1. FEATURES

2. TECHNICAL SPECIFICATIONS

3. INSTALLATION DIAGRAMS

4. PARAMETERS SETUP

Enter and Exit the program mode
Reset to factory setting
Change master password
Change door common access password
Setup operation mode
Setup current time
Setup time interval function of No password entry needed
Setup time interval function of electrified lock released
Setup time interval function for disabling alarm
Enable time interval function of No password entry needed (option)
Enable time interval function of electrified lock released (option)
Enable time interval function of disabling alarm (option)
Enable door ajar function
Enable alarm function

5. Adding Card and Door Access PIN

Add master card
Add user card
Add door access PIN

6. Deleting Card and Door Access PIN

Delete master card
Delete user card
Delete door access PIN
Empty location ID
Delete all master cards
Delete all user cards
Delete all door access PINs

7. USERS LIST

8. NOTES

9. HOW TO ORDER

1. General Features:

DG-2100EU

DG-2000US

◇ **DG-2000US / DG-2100EU** are standalone PROX reader controllers.

◇ **DG-2000US** is designed for universal standard size configuration, particularly for ANSI standard size.
DG-2000EU is designed for Asian or European standard size configuration.

◇ Weatherproof designed and vandal resistant.

◇ The tactile keys with audible keypad applies touch sensor technology compared with traditional physical rubber keypad and overcomes any possible mechanical problems.

◇ Infra-red light tamper design overcomes possible mechanical problems.

◇ Optional readers are capable of securing external installation. The reader output should be in wiegand 32-bit, keypad output should be in 4 / 6 / 8 bits format.

◇ **3 operation modes**: (1.) Card and PIN, (2.) Card or PIN, (3.) PIN only.

◇ **Up to 5 Master cards can be registered onto DG-2000US / DG-2000EU**. If a user forgets his Master password, just tap in ＊＊,< Use the Master card >, and ＃ to enter the program mode. The Master card is also equal to a valid access card.

◇ **2000-cardholder capacity**. 32-bit card serial number which can be saved at a memory location from 1 to 2000.

◇ **200 Door Access PINs**. The length of a PIN number is capable from 1 to 6 digits, and you can set the value from 0 to 999999. A PIN number can be saved at a memory location from 2001 to 2200.

◇ **1 Common Access Password for operation**. The length of the password is capable from 0 to 999999 (1 ~ 6 digits).

◇ **1 Master Password**. To enter the program mode by key in the Master password or use a Master card. The Master password is capable from 1 to 8 digits, and you can set the value from 0 to 99999999.

◇ When the yellow LED on the keypad starts flashing, indicating to enter password on the unit.

◇ **3 types of time interval functions**: (1) No password entry needed, (2) Electrified lock release time, and (3) Disabling alarm.

◇ Password lockout threshold. 3 failed attempts in a roll will cause the reader to be locked, and then the reader cannot be used until 60 seconds.

◇ These 2 reader controllers DG-2000US / DG02000EU, both have two technologies in one system, 125 KHz of low frequency and 13.56 MHz high frequency.

◇ The function of Master Reset is only to reset the Master password but still remain the records of door access PINs.

Note: If the **Card Serial Number (CSN)** is more than 32-bit, take the lower 32-bit as the card number, else leading zero appended.

2. TECHNICAL SPECIFICATIONS:

Power Voltage	12 to 16 VAC/DC
Operating Current	Less than 80mA DC for controller, 1.5A DC for Electrified locks
Operating Temperature	-10°C to +65°C
Operating Humidity	0 to 95% non-condensing
RFID Technology	EM + Mifare EM: 125 KHz Mifare: 13.56 MHz
Read Range	40mm+ for 13.56 MHz ISO card 80mm+ for 125 KHz ISO card
Response Time	Less than 0.2 seconds
Alarm Output	5VDC with 25mA DC
Relay Specifications	12VDC, 2A DC
Dimensions	DG-2100EU 86 x 86 x 21mm, DG-2000US 105 x 80 x 21 mm
Weatherproof	Yes
Color	Black

Keypad Operations

1. System will monitor keypad entry, it will not accept invalid entry
2. Each code entry waiting time is 10 seconds. If time expires, the program will exit with beep sound 5 times.

