

EF-45M™ Iris Recognition System

Modular version of innovative EF-45 system



APPLICATION

For customized integration into kiosks, ATM's, and similar automated, self-service applications

Product Description

The EF-45M is the modular version of CMITech's next generation dual iris imaging system. It is intended for specialized solution integrators to incorporate high accuracy iris recognition biometrics into a kiosk or similar terminal.

This system's operation is identical to CMITech's EF-45 iris recognition terminal product, which provides unprecedented subject ease of use through a highly innovative and intuitive user positioning approach.

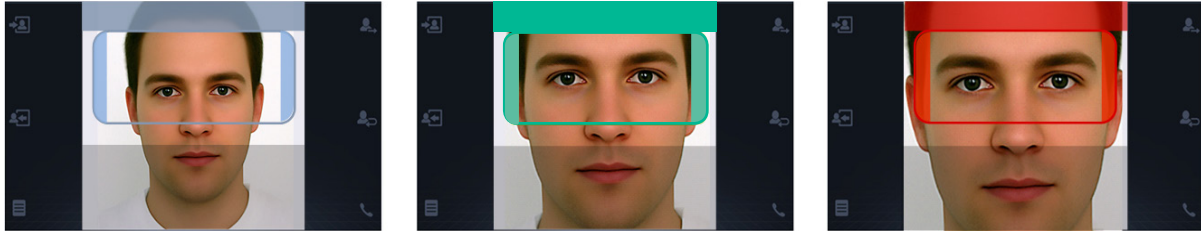
The modular design allows the integrator to utilize the kiosk's display screen to show the user's face image during iris image capture, with all the positioning feedback cues and instructions as in the EF-45 system. In this way, there is only one display on the system, thereby minimizing front surface area usage and improving overall appearance of the kiosk.

Subjects will view their own face in the display to position themselves correctly. Each subject will intuitively and naturally move to the correct position by simply centering and sizing their face image to the positioning box within the display. In addition, this box and a top border turn green to indicate that the subject is within the proper distance range of 35 to 45 cm, after which the iris biometrics images are automatically captured. Now, capturing highest quality iris biometrics images is fast, simple and fully intuitive for all subjects, including non-acclimated ones.

The EF-45M is an embedded system that includes its own ARM mainboard to manage all iris and face imaging processes. The communication options to the host system are TCP/IP via an Ethernet connection or a USB connection.

User Interface

The user interface will be shown at the top of the kiosk's own touch screen display. The EF-45M is connected to the kiosk's local host (Windows PC; Linux on x86 or Linux on ARM) through a LAN (TCP/IP) or USB connection. This user interface display and other device controls are supported by the C++ SDK that is provided by CMITech.



Includes color visual cues for proper distance



MOVE FORWARD
Blue for too far away.

