SEMAC/WEBPASS
Communication Protocol
V1.6

2015.06.04

CHIYU Technologies Inc.

Table of Contents

Revised History:

2009/08/21 0x3d,0x3e Add Mail From and username/password for SMTP server authentication requires

2009/08/27 Add cmd 0x09(Set BF50 Card No) and 0x0A(Update BF50 Card No)

2010/02/24……0x16 – 0x01 revise to Terminal ID

2010/02/24……0x16 – 0x02 revise to(0/1/2/3:WG26/WG34/WG66/WG37)

2010/02/24……0x16 – 0x011 revise to (0/1/2: Controller/Sub-Controller/Dummy Reader)

2010/02/24……0x30 -- 0x14 (Parameter 1) revise to (0/1/2:None/Normal/Circoit)

2010/02/24……0x32 Door lock state revise to(0/1/2: Force open/Force close/ Normal)

2010/02/24……0x33 Door lock state revise to (0/1/2/3: Force open/Force close/ Normal/not used)

2010/02/25……0x3C add one type – Alarm Off

2010/02/25……0x08 user type revise to(0/1/2/3/4/5:Normal User/Super User/Vistor/Guard Touring/Defense Card)

2010/03/04……0x16,0x17 return value add "0x0F : Version No Support" and original 0x0F revise to 0x10

2010/03/04……0x3c return value add "0x0F : Version No Support"

2010/03/04……0x1A,0x1B return value add "0x0F : Version No Support"

2010/07/08……0x50 security status define value error , now change to "(0/1/2/3: Force open/Force close / Normal/not used)"

2010/7/23..... 0x16 Change the 0x0B(Alarm and IP camera event) value to "2 —without"

2010/7/23..... 0x16 Change the note 1: 0x0B(Alarm and IP camera event) value to "2 —without"

2010/07/23……0x30 Parameter Index 0X12 revise to (0/1/2: Ignored /Recorded/TA)

2010/07/23……0x31 Access Log Record return value revise to (0/1/2: Ignored /Recorded/TA)

2010/7/23..... 0x34 Change LENGTH value to “12+6xN”

2010/7/23..... 0x34 Change Alarm Level size to “6xN”

2010/7/23..... 0x34 Change Alarm Level : Relay Alarm (0/1: Deactivated/Active)

2010/7/23..... 0x34 Change Alarm Level : IP Camera Capture (0/1: Deactivated/Active)

2010/7/23..... 0x35 Change return LENGTH value to “19+N*6”

2010/7/23..... 0x35 Change Alarm Level size to “6xN”

2010/7/23..... 0x35 Change Alarm Level : Relay Alarm (0/1: Deactivated/Active)

2010/7/23..... 0x35 Change Alarm Level : IP Camera Capture (0/1: Deactivated/Active)

2010/7/23.....0x41 Add event code : PulseOpenDoor 0x2f

ExitButtonShortCircuit 0x30

ExitButtonOpenCircuit 0x31

FireButtonShortCircuit 0x32

FireButtonOpenCircuit 0x33

SemacFastReg 0x3b

FireAlarmOff 0x3c

2010/7/23.....add cmd 0x44 (Retrieving all Non-Retrieved logs on the SEMAC)

0x45(Delete all Non-Retrieved logs on the SEMAC)

0x46(Retrieving the oldest Non-Retrieved logs on the SEMAC)

0x47 (Delete specified Non-Retrieved logs on the SEMAC)

2010/7/23.....0x51 Change return value

2010/7/23..... 0x52 Change LENGTH value to “42+N”

2010/7/23..... 0x52 Change Log index size to “4bytes

2010/8/02……add 0x0B(Get Facility Code For Degrade Mode Usage)

0x0C(Set Facility Code For Degrade Mode Usage)

2010/8/02……Change return Result value [over max IP Camera number] from 0x0F to 0x12 in command 0x16/0x17

2011/1/11……add cmd 0x48(Retrieving TimeSet I.D. list)

0x49(Retrieving TimeZone I.D. list)

0x4a(Retrieving Group I.D. list)