LED Indicators

	Main Reader Controllers		Optional Readers					
	DG-2000US	**DG-2100EU**	**DG-2000R**	**DG-2000K**	**DG-2000SR**	**DG-2000SK**	**DG-2100R**	**DG-2100K**
Ready mode	Red	Red	Blue	Blue	Blue	Blue	Red	Red
Program mode	Yellow	Yellow						
Prompt to enter password	Flashing Yellow	Flashing Yellow		Flashing Green		Flashing Green		Flashing Yellow
During electrified lock release	Green	Green	Green	Green	Green	Green	Green	Green
Invalid Card			Red	Red	Red	Red	Red	Red

Buzzer Indications

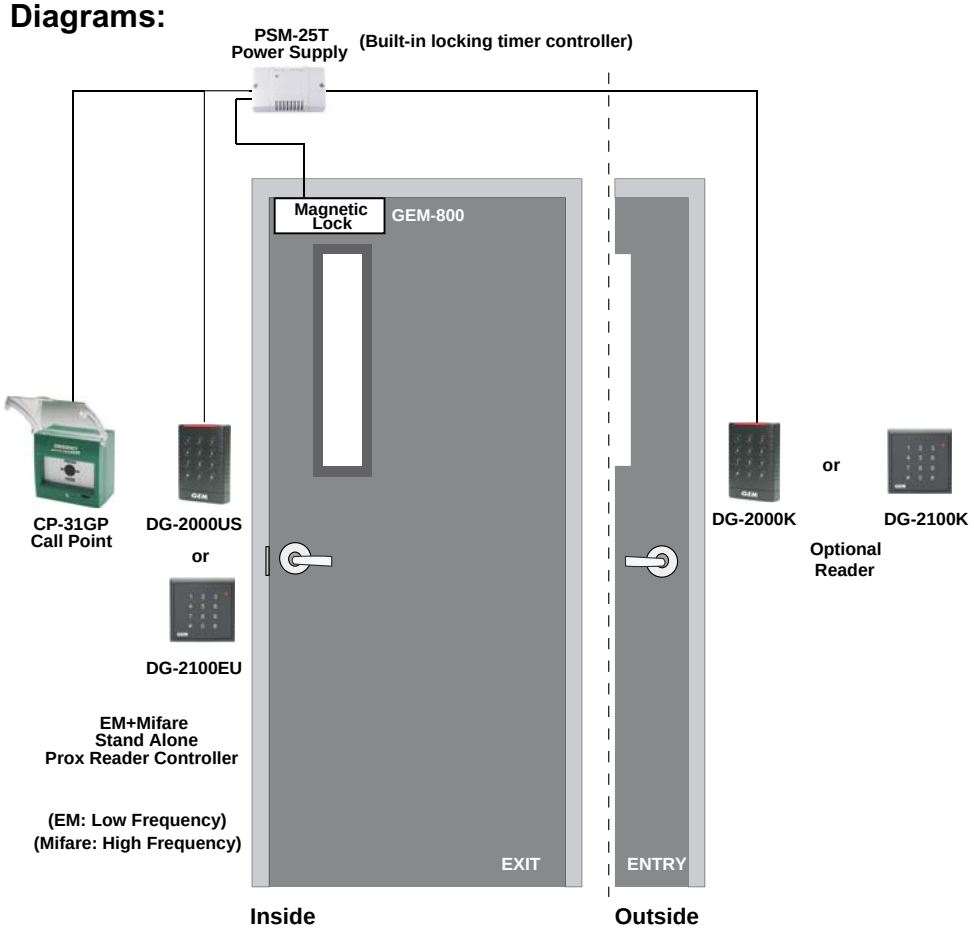
Beep Sounds	Description
1	Code entry ; Access is granted
2	Return to programming mode
3	Access denied ; Invalid password ; Invalid value entry
4	Power on, Reset to factory setting
Door Ajar	Get a single beep for every 2 seconds until door sensor closed

