-485 standard / OSDP V2.0/ 2.2*
CPU	1.2 GHz Quad Core ARM Processor
NPU	2.4 TOPs NPU
Memory	1GB RAM + 8GB Flash
Camera	Face Automatic Exposure Palm Automatic Exposure Face Tracking Palm Detection 50Hz/60Hz Anti-Flicker Dual Camera RGB Camera: CMOS, 2 MP resolution (Output image 720*960pixels) IR Carmera: Global shutter CMOS, 1.3 MP resolution (Output image 720*960pixels)
Ethernet network connection	10 Base-T/ 100 Base-TX, Auto MDI/ MDIX
Data Protection	Complies with TLS 1.2 for end-to-end secure communication channel (Secured Communication between Standalone Terminal & Server) AES128 (Secured Communication between Standalone Terminal & OSDP Reader & Access Control Panel)
Number of Ports	1*TCP/IP 1*RS-485 4ch TTL Inputs 1ch TTL Output 3 relays
Inputs	Wiegand, Button, Sensor, Aux
Outputs	Wiegand, 3 relays with dry contacts (Lock, Alarm, Bell)
Normally Open Contact Rating	5A @30Vdc resistive
Normally Closed Contact Rating	5A @30Vdc resistive

*Subject to firmware version

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Operating Frequency/ Standard	125KHz 13.56MHz: ISO14443 types A&B, ISO 15693 2.4GHz Bluetooth
Tamper Switch	Magnetic tamper detection system
On-Board Monitor	Size: 2.4", Resolution: 240*320 , Touch Screen, TFT
Audio Indicator	Internal speaker with adjustable intensity (Configurable on UI)
MIC	Supported
Video Phone	Support Standard SIP V2.0
User Capacity	50,000
RFID Card Capacity	50,000 (1:N)/ 50,000 (1:1)
Maximum RFID Card Number Length	Wiegand In & Out (up to 64 bits)
Face Capacity	10,000 (1:N)/ 50,000 (1:1)
Palm Capacity	5,000 (1:N)/ 20,000 (1:1)
RFID Reading Distance	13.56MHz & 125kHz: Up to 1.96"/ 50 mm (depending on environment and transponder)
Face Authentication Distance	15.7" - 55.1" (40cm - 140cm)
Face Authentication Posture Adaptability	Yaw ≤ 30°, Pitch ≤ 30°, Roll ≤45°
Face Authentication Accuracy	True Accept Rate (TAR)=99%@, False Accept Rate(FAR)=0.01%
Face Authentication Mode	1:1, 1:N
Face Authentication Speed	< 100ms (Field Test Result)
Face Authentication Liveness Detection	Yes (Infrared-visible light mode, Infrared Light Mode)
Face Mask Detection	Yes
Palm Authentication Distance	7" -15.7" (18cm - 40cm)
Palm Authentication Posture Adaptability	Yaw ≤ 45°, Pitch ≤ 30°, Roll ≤ 90°, Bend ≤ 30°
Palm Authentication Accuracy	True Accept Rate(TAR)=98.7%@, False Accept Rate(FAR)=0.01%
Palm Authentication Mode	1:1, 1:N
Palm Authentication Speed	< 140ms (Field Test Result)
Palm Authentication Liveness Detection	Yes (Infrared Light Mode)
Recommend Installation Height	55" (140cm) (Using the plate with tilt angle) 59" (150cm) (Plate with horizontal angle)
Transaction Buffer	Records: 1,000,000
Access group	99
On-Board Access Point Control	1 access point on board
On-Board Reader Support	1 (OSDP over RS-485) or 1 (Wiegand Input)
Protection / Resistance	Weather & Dust Proof Protection Rating compliant with IP66

