iTDC/ iTDC-SR
/ EIO88

Intelligent Multi Door [4]
Access Control Panel
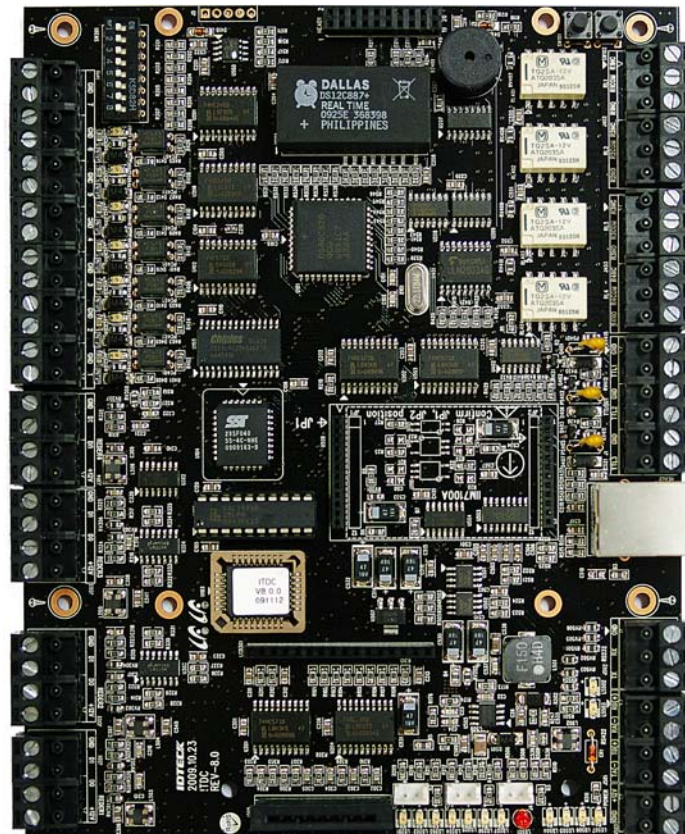

IDTECK

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1. <u>IMPORTANT SAFETY INSTRUCTIONS</u>

The description below is to keep user's safety and prevent any product damage. Please fully read these instruction and use the product properly.

Danger: This symbol indicates that incorrect handling of the product may result in serious injury or death.

Warning: This symbol indicates that incorrect handling of the product may result in injury or property damage.

Cautions about power

- Only use the standard voltage (DC +12V/ 350mA).
- If the product emits smoke or smells, stop using the product. Unplug the product from DC power source and contact nearest service center.

Cautions about installation

- Do not install the product in humid, dust (metallic dust) and sooty place.
- Do not install the product in a place subject to high temperature, low temperature or high humidity
- Do not install the product with tools such as driver in hand when power has been supplied.

Cautions about usage

- Do not drop liquid like water and give a shock severely.
- Do not place magnetic objects near the product.
- Do not replace the wiring cables installed by experts.
- Do not use the product near direct sunlight and heating apparatus.
- If you want to relocate the installed product, turn power off and then move and reinstall it.
- Do not use the product near flammable spray or objects.
- Do not disassemble, repair or modify the product by yourself. If the product needs service or repair, contact nearest service center.
- If liquid has been spilled on the product, unplug it and contact nearest service center.

Cautions about cleaning

- Do not clean the product with water. Clean gently with dry cloth or tower
  - Do not use chemicals such as benzene, thinner or acetone for cleaning.

2. GENERAL

The **iTDC/ iTDC-SR/ EIO88** is an intelligent 2~4 Door Access Controller designed to meet the market requirements for a simple and cost-effective access controller. It is designed to achieve low cost as well as high security, convenience and reliability. This user-friendly device allows the user to register up to 50,000 User IDs and store up to 29,500 Events according to the number of Users as the memory is shared with both User IDs and Event buffers. The **iTDC/ iTDC-SR/ EIO88 have total** 4 reader ports for connecting to Proximity Readers, Proximity and Keypad Readers or Biometrics (fingerprints or face recognition) Readers. Each reader port has its own operation mode of RF only, RF + Password, fingerprints only, RF + fingerprints and RF + Password + fingerprints. Independent 7 input ports can be connected with various devices such as Exit Buttons, Door Contact Sensors, PIR Sensors, Window Breakage Sensors and Fire Sensors to strengthen security. Input/Output ports can be expanded by adding an EIO88 Expansion I/O Board. Optional Keypad and LCD Display module can be used to set up functions and program inputs and outputs manually. Using RS232 or RS422 communication, a network system can be set up and consolidate up to 256 Controllers. All setting values including ID numbers, Inputs/Outputs, Real Time Clock, Time Schedules and Events can be downloaded/uploaded from/to the host computer. The software supports a variety of reporting formats. **iTDC/ iTDC-SR/ EIO88** can be installed and managed inside the security zone for higher security. Experience the ultimate high-level security access control system with **iTDC/ iTDC-SR/ EIO88.**

3. FEATURES

- Intelligent Multi Doors [4] Access Control Panel (EIO88 Required to Control 3 and 4 Doors)
- Dynamic Control of Memory up to 50,000 Users / up to 29,500 Event Buffers
   1,000 ~ 20,000 / 30,000 / 40,000 / 50,000 Users
   29,500~20,000 / 14,000 / 8,000 / 3,000 Event Buffers
- Standalone / Network Communication via RS232 / RS422 /RS485 (Max.255ch), TCP/IP (Internal
   TCP/IP Module Required (Optional))
- Expansion I/O Board Available (EIO88: 8 Inputs / 8 Outputs)
- Independent 7 Inputs and 7 Outputs Including 4ea of 2 Form-C Relay Outputs
- 4ea of Reader Port for Anti-Pass-Back Function: 26bit Wiegand (34Bit Wiegand for iTDC-SR) and 4 /
   8bit Burst for PIN
- 2 Men Operation
- ARM / DISARM Function for Alarm Panel
- 2 Levels Individual Door Opening Time Setting Available for handicapped person
- Maintains ID & Event Data and Setting Value in case of Power Outage
- Optical LCD Display and Keypad Connectable to the Control for Standalone Operation and Manual
   Settings
- Duress Mode Function
- Alarm Event Monitoring using Tamper Switch (by Application Software)
- Communication Status Display via LED Indicator
- Options: LCD Display, Keypad, Internal TCP/IP Module and Expansion I/O Board
- Application Software: STARWATCH iTDC PRO I / II, STARWATCH STANDARD

4. SPECIFICATION

Model		iTDC	iTDC-SR
CPU		8bit Microprocessor	
Memory	Program Memory	64K Byte ROM	
	Data Memory	512K Byte Flash Memory	
Users		Users and Event Buffers Defined Available	
		1,000 ~ 20,000 / 30,000 / 40,000 / 50,000 Users	
Event Buffer		29,500 ~ 20,000 / 14,000 / 8,000 / 3,000 Events	
Power / Current		DC 12V, Max.350mA	
Reader Port		4 ea (26bit Wiegand, 4 / 8bit Burst for PIN)	4 ea (34bit Wiegand, 4 / 8bit Burst for PIN)
Communication		RS232 / RS422 /RS485 (MAX.255ch)	
		TCP/IP (Internal TCP/IP Module Required (Optional))	
Baud Rate		9,600 bps (Default) / 4,800 bps, 19,200 bps, 38,400 bps (Selectable)	
Input Port		7 ea (Exit Button#1, Exit Button#2, Door Sensor#1, Door Sensor#2, Aux#1, Aux#2, Aux#3)	
Output Port		4 ea (FORM-C Relay Output (COM, NO, NC) / DC12V~18V, Rating Max.2A)	
		3 ea (TTL Output / DC5V, Rating Max.20mA)	
LED Indicator / Beeper		21 LED Indicators / Piezo Buzzer	
Operating Temperature		0° to +65°C (+32° to +149°F)	
Operating Humidity		10% to 90% Relative Humidity Non-Condensing	
Dimension (W x H x T)		185mm x 145mm x 18mm (7.3inch x 5.7inch x 0.7inch)	
Weight		221g (0.82lbs)	
Certification		FCC, CE, KCC(MIC), ROHS	
Options (Manual Setting available for Standalone Operation)			
LCD Display Module		Character LCD (2 Lines x 16 Char) 80mm x 36mm (3.15inch" x 1.41inch)	
Keypad		16 Key Numeric Keypad / Membrane	
Internal TCP/IP Module		IIM7100A (TCP/IP Communication)	
Expansion I/O Board		EIO88 (8 Inputs / 8 Relay Outputs)	

5. IDENTIFYING SUPPLIED PARTS

Please unpack and check the contents of the box.

(Optional accessories, if purchased, may be included in the package.)
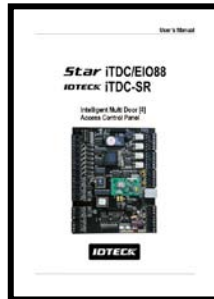
Main Unit (1 ea)	User's Manual (1 copy)	Diode (4 ea)

* Optional Accessories

  EIO88 (Expansion I/O Board)

  Keypad (16 keys) and LCD Display Module

  TCP/IP Module (IIM7100A)

6. PRODUCT OVERVIEW

6.1. FUNCTIONS

Stand-Alone Operation

The iTDC has such a capability of those 4 readers (4 Door Controls). The unit receives the card ID numbers from the proximity readers and determines whether or not to unlock the door. When an input signal is entered, for example from a sensor activated or an exit button pressed, the controller generates and logs an appropriate response by input signals. All events are stored into the memory buffers and sent to the host computer. The access controller is a true stand-alone device that, in the event of malfunction, will not affect to other units when used in conjunction with one another.

Operation with Host Computer

All event transactions can be managed via the host computer. The iTDC saves the status of external input signal and unauthorized/authorized person's entrance/exit into the internal memory. Each kind of data saved can be transmitted from the computer via regulated communication protocol. The data transmitted from the controller can be saved and maintained on the host PC. It is also possible to output (print-out) the reports for the status of person going in/out and alarming.

Data Retention

When power fails, all of the user information and event data in flash memory are retained.

Registration by Keypad

If the iTDC is not connected to the host PC, the integrated keypad and LCD display module can be used for the entire programming process manually, such as card data registration/delete and function set-up/ cancellation.

Anti-Pass-Back

Using an additional proximity reader for exiting, the Anti-Pass-Back mode can be set up. Anti-pass-back mode prevents any entry or exit when the registered user does not properly follow one entry and one exit by the Anti-pass-back rule. APB only allowed exit for the user who has once got into the door first and it doesn't allow any user trying twice entry or twice exit in a row. As it were, as 2 of card readers equipped on the both sides of the entrance and exit of one door, the user has to let the card-reader read the user card properly each time of entrance/exit so that only person who got in with the card read by the card reader equipped on the entrance side can get out also only by letting the card reader read the card for exit. When this rule was not kept, the internal memory saves APB error. Also, when this kind of error happens, it is possible to make the output on the specific output port. APB function can be used for 2 doors each independently or linked together. (Refer to the Number of Door Control setting.)

Number of Door Control (2/3/4 Door Control)

It can control maximum 4 doors with 4 of card readers attached. In case of controlling 2 doors, the Reader 1 and 2 are equipped to the Door 1 and the Reader 3 and 4 are equipped to the Door2. It means that APB can be applied to both doors each. If controlling 3 doors, APB can only be applied to the first door using reader 1 for entry and reader 2 for exit. Door 2 and 3 cannot use APB function as they have only one reader each (Reader3 for Door 2 and Reader 4 for Door 3). If controlling 4 doors, APB function cannot be used so each 4 reader will be equipped to the Door 1, 2, 3 and 4 each. (If controlling 3 and 4 doors, you must use optional Expansion I/O board (EIO88) to install Exit Button, Door Contact Sensor, Door Lock and Alarm devices for the Door 3 and 4.)

Input / Output

The iTDC has 7 built-in inputs and 7 outputs (4 relay outputs and 3 TTL outputs). The input port can get those inputs such as exit button and fire sensor. Also, the door lock and alarm devices can be attached on those 4 of relay outputs so the in/output signal can be applied/used for various usages. Moreover, the output time can be also set-up on these output ports.

Optional Expansion I/O

1 of the optional Expansion I/O board (EIO88, additional 8 inputs and 8 output relays) can be connected to the iTDC. It can control the output of the expansion I/O board by the iTDC input and the output of the expansion I/O board by the reader.

Input Device Type Set-up (NO, NC)

If the input device is normal open (NO) type sensor, the user has to setup the input device type to (NO) so that the iTDC will be activated when the input port makes short circuit to ground. If the input device is normal close (NC) type sensor, the user has to setup the input device type to (NC) so that the iTDC will be activated when the input port makes open circuit. All input device type can be programmed by software program on the host computer. (This setup is also applied to optional Expansion I/O board.)

Time Schedule Set-up

As specific time zone is set up, this function allows set-up action only within the set-up time range. Upon each time schedule code, the user can select the time zone and transfer to the device. For the time range of Monday to Friday and holiday (see Holiday Schedule set-up), maximum 5 different time zones a day can be divided and set-up. Each time schedule code can have each different (or same) one code for holiday.

Entrance Time Limit of the Registered Card – In case of the card registration, please input those time schedule codes upon each reader. Within the set-up time range, it normally operates. When out of the set-up time range, it outputs the time schedule error.

Input Port Operating Time Limit – Please input the time schedule codes for each input port. Within the set-up time range, it just ignores the signal even if the signal is recognized on the input port.

Output Port Operating Time Limit – Please input the time schedule codes for each output port. Within the set-up time range, every signal gets output on the output port.

Reader Mode Operating Time Limit – In case of the reader mode is set-up as RF + PW (password), just RF is necessary for normal operating within the set-up time range.
When out of this time range, both of RF and PW (password) are necessary for normal operating.

Holiday Schedule Set-up

Except for Sunday, 100 holidays (legal holidays and day-off for shift working system) can be programmed for one holiday code. (As for those selected dates, it is possible to set up the time schedule so the entrance/exit can be possible only for the permitted time range.) Each holiday code can be set-up at each time schedule code.

    Example: A. Holiday schedule 01 linked to time schedule 01,

Holiday schedule 02 linked to time schedule 02

B. Holiday schedule 02 linked to time schedule 01,
Holiday schedule 01 linked to time schedule 03

Door Open Alarm and Door Open by Force Alarm

The Door Open Alarm function is to notice the administrator that any case of the door opened even after the normal opening time and waiting time. (The output port can activate the output signal. The error status with the time can be saved and transmitted upon the PC program's request.) The Door Open by Force Alarm function is to activate the alarm when the door is opened by force. If the waiting time passed with this status, the door open time excess status will be activated again.

Duress Alarm

This function is used to notice any case that the door has to be opened by force. In case of duress, enter the 2 digits Duress Password and <ENT> key before the normal access process then the door will be opened as normal but the duress alarm is also generated at the same time and the duress alarm output will be activated to TTL output and alarm event will be sent to the host PC.

ARM / DISARM Function for Alarm Panel

After setup of arm/disarm code, the user enters arm code and present special card ID to the reader. The iTDC is set to arm condition and also generate output(s) for burglar alarm system. All readers in arm condition do not read any cards.

Two Men Operation

This function allows visitors to enter and exit only with a companion of an authorized guide. The iTDC opens the door when two registered cards are read.

Two Levels of Individual Door Opening Time Setting for Handicapped Person

This function is used to set two different door opening times for the regular user and handicapped person. This function cannot be used together with arm/disarm function.

6.2. iTDC BOARD LAYOUT

Figure: iTDC Board Layout

① Communication ID Switch

This switch is for communication ID setting of iTDC board. Communication ID is used to communicate with the host computer.

② EIO88 Connector

This EIO88 connector is to connect the optional EIO88 expansion I/O board. iTDC can expand 8 input/output by attaching EIO88 board.

③ Buzzer

This is an internal buzzer, which makes beep sounds when keypad is pressed from the optional keypad and the sound also generates to notice alarm status.

④ Initialization S/W

These switches are to initialize user data in the memory. To be default setting by Initialization, press the two switches simultaneously then keep pressing more than 2 seconds to initialize properly.

⑤ Relay #1 ~ Relay #4 Output Ports

These are 4 FORM-C (COM, NO, NC) relay output ports at DC12~24V, Max 2A current.

⑥ TTL #1 ~ TTL #3 Output Ports

These are 3 TTL outputs.
The normal logical state of TTL output is Low (DC0V) and activates to High (DC5V).

⑦ TCP/IP Connector

This is the RJ-45 connector to connect Ethernet cable.
The iTDC can equip 1 TCP/IP converter module internally(Optional).

⑧ TCP/IP Module Connector

This is connector to insert TCP/IP module (IIM7100A). TCP/IP module is offered optionally.

⑨ LED #1 ~ LED #2

These 2 LEDs indicate status of communication. LED #1 is for RX status, which blinks when data is normally received from the PC. LED #2 is for TX status, which blinks when data is transmitted to the PC after data is processed normally on the PC.

⑩ RS-232 Serial Communication Port

The iTDC has one of RS-232 communication port for such short distance individual connection with the PC.

⑪ RS-422 Serial Communication Port

This is RS422 communication port for such long distance connection of multiple boards up to 256 units to PC by multi drop communication. The RS422/ RS232 converter is necessary for connecting RS422 port to PC.

⑫ Power Port

This is main power port. iTDC is working at DC12V and max 350mA current. (It is applied only when door lock devices, alarms, sensors and reader is not connected.)

⑬ **LED #3 ~ LED #6**

These 4 LEDs indicate the status of TCP/IP module when communicating through the TCP/IP module. (LED #3 - Connection Status, LED #4 - 10Mbps, LED #5 - 100Mbps and LED #6 - communication status indicator)

⑭ **LED #7**

This red-colored LED is power indicator and it always on when power is supplied to the control board.

⑮ **LED #8 ~ LED #14**

These 7 LEDs indicate output status. Each LED is on when the corresponding output is activated. (LED #8 - Relay #1, LED #9 - Relay #2, LED #10 - Relay #3, LED #11 - Relay #4, LED #12 - TTL #1, LED #13 - TTL #2 , LED #14 - TTL #3 output.)

⑯ **Keypad Connector**

This is an optional keypad connector. It can be used with the optional LCD display module for manual setup. It is possible to set/cancel functions and register/delete the card data individually by the keypad. (But, the output time set-up of time schedule input and reader input can be set only on the software.)

⑰ **LED Expansion Port (J2~J4):**

This port is to indicate the LED #1 ~ #2 (communication status LED) and LED #7 (power LED) expanding to external.

⑱ **LCD Connector**

This is an optional LCD Display connector. It can be used with optional keypad for manual setup. It is for checking the device's set-up status.

⑲ **Reader #1 ~ Reader #4 Port**

These ports are to connect 4 readers to the iTDC.

⑳ **Input #1 ~ Input #7 Port**

There are input ports to connect 7 input devices to the iTDC.

㉑ **LED #15 ~ LED #21**

These 7 LEDs indicate the input status. Each LED is on when the corresponding input is activated. (LED #15 - Input #1, LED #16 - Input #2, LED#17 - Input #3, LED #18 - Input #4, LED #19 - Input

#5, LED#20 - Input #6, LED #21 - Input #7.)

22 Nema Case Fixing Hole

These holes used to attach the iTDC board to the Nema case.

23 EIO88 Fixing Hole

These holes used to attach the EIO88 (optional) on the iTDC board.

6.3. OPTIONAL ACCESSORIES

6.3.1 EIO88 EXPANSION I/O BOARD

The EIO88 board features:
8 Inputs ports
8 FORM-C Relay Output ports
4 Inputs can be configured to Door 3 ~ 4 as of exit buttons and door contact sensors.
4 Output Relays can be configured to Door 3 ~ 4 as of door locks and alarm devices.
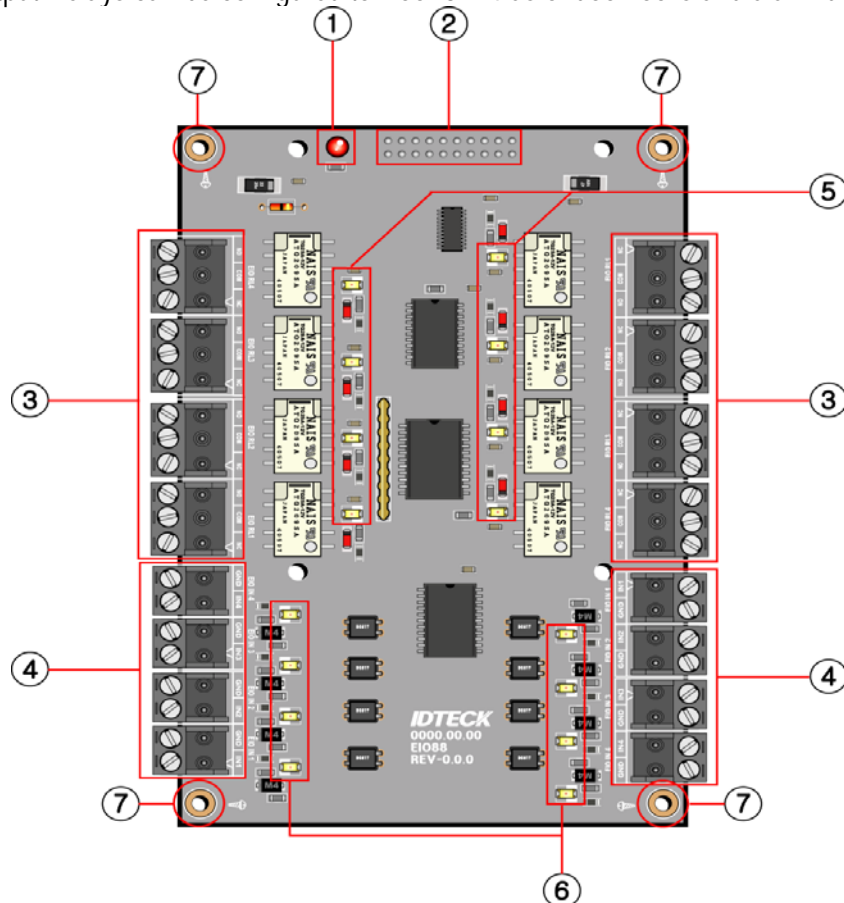
Figure: EIO88 Expansion I/O Board Layout

① LED #17

This red-colored LED is the power indicator. It remains turned on when the power is supplied to the EIO88 board.

② EIO88 Connector

This EIO88 connector is for connecting the EIO88 board to iTDC main control board.

③ Relay #1 ~ Relay #8

These are 8 FORM-C (COM, NO, NC) relay output ports at DC12~24V and max 2A current.

④ Input #1 ~ Input #8

These are 8 input ports. .

⑤ LED #1 ~ LED #8

These 8 LEDs indicate output status. Each LED is on when the corresponding output is activated.
(LED #1- Relay #1, LED #2- Relay #2, LED #3- Relay #3, LED #4- Relay #4,
LED #5- Relay #5, LED #6- Relay #6, LED #7- Relay #7, LED #8- Relay #8)

⑥ LED #9 ~ LED #16

These 7 LEDs indicate input status. Each LED is on when the corresponding input is activated.
LED#9- Input #1, LED10- Input #2, LED11- Input #3, LED12- Input #4,
LED#13- Input #5, LED14- Input #6, LED15- Input #7, LED16- Input #8

⑦ Fixing Hole

These holes are used to attach the EIO88 on the iTDC board.

6.3.2 TCP/IP MODULE
The user can add an optional TCP/IP module (IIM7100A) and this module can be used if the user wants TCP/IP communication to the host PC.

6.3.3 LCD DISPLAY MODULE
The user can connect the optional LCD display module to the iTDC main control board and the user can use the LCD display module with the optional keypad when the user sets up all functions to the iTDC manually.

6.3.4 KEYPAD

The user can connect the optional Keypad to the iTDC main control board and the user can use the keypad with the LCD display module when the user sets up all functions to the iTDC manually.

7. INSTALLATION TIPS & CHECK POINTS

iTDC / iTDC-SR can be installed with the common hand tools and readily available communications wire. This section provides information about wiring, wire runs, and the other information to make the installation quick and easy.