Sound Duration

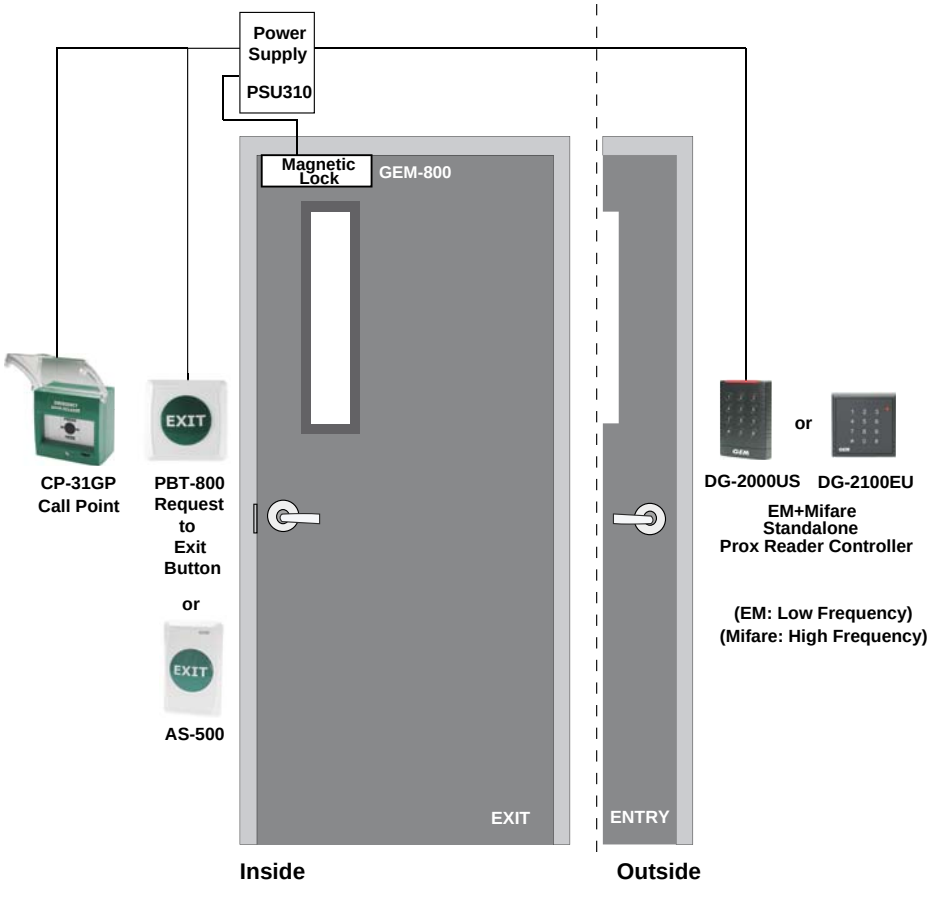
Beep Volume	Description
Short	10ms
Medium	20ms
Long	40ms

3. Installation Diagrams:

Secure Mode



Normal Mode



Two Technology In One Keypad Controller

● Electrified Locks Applications

GEM-800 Magnetic Lock (800 lbs)
(http://www.gianni.com.tw/ElectromagneticLock-gem800.asp)

GK300 Electric Strike
(http://www.gianni.com.tw/ElectricStrike-gk300.asp)

EB220N Electric Dropbolt
(http://www.gianni.com.tw/ElectricDropbolt-eb220n.asp)

EB261 Fail-Secure
Electric Latch Bolt
(http://www.gianni.com.tw/ElectricDropbolt-eb261.asp)

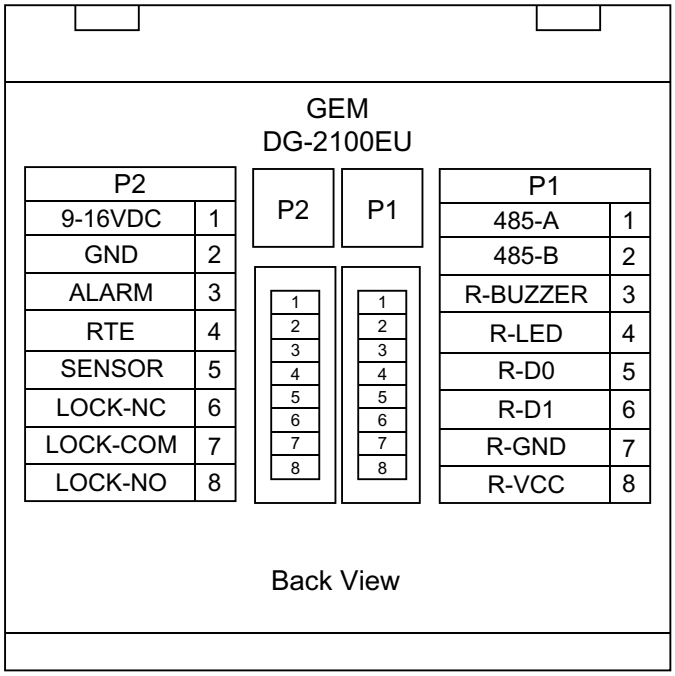
GK530/540
European Profile Strike
(http://www.gianni.com.tw/ElectricStrike-gk540.asp)