*Subject to firmware version

RFID / Biometrics Reader Interface

Input Voltage	DC12V@3A (Equal to primary power input)
Maximum Input Current	DC12V@3A (Equal to primary power input)
RS-485 Protocol	OSDP V2.0/ 2.2* Secure Channel, AES-128
OSDP Mode	9600-115200 bps, OSDP V2.0/ 2.2*, asynchronous, half-duplex, 1 start bit, 8 data bits, and 1 stop bit.
Wiegand	Wiegand In & Out (Up to 64 bits)
Data Inputs	TCP/IP, RS-485, OSDP and Wiegand standards supported. Maximum RS-485/ OSDP cable length: 1970ft (600m) Maximum Wiegand cable length: 164ft (60m)

*Subject to firmware version

Cable Requirement

Power & Relays	Twisted pair, 18 to 16 AWG
Ethernet	CAT-5E, Wire diameter (24AWG), maximum 330 ft. (100m)
RS-485 Reader Port	9600-115200 bps, asynchronous, half-duplex, 1 start bit, 8 data bits, and 1 stop bit. One twisted pair with drain wire and shield, 120 ohm impedance, 22-18 AWG, Maximum cable length: 1970ft (600m)
Wiegand Port	20 AWG shielded, 164ft (60m)

Mechanical

Dimensions	2.3" W x 0.77" D x 7.3" H (58.47 x 19.5x 184.97mm)
Weight	11.53oz (327g)
Mounting	Suited for mullion-mount door installations or any flat surface mounting Supports rots-02 bracket
Housing Material	Aluminum alloy + Tempered glass

Environmental	
Operating Temperature	14°F -113°F (-10°C to 45°C)
Storage Temperature	-4°F -140°F (-20°C to 60°C)
Operating Humidity	0 - 90% RH (Non-condensing)
Certification(s)	CE, FCC, MIC, RoHS

Software Interface	
TCP/IP Mode	10 Base-T/ 100 Base-TX, Auto MDI/ MDIX
TCP/IP Protocol	VLAN, SSH, HTTP, IPv4, DNS
TCP/IP Encryption	Complied up to TLS1.2 end to end secure communication channel
TCP/IP Communication	Push Protocol over HTTP, HTTPS
Supported Software	Armatura One Security System

