MODI

VISION FOR IDENTIFICATION

LOOK'N SMILE

MODI - BIOMETRIC & FACE ID

TECHNICAL DATA

www.modivision.net

FACEBAR, FACESCREEN AND FACEBRIDGE

MODI Vision invented a smart 3D camera system for image acquisition with a simple and user-friendly software interface for verification and identification processes.

This 3D camera detects the person's face, adjust the position and captures high-quality images that guarantee high verification and identification accuracy. The software instantly requests and verifies the live images against biometric photos stored in a **Database & Matching Server**.

A 3D camera can differentiate between human faces and artifacts like printed images and masks.

FaceBar, **FaceScreen**, and **FaceBridge** systems are made for image acquisition with capturing module for short, medium, and long distance, with a scalable and efficient software interface for biometrical face verification and identification processes.

The **FaceBar**, **FaceScreen**, and **FaceBridge** were designed to be integrated with new or modified systems and can also be considered as an upgrade solution for existing devices like check in kiosks, baggage drops off kiosks or different kind of entrance gates. The **FaceBar**, **FaceScreen**, and **FaceBridge** can be used for commercial and governmental application.

The **FaceBar**, **FaceScreen**, and **FaceBridge** operating software instantly requests and verifies the live images against biometric photos. Biometric templates are stored in a **Database & Matching Server**. The user or client just needs to register his/her face only once. The **Database & Matching Server** will store this data for every registered use or client, so the user or client doesn't need to register again and can use the biometric system directly.

FEATURES AND ADVANTAGES OF THE FACEBAR, FACESCREEN AND FACEBRIDGE

1. Face recognition on the move.
2. A selectable 3D control capturing area to choose the specific screening area.
3. Near infrared technology is being used with integrated smart NIR illumination for more robustness against external light influences.
4. 3D camera with NIR technology detects presentation attacks (printed images, video material, and masks).
5. **MODI** camera technology has cutting-edge camera features that guarantee only the first person in the queue will be chosen. This can be done at a minimum distance of 0.5m which will decrease the walking distance for the user, short queues, less time and more empty space.
6. Flexible design that can be added to an existing or new Kiosks and entrance-gates.
7. Ultrasonic sensor distance control.
8. The motorized camera unit moves into optimal vertical position based on face location in less than 1 second, so it can cover height from 1.3m till 2.2m.
9. Because of the motorized tilting camera unit, **MODI** products are wheelchair compatible.
10. Digital input to connect the camera unit directly with external motion sensors.
11. Digital output to connect the camera unit directly with the entrance gate doors. The camera unit send signals to control the doors movement and timing.
12. Monitor shows live image of the person and displays user transaction except for the **FaceBar**.
13. User-friendly interface for fast and simple integration.
14. Significantly faster passenger processing.
15. Uncompromised fast matching and searching results with low false acceptance rates (FAR) and false rejection rates (FRR)
16. High usability, easy to integrate, unique security, and the operating system is available in multiple languages.

Applications

Existing or new entrance gates and check-in kiosks, Airports, Hotels, Casinos, Hospitals, Banks, Factories, Shopping Malls, Hyper Markets, Sport clubs, Ports, Universities, Companies, Arcades, Schools, Cinemas, Stadiums, etc.

MODI

FACEBAR

FRT 5204 18 001 001

HOUSING

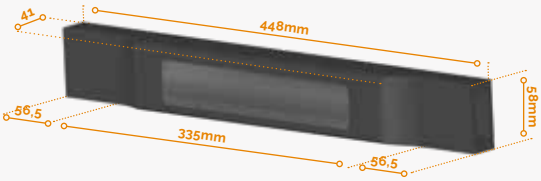
Material	Coated plastics and aluminium housing, color can be selected
Weight	500 g

ENVIRONMENTAL

Operating temperature	0˚C to 45˚ C (32˚F to 113˚F).
Operating humidity	0-80% non-condensing.
Storage temperature	0˚C to 80˚C (-22˚F to 176˚F).
Storage humidity	0-80% non-condensing.
Protection	IP 0

DIGITAL I/O

Digital Out	2 x Relay Out max 30 A
Digital Out	2 x Open Collector NPN max 30 V
Digital In	4 x Opto Isolation 12V – 30V



POWER AND CONNECTION

24VDC +/- 10% 10 A (for the illumination) 5V by USB.
1x USB 2. 1x USB 3.