7.1. CHECK POINTS BEFORE INSTALLATION

7.1.1 SELECTION OF CABLE

System installation cabling will be configured as follow:
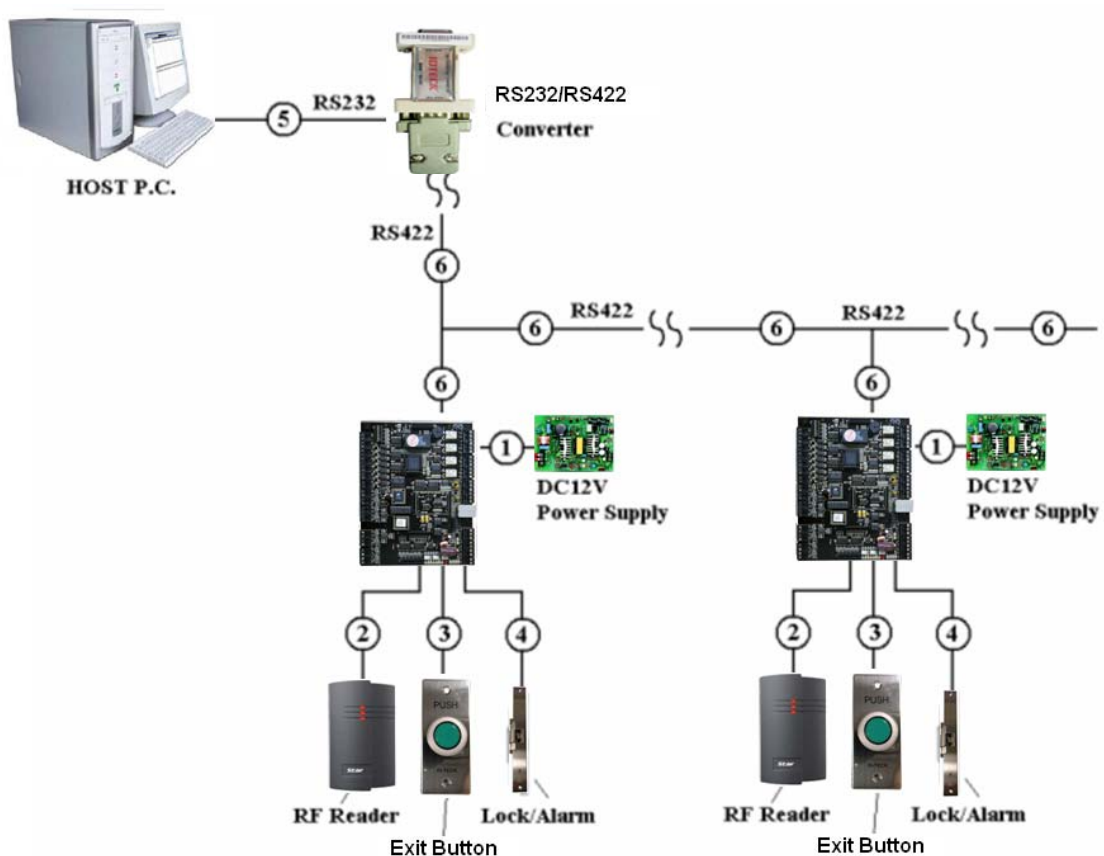
Figure: System Installation Layout

7.1.2 RECOMMENDED CABLE TYPE AND PERMISSIBLE LENGTH OF CABLE

Reference	Description	Cable Specification	Maximum Distance
①	iTDC Power (DC12V) DC Power -> iTDC	Belden #9409, 18 AWG 2 conductor, unshielded	3m
②*	Reader (Power and Data) Extra Reader -> iTDC	Belden #9512, 22 AWG 4 conductor, shielded	150m
		Belden #9514, 22 AWG 8 conductor, shielded	
③	Door Contact Exit Button Sensor Input Input -> iTDC	Belden #9512, 22 AWG 4 conductor, shielded	300m
		Belden #9514, 22 AWG 8 conductor, shielded	
④	Door Lock, Alarm Device Lock (Alarm) -> iTDC	Belden #9409, 18AWG 2 conductor, unshielded	300m
⑤	RS232 Cable Converter -> Host P.C.	Belden #9829, 24 AWG 2-twisted pair, shielded	15m
⑥	RS485 Cable iTDC -> iTDC iTDC -> Converter	Belden #9829, 24 AWG 2-twisted pair, shielded	1,200m
	RS422 Cable iTDC -> iTDC iTDC -> Converter	Belden #9830, 24 AWG 3-twisted pair, shielded	

*: Requires thicker wire if you connect the reader with high current consumption.

7.2 CHECK POINTS DURING INSTALLATION

7.2.1 TERMINATION RESISTOR

The termination resistors are used to match impedance of the network to the impedance of the transmission line being used. When impedance is mismatched, the transmitted signal is not completely absorbed by the receiver and a portion of signal is reflected back into the transmission line.

The decision whether or not to use termination resistors should be based on the cable length and the data rate used by the communication system.

For example, if the user uses 9,600 baud rate and 1,200-m length of cable, the propagation velocity of the cable is 0.66 x speed of light (This value is specified by the cable manufacturer), if we assume the reflections will damp out in three round trip up and down the cable length, the transmitted signal will be stabilized 18.6us after the leading edge of a bit. Since the data bit is captured in the middle of the bit that is approximately 52us after the leading edge of a bit. The reflection stabilizing time 18.6us is much before the center of the bit therefore the termination resistors are not required.

However, if the user installs the cable to maximum length, the impedance of the cable and the network are mismatched and the transmitted signal is overlapped by the reflected signal.

In this case, it is recommended to add the termination resistors to the end of the receiver lines. A 120Ω resistor can be used for termination resistor in parallel between the receiver lines "A" and "B" for 2 wires RS485 system or "RX+" and "RX-" for 4 wires RS422 system. A termination resistor of less than 90Ω should not be used and no more than 2 termination resistors should be used in one networking system.

7.2.2 HOW TO CONNECT TERMINATION RESISTORS
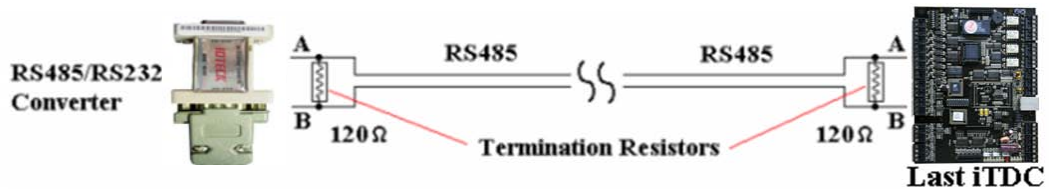
Figure: Termination Resistors for 2 Wire RS485 Communication System
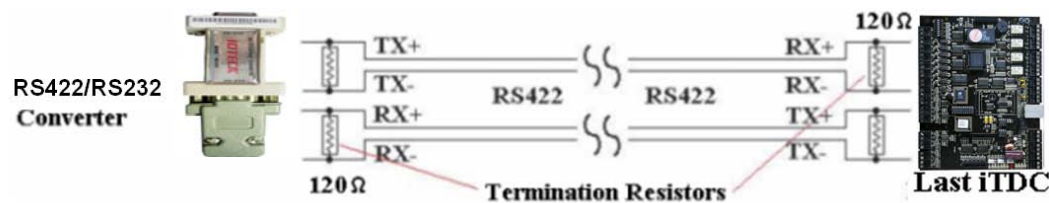
Figure: Termination Resistors for 4 Wire RS422 Communication System

7.2.3 GROUNDING SYSTEM FOR COMMUNICATION CABLE

To use such proper grounding system on the communication cable is recommended. The best method for grounding system is to put the shield wire of the communication cable to the 1st class earth grounding; however it is not so easy to bring the earth ground to the communication cable and also the installation cost is raised.

There will be three grounding points where the user can find during installation;

1) Earth Ground
2) Chassis Ground
3) Power Ground

The most important point for grounding system is not to connect both ends of shield wires to the grounding system; in this case, there will be a current flow through the shield wire when the voltage level of both ends of shield wire is not equal and this current flow will create noise and interfere to communications. For the good grounding, to connect ONLY one end of shield wire of communication cable to the grounding system is recommended; If the user finds the earth ground nearby, then connect one end of shield wire to the earth ground; If the user does not have the earth ground nearby, then find the chassis ground and connect one end of shield wire to the chassis ground; If the user does not find both earth ground and chassis ground, then connect one end of shield wire to the power ground. (GND of iTDC)

Please be noticed about that, if the chassis ground is not properly connected to the earth and

floated from the ground level, then grounding to the chassis ground will give the worst communication; in this case, to use the power ground instead of chassis ground is recommended.
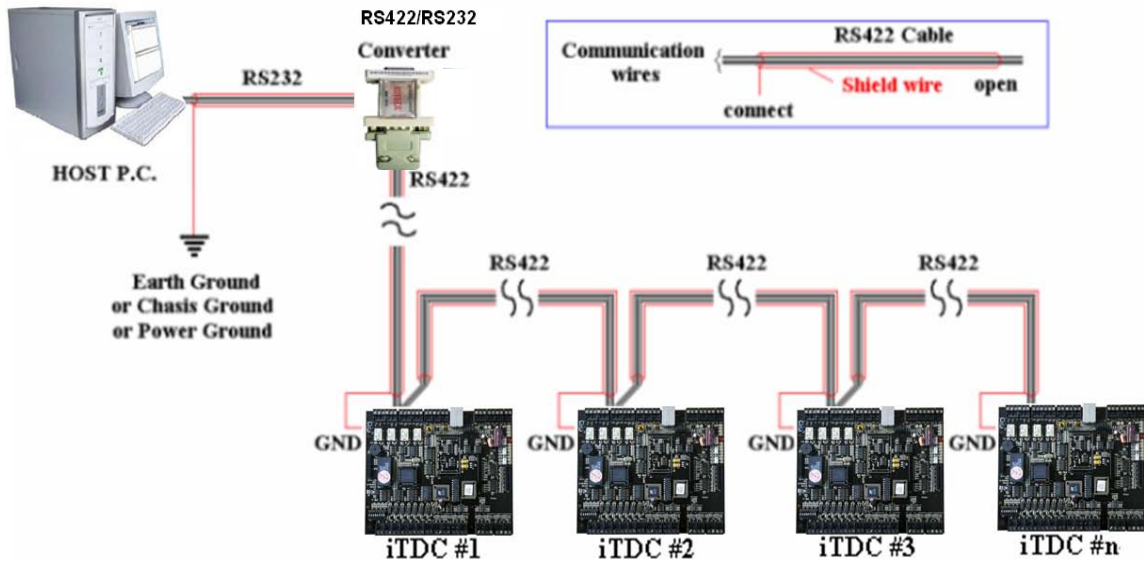
Figure: Grounding System

7.2.4 REVERSE DIODE CONNECTION

If the user connects an inductor (Door Locks or Alarm device) to the output relays, there will be a high surge voltage created while the inductor is turning on and off. If the user does not connect the reverse diode, the surge voltage will be transferred and damage to the electronic circuit of the controller. It is strongly recommended to add a reverse diode between the inductor coils to absorb this surge voltage.
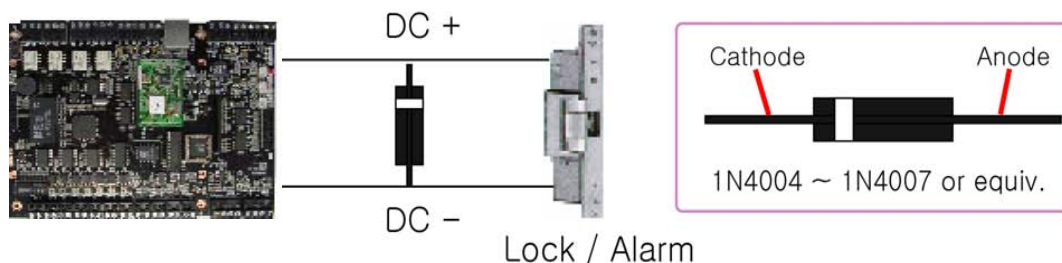
Figure: Reverse Diode Connection

8. INSTALLATION

8.1 DIMENSIONS

Unit: inch (mm)
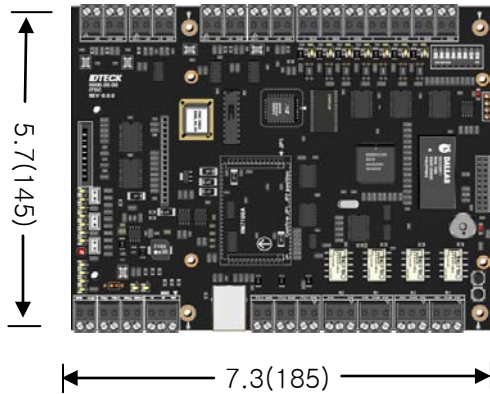
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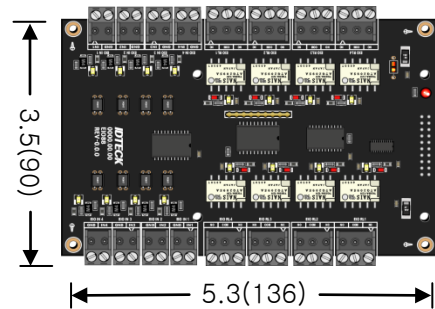
EIO88 DIMENSION
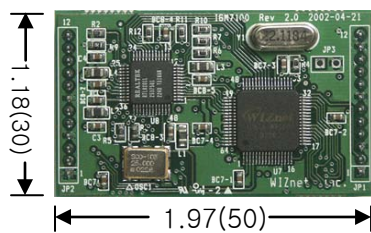
TCP/IP MODULE DIMENSION
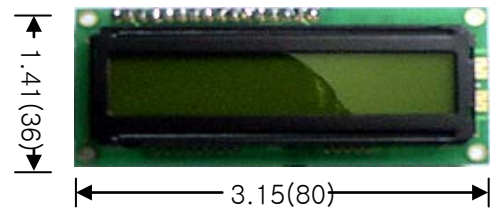
LCD MODULE DIMENSION
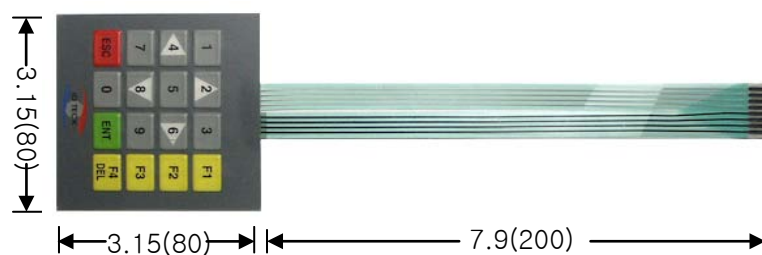
KEYPAD DIMENSION

8.2 BOARD ID (COMMUNICATION ID) SETTING

Board ID is the unique board's address to communicate with the PC. Each board ID on the same communication loop must be different.

There is an 8 channel DIP switch on the right upper side of the iTDC board for board ID setting. Each channel of DIP switch has assigned address values and the board ID is the sum value of each switch set to "ON" position. Board ID can be set from '000' to '256'. Refer to the example below.

⚠ Caution

If more than one iTDC boards are installing, you must set different Board ID for each iTDC board. If it is duplicated, the communication error may occur.

Example 1	Example 2	Example 3
1+2 = 3 (Board ID = 3)	4+32 = 36 (Board ID = 36)	128= 128 (Board ID = 128)

Figure: Board ID Setting Example

8.3 WIRING

8.3.1 POWER

Connect (+) wire of DC 12V power to +12V terminal

Connect GND (-) wire of DC 12V power to GND terminal

8.3.2 INPUT CONNECTION
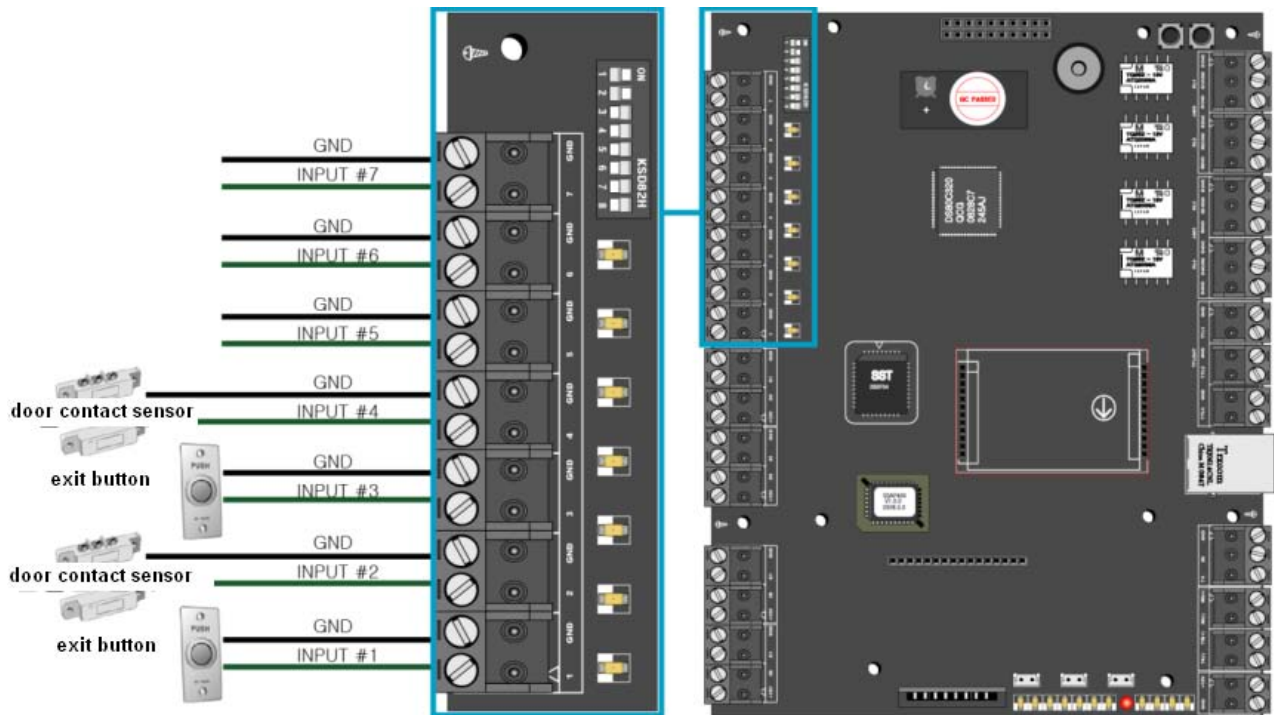
Figure: Input Devices Connection

- ▪ **Exit Button Connection (Input #1, Input #3)**
- - Connect one wire from an Exit Button to Input #1 for the Door1 and to Input #3 for Door2
- - Connect the other wire from the Exit Button to the GND

- ▪ **Door Contact Sensor Connection (Input #2, Input #4)**
- - Connect one wire from a Door Contact Sensor to Input #2 for the Door1 and to Input #4 for Door2
- - Connect the other wire from the Door Contact Sensor to GND

- ▪ **Summary of Input Connections to Corresponding Doors**

2-Door Control	Door1: Input #1 to Exit Button, Input #2 to Door Contact Sensor
	Door2: Input #3 to Exit Button, Input #4 to Door Contact Sensor

3-Door Control	Door1: Input #1 to Exit Button, Input #2 to Door Contact Sensor
	Door2: EIO88 Input #1 to Exit Button, EIO88 Input #2 to Door Contact
	Door3: EIO88 Input #3 to Exit Button, EIO88 Input #4 to Door Contact

Optional EIO88 Expansion I/O Board controls the Exit Button and Door Contact Sensor for Door 2 and Door 3.

4 Door Control	Door1: Input #1 to Exit Button, Input #2 to Door Contact Sensor
	Door2: Input #3 to Exit Button, Input #4 to Door Contact Sensor
	Door3: EIO88 Input #1 to Exit Button, EIO88 Input #2 to Door Contact
	Door4: EIO88 Input #3 to Exit Button, EIO88 Input #4 to Door Contact

Optional EIO88 Expansion I/O Board controls the Exit Button and Door Contact Sensor for Door 3 and Door 4.

▪ **Auxiliary Input Connection (Applied to Input #5, Input #6 and Input #7)**
- Connect one wire from an Auxiliary Input Device to one of the Input #5, #6 and #7.
- Connect the other wire from the Auxiliary Input Device to GND.

※**Note: If you have EIO88 Expansion I/O Board, you can use EIO88 Input #5, Input #6, Input #7 and Input #8 for additional auxiliary input devices.**

8.3.3 OUTPUT CONNECTION
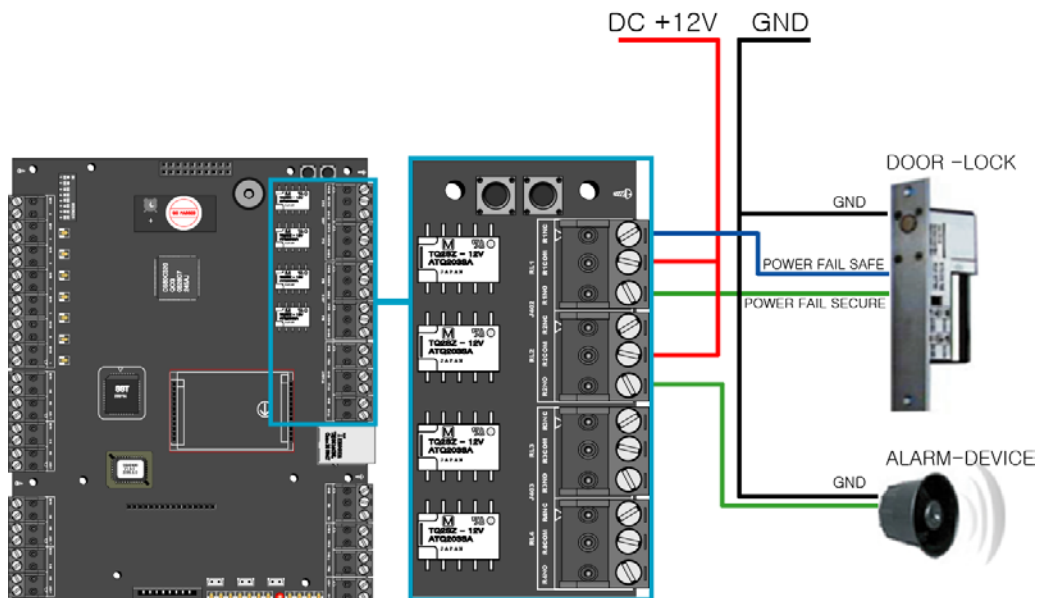
Figure: Door Lock, Alarm Device Connection

- Door Lock (Power Fail Safe) Connection (Door 1: Relay #1, Door 2: Relay #3)

- Connect COM port of Relay #1 and Relay #3 to +12V

- Connect NC port of Relay #1(Door1) and Relay #3 (Door2) to (+) wire of door lock device

- Connect GND port to (-) wire of door lock devices

- Door Lock (Power Fail Secure) Connection (Door 1: Relay #1, Door 2: Relay #3)

- Connect COM port of Relay #1 and Relay #3 to +12V

- Connect NO port of Relay #1(Door1) and Relay #3 (Door2) to (+) wire of door lock device

- Connect GND port to (-) wire of door lock devices

- Alarm Device Connection (Door1 Alarm: Relay #2, Door2 Alarm: Relay #4)

- Connect COM port of Relay #2 and Relay #4 to +12V

- Connect NO port of Relay #2(Door1) and Relay #4 (Door2) to (+) wire of Alarm devices

- Connect GND port to (-) wire of Alarm devices

- Summary of Output Relay connections to corresponding Doors

2-Door Control

Door1: Relay #1 to Door Lock, Relay #2 to Alarm Device
Door2: Relay #3 to Door Lock, Relay #4 to Alarm Device

3-Door Control

Door1: Relay #1 to Door Lock, Relay #2 to Alarm Device
Door2: EIO88 Relay #1 to Door Lock, EIO88 Relay #2 to Alarm
Door3: EIO88 Relay #3 to Door Lock, EIO88 Relay #4 to Alarm
The Door Lock and the Alarm Devices for Door2 and Door3 are controlled by the optional EIO88 Expansion I/O Board.

4 Door Control

Door1: Relay #1 to Door Lock, Relay #2 to Alarm Device
Door2: Relay #3 to Door Lock, Relay #4 to Alarm Device
Door3: EIO88 Relay #1 to Door Lock, EIO88 Relay #2 to Alarm
Door4: EIO88 Relay #3 to Door Lock, EIO88 Relay #4 to Alarm
The Door Lock and the Alarm Devices for Door3 and Door4 are controlled by the optional EIO88 Expansion I/O Board.
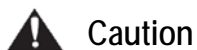
⚠ **Caution**

Direction of Diode must be connected as shown on the following figure.
It is recommended to use Fast Recovery DIODE (current: Min. 1A), 1N4001 ~ 1N4007 or similar
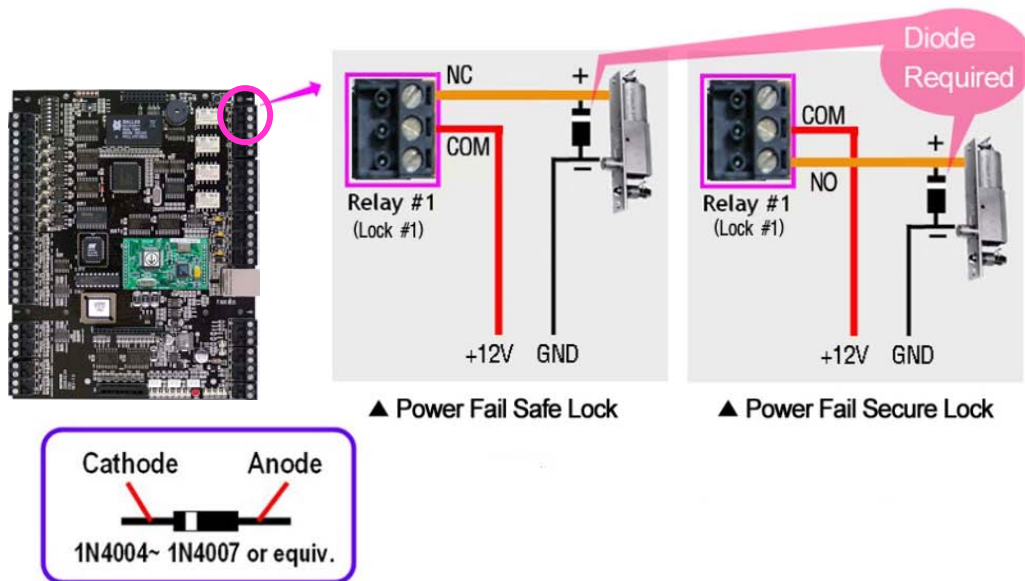
Figure: Door Lock, Diode Connection

8.3.4 READER CONNECTION
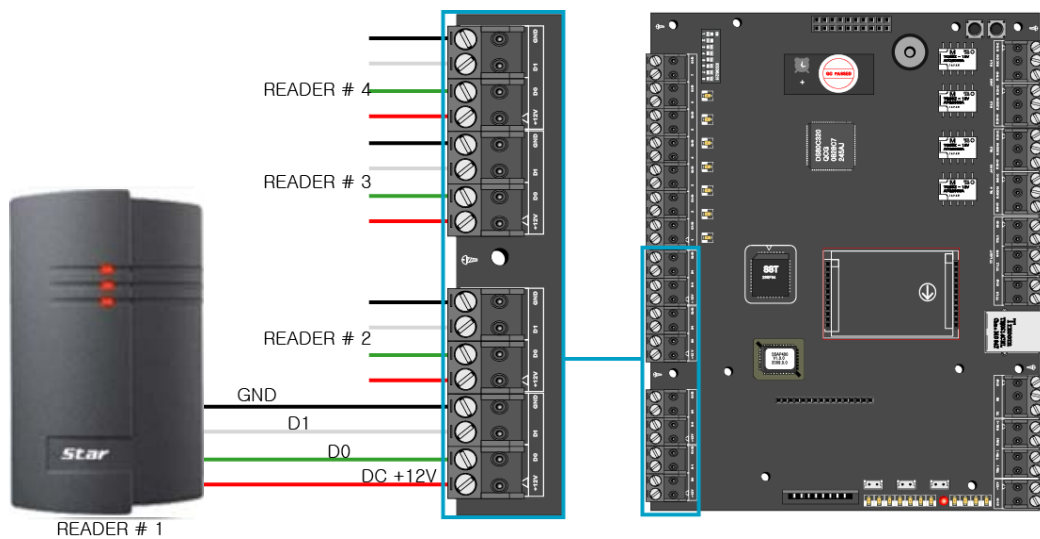
Figure: Reader Connection

■ **Proximity Reader Connection**

- Connect (+) wire of the Proximity Reader to +12V of Reader port
- Connect (-) wire of the Proximity Reader to GND of Reader port
- Connect Data-0 wire of the Proximity Reader to D0 of Reader Port
- Connect Data-1 wire of the Proximity Reader to D1 of Reader Port

■ **Summary of Proximity Reader Locations to Corresponding Doors**

| 2-Door Control | Door1: Reader #1 to Door1 Entrance, Reader #2 to Door1 Exit |
| | Door2: Reader #3 to Door2 Entrance, Reader #4 to Door2 Exit |

3-Door Control
Door1: Reader #1 to Door1 Entrance, Reader #2 to Door1 Exit
Door2: Reader #3 to Door2 Entrance, Exit Button to Door2 Exit
Door3: Reader #4 to Door3 Entrance, Exit Button to Door3 Exit

The optional EIO88 Expansion I/O Board is necessary to control the Door Locks and the Exit Buttons for Door2 and Door3.