ARMATURA RFID Card Module Supporting List

ArmaSec-05202024

Frequency	Classification	Card Module Abbreviation / Compatible Readers	[DF]	[SFMH]	[NO]	[NP]	[NI]	[NPL]	[NIH]	[RNP]	[RNI]	[RNIB]	[RNPB]
			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/ EP20CQ*/ EP20CKQ*/ VG10CKQ*	OmniAC20/ OmniAC30/ EP20CQ*/ EP20CKQ*/ VG10CKQ*	OmniAC20/ OmniAC30	OmniAC20/ OmniAC30
13.56MHz	ISO14443A	LEGIC Advant		√	√1)	√1)	√1)		√1)				
		MIFARE Classic, Mini S50,S70	√4)	√	√	√	√		√	√4)	√4)	√4)	√4)
		MIFARE Classic EV1	√4)	√2)	√2)	√2)	√2)		√2)	√4)	√4)	√4)	√4)
		MIFARE DESFire Light		√8)	√8)	√8)	√8)		√8)	√4)	√4)	√4)	√4)
		MIFARE DESFire EV1	√4)	√	√	√	√		√	√4)	√4)	√4)	√4)
		MIFARE DESFire EV2/ EV3	√4)	√13)	√13)	√13)	√13)		√13)	√4)	√4)	√4)	√4)
		MIFARE Plus S, X		√	√	√	√		√	√4)	√4)	√4)	√4)
		MIFARE Smart MX		√3)	√3)	√3)	√3)		√3)	√4)	√4)	√4)	√4)
		MIFARE Ultralight		√	√	√	√		√	√4)	√4)	√4)	√4)
		MIFARE Ultralight C		√	√	√	√		√	√4)	√4)	√4)	√4)
		MIFARE Ultralight EV1		√2)	√2)	√2)	√2)		√2)	√4)	√4)	√4)	√4)
		NFC (NTAG2xx)	√		√	√	√		√				
		SLE44R35		√3)	√3)	√3)	√3)		√3)				
		SLE66Rxx (my-d move)		√3)	√3)	√3)	√3)		√3)				
		Topaz			√	√	√		√				
		HID iCLASS SEOS					√20)		√20)		√20)	√20)	
		NFC(HCE & NTAG2xx)		√	√	√	√		√				
	ISO14443B	Calypso		√3)	√3)	√3)	√3)		√3)				
		Calypso Innovatron protocol		√3)	√3)	√3)	√3)		√3)				
		CEPAS		√3)	√3)	√3)	√3)		√3)				
		CTS			√	√	√		√10)				
		Pico Pass		√1)	√4)	√4)	√4)		√4)				
		SRI4K, SRIX4K		√	√	√	√		√				
		SRI512, SRT512			√	√	√		√				
	ISO18092/ ECMA-340	Sony FeliCa		√5)	√5)	√5)	√5)		√5)	√1)	√1)	√1)	√1)
	ISO15693	EM4x33		√3)	√3)	√3)	√3)		√3)				
		EM4x35		√3)	√3)	√3)	√3)		√3)				
		HID iCLASS		√1)	√1)	√1)	√10)		√10)	√1)	√10)	√10)	√1)
		HID iCLASS SE/ SR/ Elite		√1)	√1)	√1)	√10)		√10)	√1)	√10)	√10)	√1)
		iCODE SLI		√	√	√	√		√				
		LEGIC Advant		√1)	√1)	√1)	√1)		√1)				
		M24LR16/64		√	√	√	√		√				
		MB89R118/119		√	√	√	√		√				
		SRF55Vxx (my-d vicinity)		√3)	√3)	√3)	√3)		√3)				
		Tag-it		√	√	√	√		√				
		Pico Pass		√1)	√4)	√4)	√4)		√4)				
		LEGIC Prime		√									
		CPU Card											

*To be released

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Frequency	Classification	Card Module Abbreviation / Compatible Readers	[DF]	[SFMH]	[NO]	[NP]	[NI]	[NPL]	[NIH]	[RNP]	[RNI]	[RNIB]	[RNPB]
		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/ EP20CQ*/ EP20CKQ*/ VG10CKQ*	OmniAC20/ OmniAC30/ EP20CQ*/ EP20CKQ*/ VG10CKQ*	OmniAC20/ OmniAC30	OmniAC20/ OmniAC30
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)	√1)	√1)
		HID ISO Prox II (1386)				√	√	√		√1)	√1)	√1)	√1)
		HID Micro Prox II (1391)				√	√	√		√1)	√1)	√1)	√1)
		HID Prox III (1346)				√	√	√		√1)	√1)	√1)	√1)
		HID Prox				√	√	√		√1)	√1)	√1)	√1)
		HID Prox II (1326)				√	√	√		√1)	√1)	√1)	√1)
		HITAG 1, 2, S			√9)	√9)	√9)	√9)					
		ICT			√8)	√8)	√8)	√8)					
		IDTECK			√	√	√	√					
		Indala				√	√	√					
		ioProx				√	√						
		ISONAS			√	√	√	√					
		Keri			√	√	√	√					
		Miro			√	√	√	√					
		Nedap			√6)	√6)	√6)	√6)					
		Nexwatch				√	√	√					
		Pyramid			√	√	√	√					
		Q5			√	√	√	√					
		T5557, T5567, T5577			√	√	√	√					
		TITAN (EM4050)			√	√	√	√					
		UNIQUE			√	√	√	√					
		ZODIAC			√	√	√	√					
2.4GHz		BLE										Y*	Y*
		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 RNIB/ RNPB version is for devices that don't have built-in Bluetooth support. If the device already has Bluetooth Low Energy (BLE) built-in, then you don't need to use the RNIB/RNPB version.

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.

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