Architect & Engineer Specifications

Green Label Product

ProFace X Series

Available Models: ProFace X, ProFace X [P], ProFace X [TI], and ProFace X [TD]

Date: Click or tap to enter a date.

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Table of Contents

PART 1 – GENERAL 3

1.01 SUMMARY 3
1.02 SYSTEM DESCRIPTION 3
1.03 QUALITY ASSURANCE 3
1.04 DELIVERY, STORAGE, AND HANDLING 3
1.05 PRODUCT COMPLIANCES 3
1.06 WARRANTY 3

PART 2 – PRODUCT 4

2.01 MODEL NUMBER 4
2.02 TECHNICAL FEATURES 4
2.03 TECHNICAL SPECIFICATIONS 7

PART 3 – EXECUTION 10

3.01 INSTALLATION 10
3.02 TESTING 10
3.03 MAINTENANCE 10

PART 1 – GENERAL

This document has been developed by ZKTeco, which aims to detail the minimum specifications for the design, distribution, deployment, monitoring, maintenance, and operation of our Green Label **ProFace X Series** products (ProFace X, ProFace X [P], ProFace X [TI], and ProFace X [TD]).

1.01 Summary

ProFace X series is a fully upgraded version of the ProFace product line, which is designed to deal with all kinds of scenarios. With its powerful core and latest face capturing system, ProFace X Series can recognize faces under extremely strong light conditions. ProFace X [TI] and ProFace X [TD] enable fast and accurate body temperature measurement and masked individual identification during facial and palm verification at all the access points. ProFace X [P] also helps to eliminate hygiene concerns.

1.02 System Description

ProFace X series is powered by the latest ZKTeco-customized CPU for running the intellectualized engineering facial recognition algorithm to boost up the performance.

1.03 Quality Assurance

ZKTeco is a globally renowned enterprise with biometric verification as its core technique. ZKTeco shall provide technical assistance and support in all aspects.

1.04 Delivery, Storage, and Handling

Order: ZKTeco' s ordering guidelines must be followed to avoid installation delays.

Delivery: ProFace X Series products shall be delivered in the manufacturer's standard, unopened and undamaged package with identification labels intact.

Storage and Protection: ProFace X Series products shall be stored, installed, operated, and protected from exposure to harmful weather conditions and at the environmental conditions recommended by the manufacturer.

1.05 Product Compliances

- FCC
- CE
- RoHS

1.06 Warranty

The warranty on this product is 3 years from the date of purchase. And the customer service duration for this product is granted according to the region where it is purchased.

PART 2 – PRODUCT

ZKTeco is responsible for developing the standards, guidelines, including the minimum requirements. The installation of the ProFace X series in an access control system using readers and controllers can enable a variety of entry, exit, and lock systems: Electrical locks, Parking barriers, Turnstiles, etc.

2.01 Model Number

Manufacturer: ZKTeco Co., Ltd.

Category: Access Control and Time & Attendance Device

Available Models:

- ProFace X
- ProFace X [P]
- ProFace X [TI]
- ProFace X [TD]

2.02 Technical Features

Common Features of ProFace X Series Products

1. Facial recognition speed of less than 0.3 second per face.
2. The device can be connected with the software through a stable connection for:
   a. Data Download
   b. Commands
   c. Real-Time Monitoring
3. Ultra-large Capacity of 30,000 facial templates (standard) or 50,000 facial templates (optional) for 1:N facial authentication.
4. 2MP Starlight CMOS sensor camera with WDR function, which enables the device to recognize faces under a challenging lighting environment (0.5lux to 50,000lux).
5. Anti-spoofing algorithm against print attack (laser, color, and B/W photos), videos attack, and 3D mask attack.
6. Smart energy-saving design; an RF detector will wake up the device when it precisely detects the distance between the user and the device is 250cm (8.2ft) or less.
7. Integrated 125kHz EM Proximity Card Reader (Optional MiFare).
8. 8" touchscreen with 400cd/m^2, which offers high visibility under strong and direct light.
9. Supplement lighting with adjustable brightness.
10. Multiple communication methods: TCP/IP, RS485, RS232, Wi-Fi (optional).