2011/5/16……add cmd 0x51 IN/OUT Indication 0x10

2011/5/17……add cmd 0x51 Event/Alarm Code from 0x2d to 0x3c，Verification Source 4 Personal Password

2011/6/03……add cmd 0x30 SEMAC option for S3

2011/6/03……new add cmd Get BF333 Status(0x4b) (For SEMAC S3)

2011/6/10……edit cmd 0x2D STX(0x03)

2013/3/21……add value 0x12 in command 0x16

2013/3/21……add value 0x12 in command 0x17

2013/3/21……add cmd 0x6F Pulse Open Door OUT (for SEMAC S2 Car Parking)

2013/6/7……..add Web No Logo(0/1: Off/On) value in command 0x50

0x12 Relay Mode Control(for S2 Car Parking Remote Control)

2014/11/4……Modify Holiday Index from 0 to 99 in Get All Holiday, Delete One Holiday, Add Holiday

2015/5/29.....modify a) 0x16 and 0x17, add "0x21: KAYPAD & LED Sleep Time (for WEBPASS), 0x1B: Sound for verify card (for WEBPASS), 0x13: Sound for KEYPAD (for WEBPASS)"

b) 0x30 and 0x31, add "0x15: Still Open Delay Time" modify "0x16: Degrade Mode”

2015/06/01……Modify 0x16 and 0x17 parameter value 0x10(IP camara), add 0x56 , 0x57, 0x58 and 0x59.

2015/06/02……Move Bypass mode to 0x16 and 0x17 from 0x30 and 0x31.

2015/6/3..... 0x30 and 0x31 length modify

2015/6/4..... Modify 0x16 parameter value 0x12 and 0x13 change 0x23 and 0x24

1 Introduction

Following are the standard command packet from software to the SEMAC.

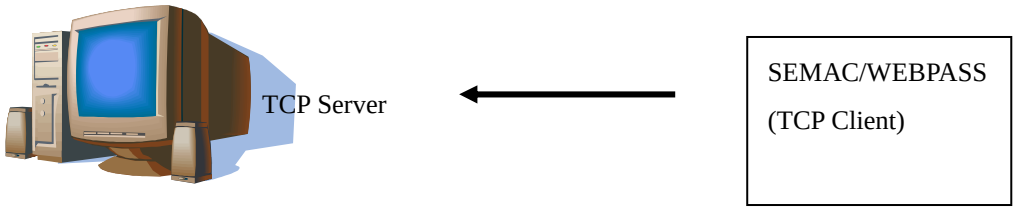
	Size (bytes)
ACK (0x07) : ASCII Character	1
STX (0x03) : ASCII Character	1
LENGTH : length from ACK to ETX	4
TID : system unique I.D.	2
COMMAND	1
DATA : command parameter	N
CHECKSUM : byte sum from ACK to DATA	1
ETX (0x04) : ASCII Character	1

- This packet starts from ACK.
- In this packet, multiple byte value must be started from MSB. For example, if length was 10, LENGTH is 0x00 0x00 0x00 0x0a.
- When calculate CHECKSUM, if a carry occurs, please discard.

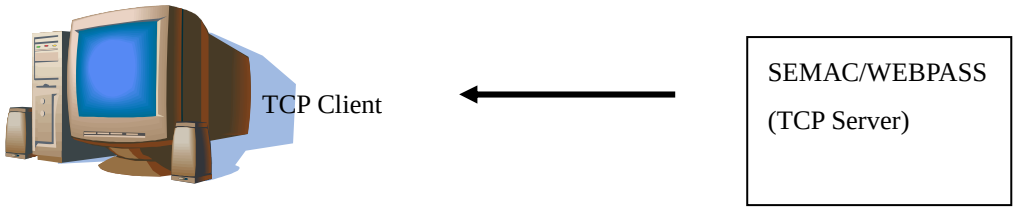
Following are the standard return packet from the SEMAC.

