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Laboratoire de Moirans
Z.I. Centr'Alp
170, Rue de Chatagnon
38430 MOIRANS - FRANCE

GENERAL INFORMATION

FCCID: ZBW-MPHAC004A

1.1. Product description



MorphoWave™ Compact
BY IDEMIA

Frictionless access everywhere

Public Security

MorphoWave™ Compact by IDEMIA is the newest addition to IDEMIA's range of readers for frictionless biometric access control. This masterpiece of engineering delivers the award-winning, field-proven performance of MorphoWave™ contactless 3D fingerprint technology in a stylish and compact wall-mounted device, suitable for any location.

CONVENIENCE & SECURITY

Users are positively identified with a simple wave of the hand. The patented touchless sensor technology scans 4 fingers in 3D, ensuring the most accurate and reliable fingerprint matching for maximum security.

HIGH THROUGHPUT

The reader's high speed, touchless acquisition capability allows users to remain in motion while being identified. Faster access control and time & attendance transactions reduce overall costs and increase employee productivity.

VERSATILE, EASY DEPLOYMENT

IP65 rated and PoE+ powered, the compact wall-mount reader ensures that MorphoWave™ technology can be deployed at every location. MorphoWave™ Compact is already integrated with more than 25 of the industry's leading access control systems.

MULTIFACTOR AUTHENTICATION

MorphoWave™ Compact natively supports Prox, iClass, MIFARE, DESFire cards and PIN code, in addition to biometrics. It is also capable of scanning QR codes for visitor management.



WHY IDEMIA?

With more than 40 years of experience in biometrics and over 4 billion fingerprints managed worldwide, IDEMIA is the undisputed leader in biometric security systems. Our algorithms - consistently ranked #1 by NIST - and sensor technologies, combined with our end-product design and manufacturing expertise, make us the partner of choice for the most prestigious organizations. IDEMIA solutions, encompassing contact and contactless fingerprint, hybrid vein/print and facial recognition readers, have been deployed in more industries and tougher environments than any other vendor's solutions.





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THE MOST PROVEN TOUCHLESS FINGERPRINT TECHNOLOGY...

MorphoWave™ touchless 3D fingerprint technology is designed for the real world.



- Captures and matches 4 fingers on either right or left hand, in any direction
- Immune to environmental factors (external light, dust)
- Copes with wet and dry fingers
- No latent prints left on scanner
- Mitigates hygiene concerns

The award-winning MorphoWave™ technology has become the benchmark in frictionless access, securing high traffic access points in the world's largest financial institutions, critical infrastructure facilities, universities and healthcare organizations.



Works seamlessly with MorphoWave™ Tower

MorphoWave™ Compact represents an 86% reduction in size and 93% reduction in weight compared with MorphoWave™ Tower, making it usable at every door and not only in high traffic lobbies.

The two products complement each other perfectly and work seamlessly together to secure any capacity or throughput requirements, even those of the largest global organizations.



...NOW AVAILABLE IN A COMPACT, FULL-FEATURED ACCESS & TIME TERMINAL



Anti-fraud features

- Fake finger detection
- Timed anti-pass back function⁽¹⁾
- Banned/authorized user lists
- Tamper switches



Time & attendance functions

- Touchscreen time clock, featuring 16 programmable function keys
- Access time slots and holiday scheduling
- Real-time employee notifications
- Job code management



Flexible architecture

- 1:N identification or multifactor authentication with Prox, iClass, MIFARE, DESFire cards and PIN code
- Software integration options:
 - Thrift commands (low protocol level)
 - MACI component (SDK level)
 - MorphoManager (application level)



For real world deployments

- IP65 rated design⁽²⁾
- Multiple interfaces including TCP/IP
- Power over Ethernet (PoE+)
- Wi-Fi and 4G options
- Ingenious, symmetrical opening mechanism enables easy wall-mounting and in-place maintenance

Technical specifications

- **CPU:** Nvidia ARM Cortex-A15 Quad-Core 2.1GHz
- **4.3" WVGA color capacitive touchscreen**
- **Loudspeaker & microphone**
Intercom function
- **Audio & video player**
- **Touchless fingerprint sensor**
Hand presence detection
QR code scanning capability⁽³⁾
- **Contactless reader options:**
Prox, iClass, MIFARE/DESFire
- **Tamper switches**

- **Internal storage capacity:** 16GB Flash, 2GB RAM
 - 20,000 user records (2*4 fingers each) for 1:N identification, extendable to 40,000 with licenses⁽⁴⁾
 - 250,000 IDs in authorized user list
 - 1 Million transaction logs
- **Network/Communication:**
 - Ethernet, RS485, RS422, USB
 - Wi-Fi and 4G options
- **Inputs/outputs:**
Wiegand In & Out (customizable up to 512 bits), Door Relay, 3 GPI (including Door monitoring), 3 GPO