4 Door Control
Door1: Reader #1 to Door1 Entrance, Exit Button to Door1 Exit
Door2: Reader #2 to Door2 Entrance, Exit Button to Door2 Exit
Door3: Reader #3 to Door3 Entrance, Exit Button to Door3 Exit
Door4: Reader #4 to Door4 Entrance, Exit Button to Door4 Exit

The optional EIO88 Expansion I/O Board is necessary to control the Door Locks and the Exit Buttons for Door3 and Door4.

▪ **Compatible Readers**:
iTDC: Standard 26bit Wiegand Format Proximity Readers
Standard 26bit Wiegand + 8bit(or 4bit) Burst Format Proximity and Keypad Readers.
iTDC-SR: Standard 34bit Wiegand Format Proximity Readers
Standard 34bit Wiegand + 8bit(or 4bit) Burst Format Proximity and Keypad Readers.

8.3.5 Control of LEDs and Buzzers of Readers:

You can control the LEDs and Buzzers of the connected readers using the relay outputs of the iTDC. With IDTECK readers, you can do it by connecting their respective control wire to GND as instructed below.

▪ **How to Indicate Door Opening Status Using LED of Reader in Power Fail Secure**;
You can set the LED of the reader to be lit during the operation of the Door Lock by connecting the LED Control wire of the Reader to the Relay Output wire between the iTDC and the Door Lock, as follows;
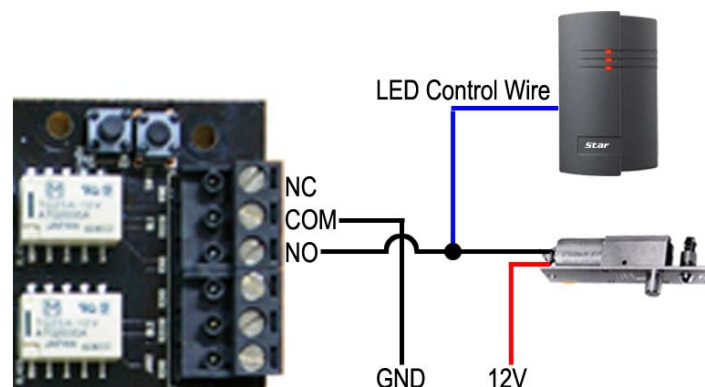
Figure A: Wiring for LED Indication of Door Opening in Power Fail Secure

> ⚠ **Caution**
>
> CAUTION: If you are using a 24V door lock in a Power Fail Secure configuration,
> following the wiring instruction above may cause damage to the Reader. To get around
> this problem, you can connect the LED Control wire to the NC terminal of the iTDC
> instead to use the other LED color.

■ **How to Indicate Door Opening Status Using LED of Reader in Power Fail Safe**;

After Wiegand connection with the Reader is completed, you can connect the LED Control wire as described in Figure A (for a Power Fail Secure configuration) or Figure B (for a Power Fail Safe configuration) to set the Reader to light up the LED during the operation of the Door Lock
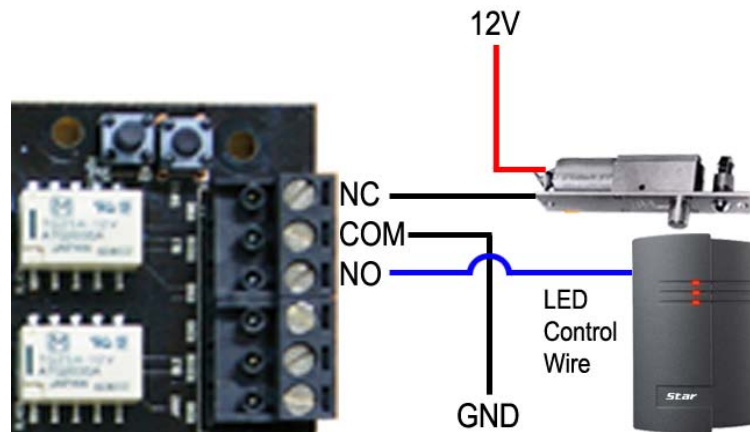
Figure B: Wiring for LED Indication of Door Opening in Power Fail Safe

> ⚠ **Caution**
>
> If you are using separate power sources for the iTDC and the Door Lock, it is advised
> to ground each power source properly.

8.3.6 OPTIONAL ACCESSORY CONNECTION

Expansion I/O Board Connection (EIO88)

- Connect the EIO88 Expansion I/O Board to iTDC as shown on below.
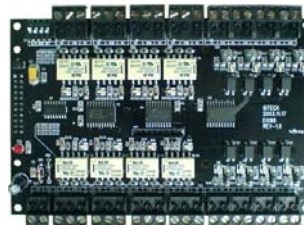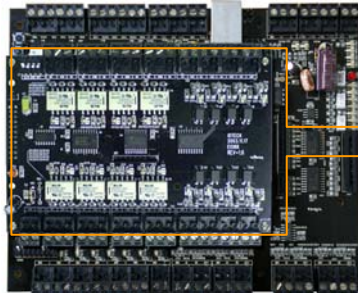
EIO88
(EXPANSION I/O BOARD)

TCP/IP Module Connection (IIM7100, IIM7100A)

- Connect the IIM7100A TCP/IP Module as shown on below.
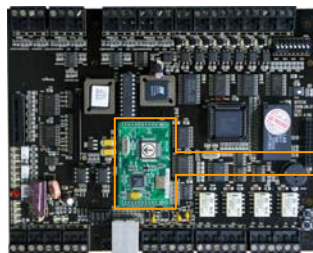
TCP/IP module

Keypad and LCD Display Connection

- Connect the Keypad and LCD Display to the Keypad and LCD ports as shown on below.
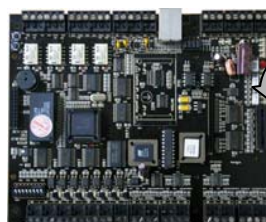
Keypad
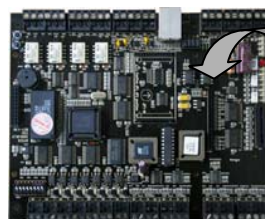
LCD

9. COMMUNICATION

9.1 RS232 COMMUNICATION PORT CONNECTION

A 9-pin connector (Serial communication connector, female) is required to connect the iTDC to a host computer via RS232 communication. Please follow the instructions below;

 - Connect RS232-TX port of iTDC to the pin #2 of the 9-pin connector.
 - Connect RS232-RX port of iTDC to the pin #3 of the 9-pin connector.
 - Connect RS232-GND of iTDC to the pin #5 of the 9-pin connector.
 - Plug in the 9-pin connector to COM1 or COM2 Port of the host PC.
 - Install and run iTDC Application Software
   (STARWATCH iTDC PRO I, II or STANDARD)
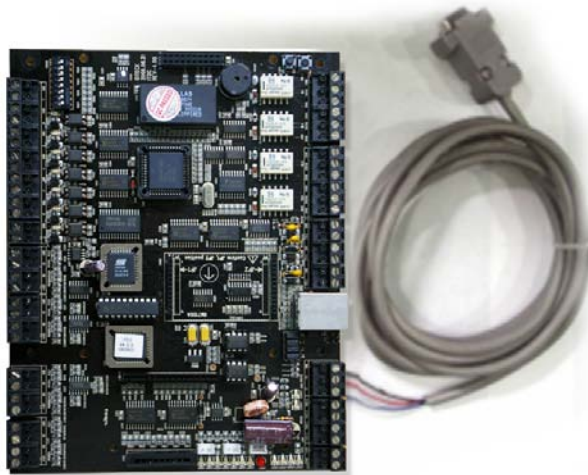
Figure: RS232 Communicaton Cable

9.3 RS-422 COMMUNICATION PORT

9.3.2 RS-422 CONNECTION (STAND ALONE)

RS422/RS232 converter (INC400) is required to use RS422 communication between the iTDC and a host computer. Please follow the instructions below;

 - Connect RS422-TX(+) of the iTDC to RS422-RX(+) port of the converter.
 - Connect RS422-TX(-) of the iTDC to RS422-RX(-) port of the converter.
 - Connect RS422-RX(+) of the iTDC to RS422-TX(+) port of the converter.
 - Connect RS422-RX(-) of the iTDC to RS422-TX(-) port of the converter.
 - Plug in the RS232 9-pin connector of the converter to the COM1 or COM2 Port of the PC.
 - Install and run the iTDC Application Software.
   (STARWATCH iTDC PRO I, II or STANDARD)
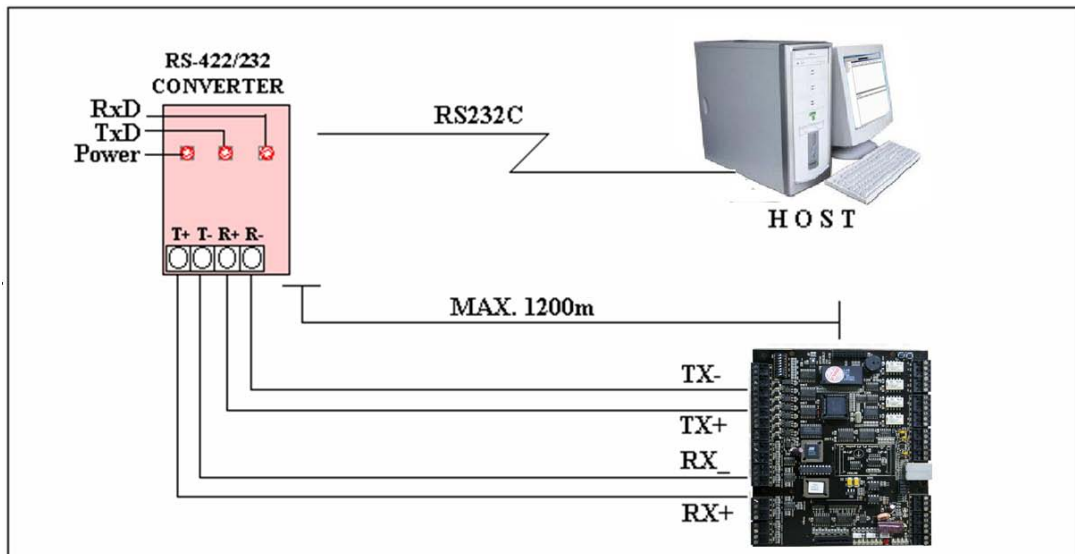
Figure: RS422 Communication between iTDC and Host Computer

9.3.3 RS-422 CONNECTION (MULTIPLE iTDC CONNECTIONS)

RS422/RS232 converter is required to use RS422 communication between multiple iTDCs and a host computer. Please follow the following instructions below;

1 unit of iTDC can use a TCP/IP internal module for communications. And an iTDC used TCP/IP internal module can communicate with other iTDC Controllers by RS422 method.

In this case, the communication must be connected via RS422 method.

First, you have to connect all RS422 port of all iTDCs in parallel.

- Connect RS422-TX(+) of one iTDC to RS422-TX(+) of another iTDC.
- Connect RS422-TX(-) of one iTDC to RS422-TX(-) of another iTDC.
- Connect RS422-RX(+) of one iTDC to RS422-RX(+) of another iTDC.
- Connect RS422-RX(-) of one iTDC to RS422-RX(-) of another iTDC.

Second, you have to connect one of RS422 port of iTDC to RS422/RS232 converter.

- Connect RS422-TX(+) of the one iTDC to RX(+) port of the converter.
- Connect RS422-TX(-) of the one iTDC to RX(-) port of the converter.
- Connect RS422-RX(+) of the one iTDC to TX(+) port of the converter.
- Connect RS422-RX(-) of the one iTDC to TX(-) port of the converter.
- Plug in the RS232 9-pin connector of the converter to the COM1 or COM2 Port of the PC.
- Install and run iTDC Application Software.
  (STARWATCH iTDC PRO I, II or STANDARD)
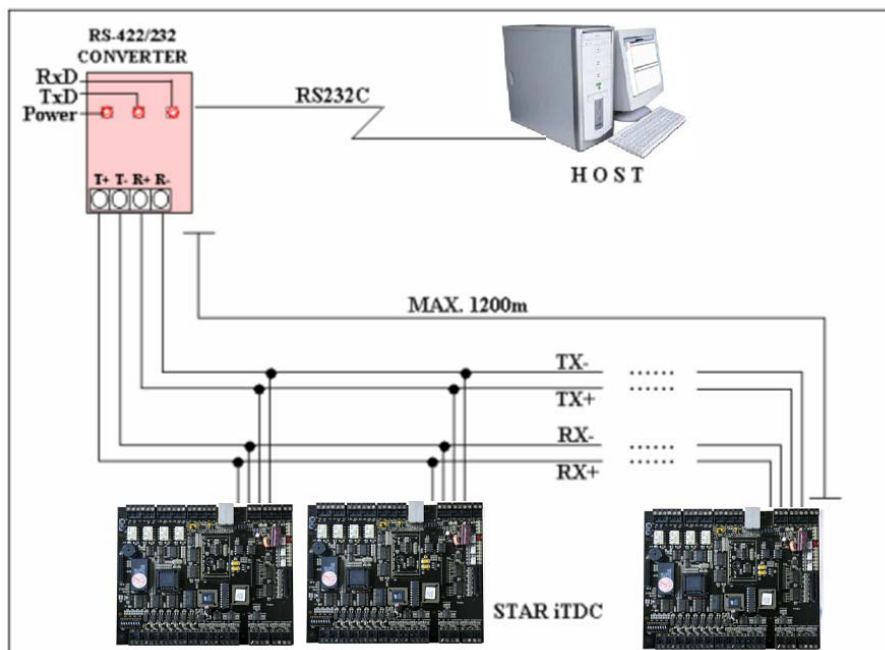
Figure: RS422 Communication between iTDCs and Host Computer

9.4 RS-422 CONNECTION USING THE TCP/IP MODULE (INTERNAL VERSION)

Using an IP (TCP/IP module), multiple iTDCs can communicate with a host computer.

Single unit of main iTDC uses a TCP/IP internal module for LAN communications with the host computer.

The main iTDC communicates with other iTDC controllers using the RS422 connection.

In this case, iTDCs must be connected via RS422 connection.
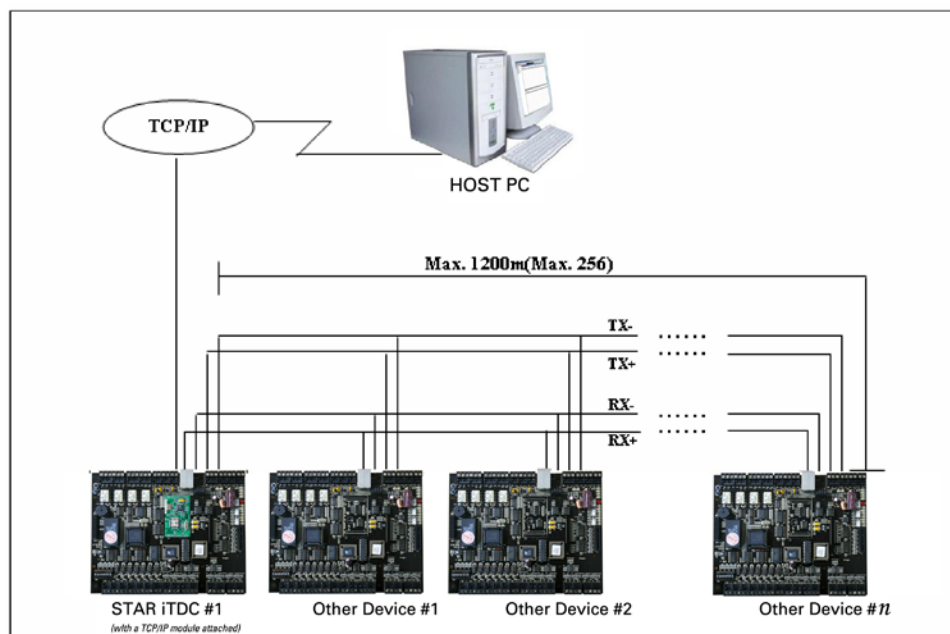
Figure: Multi Drop Connection

9.4.1 TCP/IP CONVERTER (EXTERNAL VERSION)

When using the TCP/IP converter for communication, select either RS232 or RS422.

Figure: TCP/IP Converter between iTDC and Host PC

INTERFACE	iTDC	ILAN422	LINE COLOR
RS232	TX (CON2)	RX (RS232 DSUB9)	BLACK+WHITE
	RX (CON2)	TX (RS232 DSUB9)	RED + WHITE
	GND(CON2)	GND	BLACK
RS422	TX+ (CON3)	RX+ (RS422 CONNECTOR)	GRAY
	TX- (CON3)	RX- (RS422 CONNECTOR)	YELLOW
	RX+ (CON3)	TX+ (RS422 CONNECTOR)	BROWN
	RX- (CON3)	TX- (RS422 CONNECTOR)	BLUE

10. <u>OPERATION STATUS</u>

10.1 LED INDICATORS OF THE iTDC

The LEDs for indicating the status of the iTDC are located as shown on the Figure: iTDC Board Layout (12p). Each LED will be turned on and off as the following status of the iTDC.

LED #1 ~ LED#2

These two LEDs indicate the communication status. The LED #1 blinks while the communication signal is normally being received from the PC. The LED #2 blinks while the iTDC is sending the signals back to the PC after the data being totally treated as normal. (LED #1: RXD, LED #2: TXD)

LED #3 ~ LED #6

If the TCP/IP module is installed, these LEDs indicate the status of the TCP/IP module.
LED #3: Connection Status, LED #4: 10M bps, LED #5: 100M bps, LED #6: Communication Status

LED #7

This LED indicates the status of power supply. The LED is always on if the iTDC is powered on.

LED #8 ~ LED #14

These LEDs indicate the status of the Output ports. The LED is turned on while the output is activated to the output port.

LED #8: Relay #1, LED #9: Relay #2, LED #10: Relay #3, LED #11: Relay #4

LED #12: TTL #1, LED #13: TTL #2, LED #14: TTL #3

LED #15 ~ LED #21

These LEDs indicate the status of the Input ports' signal. When the LED light is on, it means that the signal has been input to the input port. (NC type input device) When NO type input device is connected, the LED is on when the sensor signal is not activated and the LED is off only when the input is activated.

LED #15: Input #1, LED #16: Input #2, LED #17: Input #3, LED #18: Input #4

LED #19: Input #5, LED #20: Input #6, LED #21: Input #7

10.2 LED INDICATORS OF THE EIO88 EXPANSION I/O BOARD

The LEDs for indicating the status of the EIO88 Expansion I/O Board are located as shown in the Figure: EIO88 Expansion I/O Board Layout (15p). Each LED will be turned on and off as the following status of the EIO88 Expansion I/O Board.

LED #17

This LED is for indicating the power status and always on if the EIO88 Expansion I/O Board is powered on.

LED #1 ~ LED #8

These LEDs indicate the status of the Output ports of EIO88 Expansion I/O Board. The LED is turned on while the output is activated to the output port.

LED #1: Relay #1, LED #2: Relay #2, LED #3: Relay #3, LED #4: Relay #4

LED #5: Relay #5, LED #6: Relay #6, LED #7: Relay #7, LED #8: Relay #8

LED #9 ~ LED #16

These LEDs indicate the status of the Input ports' signal. When the LED light is on, it means that the signal has been input to the input port. (NC type input device) When NO type input device is connected, the LED is on when the sensor signal is not activated and the LED is off only when the input is activated.

LED #9: Input #1, LED #10: Input #2, LED #11: Input #3, LED #12: Input #4,

LED #13: Input #5, LED #14: Input #6, LED #15: Input #7, LED #16: Input #8

11. BASIC SETTINGS

You have to connect optional LCD display and Keypad to iTDC for the following manual settings.

11.1 INITIALIZATION

Press down the two initialization switches simultaneously and then keep pressing for 2 seconds. Once buzzer sound is generated, release the two initialization switches then initialization is done and system restarts automatically.

PRESS
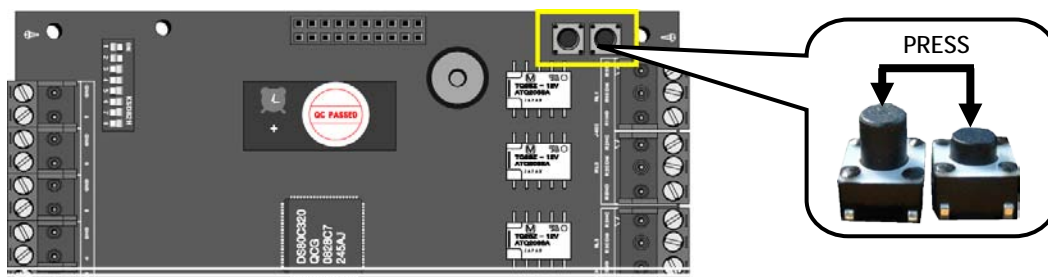
Figure: Position of Initialization Switches

| SYSTEM INITIALIZING... | → | INITIALIZE END SYSTEM RESTART |
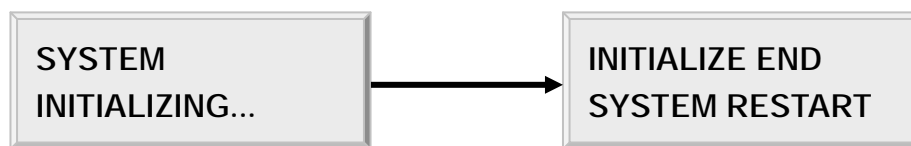
Figure: LCD Display

> ⚠ **Caution**
>
> If you initialize the iTDC, all the data memories such as ID information, communication speed, door setting, time schedule and event information stored in the controller will be cleared and the basic setting values (factory setting values) will be reloaded. Therefore, the Initialization should be performed by authorized personnel only.

11.2 HOW TO ENTER THE SETUP MENU

To set-up or to change the iTDC settings, you have to enter the **SETUP MENU** first. To do so, press the **8 times** <0> key for **Master ID** (**Default setting "00000000"**) and <ENT> key from the optional Keypad then you can get into **SETUP MENU**. There are 4 main **SETUP MENU** and you first get into **[SETUP MENU F1]**. You can move to other **SETUP MENU** by pressing <F1> key for **[SETUP MENU F1]**, <F2> key for **[SETUP MENU F2]**, <F3> key for **[SETUP MENU F3]** and <F4> key for **[SETUP MENU F4]**. There are several **SUB MENU** in the main **SETUP MENU** and you can scroll up and down the **SUB MENU** by pressing <4> and <6> key in the main **SETUP MENU**. If you don't press any key for 60 seconds or if you press <ESC> key then iTDC will exit the **SETUP MENU** then return to normal operation. You can also change the **Master ID** in the [SETUP MENU F2].

The Master ID for iTDC-SR is 10 times <0> key (Default setting "0000000000").

11.3 DOOR SETTING

First, you have to configure "How many doors you want to control by iTDC", as the iTDC will automatically configure the Input sources and Output Relays upon to the number of doors to be controlled by iTDC. Press <F2> key once then press <6> key or <4> key until the LCD shows **[DOOR SETTING]** in the **[SETUP MENU F2]** then press <ENT> key to change the DOOR SETTING. Please follow the steps below for DOOR SETTING and it shows the procedure for 4 DOOR SETTING.

The Master ID for iTDC-SR is 10 digits number (Default setting "0000000000").

STAR iTDC [F1] **01/01 00:00:15** Initial LCD Display	"MASTER ID" + <ENT> 8 times <0> + <ENT>	Press <F2> + 7times <6> Select [DOOR SETTING] + <ENT>

8. DOOR SETTING **2 DOOR**	<ENT>	**8. DOOR SETTING** **->2 DOOR**	<4> or <6>

8. DOOR SETTING **->4 DOOR**	<ENT>	**8. DOOR SETTING** **4 DOOR** 4 DOOR Setting Completed

11.4 DATE AND TIME SETTING

Select **[TIME SETTING]** in the **[SETUP MENU F2]** and enter the Year / Month / Date / hour / minute / second / Day (Total 15 digits) as shown below. LCD will display the new Date and Time after the time setting completed but year and day will not be displayed. iTDC has 24 hours system and day codes are 1 for Sunday, 2 for Monday, 3 for Tuesday, 4 for Wednesday, 5 for Thursday, 6 for Friday and 7 for Saturday.