LS2200 Latch Bolt
(http://www.gianni.com.tw/Accessories-door-latch.asp)

PIN ASSIGNMENTS

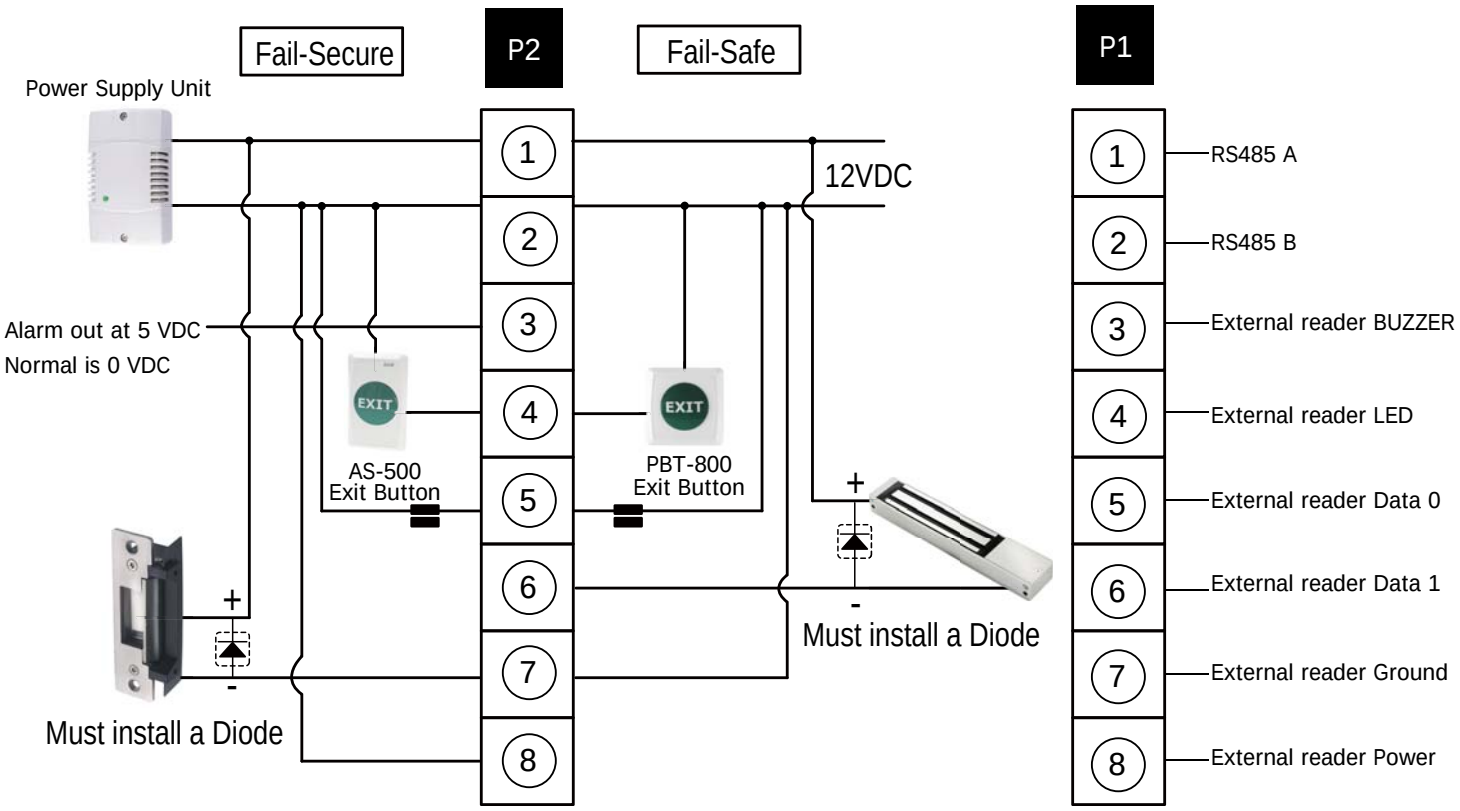
PIN#	Definition	Description
P1-1	RS485 (A)	RS485 (A) connect to PC or connect to a 2nd controller
P1-2	RS485 (B)	RS485 (B) connect to PC or connect to a 2nd controller
P1-3	Buzzer	For external reader BUZZER
P1-4	Green LED	For external reader GREEN LED
P1-5	D0	For external reader Data 0
P1-6	D1	For external reader Data 1
P1-7	Earth Ground	For external reader Earth Ground
P1-8	Power	For external reader Power