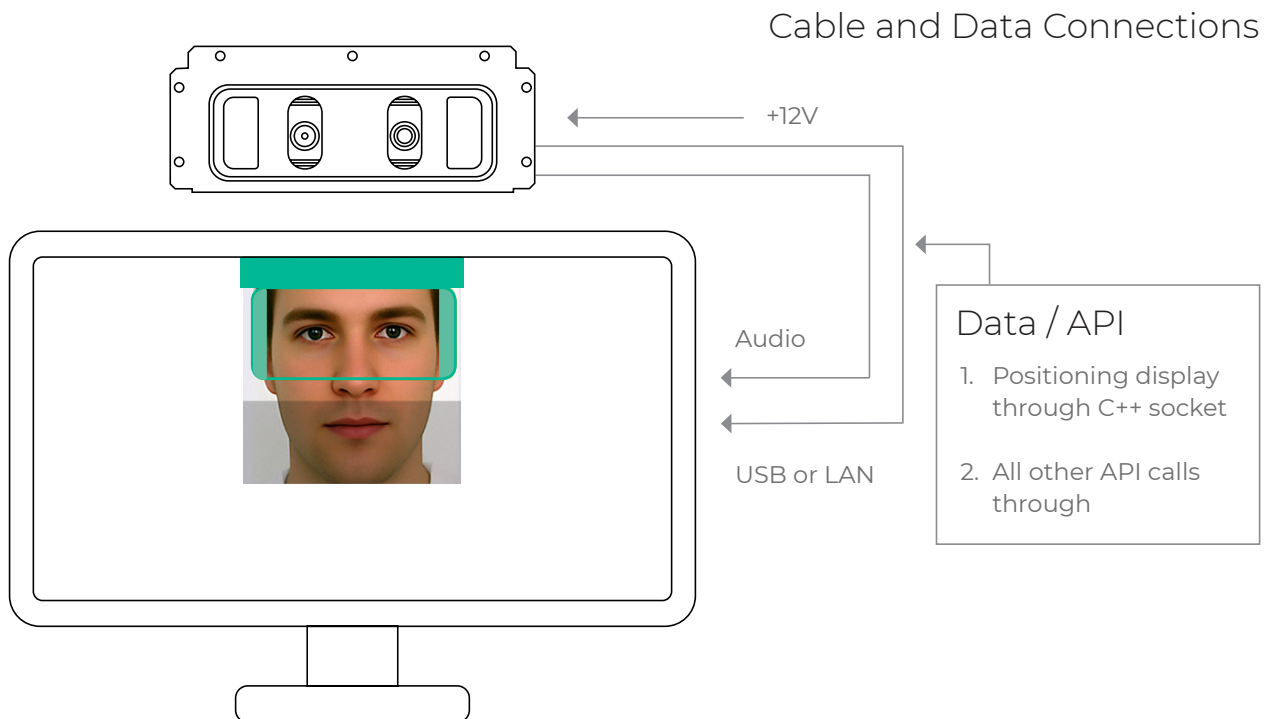


GOOD
Green for OK!



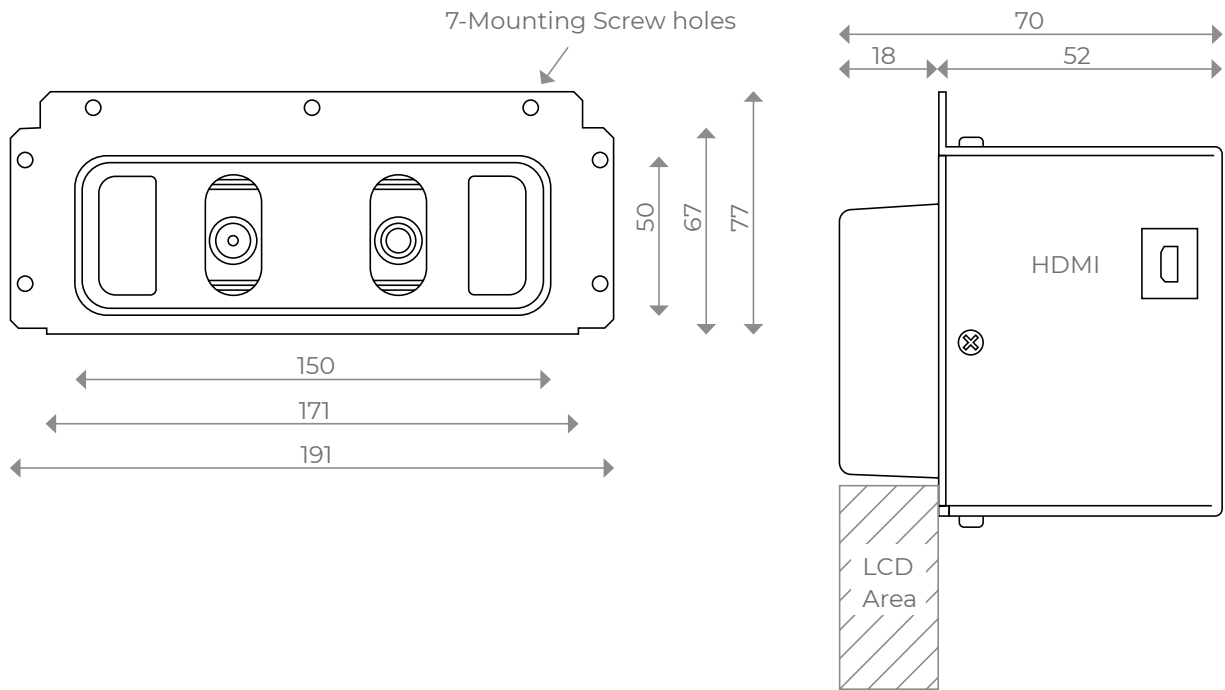
MOVE BACKWARD
Red for too close.