The Master ID for iTDC-SR is 10 digits number (Default setting "0000000000").

STAR iTDC [F1] **01/01 00:00:15** *Initial Display*	"MASTER ID" + <ENT> 8 times <0> + <ENT>	Press <F2> Select [TIME SETTING] + <ENT>

1. TIME SETTING	<ENT>	**YYYYMMDDhhmmssW** **200910192003302** "Year/Month/Day/Hour/Min./Sec./Day"	<ENT>

1. TIME SETTING **10/19 20:03:30**	<ESC>	**STAR iTDC [F1]** **10/19 20:03:30** LCD displays after time setting
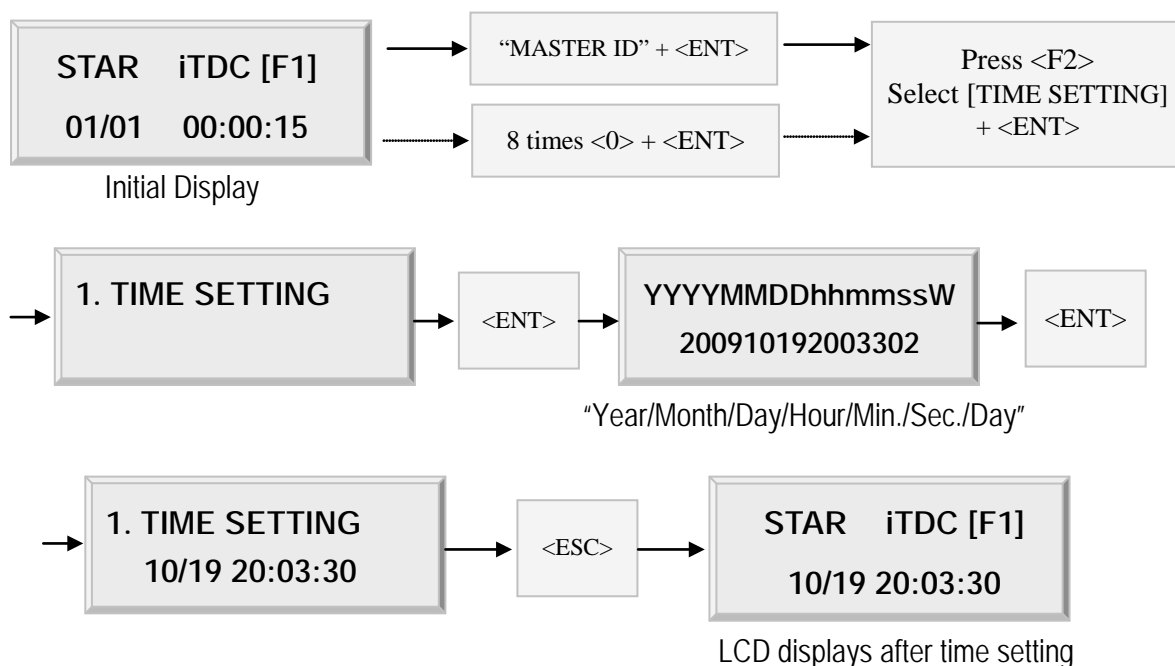
11.5 MAXIMUM USER SETTING

iTDC can register maximum 50,000 user IDs and you can select maximum user ID to be registered into the iTDC from 1,000 to 20,000 users in 1,000 increments. This **MAX USER SET** is to configure maximum user ID to be registered into iTDC. The default ID COUNT is 5,000 Users and the default EVENT Buffer size is 27,500 can be stored when you operate iTDC .

Select **[MAX USER SET]** in the **[SETUP MENU F3]** then set-up the maximum User ID to be registered into iTDC. Follow the steps to set-up ID COUNT.

The Master ID for iTDC-SR is 10 digits number (Default setting "0000000000").

STAR iTDC [F1] **01/20 09:00:33** *Initial Display*	"MASTER ID" + <ENT> 8 times <0> + <ENT>	Press <F3> + <4> or <6> Select [5.MAX USER SET]

```
┌─────────────────────┐          ┌─────────────────────┐
│   5.MAX USER SET     │  ┌─────┐ │   ENTER ID COUNT     │ ┌─────┐
│      05000           │→ │<ENT>│→│      [20000]         │→│<ENT>│
└─────────────────────┘  └─────┘ └─────────────────────┘ └─────┘
```
Enter the number from 1000 to 50000

```
┌─────────────────────┐          ┌─────────────────────┐
│   5.MAX USER SET     │  ┌─────┐ │   STAR iTDC [F1]     │
│      20000           │→ │<ESC>│→│   01/20 09:01:16     │
└─────────────────────┘  └─────┘ └─────────────────────┘
```
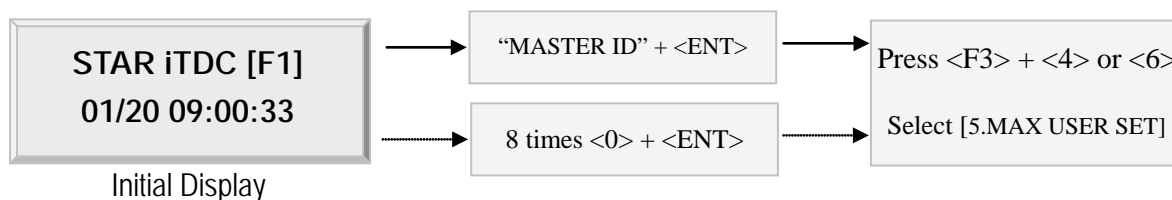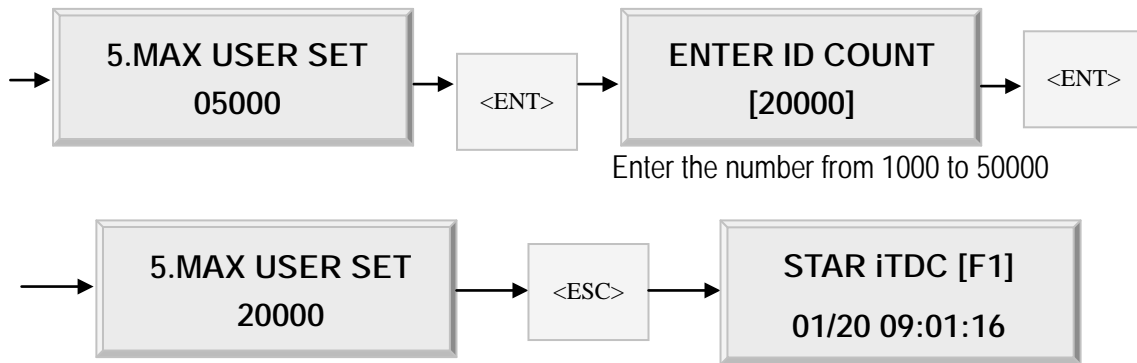
```
┌─────────────────────┐
│   EVENT MEMORY       │
│   NOT EMPTY    !!!    │
└─────────────────────┘
```

☞ This error message will be displayed when you press <ENT> key in the **[MAX USER SET]** menu and it means that some events are still existing in the EVENT Buffer and you may lost the data when you change the MAX USER SET. You may try this setting again after uploading the events to the host PC or deleting them, using the **[SETUP MENU F2]** -> **[EVENT CLEAR]**.

```
┌─────────────────────┐
│   INVALID NUMBER     │
└─────────────────────┘
```

☞ This error message will be displayed when you try to change MAX USER SET less than the total registered User ID. In this case you have to delete some User ID or clear the User ID, using the **[SETUP MENU F2]** -> **[ID CLEAR]** first then try again from the beginning.

IDTECK

11.6 ID REGISTRATION

You can register the User ID into the iTDC. Select **[SETUP MENU F3]** -> **[ID REG.]** then follow the steps below:

The Master ID for iTDC-SR is 10 digits number (Default setting "0000000000").

```
┌─────────────────────┐         ┌──────────────────────┐        ┌──────────────────────┐
│  STAR    iTDC [F1]  │ ──────> │ "MASTER ID" + <ENT>  │ ─────> │   Press <F3> then    │
│  01/20    09:01:23  │         └──────────────────────┘        │       Select         │
│                     │ ······> ┌──────────────────────┐ ·····> │ [ID REGISTRATION]    │
└─────────────────────┘         │ 8 times <0> + <ENT>  │        └──────────────────────┘
     Initial LCD Display        └──────────────────────┘
```

```
          ┌─────────────────────┐      ┌───────┐      ┌─────────────────────┐      ┌─────────────────────────┐
 ──────>  │    1. ID REG.       │ ───> │<ENT>  │ ───> │  ID [_____]      │ ───> │ ID (8digits) + <ENT>    │
          │                     │ ···> │       │ ···> │  PW [____] CODE_    │      │ Password (4digits) + <ENT> │
          └─────────────────────┘      └───────┘      └─────────────────────┘      │ Code (1digit) + <ENT>   │
                                                                                    └─────────────────────────┘

          ┌─────────────────────┐      ┌──────────────────────────┐      ┌─────────────────────┐
 ──────>  │ TA__TB__TC__TD__    │ ───> │ Time Schedule codes + <ENT> │ ─> │ TA00TB00TC00TD00    │
          │ RA_ RB_ RC_ RD_     │      │ Reader Usage codes + <ENT>  │    │   ID Registered     │
          └─────────────────────┘      └──────────────────────────┘      └─────────────────────┘
                                                                                    ┌─────────────────┐
                                                                                    │ Reg. completed  │
                                                                                    └─────────────────┘
```
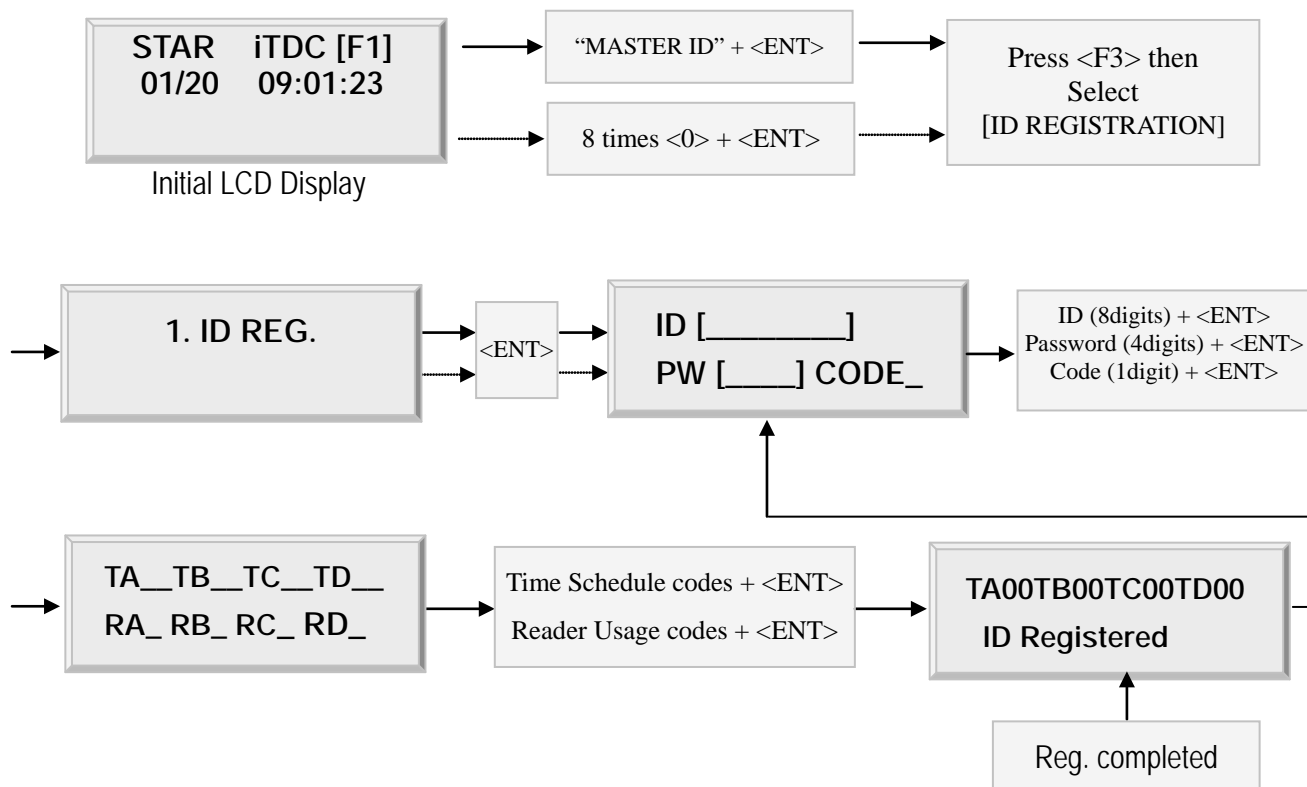
1. **ID [_____]**: ID number consists of 3-digits Facility code from 000 to 255 and 5-digits ID number from 00000 to 65535 so that the 8-digits ID number cannot exceed 25565535. If you don't know the ID number of the proximity cards then select **[SETUP MENU F4]** -> **[READER TEST]** then present the card to the reader to display the ID number. Enter 8-digits ID number then press <ENT> key in the ID [_____] field. (ID number of iTDC-SR has 10-digit number.)

2. **PW [____]**: PW is the password which can be used to access the doors where you install a Proximity and Keypad Reader and set-up the RF + Password operating mode. But regardless of the operating mode, it is necessary to enter a default password (0000) in the PW [____] field when you register ID.

3. **CODE_**: CODE is to enter ID type. Individual ID is distinguished by "0" for general user (0), "1" for 2 men operation then group #1 ID (1), "2" for 2 men operation then group #2 ID (2) or "3" for special ID (3) who can set "arm / disarm function" or "2 level individual door opening time setting".

① **[TWO MEN MODE]: "NOTUSE" / [ARM/DISARM CODE]: "00"**

The group #1 ID (1) and group #2 ID (2) perform same operation with general user (0). The special ID (3) occurs settings of [READER DEFINE] / 17.R1 SPECIAL ID ~ 20. R4 SPECIAL ID in [SETUP MODE F2].

② **[TWO MEN MODE]: "NOTUSE" / [ARM/DISARM CODE]: Any 2digit no. (except "00")**

The group #1 ID (1) and group #2 ID (2) perform same operation with general user. The special ID (3) is used to set "ARM/DISARM ". But the special ID (3) is used as general user (0) if the special ID (3) is authorized to the iTDC /iTDC-SR with not entering "ARM/DISARM CODE".

③ **[TWO MEN MODE]: "USE" / [ARM/DISARM CODE]: "00"**

Make sure that make the group #1 ID (1) and the group #2 (2) present. If you so, the iTDC/iTDC-SR permits to access of two group IDs. The special ID (3) occurs settings of [READER DEFINE] / 17.R1 SPECIAL ID ~ 20. R4 SPECIAL ID in [SETUP MODE F2].

④ **[TWO MEN MODE]: "USE" / [ARM/DISARM CODE]: Any 2digit no. (except "00")**

Make sure that make the group #1 ID (1) and the group #2 (2) present. If you so, the iTDC/iTDC-SR permits to access of two group IDs.The special ID (3) is used to set "ARM/DISARM ". But the special ID (3) is used as general user (0) if the special ID (3) is authorized to the iTDC / iTDC-SR with not entering "ARM/DISARM CODE". To use general access control system, you must input "0" for all users.

4. TA__TB__TC__TD__: TA, TB, TC and TD are Time Schedule code (00-15) for the Readers, TA is the Time Schedule for the Reader #1, TB is for Reader #2, TC is for Reader #3 and TD is for Reader #4. When you present the card to Reader #1 then the cardholder is only allowed the access of the door during the Time Schedule code entered to TA__ and the other Readers are the same manner. To control the accessible Time Schedule for each cardholder, you must set-up the Time schedules first and enter the Time Schedule code here. If you want to access the door anytime for the cardholder then enter default Time Schedule code '00' for the value.

5. RA__RB__RC__RD__: RA, RB, RC and RD are Reader Usage codes for the cardholder. If you put '1' for RA then Reader #1 is accessible and if you put '0' for RA then the cardholder cannot access through the Reader #1 and iTDC generates an error message "Access Door Error" and displays on the LCD. To get access through all 4 Readers, you have to input '1' value for RA, RB, RC and RD.

11.7 OUTPUT SETTING

You can program the output operation by the iTDC application software (STARWATCH iTDC PRO I, II or STANDARD). Please refer to APPENDIX for Default setting values.

12. OPERATION

12.1 NORMAL OPERATION

Power on

When the power is applied to iTDC, the LED #7 is turned on.

Registered card reading

When a registered card (or PIN) is read, the Door (Relay #1, Relay #3) will open for 3 seconds
(Default) with the LED on. (LED #8, LED #10)

Exit Button

To exit from the inside, an Exit Button (or an Exit Reader) can be used.
The Door (Relay #1, Relay #3) will open for 3 seconds with the LED on. (LED #8, LED #10)

Alarms

When an unregistered card is read, the access is denied and the alarm (Relay #2, Relay #4)
will be activated for 3 seconds with the LED on (LED #9, LED #11) along with the buzzer
sound.

12.2 DEFAULT SETTING

When you operate the iTDC first time or you initialize the iTDC, the controller will set-up all
values to defaults (factory settings). You can change the settings for desired application.
Please refer to the 14.APPENDIX (75p) for the default setting values.

13. <u>SETTING CHANGES</u>

```
            ┌─────────────────────────────────┐
            │      INITIAL DISPLAY            │
            │ (MODEL NAME, CURRENT TIME)     │
            └─────────────────────────────────┘
                          │
         ┌────────────────┤
         │                ▼
         │        ◇───────────────◇
         ◄──NO────   ID INPUT ?
                  ◇───────────────◇
                          │
                         YES
                          ▼
                  ◇───────────────◇                        ┌──────────────────┐
                    MASTER ID ?      ──────NO──────►        │ NORMAL OPERATION │
                  ◇───────────────◇                        │      MODE        │
                          │                                └──────────────────┘
                         YES
                          ▼
                  ┌───────────────┐
                  │  SETUP MENU   │
                  └───────────────┘
```

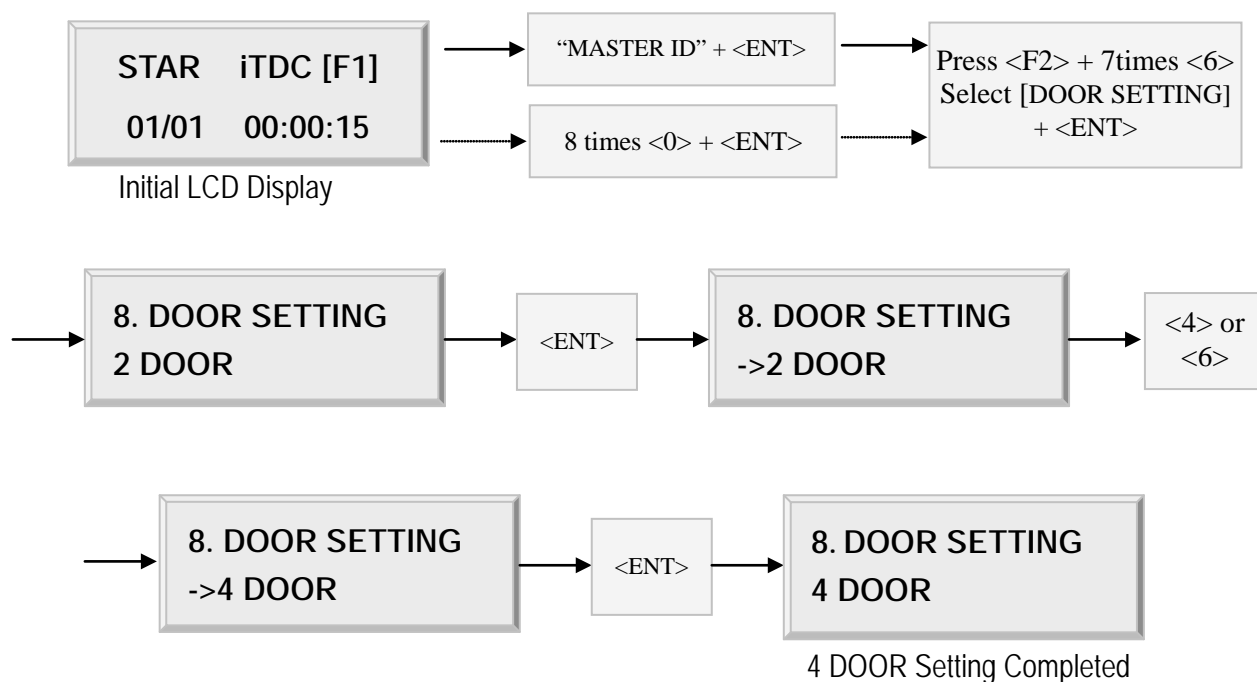| SETUP MENU F1	SETUP MENU F2	SETUP MENU F3	SETUP MENU F4
1. READER 1 MODE	1. TIME SETTTING	1. ID REG.	1. VERSION
2. READER 2 MODE	2. HOLIDAY INDEX	2. ID DELETE	2. RAM TEST
3. READER 3 MODE	3. COMM ID	3. ID LIST	3. OUTPUT TEST
4. READER 4 MODE	4. BAUD RATE	4. REG. ID COUNT	4. LCD TEST
5. DOOR 1 APB	5. MASTER ID REG	5. MAX USER SET	5. KEYPAD TEST
6. DOOR 2 APB	6. EVENT SAFE	6. EVENT COUNT	6. READER TEST
7. RD1 KEY IN	7. DOOR ALARM	7. KEY INPUT MODE	7. INPUT TEST
8. RD2 KEY IN	8. DOOR SETTING	8. ARM/DIS. CODE	8. COMM TEST
9. RD3 KEY IN	9. HOLIDAY SET.	9. ARM/DIS. INPUT	
10. RD4 KEY IN	10. TIME SCHEDULE	10. TWO MEN MODE	
11. RD1 DURESS	11. IN/OUT DEFINE	11. INPUT TS MODE	
12. RD2 DURESS	12. READER DEFINE		
13. RD3 DURESS	13. SYSTEM INIT.		
14. RD4 DURESS	14. EVENT CLEAR		
15. RD1 T/S	15. CARD ID CLEAR		
16. RD2 T/S	16. T/S CLEAR		
17. RD3 T/S			
18. RD4 T/S			
19. R1 OPEN CHECK			
20. R2 OPEN CHECK			
21. R3 OPEN CHECK			
22. R4 OPEN CHECK			

☞. To set-up or to change the iTDC settings, you have to enter the **SETUP MENU** first. To do so, press **8 times <0>** key for **Master ID** (**Default setting "00000000"**) and <**ENT**> key from the optional Keypad then you can get into **SETUP MENU**. There are 4 main **SETUP MENU** and you first get into **[SETUP MENU F1]**. You can move to other **SETUP MENU** by pressing <**F1**> key for **[SETUP MENU F1]**, <**F2**> key for **[SETUP MENU F2]**, <**F3**> key for **[SETUP MENU F3]** and <**F4**> key for **[SETUP MENU F4]**. There are several **SUB MENU** in the main **SETUP MENU** and you can scroll up and down the **SUB MENU** by pressing <**4**> and <**6**> key in the main **SETUP MENU**. If you don't press any key for 20 seconds or if you press <**ESC**> key then iTDC will exit the **SETUP MENU** then return to normal operation. **The Master ID for iTDC-SR is 10 times <0> key (Default setting "0000000000").**

13.1 SETUP MENU F1

```
                            ┌─────────────────────┐        ┌──────────────────────────┐
                      ┌────▶│  1. READER 1 MODE   │───────▶│    RF Only (default)     │
                      │     └─────────────────────┘        ├──────────────────────────┤
                      │            key<4> or <6>            │      RF+PASSWORD         │
                      │     ┌─────────────────────┐        ├──────────────────────────┤
                      │     │  2. READER 2 MODE   │───────▶│    RF Only (default)     │
                      │     └─────────────────────┘        ├──────────────────────────┤
                      │            key<4> or <6>            │      RF+PASSWORD         │
                      │     ┌─────────────────────┐        ├──────────────────────────┤
                      │     │  3. READER 3 MODE   │───────▶│    RF Only (default)     │
                      │     └─────────────────────┘        ├──────────────────────────┤
                      │            key<4> or <6>            │      RF+PASSWORD         │
                      │     ┌─────────────────────┐        ├──────────────────────────┤
                      │     │  4. READER 4 MODE   │───────▶│    RF Only (default)     │
                      │     └─────────────────────┘        ├──────────────────────────┤
                      │            key<4> or <6>            │      RF+PASSWORD         │
                      │     ┌─────────────────────┐        ├──────────────────────────┤
    Searching key     │     │   5. DOOR 1 APB     │───────▶│    NOT USE (default)     │
      <4> or <6>      │     └─────────────────────┘        ├──────────────────────────┤
                      │            key<4> or <6>            │      USE(ALONE)          │
                      │                                     ├──────────────────────────┤
                      │                                     │      USE(ZONE)           │
                      │                                     ├──────────────────────────┤
                      │                                     │      ALL CLEAR           │
                      │     ┌─────────────────────┐        ├──────────────────────────┤
                      │     │   6. DOOR 2 APB     │───────▶│    NOT USE (default)     │
                      │     └─────────────────────┘        ├──────────────────────────┤
                      │            key<4> or <6>            │      USE(ALONE)          │
                      │                                     ├──────────────────────────┤
                      │                                     │      USE(ZONE)           │
                      │                                     ├──────────────────────────┤
                      │                                     │      ALL CLEAR           │
                      │     ┌─────────────────────┐        ├──────────────────────────┤
                      │     │   7. RD1 KEY IN     │───────▶│    DISABLE (default)     │
                      │     └─────────────────────┘        ├──────────────────────────┤
                      │            key<4> or <6>            │      ENABLE              │
                      │     ┌─────────────────────┐        ├──────────────────────────┤
                      │     │   8. RD2 KEY IN     │───────▶│    DISABLE (default)     │
                      │     └─────────────────────┘        ├──────────────────────────┤
                      │            key<4> or <6>            │      ENABLE              │
                      │     ┌─────────────────────┐        ├──────────────────────────┤
                      │     │   9. RD3 KEY IN     │───────▶│    DISABLE (default)     │
                      │     └─────────────────────┘        ├──────────────────────────┤
                      │            key<4> or <6>            │      ENABLE              │
                      └─────────────┘
```

| 10. RD4 KEY IN | → | DISABLE (default) |
| | | ENABLE |

key<4> or <6>

11. RD1 DURESS	→	NOT USE (default)
		USE
		↓
		DURESS 1 P/W

key<4> or <6>

12. RD2 DURESS	→	NOT USE (default)
		USE
		↓
		DURESS 2 P/W

key<4> or <6>

13. RD3 DURESS	→	NOT USE (default)
		USE
		↓
		DURESS 3 P/W

key<4> or <6>

Searching key <4> or <6>

14. RD4 DURESS	→	NOT USE (default)
		USE
		↓
		DURESS 4 P/W

key<4> or <6>

| 15. RD1 T/S | — | 2 Digit number |

key<4> or <6>

| 16. RD2 T/S | — | 2 Digit number |

key<4> or <6>

| 17. RD3 T/S | — | 2 Digit number |

key<4> or <6>

| 18. RD4 T/S | — | 2 Digit number |

19.R1 OPEN CHECK		NOT USE (default)
		USE

Key <4> or <6>

20.R2 OPEN CHECK		NOT USE (default)
		USE

Searching key <4> or <6>   Key <4> or <6>

21.R3 OPEN CHECK		NOT USE (default)
		USE

Key <4> or <6>

22.R4 OPEN CHECK		NOT USE (default)
		USE

* **R2 OPEN CHECK, R3 OPEN CHECK and R4 OPEN CHECK is the same as above.**

13.1.1 READER MODE SETTING

READER 1 MODE	<ENT>	RF ONLY (default)

Seaching key<4> or <6>

| | | RF+PASSWORD |

| 1.READER1 MODE
RF ONLY	☞. It shows READER1 MODE is set to RF ONLY operating mode. If you want to change the mode to RF+PASSWORD operating mode, press <ENT> key.

| 1.READER1 MODE
->RF ONLY	☞. Now you can change the mode by pressing <4> or <6> key to toggle the mode. If you want to set-up the mode displayed then press <ENT> key to accept this mode.
1.READER1 MODE
->RF+PASSWORD	**RF ONLY**: The door is accessible with the proximity card alone.
RF+PASSWORD (4 digit number): The door is accessible with the proximity card and Password.

