YAMATAKE

Fingerprint Identification Unit
FriendTouch

General

FriendTouch is a fingerprint identification device. FriendTouch is used for an access control unit, which verifies authorized users by their fingerprints, and time/attendance system.   The identification technology, developed by Yamatake Co., is simple in structure and provides high performance.

By simply entering his/her ID number and placing a finger on the unit installed beside the entrance door, a user can enter the building any time without any inconvenience. As these actions positively identify authorized individuals, security is greatly enhanced.

Besides the identification function, FriendTouch incorporates functions for controlling electric locks and time schedules, functions for enrolling fingerprints and IDs, and management functions such as searching and displaying past transaction records.

Features

- Employs new identification technology, developed by Yamatake Co.
→ Maintains high performance in identification even when the finger is placed out of position, deformed by pressure, or under other conditions such as dust, blur, or perspiration.
  ◊ False rejection rate: less than 0.1 %
  ◊ False acceptance rate: less than 0.001 %
→ Effective for persons with faint fingerprints or slender fingers.
- High speed identification with an average of approximately 0.1 second, realized by adopting customized ASIC for identification algorithm.
- Four levels of operator segregation allow secure management.
- Enrolment state is displayed in list form, assuring correct operation.

- Entry (or exit) records, alarm records, and management records are stored in non-volatile memory, and can be displayed by searching and scrolling.
- Door unlocked periods can be easily set for each day of the week using the auto calendar.
- Control of electric locks and door strikes available, as well as output to automatic doors.
- Allows remote unlocking.
- Setup easy, no need for engineering.
- Original fingerprint image cannot be reproduced from enrolled data, assuring that the privacy of users is protected.
- Compatibility with Wiegand Protocal.
- Communicates with PC.

Specifications

Item	Specifications
Power supply	24V DC, 15V A (Not including electric locks)
Power backup	Enrolment data : Non-volatile memory Operation backup : None (use battery-backup DC power supply or UPS when necessary) Clock/History record : Maximum 100 hours
Mounting/Dimensions	Flush-mounted : 120 (W) x 280 (H) x 77 (D) Wall-mounted : 120 (W) x 280 (H) x 100 (D)
Coating color	Metallic silver
LCD	Monochrome display with backlight, 15 characters x 3 lines
Number of finger enrolments	100/ 500 fingers (One person can register more than one finger)
Performance	Identification speed : 0.1 seconds False rejection rate : Less than 0.1 % False acceptance rate : Less than 0.001 %
ID number	One- to six-digit number unique to each user
Operation level	Manager 3 : Can perform all management operations. Manager 2 : Can assign and modify enrolment records within the division concerned. Manager 1 : Can set up time, schedule, or search through records. User : Cannot perform any management operations.

PC communication	Type : RS485 (3 line), half duplex, 4800 (BPS)
	Protocol : ASCII character based, non-procedure, command/response
	Connection : 16/line, 1000 m (cable length)
	Function : Historical data output (IN/OUT, alarm, management)
	               Time adjustment
	               Communication check

History record capacity	In/out history record : Maximum 10,000 records Management history record : Maximum 100 records Alarm history record : Maximum 100 records The latest data is written on top of the oldest data.
Wiegand	26 bit wiegand format (in case of using Wiegand/RS485 converter)
Electric lock outputs	24V DC or dry contact, maximum 1A Applies to the following types : Powered unlock, powered lock, locks/unlocks reversible, polarity (selectable) type/motor type, electric door strike, and automatic door. Unlocked time (selectable) : 1, 5, 10, 20, 30 seconds
Alarm output	Normally open dry contact, maximum 1A Type : Door forced open/electric lock malfunction, tampering, device malfunction
Time schedule	Two unlocked periods can be set for each day of the week. Maximum 10 holidays can be specified for subsequent month. (Data is cleared automatically at end of day)
Remote unlocking input	Normally open dry contact (Unlocks when connection is made).
Environmental conditions	0 to 40 °C, 25 to 85 % RH (non-condensing). Avoid exposure to moisture and direct sunlight.

Model Number

Model Number					Name
GY3042A	0	1	0	0	For 100 fingers
	0	5	0	0	For 500 fingers

GY3001A	0	0	0	0	Wall-mounting box

Note:
The following products should be prepared depending on the application requirements.
- RS485/232C Converter
- RS232C cable
- RS485/Wiegand Converter

Safety Instructions

Usage Restrictions

The specifications of this product are subject to change without notice for further improvement.
Yamatake Building Systems Co., Ltd. bears no responsibility for any benefit, or lack of benefit, derived from the operation by the customer.