PIN#	Definition	Description
P2-1	9-16VIN	Power supply, 12V~16VAC/DC
P2-2	GND	Earth Ground
P2-3	ALARM	Alarm output: 5VDC ; 0VDC is normal status
P2-4	RTE	Request to Exit
P2-5	SENSOR	Door Sensor
P2-6	NC	Relay Normal Close (N.C.), dry contact
P2-7	COM	Relay Common (COM.), dry contact
P2-8	NO	Relay Normal Open (N.O.), dry contact



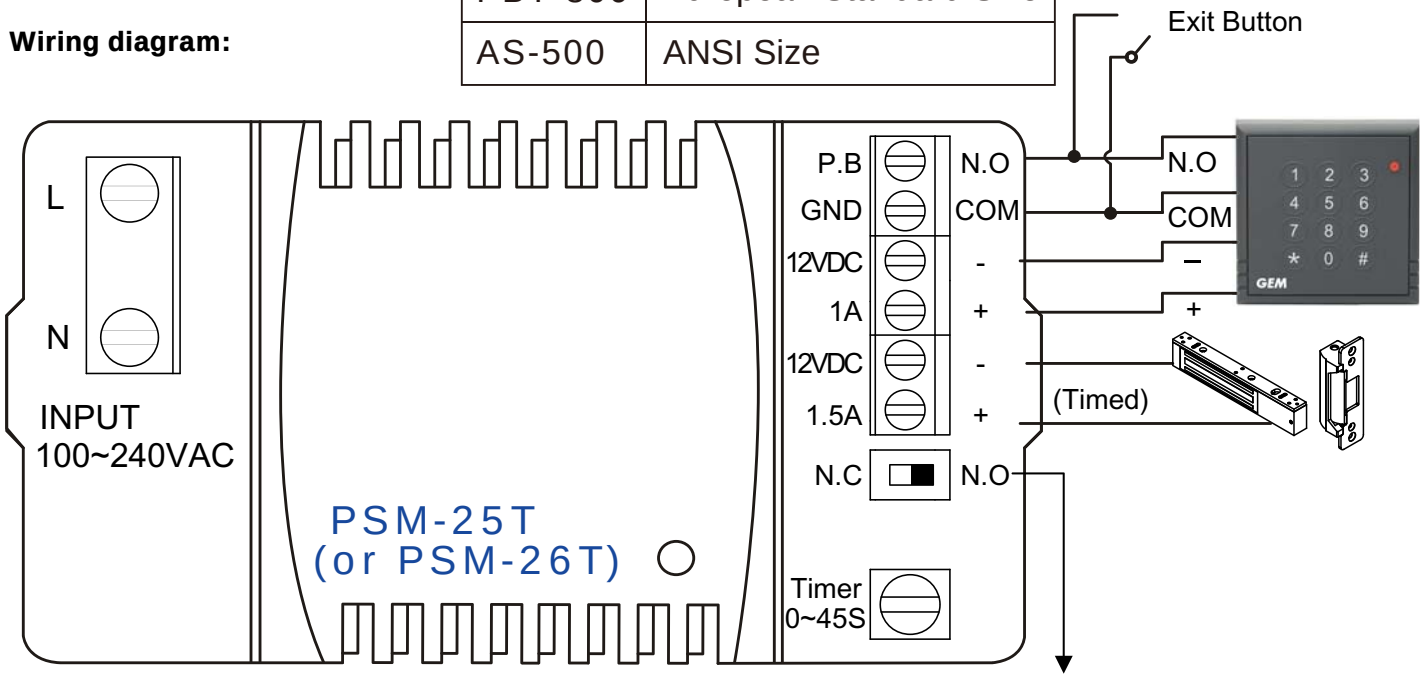
Standalone / Networked Reader Controller External Device Connection Diagram