* **READER2, READER3 and READER4 MODE set-up is the same as above.**

13.1.2 ANTI-PASS-BACK MODE SETTING

**5.DOOR 1 APB
NOT USE**

☞. It shows DOOR1 anti-pass-back operation is not used. Press <ENT> key. (It is only applied when the Door has Exit Reader) For Door1 (2), you must have Reader #1(#2) for entry and Reader #3 (#4) for exit.

**5.DOOR 1 APB
->USE(ALONE)**

**5.DOOR 1 APB
->USE(ZONE)**

☞.   Press <4> or <6> key for searching the APB mode. Press <ENT> key to select the mode.

NOT USE: Anti-pass-back mode is not applied.
USE (ALONE): Door1 (2) Anti-pass-back mode is separately applied.
USE (ZONE): Door1 (2) Anti-pass-back mode is applied together.

Note: If you select USE (ZONE) then the APB flag will be affected to Door1 and Door2. DOOR2 APB mode is set automatically.

Example: When you select USE (ALONE) then Door2 entry is possible after you got in through Door1. When you select USE (ZONE) then Door2 entry is not possible after you got in through Door1. (APB error)

**5.DOOR 1 APB
->All CLEAR**

☞. If you select ALL CLEAR then iTDC will clear all APB flags and all users are allowed to enter or exit once regardless of access status.

* DOOR2 APB mode set-up is the same as above.

13.1.3 KEYPAD INPUT SETTING

**7.RD1 KEY IN
DISABLE**

☞. This function is to set DISABLE/ENABLE the keypad inputs from the Proximity and Keypad Readers. The default setting is DISABLE. If you install Keypad Reader (8bit burst format) and set this mode ENABLE, you can access the Door by pressing 8digit User ID from the keypads.
Press <ENT> key and press <4> or <6> key to select ->ENABLE then press <ENT> key to set-up this function.

**7.RD1 KEY IN
->ENABLE**

* READER2, READER3 and READER4 KEY IN set-up is the same as above.

13.1.4 DURESS MODE SETTING

```
                          ┌──────────────<ENT>──────────────┐
                          │                                 │
┌──────────────────┐     ┌──────────────────────────────────┐
│ READER 1 DURESS   │──<ENT>──►│        NOT USE(default)       │
└──────────────────┘     └──────────────────────────────────┘
        │        │              Searching key<4> or <6>
        │        │           ┌──────────────────────────────────┐
        │        └──────────►│               USE                 │
        │                    └──────────────────────────────────┘
        │                               <ENT>
        │                    ┌──────────────────────────────────┐
        │                    │          DURESS 1 P/W             │
        │                    └──────────────────────────────────┘
        │                               <ENT>
        │                    ┌──────────────────────────────────┐
        │                    │        ENTER NEW P/W              │
        │                    │        (2digit + <ENT>)           │
        │                    └──────────────────────────────────┘
        └──<ENT>──
```
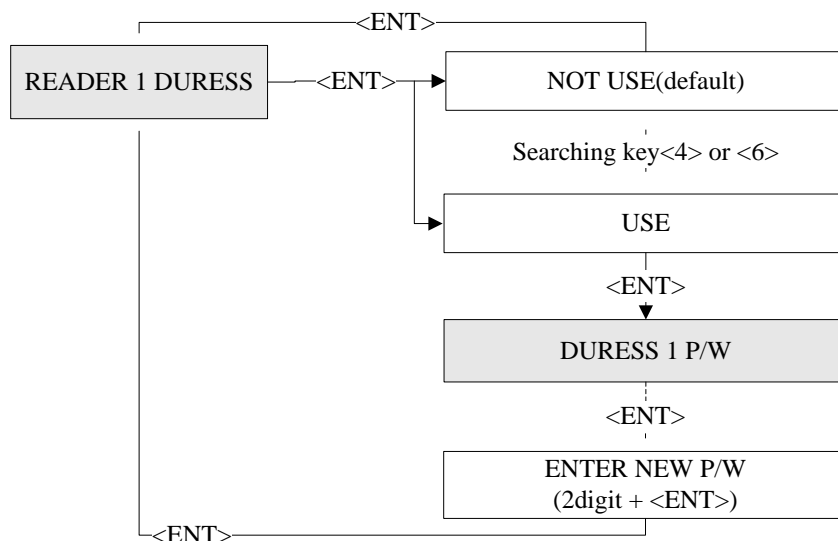
11.RD1 DURESS
NOT USE

11.RD1 DURESS
-> USE

DURESS 1 P/W
00

DURESS 1 P/W
00

☞. You can select whether the DURESS mode is used or not used for READER1. To use this function, you need Keypad Reader. Default setting is NOT USE. If you want to set-up Duress mode then press <ENT> key and select ->USE by pressing <4> or <6> key then press <ENT> key. LCD will display default Duress Password '00'. Press <ENT> key again to enter 2 digit Duress Password then press <ENT> key to finish setting.

Note: In case of Duress, enter the 2 digit Duress Password and <ENT> key then present the card. Door will be opened as normal but the Duress alarm will be generated and reported to the host PC.

* READER2, READER3 and READER4 DURESS set-up is the same.

13.1.5 READER TIME SCHEDULE SETTING

> **15.RD1 T/S**
>   **00**

> **15.RD1 T/S**
>   **00**

☞. If you set-up RF+PASSWORD operating mode for Reader #1 (Refer to READER1 MODE SETTING), you can apply Time Schedule for Reader #1. During the time period of Time Code in the T/S, Reader #1 will operate RF ONLY mode. And the rest of time period, Reader #1 will operate RF+PASSWORD mode.

To apply this function, you have to set-up Time Schedules (T/S) and Holiday Schedules (H/S) from the iTDC Application Software and download T/S with H/S index to the iTDC. Please refer to iTDC Software Manual for detail.

Select READER1 T/S then press <ENT> key. Enter 2 digit T/S index ('00' ~ '15') then press <ENT> key to apply it.

* READER2, READER3 and READER4 T/S set-up is the same as above.

13.1.6 READER OPEN CHECK SETTING

> **19.R1 OPEN CHECK**
> **NOT USE**

☞. You should set to check whether Reader#1 (R1) is opened or not.
Default is "NOT USE".

> **19.R1 OPEN CHECK**
> **USE**

☞. You can change the setting by pressing "4" or "6" key. After changing the setting, press <ENT> key if the setting is completed.

NOT USE : In case of "NOT USE", it doesn't confirm to check about R1 (Reader#1) OPEN.
USE (ALONE) : When R1 (Reader#1) is open, the iTDC sounds beeper and makes event occur. In result, you can confirm status on the PC.

READER OPEN STATUS:
The reader outputs "00000000" through reader's data wire once within 60sec. At this time, if "00000000" is transmitted by the reader in the iTDC, the unit judges that reader is normally connected. Therefore you can know connection status of reader without additional wiring.

* R2 OPEN CHECK, R3 OPEN CHECK and R4 OPEN CHECK is the same as above.

13.2 SETUP MENU F2

1.TIME SETTING	◄───	15 Digit key in

key<4> or <6>

2.HOLIDAY INDEX	◄───	Setup each T/S index (2 Digit)

key<4> or <6>

3.COMM ID	◄───	Display communication ID

key<4> or <6>

4.BAUD RATE	───►	4800
	───►	9600(default)
	───►	19200
	───►	38400

Searching key <4> or <6>

key<4> or <6>

5.MASTER ID REG.	───►	KEY (8 digit)

key<4> or <6>

6.EVENT MEMORY	───►	USE (default)
	───►	NOT USE

key<4> or <6>

7.DOOR ALARM	◄───	2 Digit (default 3 second)

key<4> or <6>

8.DOOR SETTING	───►	2 DOOR(default)
	───►	3 DOOR
	───►	4 DOOR

key<4> or <6>

9.HOLIDAY SETTING	◄───	INDEX : 01 ~ 10 No.: 01 ~ 100

10.TIME SCHEDULE	INDEX : 01 ~ 15 WEEKLY: HOL, SUN···SAT No.: 01 ~ 05

key<4> or <6>

11.IN/OUT DEFINE	01 ~ 07: INPUT #1 ~ #7 08 ~ 15: EIO INPUT #1 ~ #8 16 ~ 19: DURESS MODE #1 ~#4 20: OUTPUT T/S 21: INPUT T/S 22: INPUT TYPE 23 ~ 26: DR TIME OUT 1 ~ 4

key<4> or <6>

12.READER DEFINE	01: R1 ID OK 02: R1 ID ERROR 03: R1 ID T/S ERROR 04: R1 APB ERROR 05: R2 ID OK 06: R2 ID ERROR 07: R2 ID T/S ERROR 08: R2 APB ERROR 09: R3 ID OK 10: R3 ID ERROR 11: R3 ID T/S ERROR 12: R3 APB ERROR 13: R4 ID OK 14: R4 ID ERROR 15: R4 ID T/S ERROR 16: R4 APB ERROR 17: R1 SPECIAL ID 18: R2 SPECIAL ID 19: R3 SPECIAL ID 20: R4 SPECIAL ID

key<4> or <6>

Searching key
<4> or <6>

13.SYS INITIALIZE	YES / NO

key<4> or <6>

14.EVENT CLEAR	YES / NO

key<4> or <6>

15.CARD ID CLEAR	YES / NO

key<4> or <6>

16.TIME SCHE CLEAR	YES / NO

* Please refer to 14. Appendix on this manual (75p) for default values.

13.2.1 TIME SETTING

```
1.TIME SETTING
  10/19 20:43:10
```

```
YYYYMMDDhhmmssW
— — — — — —  — — — —
```

☞. Press <ENT> key and enter 15 digit Date/Time codes then
    <ENT> key to finish setting.
    YYYY: Year, MM: Month, DD: Date
    hh: Hours (24 hours system), mm: Minutes, ss: Seconds
    W: Sun=1, Mon=2, Tue=3, Wed=4, Thu=5, Fri=6, Sat=7
    Example: 200902101330152 => Feb.10, 2009 13:30:15 Mon

13.2.2 HOLIDAY INDEX SETTING

```
2.HOLIDAY INDEX
```

```
   T/S_INDEX 01
HOLIDAY CODE 00
```

☞. Holiday Index is to link the Holiday Schedule (H/S) to Time
    Schedule. You can set-up one of holiday index (01~10) to one
    of T/S index (01~15) so that the Holiday Time Code in the T/S
    can be applied for the Holidays in the H/S. Default HOLIDAY
    CODE is '00' which means no holidays are applied to T/S.
    Select HOLIDAY INDEX menu and press <ENT> then select
    desired T/S_INDEX (01~15) by pressing <4> or <6> key then
    press <ENT> key to input 2 digit HOLIDAY CODE and
    <ENT>.

13.2.3 COMMUNICATION ID (ADDRESS) DISPLAY

```
3.COMM ID
      000
```

☞. This menu shows the current communication ID of the iTDC.
    If multiple iTDC units are connected to one host PC, each
    unit must be configured to different communication ID.

    Note: You can change COMM ID by DIP switch setting of the
    iTDC.

13.2.4 BAUD RATE SETTING

```
4.BAUD RATE
     9600
```

```
4.BAUD RATE
->9600
```

```
4.BAUD RATE
->19200
```

☞. iTDC supports 4800, 9600, 19200 and 38400bps of baud rate
    and default setting are 9600bps. Wrong baud rate setting will
    cause communication errors and you have to set same baud
    rate to iTDC and host PC. If you have communication
    problem, please check followings;
    - Check COMM ID of iTDC and host PC
    - Check BAUD RATE of iTDC and host PC
    - Check communication port and cable
    - Check COM port set-up of host PC
      Parity Bit: None, Data Bit: 8 bit, Stop Bit: 1 bit
    To change the baud rate, press <ENT> key and select desired
    baud rate by pressing <4> or <6> key then press <ENT> key.

13.2.5 MASTER ID CHANGE

| 5.MASTER ID REG | ☞. Press <ENT> key to change the current Master ID ("00000000"). You should use the new Master ID to access the SETUP MENU after you changed the Master ID. |

| 5.MASTER ID REG
[_____] | ☞. You should use 8 digits number for Master ID. Press <ENT> key and enter the new 8 digits Master ID and <ENT> key. |

| MASTER CARD
REGISTERED | ☞. Master ID is now changed and stored in the memory. LCD shows new Master ID is registered successfully. |

The Master ID for iTDC -SR is 10 digits number (Default setting "0000000000").

13.2.6 EVENT MEMORY SETTING

| 6.EVENT SAFE
USE | ☞. You can select whether you use event memory or not. When you select USE and in case of event memory full then iTDC generates an error message and keeps all events stored in the memory. When you select NOT USE then iTDC will not generate an error and new event overwrite into the event buffers. If you use iTDC for standalone (just for door access) then select NOT USE. |
| 6.EVENT SAFE
->NOT USE | |

13.2.7 DOOR OPEN ALARM SETTING

| 7.DOOR ALARM
03 | ☞. When the door is still opened after the door unlock time, you may set this alarm function. To use this function, you have to install Door Contact Sensor on the door and set-up the output of Door Contact Sensor from the iTDC Application Software. '03' is default. |
| 7.DOOR ALARM
99 | 00: Alarm if the door is opened after the door unlock time
01~98: Alarm if the door is opened after the set time (01~98s)
99: No alarm |

13.2.8 DOOR SETTING

| 8.DOOR SETTING
2 DOOR | ☞. Set-up how many doors to be controlled by the iTDC.
   2 DOOR: Reader#1-Door1 Entry, Reader#2-Door1 Exit
                    Reader#3-Door2 Entry, Reader#4-Door2 Exit
   3 DOOR: Reader #1-Door1 Entry, Reader #2-Door1 Exit
                    Reader#3-Door2 Entry, Reader#4-Door3 Entry |
| 8.DOOR SETTING
->2 DOOR | **4 DOOR:**   Reader#1, #2, #3, #4-Door1, 2,3,4 Entry
  Note: Door setting must be set-up first before other set-up.
Please refer to section 8.3 DOOR SETTING. |

13.2.9 HOLIDAY SETTING

```
┌──────────────┐              ┌─────────────────────┐
│ HOLIDAY SET  │──<ENT>──────▶│ DISPLAY CURRENT T/S │
└──────────────┘              └─────────────────────┘
                                        │
                              ┌─────────────────────────────┐
                              │ SELECT T/S NUMBER AND INDEX  │
                              │   (USE '2','8','4','6' KEY)   │
                              └─────────────────────────────┘
                                        │
                                      <ENT>
                                        ▼
                              ┌─────────────────────┐
                              │ ENTER T/S(4 DIGIT)   │
                              │      (MM:DD)         │
                              └─────────────────────┘
                                        │
      NO                          ╱─────────────╲            YES
  or 'ESC'  ◀─────────────────────    NEXT?      ─────────── or Error
                                    ╲─────────────╱
```
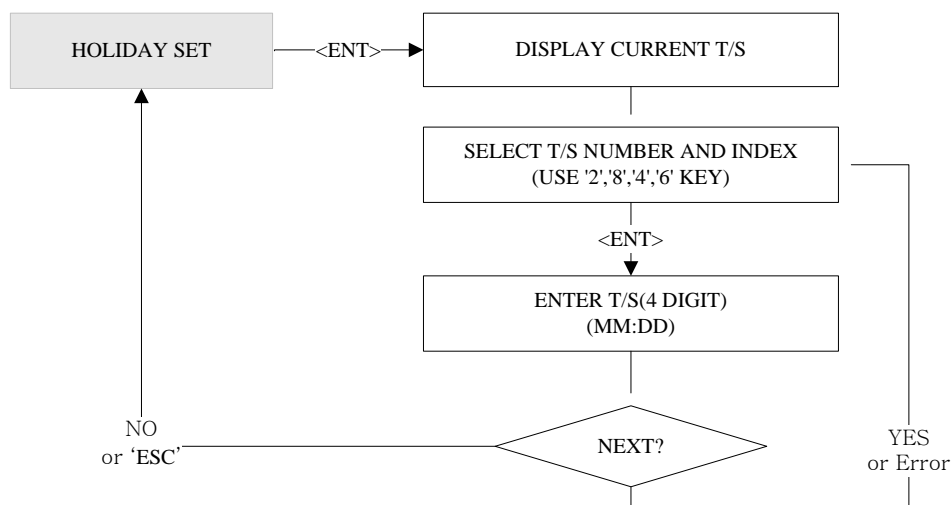
┌──────────────────────┐
│ 9.HOLIDAY SET   │
└──────────────────────┘

☞. You can register up to 100 specified holidays per year for each schedule setting. There can be 10 other registration sets created, meaning holidays can be set for up to 10 years. Press <ENT> to register the days.

┌──────────────────────┐
│ HOL TS: 01   #001   │
│ 00/00   │
└──────────────────────┘

☞. With the <2> key and <8> key, select the Date Registration Set Number (1~10), and with the <4> key and <6> key, select the index for the days (1~100). Press <ENT> key and the cursor will blink. Enter the date, in form of the Month (1~12). The LCD will indicate the defined date. Now a day has been registered. For further registration, repeat the process.

☞. 1) Holiday Time schedule (Date registration set) number: 01 ~ 10(10 years)
   2) Index for the days: 01 ~ 100(100 days)

13.2.10 TIME SCHEDULE SETTING

```
┌──────────────────┐         ┌──────────────────────────────┐
│  TIME SCHEDULE   │──<ENT>─▶│    DISPLAY CURRENT T/S       │────┐
└──────────────────┘         └──────────────────────────────┘    │
        ▲                                │                         │
        │                    ┌──────────────────────────────┐    │
        │                    │ SELECT T/S NUMBER AND INDEX  │    │
        │                    │   (USE '2','8','4','6' KEY)   │    │
        │                    └──────────────────────────────┘    │
        │                                │                         │
        │                              <ENT>                       │
        │                    ┌──────────────────────────────┐    │
        │                    │   ENTER T/S(8 DIGIT)          │    │
        │                    │ (START TIME(hh:mm)-END TIME(hh:mm)) │
        │                    └──────────────────────────────┘    │
        │                                │                 YES or  │
        NO                               │                 Error   │
  or <ESC>            ◀──────────◇  NEXT?  ◇──────────────────────┘
```
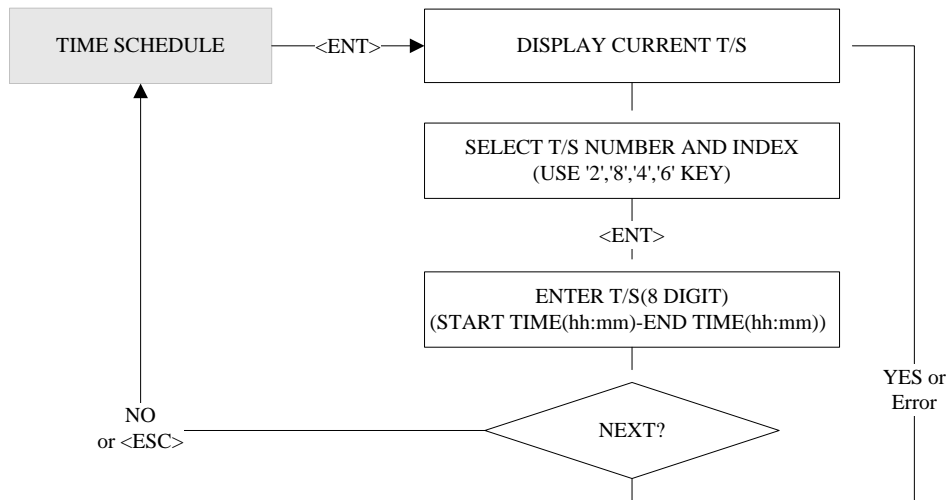
10.TIME SCHEDULE

T/S: 01 HOL #1
00:00 - 00:00

☞. You may program time schedules to grant and restrict access for each user. There can be up to 15 different schedules. Minimum of one schedule must be defined.
If only one schedule is programmed the most common setting allows access for all users 24 hours / day. A time schedule can be programmed for each day of the week and holidays, and five shifts can be defined for each day. To set time schedules, press <ENT> key from this menu.
If you want to set time schedules, press <ENT> key when this figure is displayed.

☞. Press <2> key or <8> key to adjust the Time Schedule (T/S) number (1-15) and the day of the week (Mon-Sun and 'HOL'). Define which shift of the day (1-5), using the <4> key and <6> key. 'HOL' refers to specific holidays you will register. Press <ENT> key, and the cursor will blink, then enter the beginning time of the period, in the form of hour (2-digit): minute (2-digit) and the ending time in the same form. Then the lower line will indicate the defined period. For more schedules, repeat the process. To end time scheduling, press <ESC> key.

☞.   Possible values for time scheduling
1) Time schedule number: 01 ~ 15 (Needed when IDs are registered)
2) A day of the week: MON, TUE, WED, THU, FRI, SAT, SUN, HOL
3) Index: 1 ~ 5 (1 Day is divided and set to 5 sections)

13.2.11 DEFINING OUTPUT TIME IN COMPLIANCE WITH INPUTS

```
┌──────────────────┐              ┌──────────────────────────┐
│  IN/OUT DEFINE   │ ---<ENT>---> │   DISPLAY CURRENT SET     │
└──────────────────┘              └──────────────────────────┘
        ▲                                      ┆
        │                         ┌──────────────────────────┐
        │                         │       SELECT INDEX        │
        │                         │    (USE '4','6' KEY)       │
        │                         └──────────────────────────┘
        │                                    <ENT>
        │                         ┌──────────────────────────┐
        │                         │ ENTER NEW TIME OR INDEX FOR ITDC │
        │                         │ (14 DIGIT OR EVEN DIGIT) + <'ENT> │
        │                         └──────────────────────────┘
        │                                      ▼
        │                         ┌──────────────────────────┐
        │                         │ ENTER NEW TIME OR INDEX FOR EIO88 │
   NO                             │ (16 DIGIT OR EVEN DIGIT) + <ENT'> │
 or <ESC>                         └──────────────────────────┘
                                             ▼          YES or
                                        ◇ NEXT? ◇       Error
```
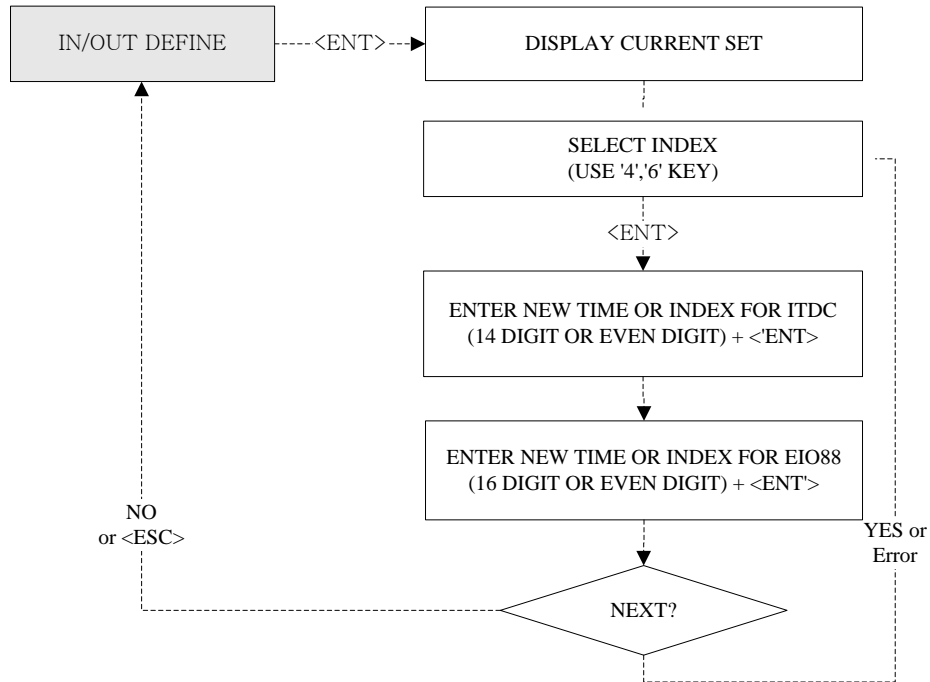
11.IN/OUT DEFINE	☞. You can program or deactivate each output to be generated and choose how long (in seconds) they will last. There are default values as seen in the 14. APENDIX (A. THE RELATION BETWEEN INPUT AND OUTPUT (DEFAULT)

1.iTDC INPUT #1	☞. Select input sources by changing Index numbers with the keys <4> or <6>.

iTDC: 03 00 00 00 00 00 00	☞. Press <ENT> key and you will see a cursor blinking at the first digit from the left of the seven couples of digits (Output of iTDC). Enter the 14 digit (seven couples) key.

