Deployment Environments

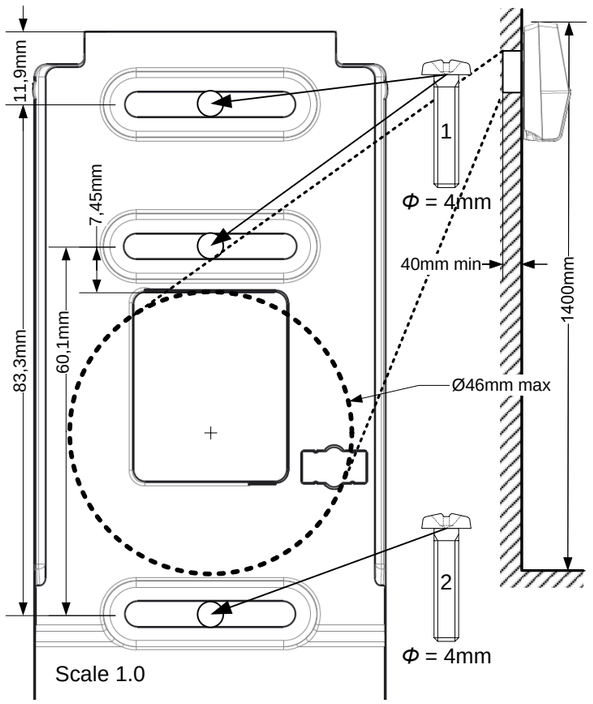
Operating temperature	-10° to + 55 °C (14°to 131°F)
Operating humidity	10 % < RH < 80 % (non condensing)
Storage temperature	- 25° to + 70 °C (-13° to 158°F)
Storage humidity	5% < RH < 95 %
IP code	IP65 rated, once backdoor fixed with the 4 screws For UL 294 compliance, the products are rated for indoor use

General precautions
- Do not expose the terminal to extreme temperatures.
- When the environment is very dry, avoid synthetic carpeting near the MorphoAccess® SIGMA Lite terminal, to reduce the risk of unwanted electrostatic discharge.

Areas containing combustibles
- Do not install the terminal in the vicinity of gas stations or any other installation containing flammable or combustible gases or materials. The terminal is not designed to be intrinsically safe.

The terminal should be installed in controlled lighting conditions
- Avoid biometric sensor exposure to a blinking light.
- Avoid direct exposure of the biometric sensor to sunlight or to UV lights.

Outdoor installations recommendations
- Outdoor devices shall not encounter extreme weather such as torrential rains, harvest rains, flooding.
- High humidity, direct sun exposure, frequent high temperature, outdoor careless uses may alter the durability of the terminal.
- When the terminal is exposed to such potential extreme conditions, IDEMIA recommends deploying an enclosure to protect the terminal and thus ensure a long-lasting performance in the field.



Recommendations

The manufacturer cannot be held responsible in case of non-compliance with the following recommendations or incorrect use of the terminal.

Repair and Accessories
- Do not attempt to repair the MorphoAccess® SIGMA Lite Series terminal yourself. The manufacturer cannot be held responsible for any damage/accident that may result from attempts to repair components. Any work carried out by non-authorized personnel will void your warranty.
- Only use the terminal with its original accessories. Attempts to use unapproved accessories with your terminal will void your warranty.

Date / Time synchronization
- The MorphoAccess® SIGMA Lite Series terminal clock has a +/- 10 ppm typical time deviation at +25ºC (roughly +/- 3sec per day). At lower and higher temperature, deviation may be greater (maximum : 7sec per day).
- When the terminal is used for applications requiring high time precision, it is strongly recommended to synchronize the terminal with an external clock.

Firmware release
- To get the best of our technology, we recommend you to download and install the last firmware release. Please check our website.

Overvoltage
- IDEMIA recommends the Biometric devices to be protected with an external accessory in order to avoid overvoltage on input wires or connectors of the device. Typically, risks of overvoltage have been identified on external power management wire, POE connector and wiegand input wire.

WARNING: Cleaning & Disinfection precautions

To clean the terminal, a dry cloth is recommended, especially the biometric sensor.

