

SYNERGY - Linux-based Fingerprint Terminal

Biometric, Color Screen, Real-time Monitor, Multimedia Terminal



Advanced technology with multiple choices

The SYnergy terminal is Synel's latest Linux-based fingerprint biometric terminal, which combines a graphic color screen with technologically advanced features for all your time & attendance and access control applications. The SYnergy is compact in size and attractively designed, and is also equipped with a built in camera and a speaker for generating various sound effects such as alert notifications, report confirmation / rejection and other actions and events indications.

SYnergy can be linked to a variety of networks in your organization to complement the management information systems that are already in place

- Embedded Linux Open Source OS
- Powerful processor
- Fast matching time
- Handicap user-friendly
- Improved ROI
- Fast / multiple identification methods
- Compact and attractive design



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SYNERGY - Linux-based Fingerprint Terminal

Time & Attendance | Access Control

Features

- Embedded Linux Open Source OS
- 3.5" TFT high clear graphic color LCD can display custom interfaces and staff color photos
- Unique T&A Photo-taking function with 1.3M pixels color camera, taking photos instantaneously to avoid any replaced T&A efficaciously
- Multi operation modes: FP, PIN, FP + PIN, card + FP, camera + FP
- Identification: 1:1 or 1:N
- Allowable finger rotation: +/- 30°
- USB connection (memory) - for information download / upload of pictures, video, advertisement or operating instructions from disk-on-key
- USB connection for communication to PC (option)
- SD memory card slot (standard 16)
- Standard 10/100 Mbps Ethernet interface
- Other readers such as proximity, magstripe, barcode, Mifare, Hitag, and HID are also available
- Battery back up - ability to continuously operate even during power failure (extended 3 hours)
- 6 function keys, 10 alphanumeric keys, 2 navigation keys and 4 additional keys
- Additional external reader (can be connected through Weigand 26 port)
- Multi network communication: TCP/IP, RS-232/485, optional: Wi-Fi, GPRS
- Protocols supported: HTTP / HTTPS / DHCP
- Coupon printer can be connected
- Embedded relay contacts lock, door button or alarm
- Built in embedded TCP/IP protocol

Benefits

- Fast matching time
- Professional design
- Easy installation, set up and use
- Intuitive user interface
- Accurate and fast fingerprint algorithm
- Easy adaptation to collect processes through parameter settings
- Memory can be dynamically distributed and extended according to staff quantity
- Provides accurate, reliable data
- Daylight saving time by date
- Quality standard approvals