EIO: 00 00 00 00 00 00 00 00	☞. Press <ENT> key and you will see a cursor blinking at the first digit from the left of the eight couples of digits (Output of EIO88). To set time for eight couples, press <ENT> key. For more inputs, repeat the process. To end input setting, press <ESC> key.

13.2.12 DEFINING OUTPUT TIME IN COMPLIANCE WITH READER

```
┌─────────────────────┐              ┌─────────────────────────┐
│   READER  DEFINE    │----<ENT>---►│   DISPLAY CURRENT SET    │
└─────────────────────┘              └─────────────────────────┘
          ▲                                       ┊
          │                          ┌─────────────────────────┐
          │                          │      SELECT INDEX        │
          │                          │    (USE '4','6' KEY)     │
          │                          └─────────────────────────┘
          │                                    <ENT>
          │                          ┌─────────────────────────────────┐
          │                          │ ENTER NEW TIME OR INDEX FOR ITDC │
          │                          │ (14 DIGIT OR EVEN DIGIT) + <'ENT>│
          │                          └─────────────────────────────────┘
          │                          ┌─────────────────────────────────┐
          │                          │ENTER NEW TIME OR INDEX FOR EIO88 │
          │                          │ (16 DIGIT OR EVEN DIGIT) + <ENT'>│
          │                          └─────────────────────────────────┘
        NO                                                      YES or
    or <ESC>                            ◇─────────◇             Error
          └ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ◇  NEXT?  ◇─ ─ ─ ─ ─ ─ ─ ┘
                                        ◇─────────◇
```

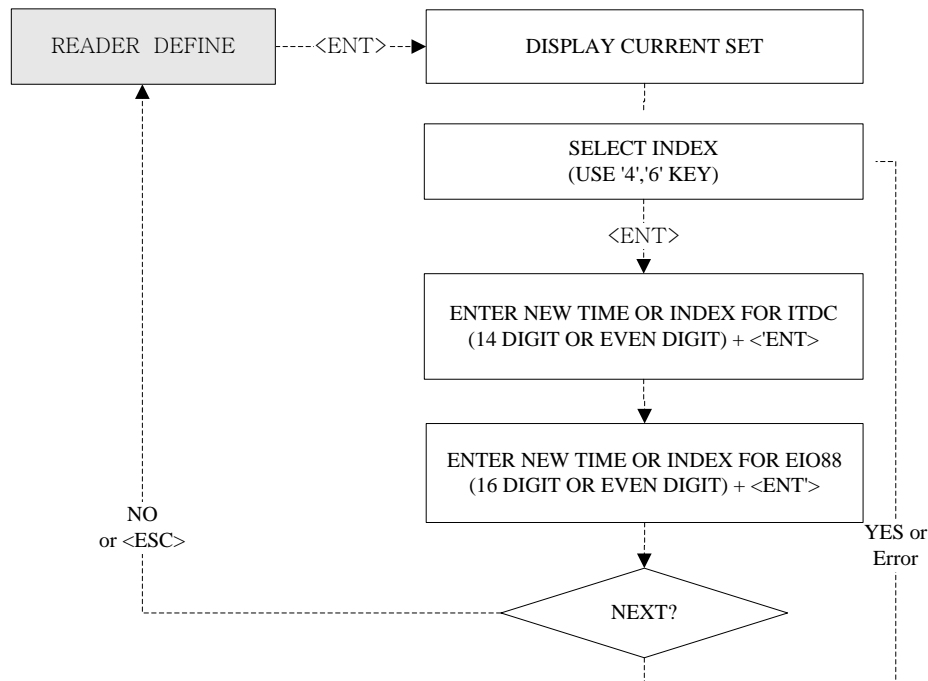|	
12.READER DEFINE	☞. You can program or deactivate each output to be generated and choose how long (in seconds) they will last. There are default values as seen in the APENDIX (A. THE RELATION BETWEEN INPUT AND OUTPUT (DEFAULT)
1.R1 ID OK	☞. Select input sources by changing Index numbers with the keys <4> or <6>.
iTDC: 03 00 00 **00 00 00 00**	☞. Press <ENT> key and you will see a cursor blinking at the first digit from the left of the seven couples of digits (Output of iTDC). Enter the 14 digit (seven couples) key.
EIO: 00 00 00 **00 00 00 00 00**	☞. Press <ENT> key and you will see a cursor blinking at the first digit from the left of the eight couples of digits (Output of EIO88). To set time for eight couples, press <ENT> key. For more inputs, repeat the process. To end input setting, press <ESC> key.

Please refer to 14. APPENDIX on this manual (75p) for default values.

13.2.13 SYSTEM INITIALIZE

13.SYS INIT	☞. This operation will initialize the iTDC. Press <ENT> key, if an initialization is needed. **CAUTION**: Prior to system initialization, make sure to check whether or not the data stored in the device is not needed, since it will be deleted after the initialization.
13.SYS INITIALIZE **1 – Yes, 0 - No**	☞. Press <1> key to initialize or <0> key to cancel the operation.
SYSTEM **INITIALIZING..**	☞. This message appears while the system is being initialized. After the initialization, iTDC will return to the set-up menu.

13.2.14 EVENT CLEAR

14.EVENT CLEAR	☞. When the event memory is full or when you want to change ID COUNT, you can clear the event memory in this menu. Press <ENT> key then press <1> key to clear event memory or <0> key to cancel the operation. **CAUTION:** Prior to clearing events, make sure to check whether or not the data stored in the device is not needed, since it will be deleted after the event clear.
14.EVENT CLEAR **1 - Yes, 0 - No**	

13.2.15 CARD ID CLEAR

15.CARD ID CLEAR	☞. When you want to delete all User ID (Card ID), you can clear all User ID from the memory. Press <ENT> key then press <1> key to clear all User ID or <0> key to cancel the operation. **CAUTION:** Prior to clearing card IDs, make sure to check whether or not the data stored in the device is not needed, since it will be deleted after the card ID clear.
15.CARD ID CLEAR **1 - Yes, 0 - No**	

13.2.16 TIME SCHEDULE CLEAR

16.T/S CLEAR

16.T/S CLEAR   1 - Yes, 0 - No

☞. When you want to delete all Time Schedule (01~15), you can clear all T/S from the memory. Press <ENT> key then press <1> key to clear all T/S or <0> key to cancel the operation.

CAUTION: Prior to clearing time schedules, make sure to check whether or not the data stored in the device is not needed, since it will be deleted after the time schedule clear.

13.3 SETUP MENU F3

| 1.ID REG | → | KEY |

key<4> or <6>

| 2.ID DELETE | → | KEY |

key<4> or <6>

| 3.ID LIST | → | DISPLAY REGISTERED ID DATA |

key<4> or <6>

| 4.REG. ID COUNT | → | DISPLAY REGISTRATION ID COUNT |

key<4> or <6>

| 6.MAX USER SET | → | ENTER POSSIBLE REGISTRATION ID COUNT |

```
ID    /  EVENT
1,000  /  29,500
2,000  /  29,000
3,000  /  28,500
  :    /     :
  :    /     :
20,000 /  20,000
30,000 /  14,000
40,000 /   8000
50,000 /   3000
```

Searching key
<4> or <6>

key<4> or <6>

| 6.EVENT COUNT | → | DISPLAY REGISTRATION EVENT COUNT |

key<4> or <6>

| 7.KEY INPUT MODE | → | 4/8BIT BURST(Default) |
| | → | 26BIT WEIGAND |

key<4> or <6>

| 9.ARM/DIS.INPUT | → | ENTER 2 DIGIT CODE |

key<4> or <6>

| TWO MEN MODE | → | NOT USE(Default) |
| | → | USE |

key<4> or <6>

| 11.INPUT TS MODE | → | NEW MODE(Default) |
| | → | OLD MODE |

13.3.1 ID REGISTRATION

```
ID REGISTRATION ──<ENT>──▶ REGISTRATION SELECT
                                    │
                                    ▼
                              ◇ KEY ? ◇
                                    │
       ERROR                        ▼
      DISPLAY              ENTER NEW ID
Invalid Card ID            (8 digit - Card data)
Invalid T/S 1                       │
Invalid T/S 2                       ▼
Invalid RD          ◀─YES─ ◇ Card ID Error ? ◇
                                    │
                                   NO
                                    ▼
                              INPUT
                         ID, PW, CODE, TS, RD
                                    ▼
                         ◇ ID, PW, CODE,
                    ◀─YES─   TS, RD Error ? ◇
                                    │
                                   NO
                                    ▼
                         ID REGISTRATION END
```

1.ID REG

☞. Press <ENT> key to register new User ID.

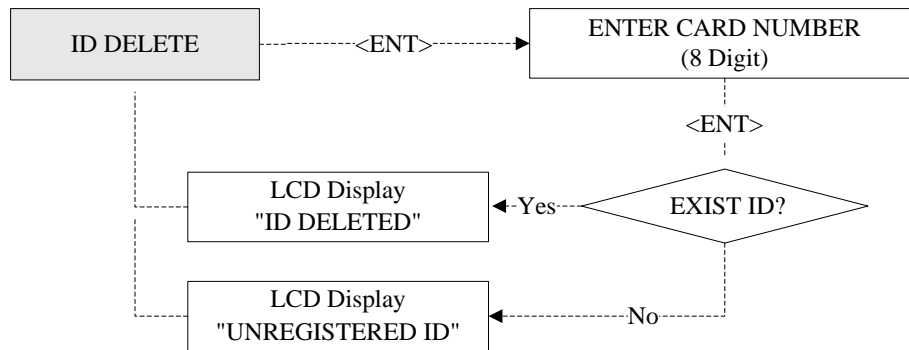**ID [   ]**
PW[   ] CODE

☞. Enter 8 digit Card ID in the ID [_____] field and press <ENT> key. Enter 4 digit Password in the PW [____] field and press <ENT> key. Even you don't use Password, it is necessary to enter 4 digit Password as default.
Enter 1 digit ID type in the CODE_ field and press <ENT> key. Individual ID is distinguished by "0" for general user, "1" for 2 men operation then group #1, "2" for 2 men operation then group #2 or "3" for special ID who can set "ARM / DISARM code". To use general access control system, you must input "0" for all users.

TA__TB__TC__TD__
RA_ RB_ RC_ RD_

☞. Enter 2 digit T/S index to TA, TB, TC and TD and <ENT> key. This T/S will be applied to each Reader.
Enter <1> key to use the Reader or <0> key for no use and <ENT> key to finish the setting.

ID REGISTERED

Example: When you want to apply T/S 01 for Reader#1 (TA), T/S 02 for Reader#2(TB), T/S 02 for Reader#3(TC) and T/S 00 for Reader#4(TD) and you want to use Reader#1, #2, #3 only.
Press <0><1><0><2><0><2><0><0><ENT> key for T/S
Press <1><1><1><0><ENT> key for Reader use/not use

* ID number of iTDC-SR is 10 digit number.

13.3.2 ID DELETE

```
┌─────────────┐                          ┌─────────────────────┐
│  ID DELETE  │ ------- <ENT> ---------▶ │ ENTER CARD NUMBER   │
└─────────────┘                          │     (8 Digit)       │
                                         └─────────────────────┘
                                                  │
                                               <ENT>
                                                  │
        ┌──────────────────┐                  ◇─────────◇
        │  LCD Display     │ ◀--Yes---      ◇  EXIST ID?  ◇
        │  "ID DELETED"    │                  ◇─────────◇
        └──────────────────┘                       │
        ┌──────────────────────┐                   │
        │  LCD Display         │ ◀---------No------┘
        │  "UNREGISTERED ID"   │
        └──────────────────────┘
```

2.ID DELETE	☞. Press <ENT> key to delete registered User ID

ENTER CARD NO. ->_____	☞. Enter 8 digit User ID that you want to delete and <ENT>.

ID DELETED	☞. If the User ID you entered is found, the User ID will be deleted and display "ID Deleted" and if the User ID is not found then only display "ID Unregistered". You may repeat ID DELETE many times and press <ESC> key to exit the menu.

* ID number of TDC-SR is 10 digit number.

13.3.3 ID LIST

```
┌─────────────┐
│  ID LIST    │ ------- <ENT> ----┐
└─────────────┘                   │
      ▲                           ▼
      │                      ◇─────────◇          ┌──────────────┐
      │                   ◇  EXIST ID ?  ◇ --NO-▶ │ LCD display: │
      │                      ◇─────────◇          │  "MEMORY     │
      │                           │               │      EMPTY"  │
      │                          YES              └──────────────┘
      │                           │
      │                  ┌─────────────────────┐
 <ESC>│                  │ DISPLAY ID NUMBER,  │
      │                  │ P/W, CODE and T/S, RD│
      │                  └─────────────────────┘
      │                           │
      │                  ┌─────────────────────┐
      └------------------│ SEARCHING ID        │
                         │ (USE SEARCHING KEY) │
                         └─────────────────────┘
```
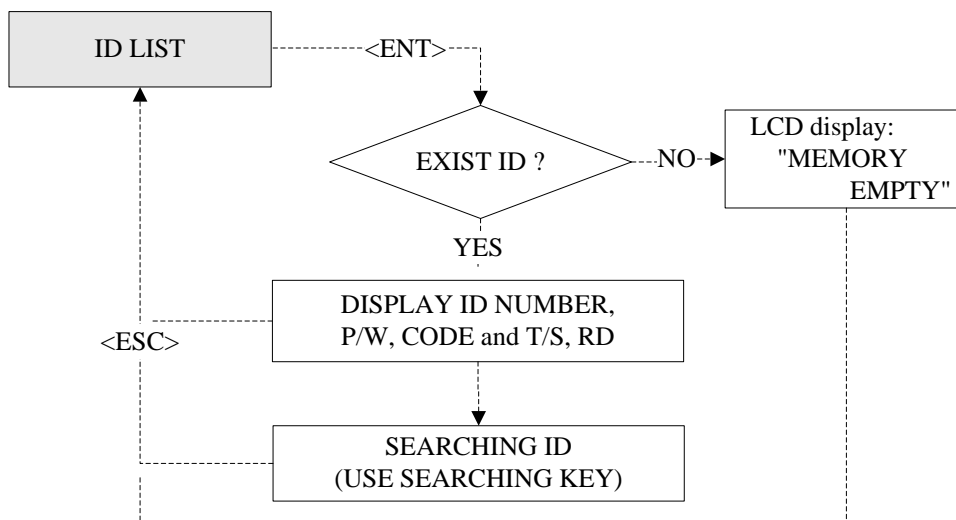
3.ID LIST	☞. If you want to see the list of registered User ID, press the <ENT> key in this menu.

ID[XXXXXXXX] **PW[XXXX] CODE_** **TA__TB__TC__TD__** **RA_ RB_ RC_ RD_**	☞. 8 digit User ID, 4 digit password and 1 digit code (ID type) are displayed on the LCD. 3sec later, display T/S (TA, TB, TC and TD) and readers (RA, RB, RC and RD) which are in use. By pressing <4> and <6> keys, you can scroll up and down the list. Press <ESC> key to return to the set-up menu.

MEMORY **EMPTY**	☞. "MEMORY EMPTY" message will be displayed when there is no registered User ID.

ID LIST TOP	☞. "ID LIST TOP" message will be displayed first when the first registered User ID is displayed on the LCD.

ID LIST BOTTOM	☞. "ID LIST BOTTOM" message will be displayed first when the last registered User ID is displayed on the LCD.

* ID number of iTDC-SR is 10 digit number.

13.3.4 REGISTERED ID COUNT

|	
4.REG. ID COUNT **12345**	☞. This menu displays the total number of registered User ID. It automatically counts when you register or delete User ID. LCD shows 12,345 User ID is now registered in the memory.

13.3.5 MAX USER SETTING

5.MAX USER SET **05000**	☞. Press <ENT> key to change maximum User ID. **Note:** MAX USER SETTING must be set-up first before other set-up.

ENTER ID COUNT **[_____]**	☞. Enter number from 1000 to 20000 in multiple of 1000 for the maximum User ID. Every time 1000 user IDs increase, 500 event buffers decrease. The default ID COUNT is 5,000 Users and the default EVENT Buffer size is 27,500.
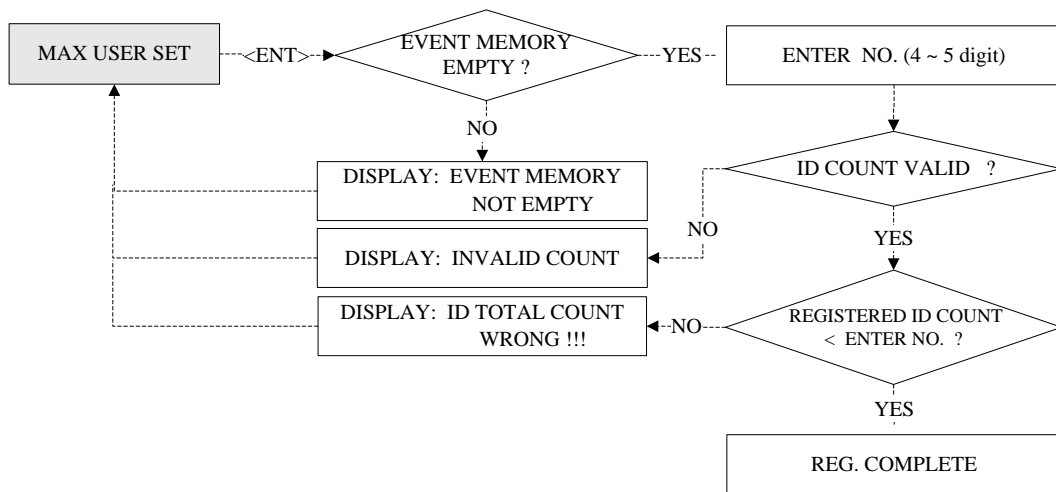
INVALID NUMBER	☞. LCD will display "INVALID NUMBER" error message when you enter the ID Count which is not multiple of 1,000 or the ID Count is not in between 1,000 and 20,000.

EVENT MEMORY NOT EMPTY !!!	☞. LCD will display "EVENT MEMORY NOT EMPTY!!!" error message when you want to change ID Count and there are some events still existing in the Event Buffer.

ID TOTAL COUNT WRONG !!!	☞. LCD will display "ID TOTAL COUNT WRONG !!!" error message when you enter the less ID Count number than the number of User ID registered in the memory.

13.3.6 STORED EVENT COUNT

| EVENT COUNT 12345	☞. This menu displays the total number of event. It automatically counts when you upload to PC. LCD shows 12,345 User ID is now registered in the memory.

13.3.7 KEY INPUT MODE

7.KEY INPUT MODE
4/8 BIT BURST

7.KEY INPUT MODE
->26 BIT WEIGAND

☞. You can choose data format between 4/8Bit burst and 26Bit weigand to transmit reader button input signal. The Default is 4/8Bit burst. If you choose 26Bit weigand, HID readers that use 26Bit wiegand can be used, but on the other hand, IDTECK's readers cannot be used.

13.3.8 ARM/DISARM CODE
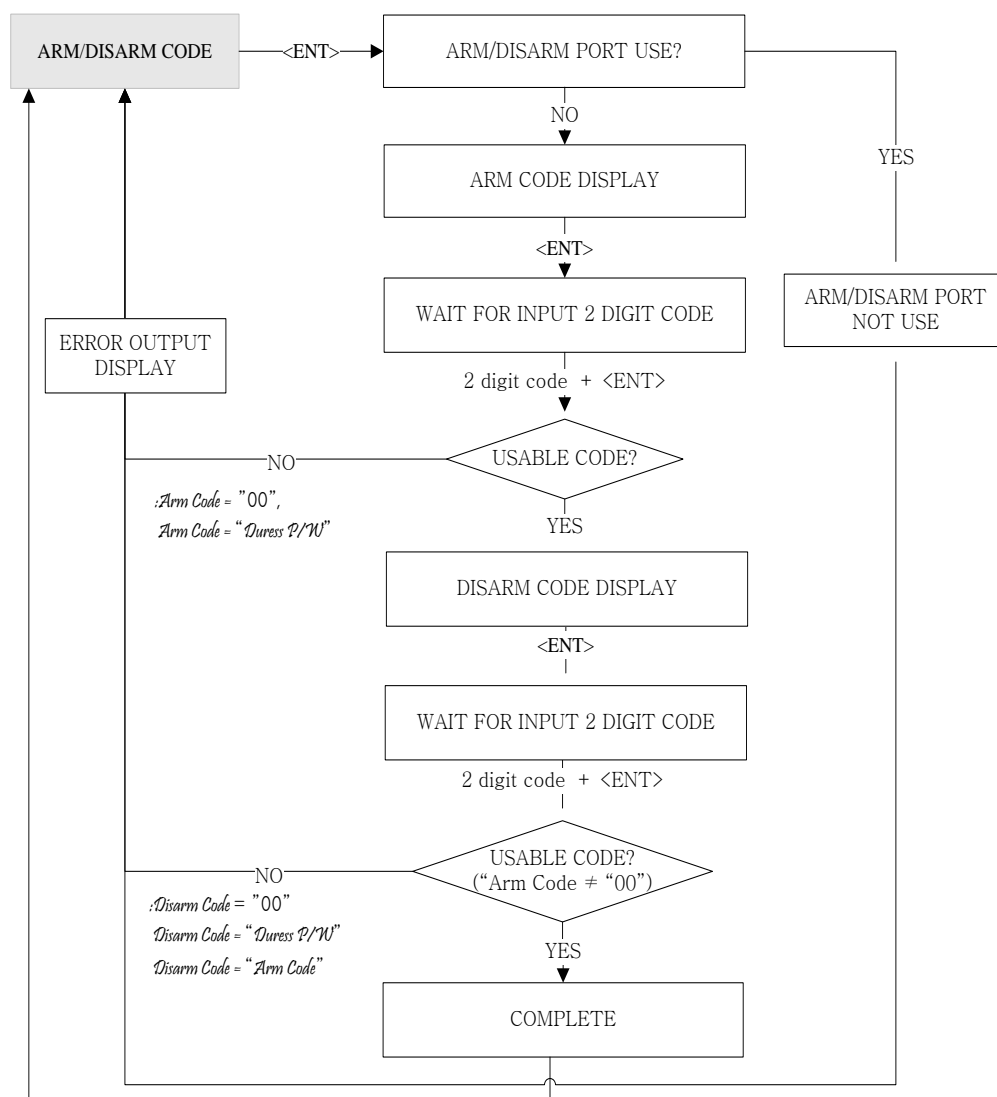
| 8.ARM /DIS. CODE | ☞. If you want to set "ARM/DISARM CODE", press the <ENT> key in this menu. |

| ARM CODE
11 | ☞. Press 2 digit of ARM CODE. "00" is default which means not to use this function. Make sure that number must be different from "Duress P/W" or "Disarm Code".
If you press "00" for ARM CODE, DISARM CODE is automatically set by "00". In result, this mode is not to use ARM / DISARM function. |

| DISARM CODE
22 | ☞. Press 2 digit of DISARM CODE. "00" is default which means not to use this function. Make sure that the number must be different from "DURESS P/W" or "ARM CODE".
If you press "00" for DISARM CODE, ARM CODE is automatically set by "00". In result, this mode is not to use ARM / DISARM function. |