To disinfect the terminal, moisten a non-abrasive wipe with the disinfectant Windex® Multi-Surface (or similar product containing L-Lactic acid) or hydrogen peroxide (<3%) and wipe the device's surface and leave the surface wet with disinfectant for at least 5 minutes. Any other practices (bleach, chlorine, soda, alcohol, quaternary ammonium etc) permanently damage and/or negatively impact the performances of the device**.**

Technical Support and Hotline

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Detailed instructions are available at
Des instructions détaillées sont disponibles sur
El detalle de las instrucciones está disponible en

https://biometricdevices.idemia.com

Sh@rePa by IDEMIA

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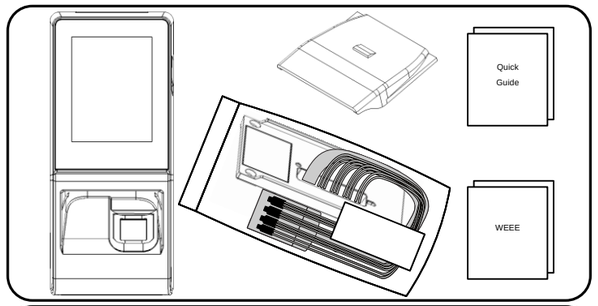
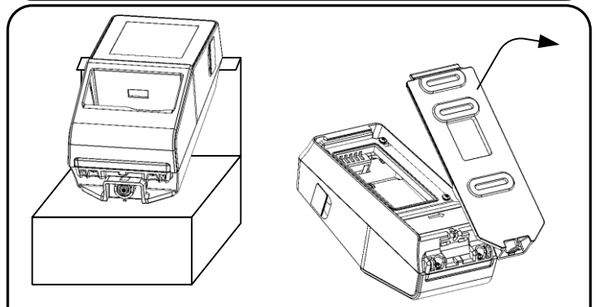
MorphoAccess® SIGMA Lite Series

Quick Installation Guide





The units are to be installed in accordance to the local authority having jurisdiction, National Electrical Code (ANSI/NFPA 70), and the manufactures installation instructions.

IDEMIA

Regulatory, safety and environmental notices

Products bearing the CE marking comply with one or more of the following EU Directives as may be applicable:
- EMC Directive 2014/30/EU.
- RED Directive 2014/53/EU.
- ROHS Directive 2011/65/EU.
- ECODESIGN Directive 2009/125/EC.

Compliance with these directives is assessed using applicable European Harmonised Standards.

This symbol means Direct Current (DC)

The installation of this product should be made by a qualified service Person and should comply with all local regulations.

It is strongly recommended to use a class II power supply at 12VDC 1A minimum or at 24VDC 500mA minimum in conformity with Safety Electrical Low Voltage (SELV). The power supply cable length should not exceed 10 meters.

This system must be installed in accordance with the National Electrical Code (NFPA 70), and the local authority having jurisdiction.

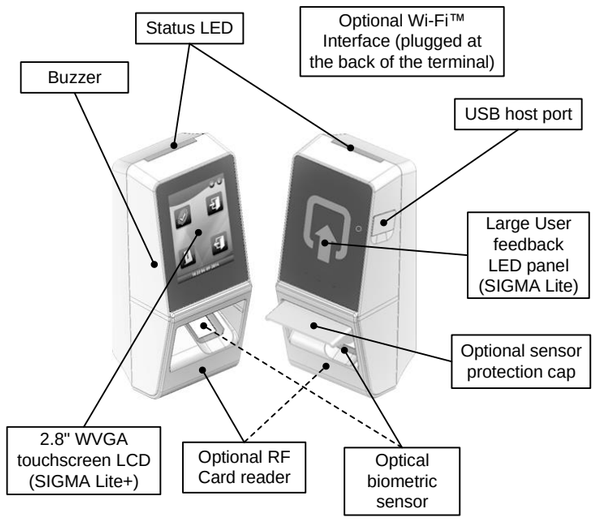
This product is intended to be installed with a power supply complying with IEC60950-1, in accordance with the NEC Class 2 requirements; or supplied by a listed IEC60950-1 external Power Unit marked Class 2, Limited Power source, or LPS and rated 12VDC, 1A minimum or 24VDC, 0,5A minimum.

For UL 294 Compliance, power supply must be UL294B or UL 294 Listed Class 2 with a power limited output.

In case of building-to-building connection (power source in a building, and terminal in another building), it is recommended to connect the 0V of the power supply to the earthing system of the building. And the terminal block Power Ground must be connected with the earthing system of the other building.

Note that all connections of the MorphoAccess® SIGMA Lite Series terminal described hereafter are of SELV (Safety Electrical Low Voltage) type.