- **Power supply:**
12 to 24 V DC (2.5A min @12V)
Power over Ethernet with PoE+ switches
- **Operating conditions:**
 - Temperature: -10°C to 55°C (14°F to 131°F)
 - Humidity: 10% to 95% (non condensing)
- **Ingress protection:** IP65⁽²⁾
- **HxWxD** = 250*152*216 mm (9.9*6*8.5 in.)
- **Weight:** 2.2 kg (4.85 lb.)
- **EMC/Safety standards:** CE, CB, FCC
- **RoHS, REACH and WEEE compliant**

⁽¹⁾ Prevents repeated authorizations by the same user, within a configurable time period
⁽²⁾ Recommendation for outdoor installation: avoid direct exposure of sensor to rain (e.g., place under a canopy)

⁽³⁾ Specifications available on demand
⁽⁴⁾ Contact your local representative in case of higher user database size requirements



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1.2. Tested System Details



Inputs/outputs - Cable:

Access	Type	Length used (m)	Declared <3m	Shielded	Under test	Comments
POE	COMMET model : CNGE11P RJ45	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	100-240V~ 50/60Hz
AC/DC Power supply	FRIWO model : FW7362/12	1.8	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Input: 100-240V~ 50-60Hz Output: 12Vdc 2.5A
DC Power supply	12Vdc	1.8	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-
Ethernet	RJ45	10	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Between POE and EUT when powered through POE or Between EUT and Laptop when powered through DC power supply.

Auxiliary equipment used during test:

Type	Reference	Sn	Comments
LapTop	LENOVO L460	-	Not under test / just to send ping command



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Equipment information:

Type:	<input checked="" type="checkbox"/> RFID		
Frequency band:	[13.553 to 13.567] MHz		
Number of Channel:	1		
Antenna Type:	<input checked="" type="checkbox"/> Integral	<input type="checkbox"/> External	<input type="checkbox"/> Dedicated
Transmit chains:	1		
Receiver chains:	1		
Type of equipment:	<input checked="" type="checkbox"/> Stand-alone	<input type="checkbox"/> Plug-in	<input type="checkbox"/> Combined
Equipment type:	<input type="checkbox"/> Production model		<input checked="" type="checkbox"/> Pre-production model
Operating temperature range:	Tmin:	<input checked="" type="checkbox"/> -20°C	<input type="checkbox"/> 0°C
	Tnom:	20°C	
	Tmax:	<input type="checkbox"/> 35°C	<input type="checkbox"/> 50°C
		<input checked="" type="checkbox"/> 55°C	
Type of power source:	<input type="checkbox"/> AC power supply	<input checked="" type="checkbox"/> DC power supply	<input type="checkbox"/> Battery
Operating voltage range DC:	Vmin:	<input type="checkbox"/> 102V/60Hz	<input checked="" type="checkbox"/> 9Vdc
	Vnom:	<input type="checkbox"/> 120V/60Hz	<input checked="" type="checkbox"/> 12Vdc
	Vmax:	<input type="checkbox"/> 138V/60Hz	<input checked="" type="checkbox"/> 27,6Vdc
Operating voltage range POE:	Vmin:	<input type="checkbox"/> 102V/60Hz	<input checked="" type="checkbox"/> 42,5Vdc
	Vnom:	<input type="checkbox"/> 120V/60Hz	<input checked="" type="checkbox"/> 48Vdc
	Vmax:	<input type="checkbox"/> 138V/60Hz	<input checked="" type="checkbox"/> 57Vdc

Modulation Type
ASK 10% / ASK 100%

2.2. EQUIPMENT LABELLING



2.3. EQUIPMENT MODIFICATION

None Modification:



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1.3. Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 or ANSI C63.10, FCC Part 15 Subpart C.

Radiated testing was performed at an antenna to EUT distance of 10 meters. During testing, all equipment's and cables were moved relative to each other in order to identify the worst case set-up.

1.4. Test facility

Tests have been performed **from June 14, 2018 to June 25, 2018**.

This test facility has been fully described in a report and accepted by FCC as compliant with the radiated and AC line conducted test site criteria in ANSI C63.4 and ANSI C63.10 (registration number 94821).

This test facility has also been accredited by COFRAC (French accreditation authority for European Union test lab accreditation organization) according to NF EN ISO/IEC 17025, accreditation number 1-1633 as compliant with test site criteria and competence in 47 CFR Part 15/ANSI C63.4 and EN55022/CISPR22 norms for 89/336/EEC European EMC Directive application. All pertinent data for this test facility remains unchanged.