	Size (bytes)
BS (0x09) : ASCII Character	1
STX (0x03) : ASCII Character	1
LENGTH : length from BS to ETX	4
TID : system unique I.D.	2
RESULT	1
COMMAND	1
MAC Address	6
DATA : returned parameter	N
CHECKSUM : byte sum from BS to DATA	1
ETX (0x04) : ASCII Character	1

- **Real Time Mode**



- **Passive Mode**



Command List

Management Channel

Command Code		Chapter
User Related		
0x01	User Deletion	2.1
0x02	All User Deletion	2.2
0x03	Query that a user I.D. is already assigned	2.3
0x04	Query the number of already registered users	2.4
0x05	Query that a Card No. is already assigned	2.5
0x06	Retrieving user I.D. list	2.6
0x07	Register/Modify User Data	2.7
0x08	Get User Data	2.8
System Related		
0x10	Asking current Time & Date	3.1
0x11	Set New Time & Date	3.2
0x12	Reboot System	3.3
0x13	Get Serial Number	3.4
0x14	Change Admin/Common Password	3.5
0x15	Get Admin/Common Password	3.6
0x16	Configure system parameter	3.7
0x17	Get System Parameter	3.8
0x18	Set WEB Log-on Password	3.9
0x19	Get WEB Log-on Password	3.10
0x1A	Set Multi-Badge ID	3.11
0x1B	Get Multi-Badge ID	3.12
0x1C	Get System Information	3.13
Access Control Related		
0x20	Add Time Set	4.1
0x21	Delete One Time Set	4.2
0x22	Delete All Time Set	4.3
0x23	Get One Time Set	4.4
0x24	Add Time Zone	4.5
0x25	Delete One Time Zone	4.6
0x26	Delete All Time Zone	4.7
0x27	Get One Time Zone	4.8
0x28	Add Group	4.9
0x29	Delete One Group	4.10
0x2A	Delete All Group	4.11
0x2B	Get One Group	4.12
0x2C	Add Holiday	4.13
0x2D	Delete One Holiday	4.14
0x2E	Delete All Holiday	4.15
0x2F	Get All Holiday	4.16
0x30	Door Setting	4.17
0x31	Get Door Setting	4.18
0x32	Security By Pass	4.19
0x33	Get Security By Pass Status	4.20
0x34	Set Alarm Level	4.21
0x35	Get All Alarm Level	4.22
0x36	Get Door Sensor status	4.23
0x37	BF50 Relay(No.2,No.3) Control	4.24
0x38	Change User Anti-Pass back Level	4.25
0x39	Get Current User Anti-Pass back Level	4.26
0x3A	Auto Search BF50	4.27
0x3B	Get BF50 Status	4.28
0x3C	Change Fire Alarm/Defense State	4.29
0x3D	Set Alarm E-mail address	4.30
0x3E	Get Alarm E-mail address	4.31

0x3F	Pulse Open Door	4.32
Access Transaction Related		
0x40	Querying the number of log	5.1
0x41	Retrieving all entry/exit Log	5.2
0x42	Deleting all entry/exit log	5.3
0x43	Retrieving all latest logs on the terminal	5.4
Lift Control Related		
0x60	N/A	6.1
0x61	N/A	6.2
0x62	N/A	6.3
0x63	N/A	6.4
0x64	N/A	6.5
Reader Control Related		
0x70	Set Webpass IP	7.1
0x71	Get Webpass IP	7.2

Real-Time Channel (Real Time Mode Only)

Command Code		Chapter
0x50	Keep Alive Check	8.1
0x51	Real-time Transaction	8.2
0x52	JPEG	8.3

2 User registration and deletion

2.1 User deletion(0x01)

This command deletes a registered user on the SEMAC.

- **Command**

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 15	4
TID	2
COMMAND : 0x01	1
USERID	4
CHECKSUM : byte sum from ACK to USERID	1
ETX (0x04)	1

- **USERID**

Unique User I.D.

Note : If the maximum user capacity is 20000, the range of User ID must be from 1 to 20000.

The return packet for this command is as follows.