DG-2000US / 2100EU Controller



PBT-800	European Standard Size
AS-500	ANSI Size

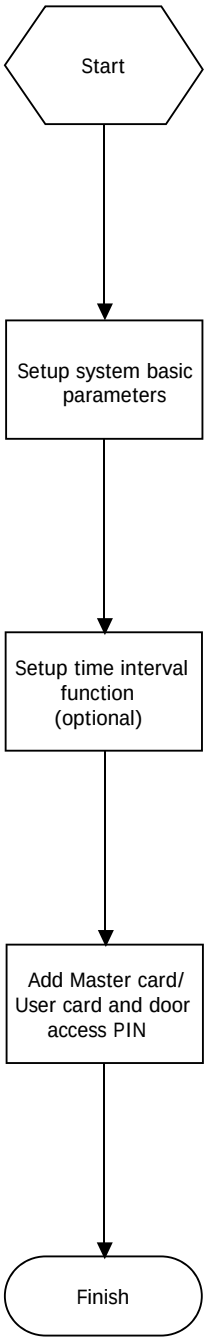
Wiring diagram:



N.C. (Fail-safe)/N.O.(Fail-secure) Switchable

4. Setup Parameters

Operation Flow for Setting up DG-2000 Series Standalone PROX Reader Controller



Make sure all cables are in correct connection before power on

Setup system basic parameters:
Enter the program mode
Reset to factory setting
Change master password
Change door common access password
Setup operation mode
Setup current time
Setup Electrified lock release time

Setup time interval function (option):
Setup time interval for No password entry needed
Setup electrified lock release time interval function
Setup time interval for alarm disabled function
Enable time interval for No password entry needed function (option)
Enable electrified lock release time interval function (option)
Enable time interval for alarm disabled function (option)
Enable door ajar funciton
Enable alarm function

Add master card / user card and door access PIN
Add master card for backup (max. 5 cards)
Add user card (max. 2000 cards)
Add door access PIN (max. 200 PINs)

Operation Begins

Enter / Exit the Programming Mode

1. Press: ＊＊**Master Password** or **# (Use master card).** Reader LED color is Yellow. (Default master password = 12345678)
2. Press: ＊＊**#** to exit or 30 seconds timeout to exit automatically to return to ready mode.
3. In ready mode, entering Master password enables door to open.

Reset to Factory Setting

1. Press: ＊**801#801#** (Clear all users information and reset to factory setting)
2. Press: ＊**802#802#** (Remain users information but reset to factory setting)

Master Reset

First turn off the power of the controller. Keep the RTE and GND wires connected and then turn on the power. Wait for 5 seconds. The reader will reset master password to "12345678" after 4 short and 1 long beeps.

Change Master Password

Press: ＊**9 New Master Password # New Master Password #**
NOTE: Master Password length is 1 to 8 digits

Change Door Common Access Password

Press: ＊**82 Common Access Password # Common Access Password #**
Default Common Access Password is "111111"
NOTE: Common Access Password length is 1 to 6 digits

Setting User Modes

Install DG-2000US or DG-2100EU controller at outdoor area (Normal Mode)

Enter: ＊**01#** (Default Setting)
- Require a Card **AND** Common Access Password entry

Enter: ＊**04#**
- Require a Card **AND** Common Access Password or Door Access PIN for entry (Default)

Enter: ＊**05#**
- Require a Door Access PIN for entry only

Install DG-2000US or DG-2100EU controller at indoor area
and install GEM Optional Reader at outdoor area (Secure Mode)

Enter: ＊**02#**
- For DG-2000US or DG-2100EU requires a Card only (No Common Access Password for entry required)
- For outdoor GEM Optional Reader requires a Card **AND** Common Access Password for entry

Enter: ＊**03#**
- For DG-2000US or DG-2100EU requires a Card (No Common Access Password for entry required) or a Door Access PIN for entry
- For outdoor GEM Optional Reader requires a Card **AND** Common Access Password or Door Access PIN for entry