CERTIFICATIONS

CE, ICAO compliant, NIEM- conformant.

CAMERAS SET

2x Infrared camera: 0,3 MP (640 P x 480 P), 100 frames/sec, and a point beamer.
1x Color camera: 2 MP (1.920 P x 1.080 P), 30 frames/sec, and motorized.

ILLUMINATION

Infrared	2 x 4 LED x 850nm
Visible	2 x 4 LED

CAMERA AND LIGHT TILTING UNIT

Angle	+/- 30˚
Moving time	0.06 sec per 15˚
Accuracy	+/- 2˚

MOOI

FACEBAR (OEM)

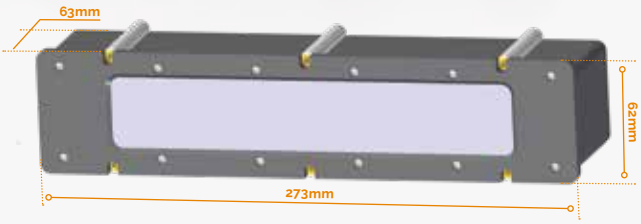
FRT 5204 001 002

HOUSING

Material	Coated plastics and aluminium housing, color can be selected
Weight	450 g

ENVIRONMENTAL

Operating temperature	0°C to 45° C (32°F to 113°F).
Operating humidity	0-80% non-condensing.
Storage temperature	0°C to 80°C (-22°F to 176°F).
Storage humidity	0-80% non-condensing.
Protection	IP 0



DIGITAL I/O

Digital Out	2 x Relay Out max 30 A
Digital Out	2 x Open Collector NPN max 30 V
Digital In	4 x Opto Isolation 12V – 30V

POWER AND CONNECTION

24VDC +/- 10% 10 A (for the illumination) 5V by USB.
1x USB 2. 1x USB 3.

CERTIFICATIONS

CE, ICAO compliant, NIEM- conformant.

CAMERAS SET

2x Infrared camera: 0,3 MP (640 P x 480 P), 100 frames/sec, and a point beamer.
1x Color camera: 2 MP (1.920 P x 1.080 P), 30 frames/sec, and motorized.

ILLUMINATION

Infrared	2 x 4 LED x 850nm
Visible	2 x 4 LED

CAMERA AND LIGHT TILTING UNIT

Angle	+/- 30°
Moving time	0.06 sec per 15°
Accuracy	+/- 2°

MODI
LOOK'N
SMILE

FACESCREEN

FRT 5204 18 002 001

HOUSING

Material	Coated plastics and aluminium housing, color can be selected
Weight	2.7 kg

ENVIRONMENTAL

Operating temperature	0˚C to 45˚ C (32˚F to 113˚F).
Operating humidity	0-80% non-condensing.
Storage temperature	0˚C to 80˚C (-22˚F to 176˚F).
Storage humidity	0-80% non-condensing.
Protection	IP 0

DIGITAL I/O

Digital Out	2 x Relay Out max 30 A
Digital Out	2 x Open Collector NPN max 30 V
Digital In	4 x Opto Isolation 12V – 30V

POWER AND CONNECTION

24VDC +/- 10% 10 A (for the illumination) 5V by USB.
1x USB 2. 1x USB 3.

CERTIFICATIONS

CE, ICAO compliant, NIEM- conformant.

CAMERAS SET

2x Infrared camera: 0,3 MP (640 P x 480 P),
100 frames/sec, and a point beamer.
1x Color camera: 2 MP (1.920 P x 1.080 P),
30 frames/sec, and motorized.