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 22	4
TID	2
RESULT	1
Command	1
MAC Address	6
USERID	4
CHECKSUM : byte sum from BS to MAC Address	1
ETX (0x04)	1

- **RESULT**

0x00 : User deletion was successful

0x02 : Unknown error has occurred

0x03 : Not a registered user

0x04 : Check sum error

0x05 : Other packet error

0x08 : Unknown command

2.2 All users deletion(0x02)

This command deletes all registered users on the SEMAC. Use this function with caution since it completely deletes all registered users.

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x02	1
CHECKSUM : byte sum from ACK to COMMAND	1
ETX (0x04)	1

The return packet for this command is as follows.

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
Command	1
MAC Address	6
CHECKSUM : byte sum from BS to MAC Address	1
ETX (0x04)	1

- **RESULT**

  0x00 : User was deleted successfully

  0x02 : Unknown error has occurred

  0x04 : Check sum error

  0x05 : Other packet error

  0x08 : Unknown command

2.3 Query that a user I.D. is already assigned (0x03)

This command can query the registration status of a particular user I.D.

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 15	4
TID	2
COMMAND : 0x03	1
USERID	4
CHECKSUM : byte sum from ACK to USERID	1
ETX (0x04)	1

- **USERID**

  Unique user I.D. number

The return packet for this command is as follows.

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
Command	1
MAC Address	6
CHECKSUM : byte sum from BS to RESULT	1
ETX (0x04)	1

- **RESULT**

  0x00 : User I.D. was assigned.

  0x02 : Unknown error has occurred

  0x03 : User I.D. is not assigned

  0x04 : Check sum error

  0x05 : Other packet error

  0x08 : Unknown command

2.4 Query the number of already registered users(0x04)

At times, it is important to know the total number of currently registered users. When this command is used, the SEMAC returns the number of currently registered users.

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x04	1
CHECKSUM : byte sum from ACK to COMMAND	1
ETX (0x04)	1

The return packet for this command is as follows.

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 30	4
TID	2
RESULT	1
Command	1
MAC Address	6
NU	4
Available User	4
MU	4
CHECKSUM : byte sum from BS to MU	1
ETX(0x04)	1

- **NU**

  Number of currently registered users

- **MU**

  Maximum allowed number of registering user

- **RESULT**

  0x00 : Successfully processed

  0x02 : Unknown error has occurred

  0x04 : Check sum error

  0x05 : Other packet error

  0x08 : Unknown command

2.5 Query that a Card No. is already assigned(0x05)

This command can query the registration status of a particular Card No..

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 19	4
TID	2
COMMAND : 0x05	1
Card No.	8
CHECKSUM : byte sum from ACK to Card ID	1
ETX (0x04)	1

- **Card No.**

  Card Number

For example Card No. 1234567(12 D6 87 in hex), it is filled as 00 00 00 00 00 12 D6 87

The return packet for this command is as follows.

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
Command	1
MAC Address	6
CHECKSUM : byte sum from BS to MAC Address	1
ETX (0x04)	1

- **RESULT**

0x00 : Card No. was assigned.

0x02 : Unknown error has occurred

0x03 : CardNo. is not assigned

0x04 : Check sum error

0x05 : Other packet error

0x08 : Unknown command

2.6 Retrieving user I.D. list(0x06)

This command will be used when you wish to receive user I.D. list which is registered at the SEMAC.

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x06	1
CHECKSUM - byte sum from ACK to COMMAND	1
ETX (0x04)	1

The return packet for this command is as follows.

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 22 + 4xN	4
TID	2
RESULT	1
Command	1
MAC Address	6
Number of users in lists(N)	4
LISTS	4xN
CHECKSUM : byte sum from BS to LISTS	1
ETX (0x04)	1

- **LISTS**

User list

Ex) If registered users are 2,8, 10, the LISTS is as follows

0x00	0x00	0x00	0x02	0x00	0x00	0x00	0x08	0x00	0x00	0x00	0x0a

- **RESULT**

0x00 : Successfully processed

0x02 : Unknown error has occurred

0x04 : Check sum error

0x05 : Other packet error

0x08 : Unknown command

2.7 Register/Modify User Data (0x07)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 96	4
TID	2
COMMAND : 0x07	1
User ID	4
OVERWRITE	1
Card No.	8
User Name	31
Expired Date&Time	11
Status(Activated/Deactivated)	1
User Type(0/1/2: Normal EMP/Super user/Visitor)	1
Group 1	1
Group 2	1
Group 3	1
Group 4	1
Bypass Time Zone Level	1
Personal Password	8
Reserved	15
CHECKSUM : byte sum from ACK to Reserved	1
ETX (0x04)	1

User ID

Unique User I.D.