11. Security and Network
   a. IPv4/v6
   b. Host/Controller connection protected by TLS 1.2/1.1
   c. Generate and load custom peer certificates for TLS
   d. Port-based network access control using 802.1X
   e. HTTPS protection
   f. Secure cookies
   g. Authorized IP address filtering
   h. IP Client Proxy
   i. Strong password enforcement

12. Door Control
   a. Two-reader ports: Clock and Data, Wiegand, or RS485
   b. Two programmable inputs, and one relay

13. Access Control
   a. Gate Control mode
   b. Door Lock/Sensor delay duration
   c. Configurable door sensor type
   d. Door availability time-period
   e. Verification mode combination
   f. Master/Slave device configuration
   g. AUX-In configuration
   h. Combined verification supports up to 99 access groups
   i. Supports up to 50 time rules, including 3 time zones in 1 rule

14. Card Formats
   a. Entire card number reported on invalid read
   b. Up to 9-digit (64-bit) User ID and up to 8-digit PIN numbers
   c. Activation/Deactivation of Date or Date & Time

15. Card Reader Functions
   a. Multiple card formats support by the reader
   b. Paired reader support
   c. Alternate reader support
   d. Turnstile support
   e. Biometric device support
   f. Supports host-based approval rules

g. Software support with programmable user commands, and card input
h. Anti-Passback support: Reader-based (IN, OUT, and IN/OUT)
i. Duress Mode to identify any threat

16. Device Data Functions
a. Encrypted data
b. Configurable card database
c. Supports up to 9 digital card numbers
d. Supports User ID up to 9 digits
e. Supports Password up to 8 digits
f. Card issue code of up to 32 bits

17. Intrusion Alarm Functions
a. Supports entry delays and exit delays
b. Area monitoring
c. Provides control and alarm processing from the software

18. Supported Integrations
a. Regional IO shows IO status
b. Reader firmware and configuration download
c. Supports up to 2 RS-485 IO protocols
d. Supports up to 16 strong authentication readers when connected with an Access Controller

19. System Functions
a. Relay count activations
b. Interoperability with older host software using Legacy Mode feature
c. Synchronize time using NTP

Palm Detection Features (ProFace [P], ProFace X [TI] and ProFace X [TD])

1. 3-in-1 palm recognition technology (Palm Shape, Palm Print and Palm Vein).
2. Palm recognition speed of 0.35 second per hand.
3. Large capacity of 5,000 palm templates for 1:N verification.

Temperature Detection Features (ProFace X [TI] and ProFace X [TD])

1. 0.1s High-Speed Temperature Detection at a distance of 30cm to 120cm for ProFace X [TI] and 30cm to 50cm for ProFace X [TD].
2. Temperature Measurement Accuracy: ±0.3°C (±0.54°F), tested in 80cm (2.63ft) under 25°C (77°F) environment.
3. Mask detection and facial verification with mask.
4. Detects and limits access for people not wearing a mask and with elevated body temperature.

2.03 Technical Specifications

Common Specifications of ProFace X Series Products

Category	Feature	Specifications
Capacity	Max. Face Template (1:1) or (1:N)	30,000; can be extended up to 50,000
	Max. Transaction Log	1,000,000; can be extended up to 2,000,000
	Max. User Photo	10,000
	Max. Event Photo	10,000
Verification	Biometrics	Face and Palm (ProFace X does not support palm recognition)
	Access Cards	MiFare Card (13.56 MHz) 125kHz EM FeliCa (only ProFace X [TI])
General	Processor	900MHz Dual Core Customized Computer Vision CPU
	Memory	8GB Flash and 512MB RAM
	LCD Type (Screen)	8" High Brightness IPS Touch LCD
	LCD Resolution	800 x 1280 pixels
	LED Fill Light	White Color
	Proximity Sensor	RF Sensor
	Sound	Hi-Fi Audio
Hardware	Operating Temperature	ProFace X and ProFace X [P]: -30°C to 60°C (-22°F to 140°F) ProFace X [TI]: 16°C to 35°C (60.8°F to 95°F) ProFace X [TD]: 16°C to 32°C (60.8°F to 89.6°F)
	Storage Temperature	-40°C to 65°C (-40°F to 149°F)
	Operating Humidity	≤93%
	Storage Humidity	≤93%
Camera	Camera Type	2MP Starlight CMOS sensor camera with WDR
	Camera Resolution	2MP
Facial Recognition	Algorithm Version	ZKLiveFace V5.8
	Resolution	More than 300 x 300 pixels
Interface	Power	DC 12V
	Wi-Fi	Optional
	Ethernet	TCP/IP Supported *(10/100 Mbps, Auto MDI/MDIX)*
	RS-485	1 Host or 1 Slave
	Wiegand	1 Input, 1 Output
	Relay	1 Lock Relay Output
	Button	1 Exit
	Door Alarm Sensor	1 Sensor
	AUX IN	1 Auxiliary Input
	AUX OUT	1 Alarm Out