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Technical Specifications

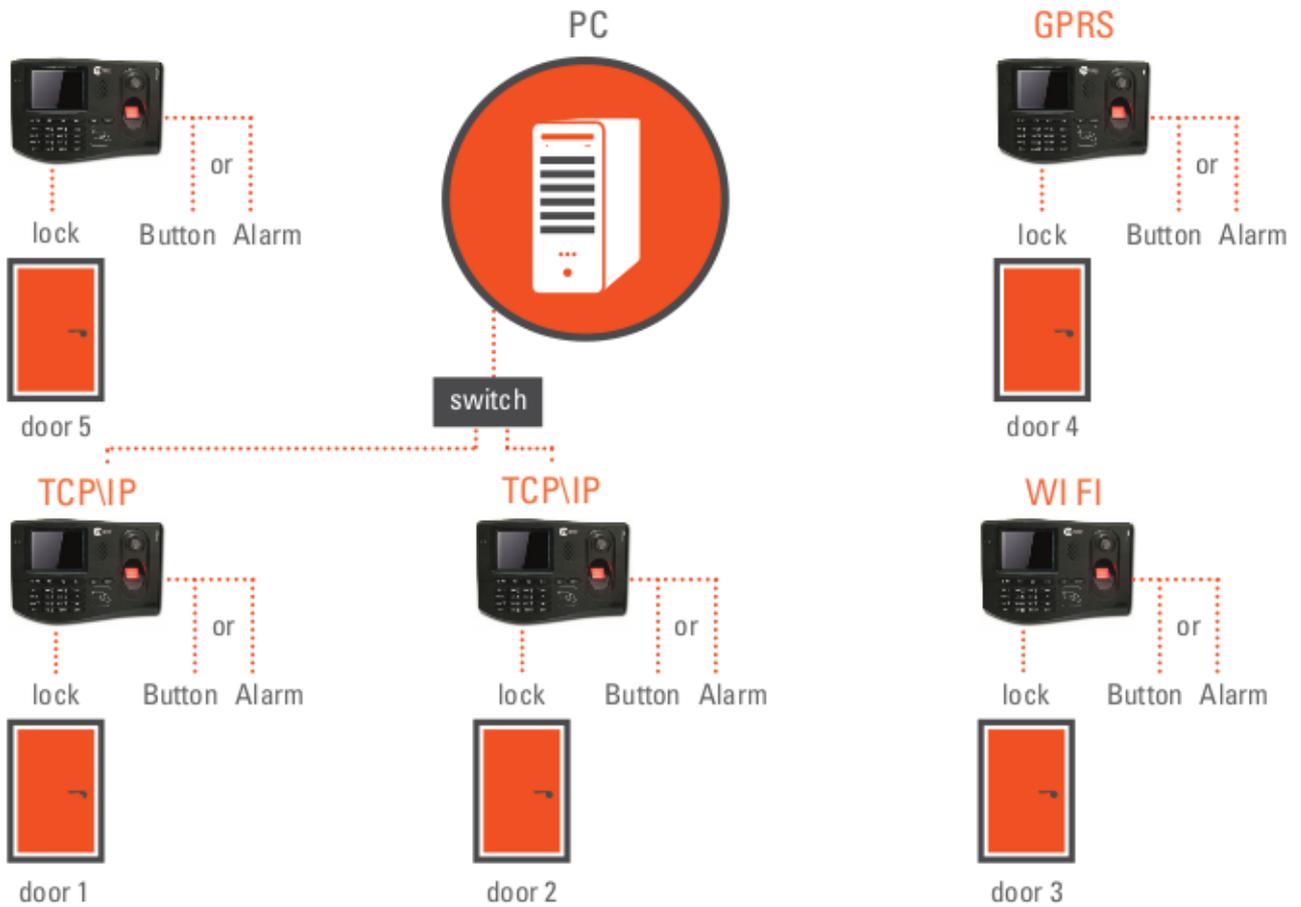
Operating system	Advanced Linux embedded OS
High speed processor	ARM 9 - 400 MHz
Identification Unit	Optical fingerprint (FP) sensor
FP template size	1404 Byte
Registered FP Capability	3000 FP, 10,000 FP, 25,000 FP; Max. up to 10 FP per employee
FP Register	3 times
Fake Identification Rate	<0.001% / <0.1%
Identification Speed	RF card identification <0.2 sec. / FP Identification <1 Sec
Attendance Record (with photo)	52 MB - 7280 employees (1 MB can store 140 employees)
Attendance Record (with photo&2 FP/employee)	52 MB - 5200 employees (1 MB can store 100 employees)
Attendance Record (no photo)	676,000 employees
Identification Features	FP, PIN, FP + PIN, card + FP, camera + FP
Readers	Proximity, Mifare read only, Mifare R/W, Magnetic Track I, II, Barcode code 39/25/128
Memory Space	128 MB DDR
Display	3.5" color TFT LCD; 320x240 pixels
Data Transmission Protocols	TCP/IP / HTTP, RS485/232, USB, GPRS, Wi-Fi (optional)
Network Interface	10/100 Base-T Ethernet
External reader	Weigand - 26, 34, 37 bit
USB (memory device)	USB 2.0
SD-card	Supports 1 G
Power	DC 12V, 2A, 100-240 / Volt, External adaptor, POE (option)
Environment	Temperature: 0o-50o Humidity: 10%-90%
Physical Dimensions	210x145x48(mm); Wall-hanging install
Camera	1.3 M pixels color camera
Output	1 relay
Input	1 Opto coupler
Sound	Voice Notice
Keyboard	6 programmable function keys, 10 alphanumeric keys, menu key
Back up battery RTC	3 years
Back up battery for operation	120 minutes
Coupon Printer	Supported
Certifications	FCC / CE / ROHS / TUV



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Network Diagram



Terminal Record Capacity

ID Type	No employees / 1MB	Memory	Total Employees	
Non picture file	13,000	52 MB	676,000	
With picture	140	52 MB	7,280	
With picture & 2 FP	100	52 MB	5,200	



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SYNERGY - Fingerprint Scanning Device

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Synel's fingerprint enrollment device is a high performance USB fingerprint reader, designed for efficient fingerprint authentication, to be used with SYnergy biometric terminal.

The ergonomic shape allows for fast and easy template sampling.



Technical Characteristics

Interface	USB 2.0 (full speed)
OS	Windows 2000/XP
Sensor	Optical
Image dimension	256 x 256, 400 dpi
Frame speed	5 FPs
Fingerprint template size	1404 bytes
Feature extraction time	600ms
Power	Bus-powered
Working current	<200mA
Dimensions	43mm x 25mm x 1.6mm
Temperature/Humidity (operation)	-10o ~ 70oC, RH (95%)



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