System Diagram



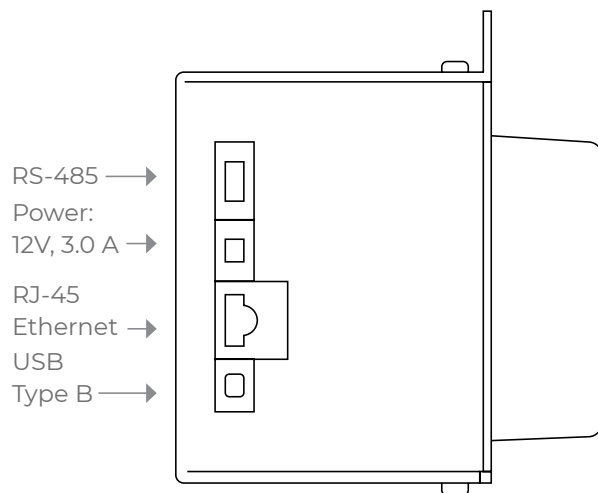
Dimensions

Dimensions of 191 x 77 x 70 mm including mounting front plate.

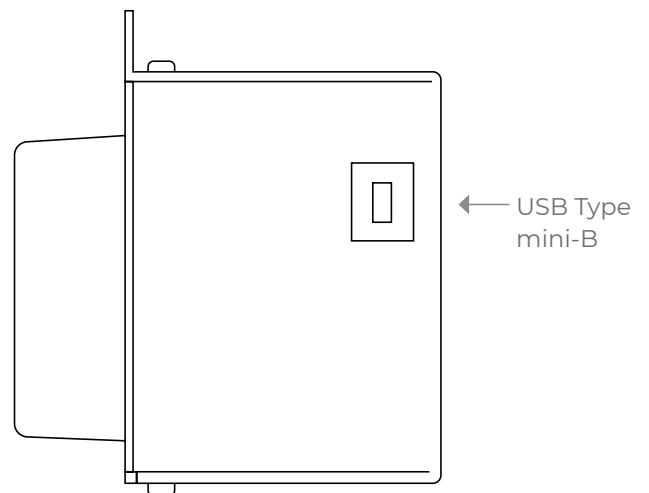


Connectors

Left side as seen from front

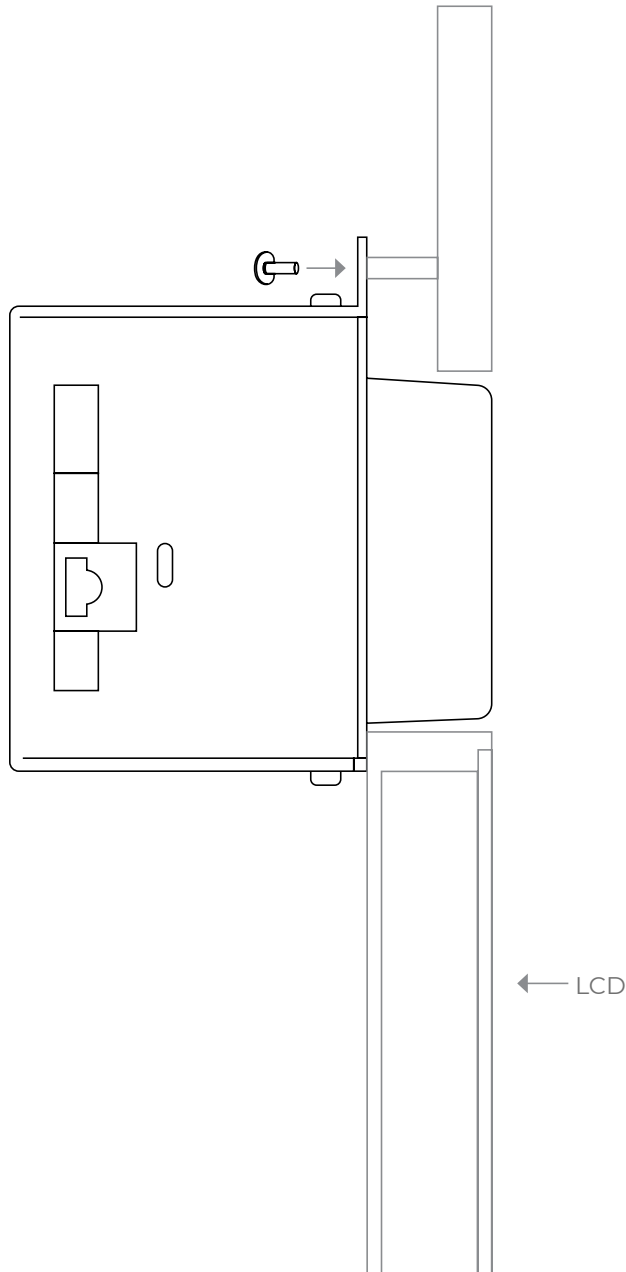


Right side as seen from front



Installation / Mounting Overview

- Install front of EF-45 Module as close to top of kiosk's display as possible.
- Recommended maximum distance from bottom of EF-45 to top of display on front is 2 mm.



Technical Specifications

Embedded CPU	ARM Cortex A9 quad-core processor
Iris on-board algorithm for encoding and matching	Standard: Delta ID Optional: Neurotechnology VeriEye 10.0
Flexible Software Development Kit configurations	C++ High Level SDK is RESTful type SDK that includes EF-45M host side application for LAN or USB connection to on-board EF-45M resident services layer. Requires Windows API development to EF-45M host side application. Reference code included.
Host side compatibility	Windows and Linux on x86 platform. Please contact CMITech for Android support.
Dimensions	191 x 78 x 70 mm (7.5 x 3.1 x 2.8 inches) including mounting plate
Weight	390 g
On-board data storage	Up to 10,000 iris template pairs (useful for 1:N authentication mode) with match speed of under 1.0 seconds.
Iris image output	Meets ISO 29794-6 and 19794-6 2011 standards
Iris image pixel resolution	640 x 480 pixels, 8 bit depth. Output format .bmp
Standard operational iris imaging distance (stand-off range) and depth of field	35 to 45 cm range (10 cm depth of capture range) in enrollment mode.
Iris positioning indicators	Face positioning within box in LCD display for X – Y Face sizing to box within LCD display for distance (Z) positioning with simultaneous color bar display for correct distance positioning: Blue: too far away Green: OK Red: too close Supplemental voice distance feedback standard. Convertible to local language via .wav file substitution.
Auto tilt	Internal: +25 to -20 degree up/down tilt.
Speed of iris image capture	Typically about 0.5 seconds from time subject's eyes are placed within proper capture volume.
IR illumination for iris imaging	Dual wavelength near infrared (NIR) LEDs to conform to ISO best practices for iris imaging.
Face image capture	Standard 24-bit color (for reference image)
Audio	Audio out connector for external speaker
Operating temperature range	0 to 45 °C
Humidity	10 to 90% RH, non-condensing
Illuminator eye safety standard	IEC 62471
Host interface options	10/100 Base-T Ethernet (RJ45 connector) or USB 2.0

Contact

Please Contact Fulcrum Biometrics Southern Africa at sales@fulcrumbiometrics.co.za

for more information about the EF-45M product, CMIRIS Software Development Kits (SDK) and other supporting software.

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