OVERWRITE

0: don't overwrite. If User ID is already registered, return Result(06).

1: overwrite. If User ID is already registered, overwrite it.

Card No.

For example Card No. 1234567(12 D6 87 in hex), it is filled as 00 00 00 00 00 12 D6 87

Card Expired Date&Time

	Size(Bytes)
State	1
Start Year	1
Start month	1
Start Date	1
Start Hour	1
Start Minute	1
End Year	1
End Month	1
End Date	1
End Hour	1
End Minute	1

State : Expired checking enabled/disabled: 1 / 0

Status

1 : Activate

0 : Deactivate

User Type

0/1/2/3/4: Normal User/ Super(Admin) User /Visitor/ Guard Touring/Defense Card

GROUP 1/ GROUP 2/Group 3/Group 4

Set User to Group index 0 – 255 , 0 and 1 are default used Disallowed and Any Time.

Bypass Time Zone Level

Value	Level
0	None
1	LV1
2	LV2
3	LV3
4	LV4
5	LV5
6	LV6
7	LV7
8	LV8
9	LV9
10	LV10

Personal Password

User password; ASCII characters,

Ex) if user's password is '123456', PP should be 0x31 0x32 0x33 0x34 0x35 0x36 0x00 0x00

Return

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 22	4
TID	2
RESULT	1
COMMAND:0x07	1
MAC Address	6
User ID	4
CHECKSUM : byte sum from BS to MAC Address	1
ETX (0x04)	1

Result

0x00 : Successfully processed

0x02 : Unknown error has occurred

0x03 : Not a registered user

0x04 : Check sum error

0x05 : Other packet error

0x06: Already registered User ID

0x08 : Unknown command

0x0A : Over max registered user

0x0B : Over max User ID

0x0C : Already registered Card NO

0x0D : over max Bypass Time Zone Level

0x30: Busy

2.8 Get User Data (0x08)

Command Format :

	Size (bytes)
BS (0x07)	1
STX (0x03)	1
LENGTH : 15	4
TID	2
COMMAND:0x08	1
User ID	4
CHECKSUM : byte sum from BS to RESULT	1
ETX (0x04)	1

Return (when Result = 0x00)

	Size (bytes)
ACK (0x09)	1
STX (0x03)	1
LENGTH : 96	4
TID	2
RESULT	1
COMMAND : 0x08	1
MAC Address	6
User ID	4
Card No.	8
User Name	31
Expired Date&Time	11
Status(Actived/Deactived)	1
User Type	1
Group 1	1
Group 2	1
Group 3	1
Group 4	1
Bypass Time Zone Level	1
Personal Password	8
Reserved	9
CHECKSUM : byte sum from ACK to Reserved	1
ETX (0x04)	1

Return (others Result)

	Size (bytes)
ACK (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND : 0x08	1
MAC Address	6
CHECKSUM : byte sum from ACK to Reserved	1
ETX (0x04)	1

User Type:

0: Normal User

1: Super User

2: Vistor

3: Guard Touring

4: Defense Card

Result

0x00 : Successfully processed

0x02 : Unknown error has occurred

0x03 : Not a registered user

0x04 : Check sum error

0x05 : Other packet error

0x30: Busy

2.9 Set BF50 Card No (0x09)

Command Format :

	Size (bytes)
BS (0x07)	1
STX (0x03)	1
LENGTH : 411	4
TID	2
COMMAND:0x09	1
Card No Data	50*8
CHECKSUM : byte sum from BS to RESULT	1
ETX (0x04)	1

Card No Data: (Total 50 card no)