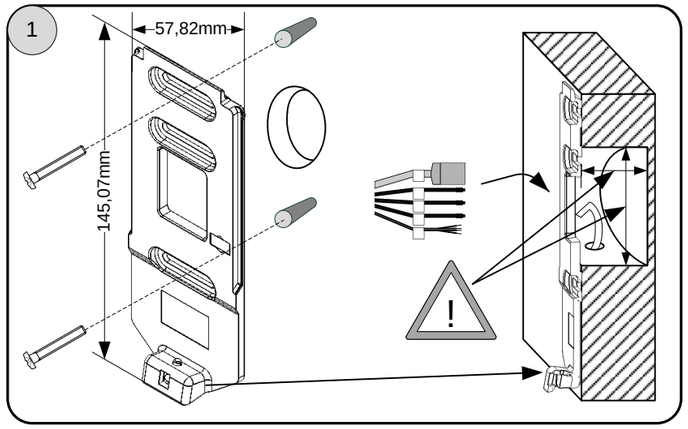
This symbol means do not dispose of your product with your other household waste. Instead, you should protect human health and the environment by handing over your waste equipment to a designated collection point for the recycling of waste electrical and electronic equipment.

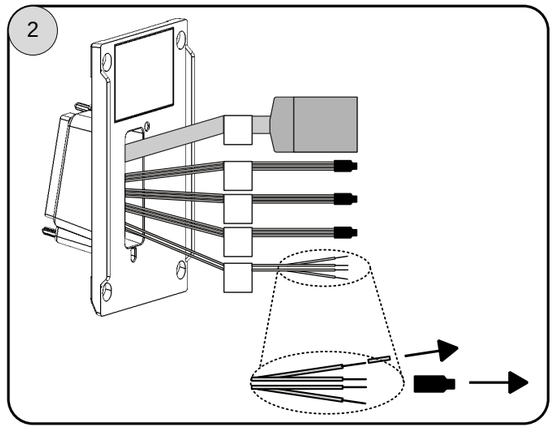


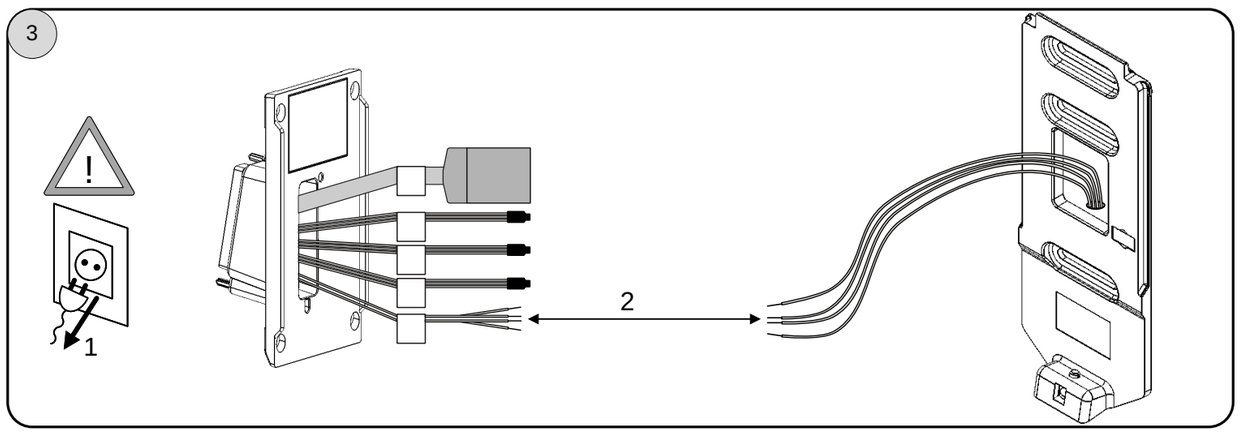
Models:

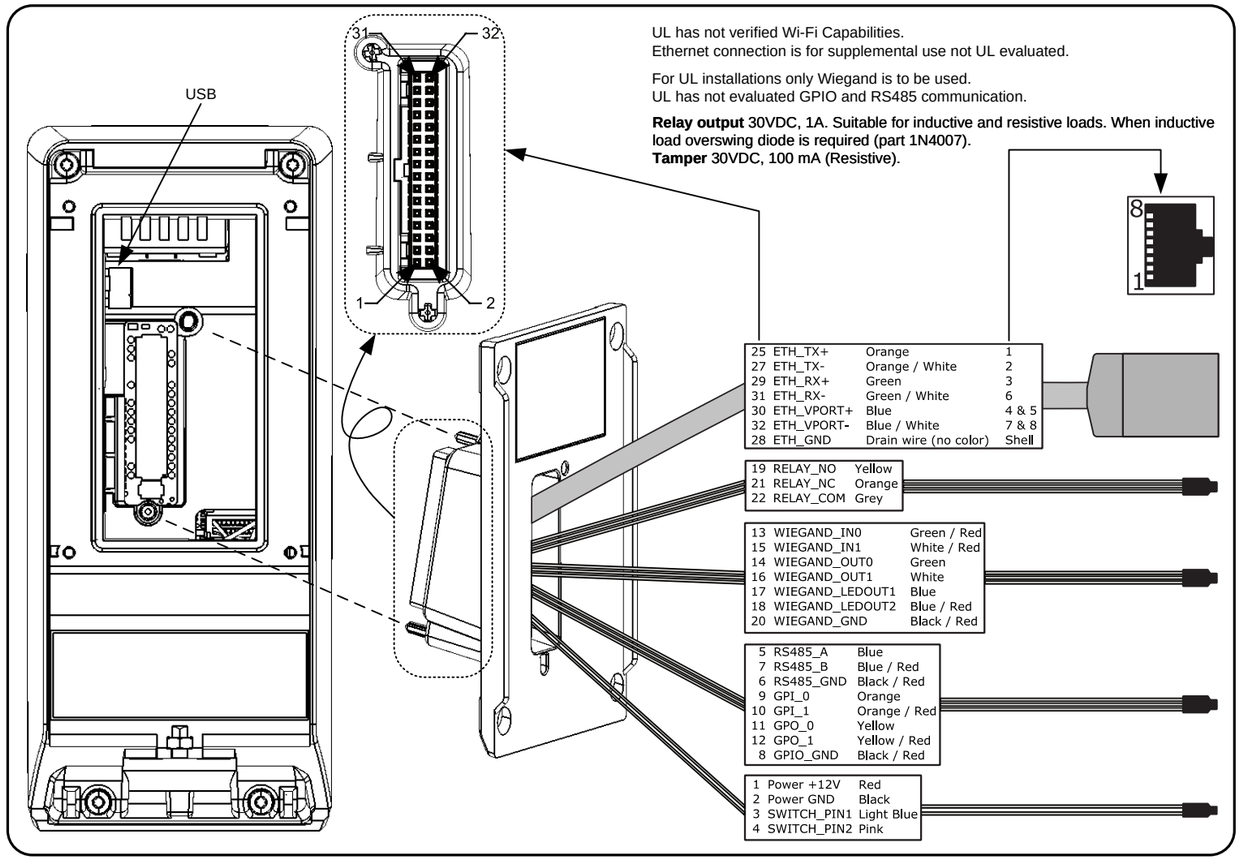
MorphoAccess® Sigma Lite	(MPH-AC001C)
MorphoAccess® Sigma Lite iClass	(MPH-AC001B)
MorphoAccess® Sigma Lite Multi	(MPH-AC001B)
MorphoAccess® Sigma Lite Prox	(MPH-AC001A)
MorphoAccess® Sigma Lite+	(MPH-AC001C)
MorphoAccess® Sigma Lite+ iClass	(MPH-AC001B)
MorphoAccess® Sigma Lite+ Multi	(MPH-AC001B)
MorphoAccess® Sigma Lite+ Prox	(MPH-AC001A)

UL294 Performance levels				
Access Control Line Security	Destructive Attack	Endurance	Stand-by Power	Conditions
Level I	Level I	Level IV	Level I	NA