ILLUMINATION

Infrared	4 x 9 LED x 850nm
Visible	4 x 9 LED

CAMERA AND LIGHT TILTING UNIT

Angle	+/- 30˚
Moving time	0.06 sec per 15˚
Accuracy	+/- 2˚

ULTRASONIC SENSOR

Range	2cm - 4m
Accuracy	up to 3mm
Working Frequency	40kHz

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SMART FACESCREEN

FRT 5204 18 003 001

INTEGRATED BIOCONTROL CLIENT

HOUSING

Material	Coated plastics and aluminium housing, color can be selected
Weight	4kg

ENVIRONMENTAL

Operating temperature	0˚C to 45˚ C (32˚F to 113˚F).
Operating humidity	0-80% non-condensing.
Storage temperature	0˚C to 80˚C (-22˚F to 176˚F).
Storage humidity	0-80% non-condensing.
Protection	IP 0

DIGITAL I/O

Digital Out	2 x Relay Out max 30 A
Digital Out	2 x Open Collector NPN max 30 V
Digital In	4 x Opto Isolation 12V – 30V

POWER AND CONNECTION

24VDC +/- 10% 10 A (for the illumination) 5V by USB.
1x USB 2. 1x USB 3.

CERTIFICATIONS

CE, ICAO compliant, NIEM- conformant.

CAMERAS SET

2x Infrared camera: 0,3 MP (640 P x 480 P),
100 frames/sec, and a point beamer.
1x Color camera: 2 MP (1.920 P x 1.080 P),
30 frames/sec, and motorized.

ILLUMINATION

Infrared	4 x 9 LED x 850nm
Visible	4 x 9 LED

CAMERA AND LIGHT TILTING UNIT

Angle	+/- 30˚
Moving time	0.06 sec per 15˚
Accuracy	+/- 2˚

ULTRASONIC SENSOR

Range	2cm - 4m
Accuracy	up to 3mm
Working Frequency	40kHz

INTEGRATED BIOCONTROL CLIENT
FOR CONFIGURATION CHECK PAGE 18

MODI

FACEBRIDGE (PANORAMA)

FRT 5204 18 004 001

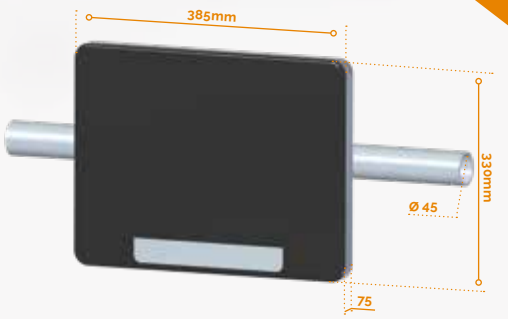
INTEGRATED BIOCONTROL CLIENT

HOUSING

Material	Coated plastics and aluminium housing, color can be selected
Weight	6 kg

ENVIRONMENTAL

Operating temperature	0°C to 45° C (32°F to 113°F).
Operating humidity	0-80% non-condensing.
Storage temperature	0°C to 80°C (-22°F to 176°F).
Storage humidity	0-80% non-condensing.
Protection	IP 0



DIGITAL I/O

Digital Out	2 x Relay Out max 30 A
Digital Out	2 x Open Collector NPN max 30 V
Digital In	4 x Opto Isolation 12V – 30V

POWER AND CONNECTION

24VDC +/- 10% 10 A (for the illumination) 5V by USB.
1x USB 2. 1x USB 3.

CERTIFICATIONS

CE, ICAO compliant, NIEM- conformant.

CAMERAS SET

2x Infrared camera: 0,3 MP (640 P x 480 P), 100 frames/sec, and a point beamer.
1x Color camera: 2 MP (1.920 P x 1.080 P), 30 frames/sec, and motorized.