Card No	Size(bytes)
card no 1	8
card no 2	8
…	…
card no 50	8

PS: no use card no “FFFFFFFF FFFFFFFF”

Return

	Size (bytes)
ACK (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND : 0x09	1
MAC Address	6
CHECKSUM : byte sum from ACK to Reserved	1
ETX (0x04)	1

Result

0x00 : Successfully processed

0x02 : Unknown error has occurred

0x0F : Version No Support

0x10 : Card No is repeated

0x11 : Datalen error

2.10 Get BF50 Card No (0x0A)

Command Format :

	Size (bytes)
BS (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND:0x0A	1
CHECKSUM : byte sum from BS to RESULT	1
ETX (0x04)	1

Return

	Size (bytes)
ACK (0x09)	1
STX (0x03)	1
LENGTH : 19+8*N	4
TID	2
RESULT	1
COMMAND : 0x0A	1
MAC Address	6
Number of Card Data(N)	1
Card No Data	8*N
CHECKSUM : byte sum from ACK to Reserved	1
ETX (0x04)	1

Result

0x00 : Successfully processed

0x02 : Unknown error has occurred

0x0F : Version No Support

2.11 Get Facility Code For Degrade Mode Usage (0x0B)

Command Format :

	Size (bytes)
BS (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND:0x0B	1

CHECKSUM : byte sum from BS to RESULT	1
ETX (0x04)	1

Return

	Size (bytes)
ACK (0x09)	1
STX (0x03)	1
LENGTH : 19+2*N	4
TID	2
RESULT	1
COMMAND : 0x0B	1
MAC Address	6
Number of Facility Code (N)	1
Facility Code	2*N
CHECKSUM : byte sum from ACK to Reserved	1
ETX (0x04)	1

Facility Code : (Max 10)

Facility Code	Size(bytes)
FC no. 1	2 (in Hex)
FC no. 2	2
…	…
FC no. N	2

Result

0x00 : Successfully processed

0x02 : Unknown error has occurred

0x0F : Version No Support

2.12 Set Facility Code For Degrade Mode Usage (0x0C)

Command Format :

	Size (bytes)
BS (0x07)	1
STX (0x03)	1
LENGTH : 12+2*N	4
TID	2
COMMAND:0x0C	1
Number of Facility Code (N)	1
Facility Code	2*N
CHECKSUM : byte sum from BS to RESULT	1
ETX (0x04)	1

Facility Code : (Max 10)

Facility Code	Size(bytes)
FC no. 1	2 (in Hex)
FC no. 2	2
…	…
FC no. N	2

Return

	Size (bytes)
ACK (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND : 0x0C	1
MAC Address	6
CHECKSUM : byte sum from ACK to Reserved	1
ETX (0x04)	1

Result

0x00 : Successfully processed

0x02 : Unknown error has occurred

0x0F : Version No Support

0x10 : Card No is repeated

0x11 : Data length error

3 System Setting Configuration

3.1 Asking current Time & Date (0x10)

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x10	1
CHECKSUM : byte sum from ACK to COMMAND	1
ETX (0x04)	1

The return packet for this command is as follows.

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 25	4
TID	2
RESULT	1
Command	1
MAC Address	6
YYMMDDDY	4
HHMMSS	3

CHECKSUM : byte sum from BS to HHMMSS	1
ETX (0x04)	1

- **RESULT**

0x00 : Successfully processed

0x02 : Unknown error has occurred

0x04 : Check sum error

0x05 : Other packet error

0x08 : Unknown command

- **YYMMDD**

Current date on the SEMAC

YY – Year (based from 2000)

MM – Month

DD – Date

DY – Day (1/2/../7: Monday/Tuesday/…/Sunday)

- **HHMMSS**

Current time on the SEMAC

HH – Hour(24hr format)

MM – Minute

SS – Second

3.2 Set New Time & Date (0x11)

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
COMMAND : 0x11	1
YYMMDDDY	4
HHMMSS	3
CHECKSUM : byte sum from ACK to HHMMSS	1
ETX (0x04)	1

- **YYMMDD**

New date for the SEMAC

YY – Year (based from 2000)

MM – Month

DD – Date

DY – Day(1/2/../7: Monday/Tuesday/…/Sunday)

- **HHMMSS**

The new time setting for the SEMAC

HH – Hour(24hr format)

MM – Minute

SS – Second

The return packet for this command is as follows.