	Tamper Alarm	Supported
	Reset	Supported
Electrical	**Power**	Voltage: DC 12V Max. Current during initialization: 643mA Current in stand-by: 475mA to 496mA Max. Current during Facial Recognition: 675mA Max. Current during Self-Heating: 834mA
	Switch Input VIH	Min. 3V Max. 5V
	Switch Input VIL	Max. 1V
	Switch Pull-up Resistance	4.7kΩ
	Wiegand Output VoH	More than 4.8V
	Wiegand Output VoL	Less than 0.2V
	Wiegand Output Pull-up Resistance	Internally pulled up to 1kΩ
	Relay	Voltage: Max. DC 30V Current: 1A, Max. 2A Durability: 100,000 times operation at a max. resistive load of 30V DC
Supported Software	ZKBioSecurity	
Functionalities	**Standard**	Access Levels Groups Holidays Daylight Saving Time (DST) Duress Mode Anti-Passback Query Records Custom Wallpaper & Screensaver Tamper Switch Alarm
	Significant	High-Speed Facial Recognition (0.3s) Liveness Detection HTTPS Encryption Event Snapshot
Protection Level	ProFace X and ProFace X [P]: IP68, and IK04 ProFace X [TI] and ProFace X [TD]: N/A	
Certificates	CE and FCC	

Temperature and Mask Detection Specifications of ProFace X [TI]

Category	Feature	Specifications
Body Temperature & Mask Detection	Temp. Measurement Range	20°C to 50°C (68°F to 122°F)
	Temp. Measurement Accuracy	± 0.3°C (± 0.6°F)
	Temperature Measurement Distance	30cm to 120cm (0.98ft to 3.94ft)

Temperature and Mask Detection Specifications of ProFace X [TD]

Category	Feature	Specifications
Body Temperature & Mask Detection	Temp. Measurement Range	34°C to 45°C (93.2°F to 113°F)
	Temp. Measurement Accuracy	± 0.3°C (± 0.6°F)
	Temperature Measurement Distance	30cm to 50cm (1ft to 1.64ft)

Palm Verification Features

Category	Feature	Specifications
Capacity	Max. Palm Template (1:N)	5,000
Palm Verification	Palm Verification Algorithm	ZKPalm V12.0
	FAR	≤0.01%
	FRR	≤1%

Dimensions and Packing

Specifications	Dimensions (W×H×D)	Net Weight	Gross Weight
ProFace X	143mm×227mm×26mm	0.853kg	Inner Layer of Packing: 2.1kg Outer Layer of Packing: 12.7kg
ProFace X [P]	143mm×227mm×26.1mm	0.853kg	Inner Layer of Packing: 2.1kg Outer Layer of Packing: 12.7kg
ProFace X [TI]	143mm×279mm×27mm	1.045kg	Inner Layer of Packing: 2.3kg Outer Layer of Packing: 13.8kg
ProFace X [TD]	143mm×227mm×26.1mm	1.025kg	Inner Layer of Packing: 2.2kg Outer Layer of Packing: 13.1kg

Note: The above-mentioned weight details are for reference only. The weight of actual products may vary slightly based on the actual conditions.

PART 3 – EXECUTION

3.01 Installation

1. All installations performed by the successful specifier must comply with the national and code of practice standard.
2. Please consider the following installation guidelines:

Specifications	ProFace X	ProFace X [P]	ProFace X [TI]	ProFace X [TD]
Operation Environment	-30°C to 60°C (-22°F to 140°F)	-30°C to 60°C (-22°F to 140°F)	16°C to 35°C (60.8°F to 95°F)	16°C to 32°C (60.8°F to 89.6°F)
Installation Height	1.5m	1.5m	1.5m	1.5m
Height for Face Detection	1.55m to 1.85m	1.55m to1.85m	1.2m to 2m	1.55m to 1.85m
Temperature Measurement Distance	N/A	N/A	0.3m to 1.2m	0.3m to 0.5m
Field of View of Thermal Imaging Device	N/A	N/A	50°	60°

3. For installation on turnstiles follow the below criterion:

Gate's Height (m)	Tilt angle of the monitor (upward)
0.9	13° to 18°
1	10° to 15°
1.1	3° to 8°

4. All the devices, tools, hardware, software, and software licenses necessary for the complete implementation of the access control system, as defined in this document shall be supplied and installed under this subcontract.
5. Cable laying precautions and safety measures must be specified.
6. For exiting at selected doors, a (peripherals name e.g., push-button) shall be given, as specified by the owner, or as shown in the drawing.
7. Exit card readers must be provided for highly protected areas identified or described in the drawings, to allow exact monitoring of people entering and leaving the preset area.
8. The device should be configured with the software.

3.02 Testing

All installation needs to be checked for stability and performance post-installation.

3.03 Maintenance

Procedure and methods for maintaining the access control system, including the access control devices, controllers, and readers. For all other components also, maintenance procedure needs to be regulated.