ILLUMINATION

Infrared	4 x 16 LED x 850nm
Visible	4 x 16 LED

CAMERA AND LIGHT TILTING UNIT

Angle	+/- 30°
Moving time	0.06 sec per 15°
Accuracy	+/- 2°

INTEGRATED BIOCONTROL CLIENT
FOR CONFIGURATION CHECK PAGE 18

LOOK'N
SMILE
MODI

FACEBRIDGE (PORTRAIT)

FRT 5204 18 004 002

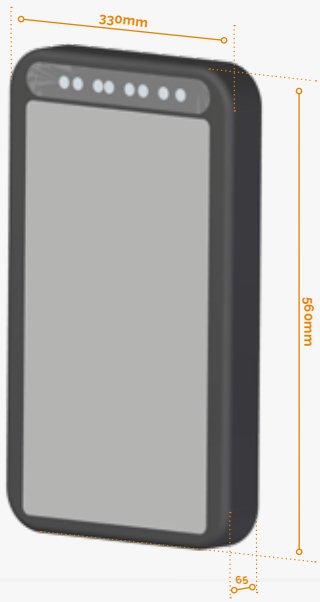
INTEGRATED BIOCONTROL CLIENT

HOUSING

Material	Coated plastics and aluminium housing, color can be selected
Weight	6 kg

ENVIRONMENTAL

Operating temperature	0˚C to 45˚ C (32˚F to 113˚F).
Operating humidity	0-80% non-condensing.
Storage temperature	0˚C to 80˚C (-22˚F to 176˚F).
Storage humidity	0-80% non-condensing.
Protection	IP 0



DIGITAL I/O

Digital Out	2 x Relay Out max 30 A
Digital Out	2 x Open Collector NPN max 30 V
Digital In	4 x Opto Isolation 12V – 30V

POWER AND CONNECTION

24VDC +/- 10% 10 A (for the illumination) 5V by USB.
1x USB 2. 1x USB 3.

CERTIFICATIONS

CE, ICAO compliant, NIEM- conformant.

CAMERAS SET

2x Infrared camera: 0,3 MP (640 P x 480 P), 100 frames/sec, and a point beamer.
1x Color camera: 2 MP (1.920 P x 1.080 P), 30 frames/sec, and motorized.

ILLUMINATION

Infrared	4 x 16 LED x 850nm
Visible	4 x 16 LED

CAMERA AND LIGHT TILTING UNIT

Angle	+/- 30˚
Moving time	0.06 sec per 15˚
Accuracy	+/- 2˚

INTEGRATED BIOCONTROL CLIENT
FOR CONFIGURATION CHECK PAGE 18

BIOCONTROL CLIENT AND DATABASE & MATCHING SERVER

MODI Vision High-End Mini Computer for connecting the camera and sensor elements, as well as the pre-processing of the captured images.

The **BioControl Client** is connected to the **Database & Matching Server** through an external network, and to the camera unit through an internal network. Based on state-of-the-art technology and in combination with **MODI's** unique software systems, the **BioControl Client** achieves outstanding performance while working quietly and efficiently. Provides fast matching time and enables face recognition on the move.

The **Database & Matching Server** is the core in all **MODI Vision** biometric applications for fastest 1: n Database Face / Iris or Fingerprint matching.

The **MODI Database & Matching Server** is one of the key components responsible for the high speed of **MODI** biometrics products. Up to 200 clients can be connected to a single server via network.

Nevertheless, the server can serve any client within about 200 milliseconds. On the server, both the Microsoft SQL Express database and the matching algorithm are preinstalled and included in the price.

FEATURES AND ADVANTAGES OF THE BIOCONTROL CLIENT AND DATABASE & MATCHING SERVER

FEATURES OF THE BIOCONTROL CLIENT:

1. Pre-processing of the recorded images.

2. Can be connected to any monitor to show live images of the person and displays user transaction.

3. Simple design and small size that can be integrated with any existing or new Kiosks or entrance-gates.

4. User-friendly interface for fast and simple integration.

FEATURES AND ADVANTAGES OF THE DATABASE & MATCHING SERVER TOGETHER WITH MODI SOFTWARE:

1. Processing of the recorded images.

2. User-friendly interface for fast and simple integration. Face recognition on the move.

3. Significantly faster image processing because of graphics processing unit (GPU).

4. High usability, easy to integrate, unique security, available in multiple languages.

MODi

BIOCONTROL CLIENT

BIS 5204 18 006 001

Processor	Intel Core i5-7260U 2, 2 GHz, Dual-Core, 4 MB Cache, 15 W TDP
Graphics	Intel Iris Plus Graphics 640 One HDMI 2.0 port with 4K at 60 Hz Thunderbolt 3 port with support for USB 3.1 Gen 2, DisplayPort 1.2 and 40 Gb/s Thunderbolt
System Memory	2 x Crucial 8 GB DDR4, 2133 MT/s PC4-17000, S0DIMM
Storage	Samsung 960 EVO 250 GB SSD
Peripheral Connectivity	Intel Gigabit LAN Thunderbolt 3 Port 4x Super Hi-Speed USB 3.0 Intel Dual Band Wireless-AC 8265 (802.11ac) Dual Mode Bluetooth
Audio	Up to 7.1 surround audio via HDMI Headphone/microphone jack on the front panel
Mechanical Size	115 mm x 113 mm x 50 mm
Operating system	Windows 10
License	Face Biometric Client

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DATABASE & MATCHING SERVER

FRT 5204 18 006 001

Processor	Intel Core i7-7700, 4x 3.60GHz
Graphics	NVIDIA GeForce GTX 1060 (6GB) 6GB GDDR5 1x DVI 1x HDMI 2.0b 3x DisplayPort 1.4
System Memory	16GB DDR4 (2x 8GB, 2 Slots)
Storage	1TB HDD + 256GB SSD (SATA) DVD+/-RW DL
Peripheral Connectivity	1x USB-C 3.0 3x USB-A 3.0 2x USB-A 2.0 1x Gb LAN 7in1 Card reader 3x Jack plug WLAN 802.11a/b/g/n/ac Bluetooth 4.2
Mechanical Size	35.4 cm x 16.4 cm x 36.3 cm
Operating system	Windows 10 professional 64bit Database SQL Express
License	Biometric Face Server license One Client connection license

DATABASE & MATCHING SERVER

The biometric **Database & Matching Server** are the core in all **MODI Vision** biometric applications for fastest 1:n Database Face / Iris or Fingerprint matching. Up to 200 clients can be connected to a single server via network. Nevertheless, the server can serve any client within about 200 milliseconds.

BIOCONTROL CLIENT

The **BioControl Client** is a High-End Mini Computer for connecting the camera and sensor elements, as well as the pre- processing of the captured images. The **BioControl Client** is externally connected to the server network, and internally connected to the camera unit and entrance gate or kiosk network.

CAMERA UNIT

MODI Vision invented a smart 3D camera system for image acquisition with simple and friendly software interface for verification and identification processes. **FaceBar**, **FaceScreen**, and **FaceBridge** system are made for image acquisition with capturing module for short, medium, and long distance with scalable and efficient software interface for biometrical face verification and identification processes. The **FaceBar**, **FaceScreen**, and **FaceBridge** operating software instantly requests and verifies the live images against biometric photos. Biometric photos are stored in a **Database & Matching Server**.

ENTRANCE GATES AND KIOSKS

MODI Vision Kiosk is one of the first fully automated kiosks. **MODI Kiosks** use 3D sensor high resolution camera technology combined with a precisely clear field of view for the client face. The cutting- edge camera guarantees only the first person in the queue or the nearest one at a time can pass the **MODI Kiosk** by providing highly secure facial recognition. As a result, any operating staff or supervising nearby becomes unnecessary.

MODI Vision offers the customer to select a biometric kiosk equipped exclusively with face recognition. However, the kiosk is also available with an integrated RFID, or fingerprint identification, system. The **MODI Gate** features a 1:1 or multipurpose 1:n (one - many) face recognition/fingerprint identification, face recognition/RFID, or face recognition/fingerprint/RFID.

Both systems are available upon request in a combined version allowing for the fastest possible single client or user processing. Thereby, client or user processing is not only made far more secure but also, convenient, faster, and less labor-intensive.

THE MODI DEVICE AND SOFTWARE ARCHITECTURE

MODI
VISION FOR IDENTIFICATION

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