Setting Current Time

Press: ＊**83 HHMMSS # HHMMSS #**

Setting Electrified Lock Release Time

Press: ＊**81 Electrified Lock Release Time (00 to 30 seconds) #**
Electrified lock release time default setting is 5 seconds

Setting Time interval of NO Password Entry Needed
During the time period, no password entry needed
Setting time interval (1):
Press: **＊84 From HHMM # To HHMM #**

Setting time interval (2) :
Press: **＊85 From HHMM # To HHMM #**

Setting Time interval of Electrified Lock Released
During the time period, electrified lock is released
Setting time interval (1):
Press: **＊86 From HHMM # To HHMM #**

Setting time interval (2):
Press: **＊87 From HHMM # To HHMM #**

NOTE: Please remember to disable this function before weekend and holiday.

Setting Time Interval For Disabling Alarm
During this period, alarm output is not available
Setting time interval (1):
Press: **＊88 From HHMM # To HHMM #**

Setting time interval (2):
Press: **＊89 From HHMM # To HHMM #**

Enable Time Interval Function of NO Password Entry Needed (Option)
Enable – Press: **＊34 #** Enable the function
Disable – Press: **44#** (Default Setting)

Enable Time Interval Function of Electrified Lock Released (Option)
Enable – Press: **＊35 #** Enable the function
Disable – Press: **45#** (Default Setting)

Enable Time Interval Function of Disabling Alarm (Option)
Enable – Press: **＊36 #** Enable the function
Disable – Press: **46#** (Default Setting)

Enable Door Ajar Function
Enable – Press: **＊32 Door Ajar Time (00s to 60s) #**. If door ajar time expires, beeper will beep every 2 seconds continuously until door closed properly.
Disable – Press: **42#** (Default Setting)

Enable Alarm Function
Enable – Press: **＊33#**
Disable – Press: **＊43#** (Default Setting)
Use valid card + Door Access PIN to reset alarm (if a Door Access PIN entry is required)

5. Adding Card and Door Access PIN

Please prepare a card number list before adding / deleting a card information.

Add Master Card

Press: **＊10 (use master card) #**

NOTE: If continue adding a master card, no need to press **＊10** again.

Press: **#** to return to program mode and hear 2 beeps, then press **＊＊#** again to exit the program mode.

Add User Card

Press: **＊11 Location ID # (use user card)** or enter 10-digit card number and **#** (Location ID is from '1' to '2000')

NOTE:

If continue adding a user card, no need to press **＊11**again, only enter **Location ID #** (use user card) or enter 10 digits card number and **#**

If the location ID has cardholder record, the reader will get 4 beeps, continue or return to program mode by press **#**

Press: **#** to return to program mode and hear 2 beeps, press **＊＊#** again to exit the program mode.

Add Door Access PIN

Press: **＊12 Location ID # Door Access PIN # Door Access PIN #**. (Location ID is from '2001' to '2200')

NOTE: If continue adding a door access PIN, no need to press **＊12** again, only enter **Location ID # Door Access PIN # Door Access PIN #.**

Press: **#** to return to program mode and hear 2 beeps, press **＊＊#** again to exit the program mode.

6. Deleting Card and Door Access PIN

Delete Master Card

Press: **＊20 (use master card) ＃**

NOTE: If continue deleting a master card, no need to press **＊20** again, only **(use master card) and press ＃**

Press: **＃** to return to program mode and hear 2 beeps, press **＊＊＃** again to exit the program mode.

Delete User Card

Press: **＊21 (use user card) or enter 10-digit card number and ＃**.

NOTE: If continue deleting a user card, no need to press **＊21** again, only (use user card) or key in 10-digit card number and **＃**.

Press: **＃** to return to program mode and hear 2 beeps, press **＊＊＃** again to exit the program mode.

Delete Door Access PIN

Press: **＊22 Door Access PIN ＃ Door Access PIN ＃**.

NOTE : If continue deleting a user card, no need to press **＊22** again, only enter **Door Access PIN＃ Door Access PIN ＃**.

Press: **＃** to return to program mode and hear 2 beeps, press **＊＊＃** again to exit the program mode.

Empty Location ID

Press: **＊23 Location ID ＃ Location ID ＃**.