13.3.9 ARM/DISARM PORT
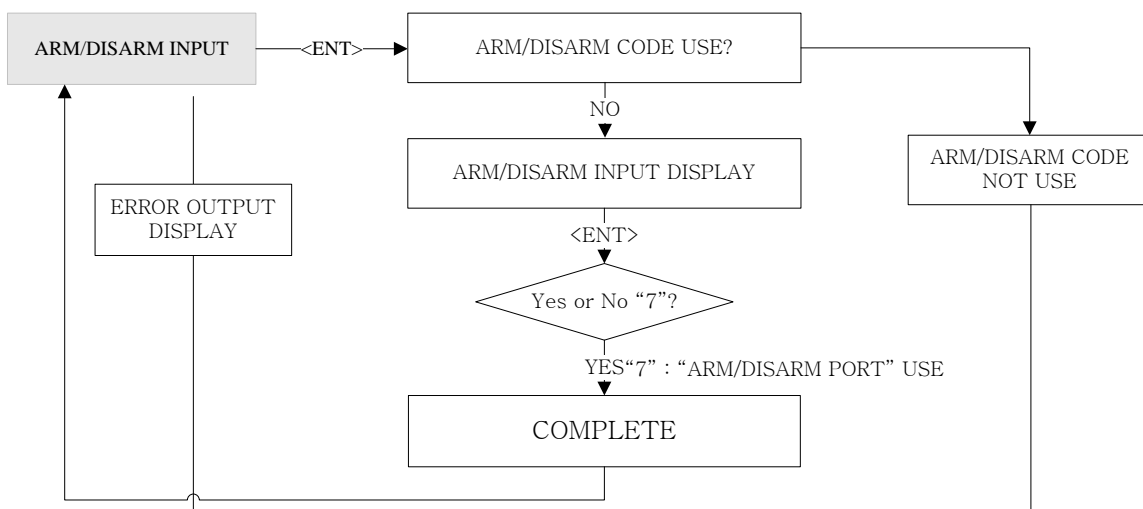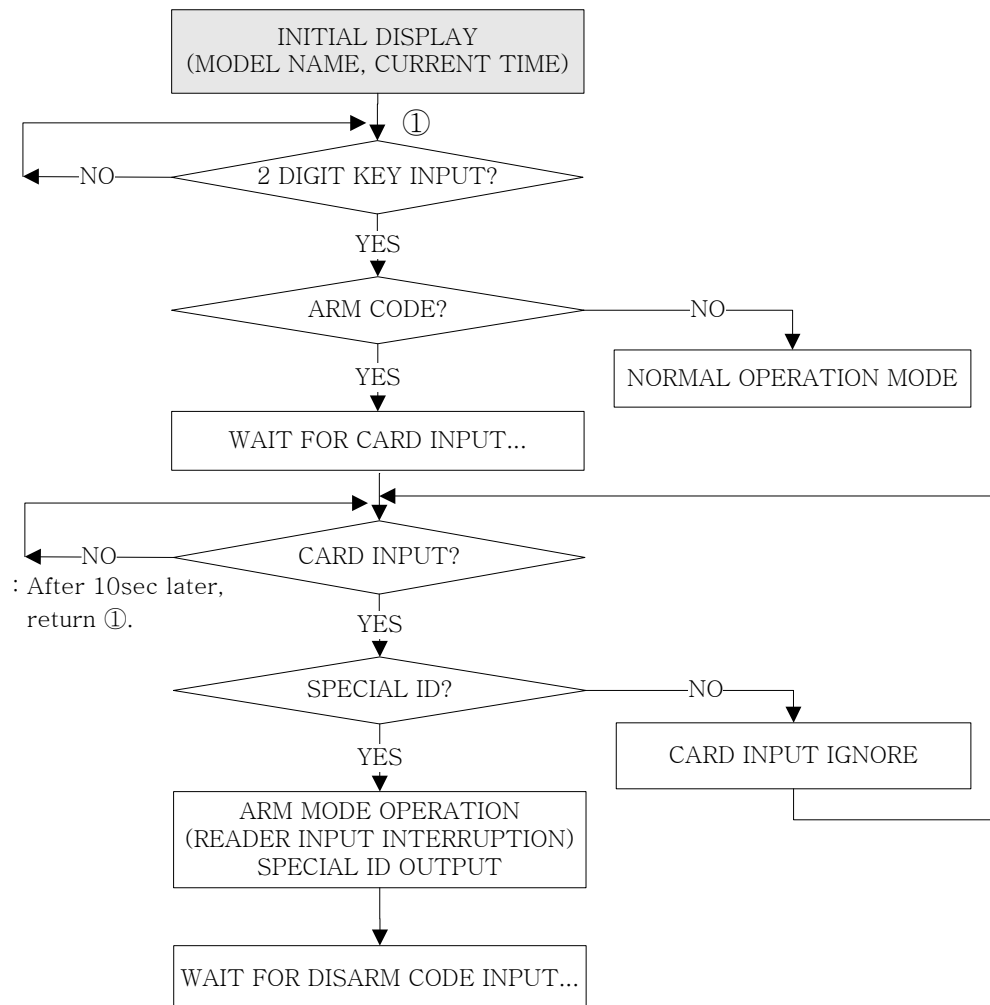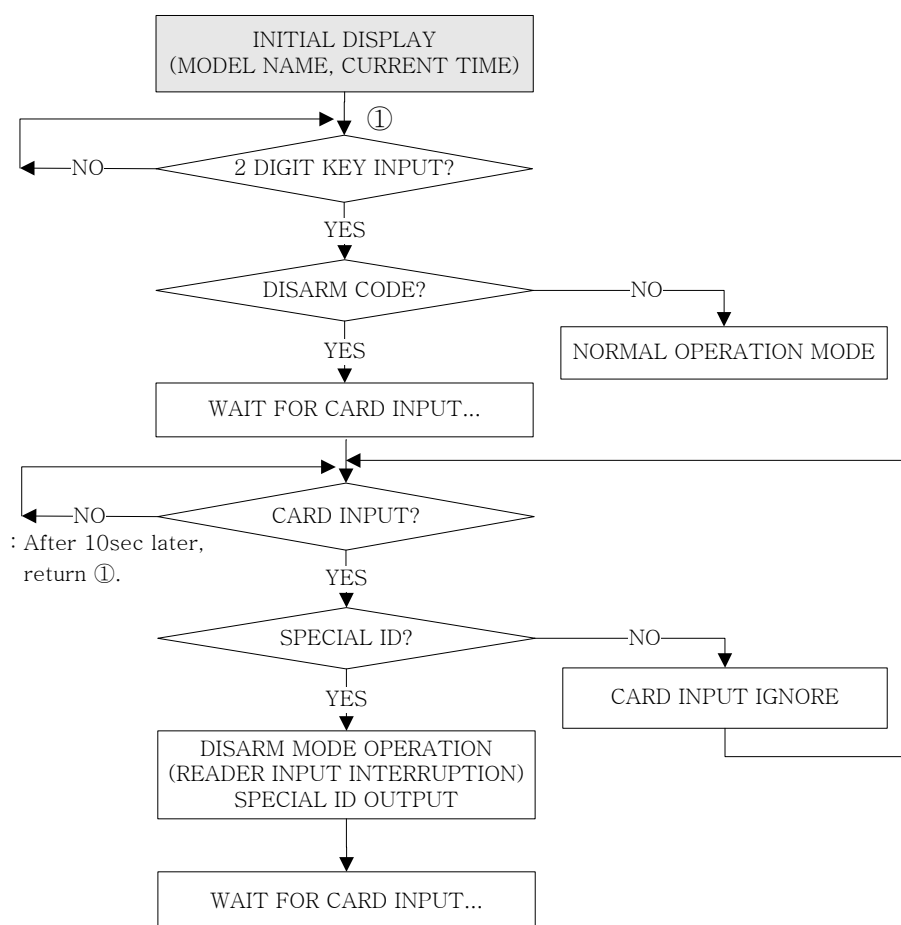

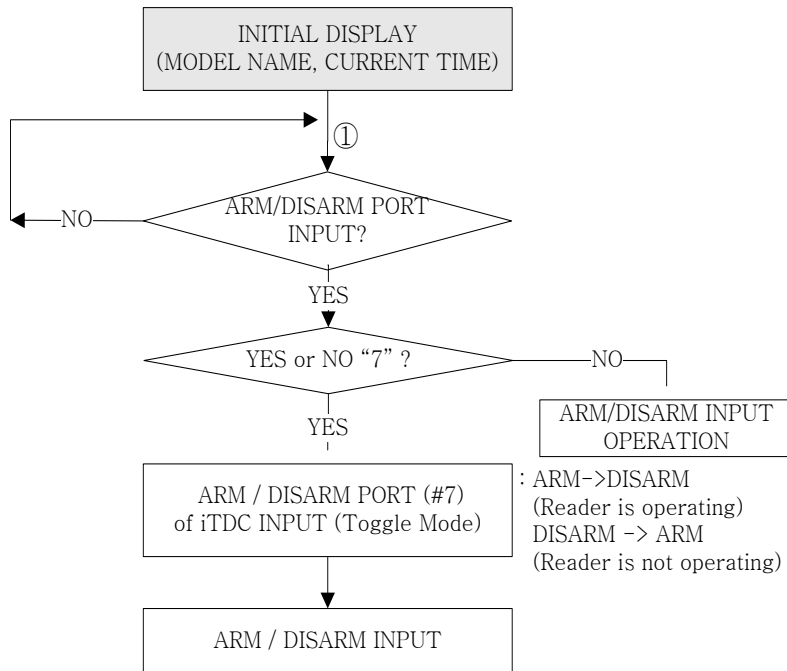| 9.ARM / DIS. INPUT | ☞. Set whether to use input port that can set ARM / DISARM function. Input port is fixed by input port #7 of iTDC (default: "0").If you wish to use ARM / DISARM function with port of input device, press "7" key. According to input signal, the unit operates on toggle mode. If input #7 is pressed, it operates on ARM. And if input #7 is not pressed, it operates DISARM. |

[ARM CODE PROCESS DETAILS]

```
        ┌──────────────────────────────┐
        │       INITIAL DISPLAY        │
        │ (MODEL NAME, CURRENT TIME)   │
        └──────────────┬───────────────┘
                       │  ①
             ◇ 2 DIGIT KEY INPUT? ◇──NO──┐ (return)
                       │ YES
               ◇ ARM CODE? ◇────NO────┐
                       │ YES          ▼
                       │      ┌──────────────────────┐
                       │      │ NORMAL OPERATION MODE │
                       │      └──────────────────────┘
        ┌──────────────────────────────┐
        │    WAIT FOR CARD INPUT...     │
        └──────────────┬───────────────┘
                       │
             ◇ CARD INPUT? ◇──NO──┐
                       │ YES
   : After 10sec later,
     return ①.
               ◇ SPECIAL ID? ◇────NO────┐
                       │ YES            ▼
                       │        ┌────────────────────┐
                       │        │  CARD INPUT IGNORE │
                       │        └────────────────────┘
        ┌──────────────────────────────┐
        │      ARM MODE OPERATION       │
        │ (READER INPUT INTERRUPTION)   │
        │      SPECIAL ID OUTPUT        │
        └──────────────┬───────────────┘
        ┌──────────────────────────────┐
        │  WAIT FOR DISARM CODE INPUT...│
        └──────────────────────────────┘
```

[DISARM CODE PROCESS DETAILS]

```
        ┌──────────────────────────────────┐
        │        INITIAL DISPLAY           │
        │ (MODEL NAME, CURRENT TIME)       │
        └──────────────────────────────────┘
                      │ ①
          ┌───────────┴───────────┐
   ←─NO──<   2 DIGIT KEY INPUT?   >
          └───────────┬───────────┘
                     YES
          ┌───────────┴───────────┐
         <     DISARM CODE?       >──NO──→ ┌──────────────────────────┐
          └───────────┬───────────┘        │  NORMAL OPERATION MODE   │
                     YES                    └──────────────────────────┘
        ┌──────────────────────────────────┐
        │   WAIT FOR CARD INPUT...         │
        └──────────────────────────────────┘
                      │
          ┌───────────┴───────────┐
   ←─NO──<     CARD INPUT?        >
          └───────────┬───────────┘
: After 10sec later, YES
   return ①.
          ┌───────────┴───────────┐
         <      SPECIAL ID?       >──NO──→ ┌──────────────────────────┐
          └───────────┬───────────┘        │   CARD INPUT IGNORE      │
                     YES                    └──────────────────────────┘
        ┌──────────────────────────────────┐
        │    DISARM MODE OPERATION         │
        │  (READER INPUT INTERRUPTION)     │
        │     SPECIAL ID OUTPUT            │
        └──────────────────────────────────┘
                      │
        ┌──────────────────────────────────┐
        │   WAIT FOR CARD INPUT...         │
        └──────────────────────────────────┘
```

Ex) ARM CODE and DISARM CODE must be set differently.

[ARM / DISARM INPUT PROCESS DETAILS]

Ex) ARM/DISARM Input port is fixed to "7"

13.3.10 2 MEN OPERATION MODE SETTING

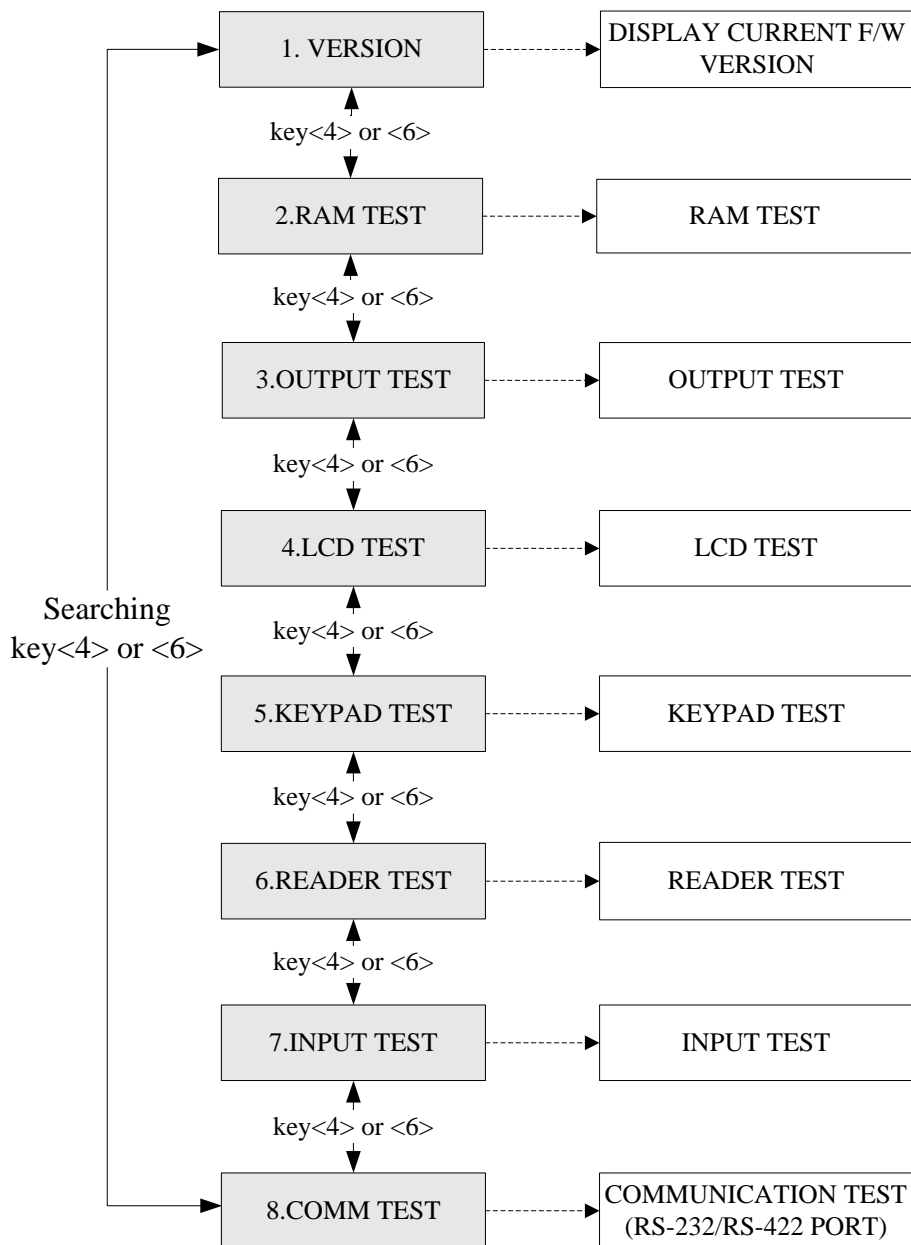|	
10.TWO MEN MODE NOT USE	☞. Set whether to use "TWO MEN MODE" or not. Default value is set to "NOT USE".
TWO MEN MODE USE	☞. You can change settings by pressing "4" or "6" key. After changing, press <ENT> key if the setting is completed. **NOT USE**: When you register ID, you should register code to group#1 ID (1) and group#2 ID (2).When the user of these two groups tries authenticating on the iTDC/iTDC-SR that is set "NOT USE TWO MEN MODE", they are given same authorization with general user (0). **USE (ALONE):** When you register ID, you should register code to group#1 ID (1) and group#2 ID (2).When the user of these two groups tries authenticating on the iTDC/iTDC-SR that is set "USE TWO MEN MODE", they should surely present two group IDs

13.3.11 INPUT TIME SCHEDULE MODE SETTING

11.INPUT TS MODE **NEW MODE**

☞. Set how to operate input time schedule mode.
　Default value is set to "NEW MODE".

11.INPUT TS MODE **-> OLD MODE**

☞. You can change the settings by pressing "4" or "6" key. After changing the settings, press <ENT> key if the setting is completed.

NEW MODE : When time schedule is applied on the input, it only processes the input that occurs in the time schedule section.
OLD MODE : When time schedule applied on the input, it only processes the input that occurs out of the time schedule section.

If the application software, STARWATCH iTDC PRO I/II is used for time schedule setting, the 'OLD MODE' is automatically applied in the operation. If the application software, STARWATCH STANDARD, is used for time schedule setting, the 'NEW MODE' automatically applied in the operation.

13.4 SETUP MENU F4

On set-up menu F4, there are self-diagnosis functions to test the performances of the operations. To test, press <ENT> key on the menu.

Menu	key	Test
1. VERSION		DISPLAY CURRENT F/W VERSION
	key<4> or <6>	
2.RAM TEST		RAM TEST
	key<4> or <6>	
3.OUTPUT TEST		OUTPUT TEST
	key<4> or <6>	
4.LCD TEST		LCD TEST
	key<4> or <6>	
5.KEYPAD TEST		KEYPAD TEST
	key<4> or <6>	
6.READER TEST		READER TEST
	key<4> or <6>	
7.INPUT TEST		INPUT TEST
	key<4> or <6>	
8.COMM TEST		COMMUNICATION TEST (RS-232/RS-422 PORT)

Searching key<4> or <6>

13.4.1 VERSION CHECK

| 1.VERSION
iTDC: V 8.0 | ☞. The version of the controller's firmware is displayed on the LCD. Press <4> or <6> key to look for other menus of set-up menu F4. |

| LAST UPDATE
2009.10.21 | |

13.4.2 RAM TEST

| 2.RAM   TEST | ☞. To test the RAM memory, press <ENT> key. |

| RAM TEST FAIL!!
PRESS ANY KEY… | ☞. If the RAM has problems, LCD will show the memory block number with Memory fail message. In this case, you have to contact technical support. Press any key to return to the set-up menu. |

| RAM TEST OK!!
PRESS ANY KEY… | ☞. If the RAM is working properly then LCD will show RAM test pass message. Press any key to return to the set-up menu. |

13.4.3 OUTPUTS TEST

| 3.OUTPUT TEST | ☞. To test the outputs, press <ENT> key. |

| OUTPUT 8
PRESS ANY KEY.. | ☞. The output test will be proceeding for each output twice on and off. The first 4 test is for output relay(Realy#1~Relay#4) so you can hear the mechanical sound of relays and followed 3 test is for TTL output test. The last test is for built-in buzzer test and you can hear two beep sounds. Press any key to return to the set-up menu. |

OUTPUT TEST	<ENT>	Relay 1 test (Activated two times)	This test is applicable to Relay1 and LED.

Relay 2 test (Activated two times) — This test is applicable to Relay2 and LED.

Relay 3 test (Activated two times) — This test is applicable to Relay3 and LED.

Relay 4 test (Activated two times) — This test is applicable to Relay4 and LED.

TTL Output 1 test (Activated two times) — This test is applicable to TTL1. (0V - 5V)

TTL Output 2 test (Activated two times) — This test is applicable to TTL2. (0V - 5V)

TTL Output 3 test (Activated two times) — This test is applicable to TTL3. (0V - 5V)

Buzzer Output test (Activated two times) — This test is applicable to Buzzer.

Output test end

Enter any key

13.4.4 LCD TEST

4.LCD TEST

☞. To test the LCD, press <ENT> key.
 LCD will display all characters on the screen.

PRESS ANY KEY...

☞. When the test is done, LCD will show "Last Update Press any key…" then press any key to return to the set-up menu.

13.4.5 KEYPAD TEST

5.KEYPAD TEST

☞. To test the keypad, press <ENT> key.

0123456789ABCDEF

☞. LCD will display "0123456789ABCDEF" on the bottom line of LCD. Press each key from the keypad then the depressed key will be disappeared from the LCD. Note that F1 key is "A", F2 key is "B", F3 key is "C", F4 key is "D", ESC key is "E" and ENT key is "F" on the screen. After the test is done, it returns to set-up menu.

13.4.6 READER TEST

6.READER TEST	☞. Press <ENT> key for the reader test.

SCANNING ...	☞. LCD will display "Scanning…" for reading the cards. Present the card to one of the readers.

READER 1 **00312345**	☞. When the reader successfully read the card, LCD will display reader number and 8-digit card number on the LCD. Press <ESC> key to return to the set-up menu. **ID number of iTDC-SR is 10 digit number.**

13.4.7 INPUT AND DIP SWITCH TEST

7.INPUT TEST	☞. To test the reader, press <ENT> key.

INPUT TEST **11111100 0000000**	☞. The first 8 digits of the bottom line shows the status of the DIP switch for communication ID setting and "1" indicates the switch ON position and "0" indicates the switch OFF position. The last 7 digits shows the input status and "0" indicates the input port open circuit and "1" indicates the input port short to ground level. Press <ESC> key to return to the set-up menu.

13.4.8 COMMUNICATION TEST

8.COMM TEST	☞. Before this communication test, RS232: Connect the RS232-RX and RS232-TX wires together. RS-422: Connect the Rx (-) and TX (-), Rx (+) and TX (+) wires. **Note:** In case of RS422 test, JP3, 4 disconnection and JP5, 6 short after the test is done, short pin1, 2(or 2,3) of the JP3, 4.

COMM TEST FAIL
PRESS ANY KEY…

☞. This test is a loop test and iTDC sends a character to TX port and check whether the RX port receive the character or not. If you have an error, please contact our service facility.

COMM TEST PASS!!
PRESS ANY KEY...

☞. After the test is done, LCD will display "COMM test pass!!" Press any key to return to the set-up menu.

14. <u>APPENDIX</u>

A. THE RELATION BETWEEN INPUT AND OUTPUT (DEFAULT)

1. The relation between input and output (2Door set-up: iTDC board default)

Index No	Relay#1	Relay#2	Relay#3	Relay#4	TTL#1	TTL#2	TTL#3
[1] Input #1 (Door1 Exit button)	**03**	00	00	00	00	00	00
[2] Input #2 (Door1 Contact SW)	00	**03**	00	00	00	00	00
[3] Input #3 (Door2 Exit button)	00	00	**03**	00	00	00	00
[4] Input #4 (Door2 Contact SW)	00	00	00	**03**	00	00	00
[5] Input #5	00	00	00	00	00	00	00
[6] Input #6	00	00	00	00	00	00	00
[7] Input #7	00	00	00	00	00	00	00
[8] EIO88 Input #1	00	00	00	00	00	00	00
[9] EIO88 Input #2	00	00	00	00	00	00	00
[10] EIO88 Input #3	00	00	00	00	00	00	00
[11] EIO88 Input #4	00	00	00	00	00	00	00
[12] EIO88 Input #5	00	00	00	00	00	00	00
[13] EIO88 Input #6	00	00	00	00	00	00	00
[14] EIO88 Input #7	00	00	00	00	00	00	00
[15] EIO88 Input #8	00	00	00	00	00	00	00
[16] DURESS MODE 1	**03**	00	00	00	00	00	00
[17] DURESS MODE 2	**03**	00	00	00	00	00	00
[18] DURESS MODE 3	00	00	**03**	00	00	00	00
[19] DURESS MODE 4	00	00	**03**	00	00	00	00
[20] OUTPUT Time Schedule	00	00	00	00	00	00	00
[21] INPUT Time Schedule	00	00	00	00	00	00	00
[22] INPUT Type	**01**	**01**	**01**	**01**	**01**	**01**	**01**
[23] DR TIME OUT 1	00	00	00	00	00	00	00
[24] DR TIME OUT 2	00	00	00	00	00	00	00
[25] DR TIME OUT 3	00	00	00	00	00	00	00
[26] DR TIME OUT 4	00	00	00	00	00	00	00

Default output values of EIO88 Relay#1 ~ Relay#8 are all "00".
INPUT Type: "00"= NC, "01"= NO
DR TIME OUT 1~4 (Door Time Out 1~4): It is interval time between door opening and closing when door opening time is over.

2. The relation between input and output (3Door set-up: iTDC board default)

Index No	Relay#1	Relay#2	Relay#3	Relay#4	TTL#1	TTL#2	TTL#3
[1] Input #1 (Door1 Exit button)	**03**	00	00	00	00	00	00
[2] Input #2 (Door1 Contact SW)	00	**03**	00	00	00	00	00
[3] Input #3	00	00	00	00	00	00	00
[4] Input #4	00	00	00	00	00	00	00
[5] Input #5	00	00	00	00	00	00	00
[6] Input #6	00	00	00	00	00	00	00
[7] Input #7	00	00	00	00	00	00	00
[8] EIO88 Input #1 (Door2 Exit)	00	00	00	00	00	00	00
[9] EIO88 Input #2 (Door2 Contact)	00	00	00	00	00	00	00
[10] EIO88 Input #3 (Door3 Exit)	00	00	00	00	00	00	00
[11] EIO88 Input #4 (Door3 Contact)	00	00	00	00	00	00	00
[12] EIO88 Input #5	00	00	00	00	00	00	00
[13] EIO88 Input #6	00	00	00	00	00	00	00
[14] EIO88 Input #7	00	00	00	00	00	00	00
[15] EIO88 Input #8	00	00	00	00	00	00	00
[16] DURESS MODE 1	**03**	00	00	00	00	00	00
[17] DURESS MODE 2	**03**	00	00	00	00	00	00
[18] DURESS MODE 3	00	00	00	00	00	00	00
[19] DURESS MODE 4	00	00	00	00	00	00	00
[20] OUTPUT Time Schedule	00	00	00	00	00	00	00
[21] INPUT Time Schedule	00	00	00	00	00	00	00
[22] INPUT Type	**01**	**01**	**01**	**01**	**01**	**01**	**01**
[23] DR TIME OUT 1	00	00	00	00	00	00	00
[24] DR TIME OUT 2	00	00	00	00	00	00	00
[25] DR TIME OUT 3	00	00	00	00	00	00	00
[26] DR TIME OUT 4	00	00	00	00	00	00	00

Default output values of EIO88 Relay#1 ~ Relay#8 are all "00".
INPUT Type: "00"= NC, "01"= NO
DR TIME OUT 1~4 (Door Time Out 1~4): It is interval time between door opening and closing when door opening time is over.