<div style="text-align:center">⚠ CAUTION</div>

- ❗ • For safety, installation and connection should be done by person with expertise in security construction.

- ❗ • Ensure it is used within the range of conditions and rated input/output specifications described in the specification sheet. Neglecting these conditions may cause malfunction.

- ❗ • Ensure it is used under environmental conditions described in the specification sheet. Neglecting these conditions may cause malfunction.

Summary of Functions

1. Basic display function and time-out of LCD

Date, day, time and operator help messages appear on the LCD screen, allowing easy operation.

2. Setting of ID number

For each individual enrollee, a one- to six-digit ID number can be set.

3. Setting of operation range and privileges

General users are distinguished from managers by ID numbers.
The managers are sorted into three levels.
The master manager (highest level of privileges) has the authority to handle all operations including date setting, schedule setting, enrolling/deleting of fingerprints/ID numbers, and system parameter setting.

4. Enrolled data list display

Managers can view enrolled data (fingerprints, ID numbers, and manager levels) on the screen, when logged in with manager level.

5. History record search and management

Managers can search history records.   First, select "in/out", "alarm", or "management" history records and specify search start date and time.   Dedicated history search screen eases searches.

6. Time schedule and holidays

Set lock/unlock times by using time schedule and a calendar control.   This function is fully customized to the use of the building.

7. Remote unlock input

The FriendTouch keeps the electric lock open when the connection is made, besides unlocking by fingerprint identification or time schedule.

8. Alarm monitoring/output

Device malfunction, tampering, electric lock malfunction, and door forced open alarms can be monitored and displayed on the LCD screen. Optional output via contacts. Alarm history records can be displayed in list form.
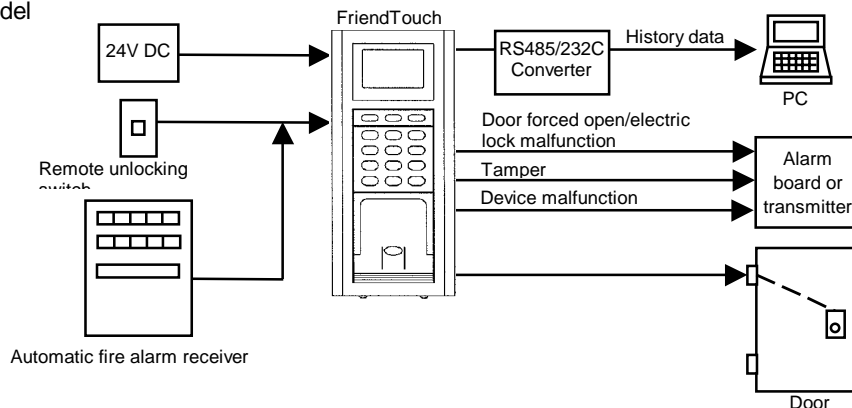
9. Communication