(Location ID is from '1' to '2200')

NOTE : If continue erasing Location ID contents, no need to press **＊23** again, only enter **Location ID ＃ Location ID ＃.**

Press: **＃** to return to program mode and hear 2 beeps, press **＊＊＃** again to exit the program mode.

Delete all Master Cards

Press: **＊27#27#**

Delete all User Cards

Press: **＊28#28#**

Delete all Door Access PINs

Press: **＊29#29#**

7. Users List

IMPORTANT NOTICE: Please update the card numbers and PINs for reference.

Card Number Table (2000 Cardholders)

Location ID	Card Number	User Name	Expiration Date
1			
2			
3			
.			
.			
.			
.			
1999			
2000			

Door Access PIN Table (200 PINs)

Location ID	PIN	User Name	Expiration Date
2001			
2002			
2003			
.			
.			
.			
.			
2199			
2200			

8. NOTES:

a) Please add diode parallel of the electrified lock preventing back E.M.F. to damage the device.
b) Create master card and store at a secure location for backup purpose.
c) Change the master password.
d) No need to enter leading zero for any kind of password, complete entry by pressing the **#** key.
e) The 200 door access PINs are capable from 1 to 6 digits.
f) Electrified lock release time shall be shorter than the door ajar time.
g) Make sure the device clock time is correct; especially when you use the time interval control function. We suggest that user update the device clock time by monthly.
h) If a user does not return the card to you, please delete the access authority by the location ID.
i) Change the common door access password frequently to enhance and strengthen system security.
j) Please update the cardholder information and door access PINs information to store at a secure location.

9. HOW TO ORDER

Main PROX Reader Controllers	DG-2000US
	DG-2100EU
Optional Readers	DG-2000R
	DG-2000K
	DG-2000SR
	DG-2000SK
	DG-2100R
	DG-2100K
RF Technology	EM + Mifare CSN
R	Reader without keypad
K	Reader with keypad
SR	Slim reader without keypad
SK	Slim reader with keypad
CSN	Card serial number

Optional Accessories

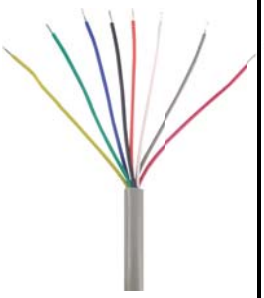
Part Number	Description	
P-CB-10AE	**10 Conductors**	**24 Gauges**
P-CB-8	**8 Conductors**	**24 Gauges**
P-CB-6	**6 Conductors**	**24 Gauges**
P-CB-4	**4 Conductors**	**22 Gauges**
P-CB-2	**2 Conductors**	**22 Gauges**
S-PL-UT	**2 way butt terminal**	**0.4~0.9mm wire**
P-PL-UR-3P	**3 way butt terminal**	**0.4~0.9mm wire**
PSM-25T	**Power Supply Unit**	**1.5A Relock timer for electrified locks (Field selectable for Fail-safe or Fail-secure)**
PSM-26T	**Power Supply Unit with Cable**	
	Cable for US Standard Cable	**For PSM-26T**
	Cable for EU Standard Cable	**For PSM-26T**
	Cable for UK Standard Cable	**For PSM-26T**

Optional Accessories:

Wires Available:

P-CB-10AE

- 10 Conductors (Standard)
- 24 Gauges



P-CB-8

- 8 Conductors
- 24 Gauges

P-CB-6

- 6 Conductors
- 24 Gauges

P-CB-4

- 4 Conductors
- 22 Gauges

P-CB-2

- 2 Conductors
- 22 Gauges

Available Crimp Butt Splice Terminals:

S-PL-UT

- 2 way butt terminal
- 0.4~0.9mm wire

S-PL-UR-3P

- 3 way butt terminal
- 0.4~0.9mm wire

Available Power Supply Units & Power Cables:

Special designed with re-locking timers for electrified locks (Field selectable for Fail-safe or Fail-secure)

PSM-25T

Power Supply Unit

PSM-26T

Power Supply Unit with Cableit

US Standard Cable

EU Standard Cable

UK Standard Cable

- **Main PROX Reader Controllers**

DG-2000US

DG-2100EU

- **Optional Readers**

DG-2000R

DG-2000K

DG-2000SR

DG-2000SK

DG-2100R

DG-2100K