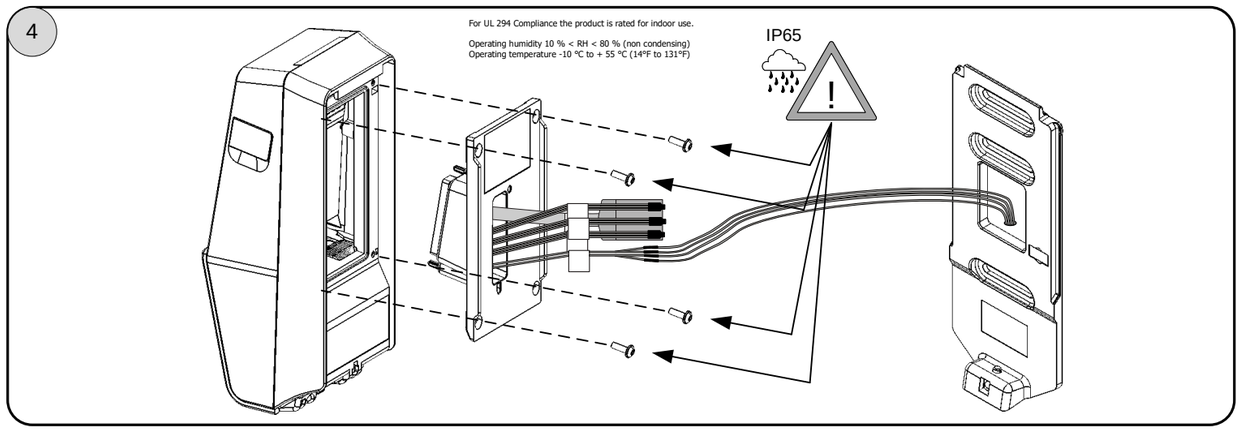


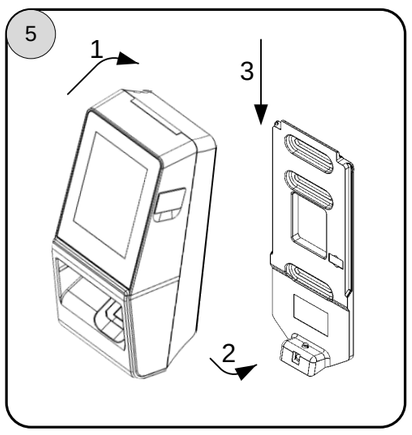


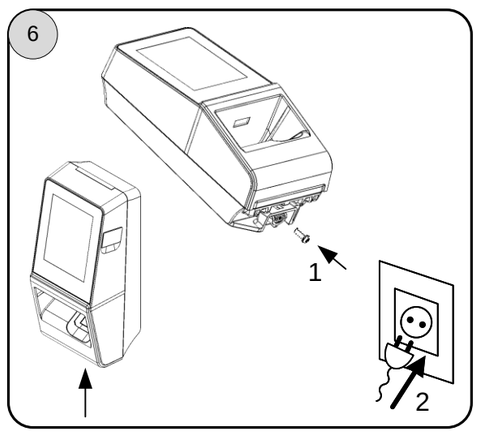
UL has not verified Wi-Fi Capabilities.
Ethernet connection is for supplemental use not UL evaluated.

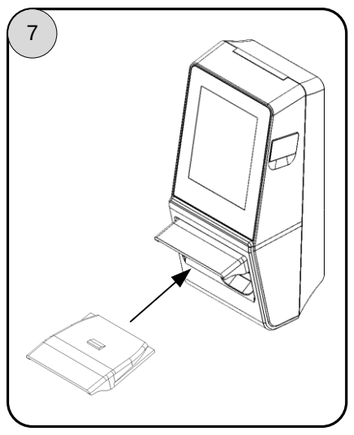
For UL installations only Wiegand is to be used.
UL has not evaluated GPIO and RS485 communication.

Relay output 30VDC, 1A. Suitable for inductive and resistive loads. When inductive load overswing diode is required (part 1N4007).
Tamper 30VDC, 100 mA (Resistive).









Power Supply

WARNING: Power Supply from electrical source shall be switched off before starting the installation.

Before proceeding, make sure that the person in charge of installation and connections, is properly connected to earth, in order to prevent Electrostatic Discharges (ESD).

External Power supply: 12/24 VDC (regulated and filtered) 1A min @12VDC or 500mA min @24VDC, IEC 60950-1 standard compliant. A 12 Volts power supply compliant with SIA's Wiegand standard will also be suitable. If sharing power between devices, each unit must receive 1A (e.g. two units would require a 12 VDC, 2A supply).
For UL compliance the units shall be powered via a class 2 output from a UL 294 power supply.
A battery backup or uninterrupted power supply (UPS) with built-in surge protection is recommended.

Power Over Ethernet (POE): power can be provided through RJ-45 connector using a PSE (Power Sourcing Equipment) **IEEE802.3af or IEEE802.3at type 1** compliant.
For UL compliance the units shall be powered via a UL 294B PSE power supply.
The terminal is a Class 0 (15.4 W) PD (Powered Device).

IDEMIA recommends using a Gauge AWG20 for 12V power supply.
The voltage measured on the product block connector of the terminal must be equal to 12V-24V (-15% / +10%).
The voltage drop due to the cable shall be taken into account. The table below shows the maximum voltage drop between the power source and the terminal, depending on the length of the cable.

Gauge AWG	Diameter (mm)	Maximum drop voltage (V)		
		at 1m	at 5m	at 10m
20	0.81	0.03	0.17	0.33
22	0.64	0.05	0.26	0.53
24	0.51	0.08	0.42	0.84

WARNING: Under powering may cause memory and data corruption; over powering may cause hardware damage. Both of these situations will void the warranty.