PC: FriendTouch downloads historical data (in/out, alarm, management) to PC by connecting RS232/485 converter.
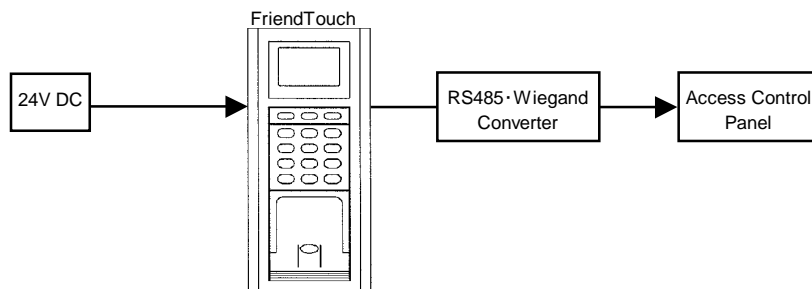
Wiegand: FriendTouch sends a ID number and a controller number to ACP (Access Control Panel) in a Wiegand protocol system architecture by connecting Wiegand/RS485 converter.
26 bit Wiegand format is applied.
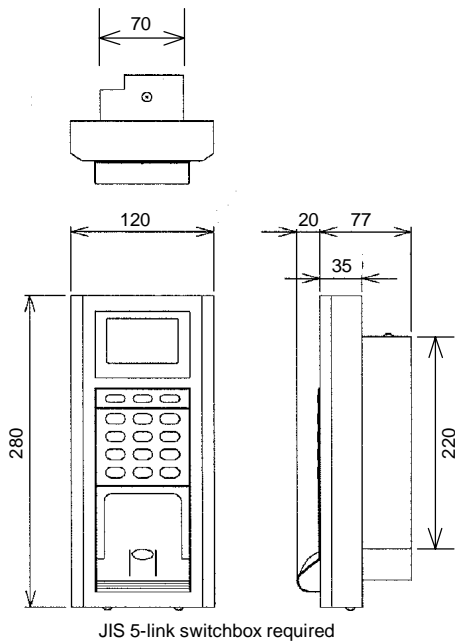
System Architecture
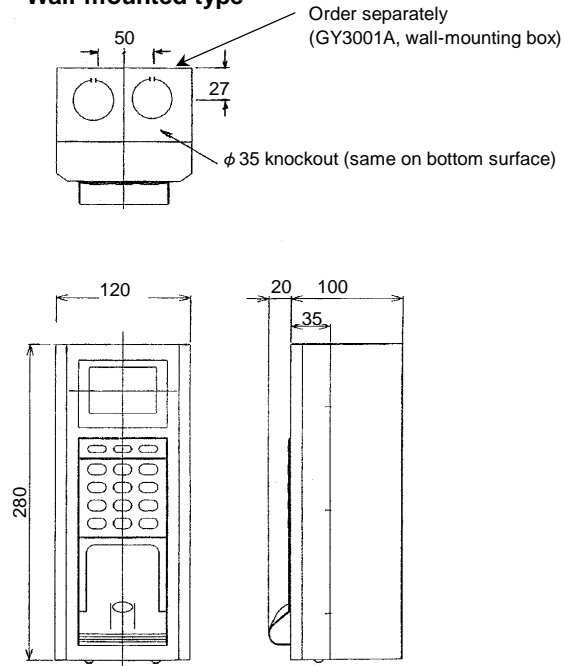
- Standard model

- For ACP (Wiegand)

Demensions (mm)
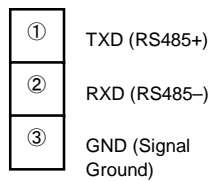
Flush-mounted type

70

120 | 20 | 77

35

280

220

JIS 5-link switchbox required

Wall-mounted type

50

Order separately
(GY3001A, wall-mounting box)

27

ϕ 35 knockout (same on bottom surface)

120 | 20 | 100

35

280

Connection (Typical)

TB1 (Communication)

①	TXD (RS485+)
②	RXD (RS485−)
③	GND (Signal Ground)

TB2 (Alarm output)

①	Device malfunction output
②	
③	Tamper alarm output
④	
⑤	Lock malfunction Door forced open
⑥	
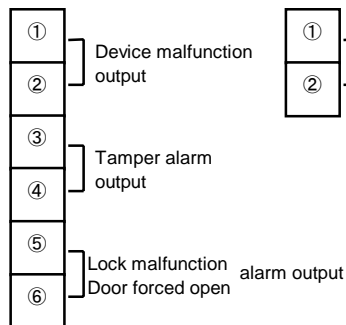
alarm output

TB3 (Remote unlock input)

| ① | Remote unlock input |
| ② | |

TB4 (Electric lock, etc.)

①	Door open/close input
②	
③	Unlock input
④	COM (input)
⑤	Lock input
⑥	Unlock output
⑦	COM (output)
⑧	Lock output

TB5 (Power supply)

①	24V DC
②	0V DC
③	Grounding
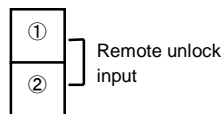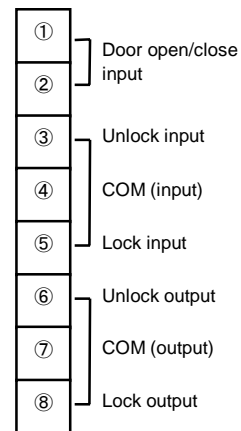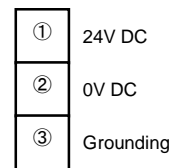
Recommended Lines

Power supply line	Equivalent to IV 1.25mm² or AWG16
Alarm output line (DO)	Equivalent to IV 0.9mm² or AWG18
Forced unlock input line (DI)	Equivalent to IV 0.9mm² or AWG18
Electric lock I/F (DIO)	No restrictions. Follow recommendations of electric lock maker.
Communication cable	CPEV-S ϕ 0.9 2P: diameter 0.9 mm (AWG20), twist pair sealed cable (2 pair)

Specifications are subjects to change without notice.

YAMATAKE

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