3. The relation between input and output (3Door set-up: EIO88 extension I/O board default)

Index No	Relay#1	Relay#2	Relay#3	Relay#4	Relay#5	Relay#6	Relay#7	Relay#8
[1] Input #1 (Door1 Exit button)	00	00	00	00	00	00	00	00
[2] Input #2 (Door1 Contact SW)	00	00	00	00	00	00	00	00
[3] Input #3	00	00	00	00	00	00	00	00
[4] Input #4	00	00	00	00	00	00	00	00
[5] Input #5	00	00	00	00	00	00	00	00
[6] Input #6	00	00	00	00	00	00	00	00
[7] Input #7	00	00	00	00	00	00	00	00
[8] EIO88 Input #1 (Door2 Exit)	03	00	00	00	00	00	00	00
[9] EIO88 Input #2 (Door2 Contact)	00	03	00	00	00	00	00	00
[10] EIO88 Input #3 (Door3 Exit)	00	00	03	00	00	00	00	00
[11] EIO88 Input #4 (Door3 Contact)	00	00	00	03	00	00	00	00
[12] EIO88 Input #5	00	00	00	00	00	00	00	00
[13] EIO88 Input #6	00	00	00	00	00	00	00	00
[14] EIO88 Input #7	00	00	00	00	00	00	00	00
[15] EIO88 Input #8	00	00	00	00	00	00	00	00
[16] DURESS MODE 1	00	00	00	00	00	00	00	00
[17] DURESS MODE 2	00	00	00	00	00	00	00	00
[18] DURESS MODE 3	03	00	00	00	00	00	00	00
[19] DURESS MODE 4	00	00	03	00	00	00	00	00
[20] OUTPUT TIME SCHEDULE	00	00	00	00	00	00	00	00
[21] INPUT TIME SCHEDULE	00	00	00	00	00	00	00	00
[22] INPUT TYPE	01	01	01	01	01	01	01	01
[23] DR TIME OUT 1	00	00	00	00	00	00	00	00
[24] DR TIME OUT 2	00	00	00	00	00	00	00	00
[25] DR TIME OUT 3	00	00	00	00	00	00	00	00
[26] DR TIME OUT 4	00	00	00	00	00	00	00	00

Default output values of EIO88 Relay#1 ~ Relay#8 are all "00".
INPUT Type: "00"= NC, "01"= NO
DR TIME OUT 1~4 (Door Time Out 1~4): It is interval time between door opening and closing when door opening time is over.

4. The relation between input and output (4Door set-up: iTDC board default)

Index No	Relay#1	Relay#2	Relay#3	Relay#4	TTL#1	TTL#2	TTL#3
[1] Input #1 (Door1 Exit Button)	**03**	00	00	00	00	00	00
[2] Input #2 (Door1 Contact SW)	00	**03**	00	00	00	00	00
[3] Input #3 (Door2 Exit Button)	00	00	**03**	00	00	00	00
[4] Input #4 (Door2 Contact SW)	00	00	00	**03**	00	00	00
[5] Input #5	00	00	00	00	00	00	00
[6] Input #6	00	00	00	00	00	00	00
[7] Input #7	00	00	00	00	00	00	00
[8] EIO88 Input #1 (Door3 Exit)	00	00	00	00	00	00	00
[9] EIO88 Input #2 (Door3 Contact)	00	00	00	00	00	00	00
[10] EIO88 Input #3 (Door4 Exit)	00	00	00	00	00	00	00
[11] EIO88 Input #4 (Door4 Contact)	00	00	00	00	00	00	00
[12] EIO88 Input #5	00	00	00	00	00	00	00
[13] EIO88 Input #6	00	00	00	00	00	00	00
[14] EIO88 Input #7	00	00	00	00	00	00	00
[15] EIO88 Input #8	00	00	00	00	00	00	00
[16] DURESS MODE 1	**03**	00	00	00	00	00	00
[17] DURESS MODE 2	00	00	**03**	00	00	00	00
[18] DURESS MODE 3	00	00	00	00	00	00	00
[19] DURESS MODE 4	00	00	00	00	00	00	00
[20] OUTPUT Time Schedule	00	00	00	00	00	00	00
[21] INPUT Time Schedule	00	00	00	00	00	00	00
[22] INPUT Type	**01**	**01**	**01**	**01**	**01**	**01**	**01**
[23] DR TIME OUT 1	00	00	00	00	00	00	00
[24] DR TIME OUT 2	00	00	00	00	00	00	00
[25] DR TIME OUT 3	00	00	00	00	00	00	00
[26] DR TIME OUT 4	00	00	00	00	00	00	00

Default output values of EIO88 Relay#1 ~ Relay#8 are all "00".
INPUT Type: "00"= NC, "01"= NO
DR TIME OUT 1~4 (Door Time Out 1~4): It is interval time between door opening and closing when door opening time is over.

5. The relation between input and output (4Door set-up: EIO88 default)

Index No	Relay#1	Relay#2	Relay#3	Relay#4	Relay#5	Relay#6	Relay#7	Relay#8
[1] Input #1 (Door1 Exit Button)	00	00	00	00	00	00	00	00
[2] Input #2 (Door1 Contact SW)	00	00	00	00	00	00	00	00
[3] Input #3 (Door2 Exit Button)	00	00	00	00	00	00	00	00
[4] Input #4 (Door3 Contact SW)	00	00	00	00	00	00	00	00
[5] Input #5	00	00	00	00	00	00	00	00
[6] Input #6	00	00	00	00	00	00	00	00
[7] Input #7	00	00	00	00	00	00	00	00
[8] EIO88 Input #1 (Door3 Exit)	**03**	00	00	00	00	00	00	00
[9] EIO88 Input #2 (Door3 Contact)	00	**03**	00	00	00	00	00	00
[10] EIO88 Input #3 (Door4 Exit)	00	00	**03**	00	00	00	00	00
[11] EIO88 Input #4 (Door4 Contact)	00	00	00	**03**	00	00	00	00
[12] EIO88 Input #5	00	00	00	00	00	00	00	00
[13] EIO88 Input #6	00	00	00	00	00	00	00	00
[14] EIO88 Input #7	00	00	00	00	00	00	00	00
[15] EIO88 Input #8	00	00	00	00	00	00	00	00
[16] DURESS MODE 1	00	00	00	00	00	00	00	00
[17] DURESS MODE 2	00	00	00	00	00	00	00	00
[18] DURESS MODE 3	**03**	00	00	00	00	00	00	00
[19] DURESS MODE 4	00	00	**03**	00	00	00	00	00
[20] OUTPUT TIME SCHEDULE	00	00	00	00	00	00	00	00
[21] INPUT TIME SCHEDULE	00	00	00	00	00	00	00	00
[22] INPUT TYPE	**01**	**01**	**01**	**01**	**01**	**01**	**01**	**01**
[23] DR TIME OUT 1	00	00	00	00	00	00	00	00
[24] DR TIME OUT 2	00	00	00	00	00	00	00	00
[25] DR TIME OUT 3	00	00	00	00	00	00	00	00
[26] DR TIME OUT 4	00	00	00	00	00	00	00	00

Default output values of EIO88 Relay#1 ~ Relay#8 are all "00".
INPUT Type: "00"= NC, "01"= NO
DR TIME OUT 1~4 (Door Time Out 1~4): It is interval time between door opening and closing when door opening time is over.

6. Default values on the outputs regarding access attempts (2Door set-up: iTDC board default)

Index No	Relay#1	Relay#2	Relay#3	Relay#4	TTL#1	TTL#2	TTL#3
[1] Reader#1 ID OK	**03**	00	00	00	00	00	00
[2] Reader#1 ID Error	00	**03**	00	00	00	00	00
[3] Reader#1 ID T/S Error	00	**03**	00	00	00	00	00
[4] Reader#1 APB Error	00	**03**	00	00	00	00	00
[5] Reader#2 ID OK	**03**	00	00	00	00	00	00
[6] Reader#2 ID Error	00	**03**	00	00	00	00	00
[7] Reader#2 ID T/S Error	00	**03**	00	00	00	00	00
[8] Reader#2 APB Error	00	**03**	00	00	00	00	00
[9] Reader#3 ID OK	00	00	**03**	00	00	00	00
[10] Reader#3 ID Error	00	00	00	**03**	00	00	00
[11] Reader#3 ID T/S Error	00	00	00	**03**	00	00	00
[12] Reader#3 APB Error	00	00	00	**03**	00	00	00
[13] Reader#4 ID OK	00	00	**03**	00	00	00	00
[14] Reader#4 ID Error	00	00	00	**03**	00	00	00
[15] Reader#4 ID T/S Error	00	00	00	**03**	00	00	00
[16] Reader#4 APB Error	00	00	00	**03**	00	00	00
[17] R1 SPECIAL ID	00	00	00	00	00	00	00
[18] R2 SPECIAL ID	00	00	00	00	00	00	00
[19] R3 SPECIAL ID	00	00	00	00	00	00	00
[20] R4 SPECIAL ID	00	00	00	00	00	00	00

Default values of the EIO88 Expansion I/O board are all '00's.
※ R1 SPECIAL ID ~ R4 SPECIAL ID:
  1. When you use arm/disarm function, this index sets output time.
  2. When you use 2 levels individual door opening time function,
     this index sets door opening time by doors.
     But, two functions (1 & 2) cannot be used at the same time.

7. Default values on the outputs regarding access attempts (3Door set-up: iTDC board default)

Index No	Relay#1	Relay#2	Relay#3	Relay#4	TTL#1	TTL#2	TTL#3
[1] Reader#1 ID OK	03	00	00	00	00	00	00
[2] Reader#1 ID Error	00	03	00	00	00	00	00
[3] Reader#1 ID T/S Error	00	03	00	00	00	00	00
[4] Reader#1 APB Error	00	03	00	00	00	00	00
[5] Reader#2 ID OK	03	00	00	00	00	00	00
[6] Reader#2 ID Error	00	03	00	00	00	00	00
[7] Reader#2 ID T/S Error	00	03	00	00	00	00	00
[8] Reader#2 APB Error	00	03	00	00	00	00	00
[9] Reader#3 ID OK	00	00	00	00	00	00	00
[10] Reader#3 ID Error	00	00	00	00	00	00	00
[11] Reader#3 ID T/S Error	00	00	00	00	00	00	00
[12] Reader#3 APB Error	00	00	00	00	00	00	00
[13] Reader#4 ID OK	00	00	00	00	00	00	00
[14] Reader#4 ID Error	00	00	00	00	00	00	00
[15] Reader#4 ID T/S Error	00	00	00	00	00	00	00
[16] Reader#4 APB Error	00	00	00	00	00	00	00
[17] R1 SPECIAL ID	00	00	00	00	00	00	00
[18] R2 SPECIAL ID	00	00	00	00	00	00	00
[19] R3 SPECIAL ID	00	00	00	00	00	00	00
[20] R4 SPECIAL ID	00	00	00	00	00	00	00

Default values of the EIO88 Expansion I/O board are all '00's.
※ R1 SPECIAL ID ~ R4 SPECIAL ID:
1. When you use arm/disarm function, this index sets output time.
2. When you use 2 levels individual door opening time function,
   this index sets door opening time by doors.
   But, two functions (1 & 2) cannot be used at the same time.

8. Default values on the outputs regarding access attempts (3Door set-up: EIO88 default)

Index No	Relay#1	Relay#2	Relay#3	Relay#4	Relay#5	Relay#6	Relay#7	Relay#8
[1] Reader#1 ID OK	00	00	00	00	00	00	00	00
[2] Reader#1 ID Error	00	00	00	00	00	00	00	00
[3] Reader#1 ID T/S Error	00	00	00	00	00	00	00	00
[4] Reader#1 APB Error	00	00	00	00	00	00	00	00
[5] Reader#2 ID OK	00	00	00	00	00	00	00	00
[6] Reader#2 ID Error	00	00	00	00	00	00	00	00
[7] Reader#2 ID T/S Error	00	00	00	00	00	00	00	00
[8] Reader#2 APB Error	00	00	00	00	00	00	00	00
[9] Reader#3 ID OK	03	00	00	00	00	00	00	00
[10] Reader#3 ID Error	00	03	00	00	00	00	00	00
[11] Reader#3 ID T/S Error	00	03	00	00	00	00	00	00
[12] Reader#3 APB Error	00	03	00	00	00	00	00	00
[13] Reader#4 ID OK	00	00	03	00	00	00	00	00
[14] Reader#4 ID Error	00	00	00	03	00	00	00	00
[15] Reader#4 ID T/S Error	00	00	00	03	00	00	00	00
[16] Reader#4 APB Error	00	00	00	03	00	00	00	00
[17] R1 SPECIAL ID	00	00	00	00	00	00	00	00
[18] R2 SPECIAL ID	00	00	00	00	00	00	00	00
[19] R3 SPECIAL ID	00	00	00	00	00	00	00	00
[20] R4 SPECIAL ID	00	00	00	00	00	00	00	00

Default values of the EIO88 Expansion I/O board are all '00's.
※ R1 SPECIAL ID ~ R4 SPECIAL ID:
 1. When you use arm/disarm function, this index sets output time.
 2. When you use 2 levels individual door opening time function,
    this index sets door opening time by doors.
    But, two functions (1 & 2) cannot be used at the same time.

9. Default values on the outputs regarding access attempts (4Door set-up: iTDC board default)

Index No	Relay#1	Relay#2	Relay#3	Relay#4	TTL#1	TTL#2	TTL#3
[1] Reader#1 ID OK	**03**	00	00	00	00	00	00
[2] Reader#1 ID Error	00	**03**	00	00	00	00	00
[3] Reader#1 ID T/S Error	00	**03**	00	00	00	00	00
[4] Reader#1 APB Error	00	**03**	00	00	00	00	00
[5] Reader#2 ID OK	00	00	**03**	00	00	00	00
[6] Reader#2 ID Error	00	00	00	**03**	00	00	00
[7] Reader#2 ID T/S Error	00	00	00	**03**	00	00	00
[8] Reader#2 APB Error	00	00	00	**03**	00	00	00
[9] Reader#3 ID OK	00	00	00	00	00	00	00
[10] Reader#3 ID Error	00	00	00	00	00	00	00
[11] Reader#3 ID T/S Error	00	00	00	00	00	00	00
[12] Reader#3 APB Error	00	00	00	00	00	00	00
[13] Reader#4 ID OK	00	00	00	00	00	00	00
[14] Reader#4 ID Error	00	00	00	00	00	00	00
[15] Reader#4 ID T/S Error	00	00	00	00	00	00	00
[16] Reader#4 APB Error	00	00	00	00	00	00	00
[17] R1 SPECIAL ID	00	00	00	00	00	00	00
[18] R2 SPECIAL ID	00	00	00	00	00	00	00
[19] R3 SPECIAL ID	00	00	00	00	00	00	00
[20] R4 SPECIAL ID	00	00	00	00	00	00	00

Default values of the EIO88 Expansion I/O board are all '00's.
※ R1 SPECIAL ID ~ R4 SPECIAL ID:
 1. When you use arm/disarm function, this index sets output time.
 2. When you use 2 levels individual door opening time function,
   this index sets door opening time by doors.
   But, two functions (1 & 2) cannot be used at the same time.

10. Default values on the outputs regarding access attempts (4Door set-up: EIO88 default)

Index No	Relay#1	Relay#2	Relay#3	Relay#4	Relay#5	Relay#6	Relay#7	Relay#8
[1] Reader#1 ID OK	00	00	00	00	00	00	00	00
[2] Reader#1 ID Error	00	00	00	00	00	00	00	00
[3] Reader#1 ID T/S Error	00	00	00	00	00	00	00	00
[4] Reader#1 APB Error	00	00	00	00	00	00	00	00
[5] Reader#2 ID OK	00	00	00	00	00	00	00	00
[6] Reader#2 ID Error	00	00	00	00	00	00	00	00
[7] Reader#2 ID T/S Error	00	00	00	00	00	00	00	00
[8] Reader#2 APB Error	00	00	00	00	00	00	00	00
[9] Reader#3 ID OK	03	00	00	00	00	00	00	00
[10] Reader#3 ID Error	00	03	00	00	00	00	00	00
[11] Reader#3 ID T/S Error	00	03	00	00	00	00	00	00
[12] Reader#3 APB Error	00	03	00	00	00	00	00	00
[13] Reader#4 ID OK	00	00	03	00	00	00	00	00
[14] Reader#4 ID Error	00	00	00	03	00	00	00	00
[15] Reader#4 ID T/S Error	00	00	00	03	00	00	00	00
[16] Reader#4 APB Error	00	00	00	03	00	00	00	00
[17] R1 SPECIAL ID	00	00	00	00	00	00	00	00
[18] R2 SPECIAL ID	00	00	00	00	00	00	00	00
[19] R3 SPECIAL ID	00	00	00	00	00	00	00	00
[20] R4 SPECIAL ID	00	00	00	00	00	00	00	00

Default values of the EIO88 Expansion I/O board are all '00's.

※ R1 SPECIAL ID ~ R4 SPECIAL ID:
1. When you use arm/disarm function, this index sets output time.
2. When you use 2 levels individual door opening time function,
   this index sets door opening time by doors.
   But, two functions (1 & 2) cannot be used at the same time.

B. TROUBLE SHOOTING

☞ Broken or abnormal letters are showing on the LCD, when power is supplied.	
Cause	Initialization is not completed.
Solution	1. Initialize the controller and set-up the date and time on SETUP MENU F2->SYS INITIALIZE and SETUP MENU F2->TIME SETTING. 2. If this problem continues, please contact the designated service center.

☞ The set-up mode suddenly returns to the normal-operating mode.	
Cause	Time out error
Solution	1. In the Set-up mode, the device is programmed to do so when there is no key entered or reading card for 20 seconds.

☞ Can't access to the Set-up Mode even after entering the Master ID "00000000".	
Cause	The Master ID might be changed.

Solution	1. Try Initializing the Master ID using the application S/W. (It'll be changed to "00000000".)
	  - Note that the Master ID for iTDC-SR is 10 times <0>, "0000000000".
	2. When it is not feasible, initialize the unit as followings.
	   - Press the two System Initialization Switches simultaneously while power is on.
	  - Wait until the message 'Initialize END Turn OFF Power…' appears on the LCD and turn it off and on again. Try entering the Set-up mode.
	   - Note that all the value will be set to default, including the IDs after initializing.
	3. If this problem continues after the procedure above, contact the designated service center.

☞ No problem with accessing by cards, but cannot access with the PIN input.	
Cause	An error in Set-up or possible component defect.

Solution	1. Check whether a beep sound is generated when you press a key.
	   When it is, the problem may be an error in set-up. Precede followings.
	    - Enter the Master ID ("00000000" default) to enter the Set-up mode.
	     (Note that the Master ID for STAR iTDC-SR is 10 times <0>, "0000000000".)
	    - Press <F1> key.
	    - 'READER 1 MODE' will appear on the LCD, then use the key <6> to choose 'READER1 KEY INPUT', 'READER2 KEY INPUT', 'READER3 KEY INPUT', or 'READER4 KEY INPUT' and select 'Enable' as wanted.
	2. When there is no beep sound or already enabled Key-in functions, contact the designated service center.

☞ The reader seems to read cards, but the controller does not respond or does not respond properly, such as displaying wrong card numbers in the reader test mode.	
Cause	Reader defect, wiring error between the reader and the controller, or the electric noises around.

Solution	1. Be sure that the reader reads the card ID when you present a card.
	2. Be sure that the reader format is correct. 26bit Wiegand or 34bit Wiegand.
	3. Check the wiring between the reader and iTDC.
	   - Check the wires of Wiegand data lines D0 and D1, which is connected correctly.
	   - Connect the controller ground to the ground wire of the reader and it is recommended to connect them to an earth ground.
	4. Using oscilloscope, check the shape of signals from the reader at the controller's side. When noises are shown on the signals, it is recommended to use shielded wires and the unused wires to the common ground. You can use repeaters, also.
	5. Check the maximum cable length (150m), which may be indicated on the reader manual.
	6. If this problem continues after the procedure above, contact the designated service center.

☞ **The controller does not communicate with PC.**

Cause	Defective cable is used, an error in setting COMM ID of the controller, or damage on the communication port (either on PC side or on the controller side).

Solution	1. Please, check the settings of the application S/W and the controller.
	  - Check the controller's COMM ID is the same the setting on the S/W.
	  - Set the different COMM ID when two or more controllers are installed.
	  - Check the communication speed (9600bps default) is the same as the setting on the S/W.
	  - Make sure that the PC's COM port is set correctly on the S/W.
	  - The parameters at the S/W should be set as follows.
	    Parity bit: NONE Data bit: 8bit Stop bit: 1bit
	
	2. Check the cable connection for communication.

RS232		RS422 (mono communication)		
iTDC	PC	iTDC	RS422/232 Converter	PC
TX port	RX	RX(-)	TX(-)	
RX port	TX	RX(+)	TX(+)	The RS232 cable from the converter
GND	GND	TX(-)	RX(-)	
		TX(+)	RX(+)	

RS422 (multi drop communication)			
iTDC	iTDC	RS422/232 Converter	PC
RX(-)	RX(-)	TX(-)	
RX(+)	RX(+)	TX(+)	The RS232 cable from the converter
TX(-)	TX(-)	RX(-)	
TX(+)	TX(+)	RX(+)	

3. In case of setting RS422 communication, recommend to use line-end resistors of 120 Ohm between the RX (+) and RX (-) lines and between the TX (+) and TX (-) lines, and apply the same resistors to the converter RS422 lines. Consult a service center or an electric technician if you cannot be sure how to do it.

4. When a multi-drop communication doesn't work, test one-by-one communication first.

5. If this problem continues after the procedure above, contact the designated service center.

15. <u>FCC REGISTRATION INFORMATION</u>

FCC REQUIREMENTS PART 15

Caution: Any changes or modifications in construction of this device, which are not expressly approved by the manufacturer for compliance, could void the user's authority to operate the equipment.

NOTE: This device complies with **Part 15 of the FCC Rules**.

Operation is subject to the following two conditions;
1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a **Class A Digital Device**, pursuant to **Part 15 of the FCC Rules**. These limits are designed to this equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the radio or television off and on, the user is encouraged to try to correct interference by one or more of the following measures.

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on another circuit.
4. Consult the dealer or an experienced radio/TV technician for help.

16. WARRANTY POLICY AND LIMITATION OF LIABILITY

IDTECK warrants this product against defects in material and workmanship for the period specified below from the date of purchase under normal customer use. This Warranty doesn't apply: 1) to any product which has been dismantled without authorization of IDTECK or/and has a damaged or detached QC label on its back side; 2) to any losses, defects, or damages caused by improper testing, operation, installation, maintenance, modification, alteration, or adjustment; 3) to any product with a damaged or faded serial number on it; or 4) to any losses, defects, or damages caused by lightning or other electrical discharge, natural disaster, misuse, accident or neglect.

This Limited Warranty is in lieu of all other warranties, obligations, or liabilities on the part of IDTECK, and IDTECK DISCLAIMS ANY AND ALL WARRANTY, WHETHER EXPRESS OR IMPLIED, OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.IDTECK does not, and cannot, know who is present, what property is located, where this product will be used; it would be extremely difficult to determine the actual damages that may result from a failure of the product to perform as anticipated; and the low price of this product is based upon the nature of the product provided and the limited liability that IDTECK assumes. IDTECK IS NOT RESPONSIBLE FOR ANY PERSONAL INJURY, PROPERTY DAMAGE OR LOSS, DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR OTHER LOSS, AND IDTECK'S MAXIMUM LIABILITY SHALL NOT IN ANY CASE EXCEED THE PURCHASE PRICE OF THE PRODUCT.

To obtain repair or replacement under the terms of this warranty, visit IDTECK's Website (http://www.idteck.com) and place an online RMA request. After an RMA code is issued, return the product along with the authorization RMA code.

>> Warranty Period

	Product Category	Warranty Period
1	RF CARDS (ACTIVE TYPE)	1 year
	FINGERPRINT MODULE / SENSOR	
2	RF READERS (WITHOUT EPOXY POTTING)	2 years
3	STANDALONE CONTROLLERS	
4	CONTROL PANELS	
5	FINGERPRINT READERS	
6	RF READERS (WITH EPOXY POTTING)	Lifetime
7	RF CARDS (PASSIVE TYPE)	

17. HOW TO MAKE RMA REQUEST (AFTER SALES SERVICE)

To make the RMA request, the product must be initially registered on IDTECK webpage. Please attach the RMA request form on the product and send it to IDTECK RMA Center.
Please follow the instructions below:

1. Please register the RMA request via IDTECK webpage.
    : www.idteck.com → "Support & Download" → "Online RMA" → "RMA REQUEST"
    (Please refer to the IDTECK webpage for more details.)
2. RMA Code will be issued after the RMA Center reviews the RMA request form.
3. Fill out the A/S request form (included in the product package) and attach it to the product using the aluminum string.
4. Enclose the product along with the RAM Code and send it to IDTECK RMA Center.
    (Product without RMA Code is not accepted.)

If you have any questions or problems regarding the RMA services, please contact us using the following contact information below. Friendly representatives at IDTECK are always standing by to provide the best after sales services.

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Website: www.idteck.com
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IDTECK Production Facility and RMA Center
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E-Training Center: http://www.idtecktraining.com

The specifications contained in this manual are subject to change without notice at any time.

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