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
Command	1
MAC Address	6
CHECKSUM : byte sum from BS to MAC Address	1
ETX (0x04)	1

- **RESULT**

0x00 : Successfully processed

0x02 : Unknown error has occurred

0x04 : Check sum error

0x05 : Other packet error

0x08 : Unknown command

3.3 Reboot System (0x12)

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x12	1
CHECKSUM : byte sum from ACK to COMMAND	1
ETX (0x04)	1

The return packet for this command is as follows.

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
Command	1
MAC Address	6
CHECKSUM : byte sum from BS to MAC Address	1
ETX (0x04)	1

- **RESULT**

0x00 : Successfully changed

0x02 : Unknown error has occurred

0x04 : Check sum error

0x05 : Other packet error

0x08 : Unknown command

3.4 Get Serial Number (0x13)

This command will be used when you wish to read unique serial number.

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x13	1
CHECKSUM : byte sum from ACK to COMMAND	1
ETX (0x04)	1

The return packet for this command is as follows.

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 21	4
TID	2
RESULT	1
Command	1
MAC Address	6
Serial Number	3
CHECKSUM : byte sum from BS to Serial Number	1
ETX (0x04)	1

- **Serial Number**

Unique Serial Number, e.g. 00 76 FA

- **RESULT**

0x00 : Successfully processed

0x02 : Unknown error has occurred

0x04 : Check sum error

0x05 : Other packet error

0x08 : Unknown command

3.5 Change Admin/Common Password (0x14)

	Size (bytes)
ACK (0x07)	1

STX (0x03)	1
LENGTH : 20	4
TID	2
COMMAND : 0x14	1
Change Type(0/1:Admin/Common)	1
Password (ASCII, digital(0~9) only)	8
CHECKSUM : byte sum from ACK to Password	1
ETX (0x04)	1

Password

Ex) if password is '123456', CP should be 0x31 0x32 0x33 0x34 0x35 0x36 0x00 0x00

The return packet for this command is as follows.

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
Command	1
MAC Address	6
CHECKSUM : byte sum from BS to MAC Address	1
ETX (0x04)	1

- **RESULT**

0x00 : Successfully changed

0x02 : Unknown error has occurred

0x04 : Check sum error

0x05 : Other packet error

0x08 : Unknown command

0x09 : Unacceptable parameter

3.6 Get Admin/Common Password (0x15)

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 12	4
TID	2
COMMAND : 0x15	1
Get Type(0/1: Admin/Common)	1
CHECKSUM : byte sum from ACK to Command	1
ETX (0x04)	1

The return packet for this command is as follows.

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 26	4
TID	2
RESULT	1
Command	1
MAC Address	6
Password (ASCII, digital(0~9) only)	8
CHECKSUM : byte sum from BS to Password	1
ETX (0x04)	1

- **RESULT**

0x00 : Successfully changed

0x02 : Unknown error has occurred

0x04 : Check sum error

0x05 : Other packet error

0x08 : Unknown command

3.7 Configure system parameter (0x16)

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 12+N	4
TID	2
COMMAND : 0x16	1
SEMAC Parameter	1
VALUE	N
CHECKSUM : byte sum from ACK to VALUE	1
ETX (0x04)	1

- **PARAMETER**

0x00: Save Configuration

0x01: SEMAC ID

0x02: WG Reader Format

0x03: SEMAC IP Address

0x04: SEMAC Subnet Mask

0x05: SEMAC Gateway

0x06: SEMAC DNS Server

0x07: Control Mode

0x08: Listen Port Number

0x09: Anti Pass Back

0x0A: Anti Duress

0x0B: Reserved

0x0C: Web Management Port

0x0D: Alarm Trigger Level

0x0E: Software IP Address

0x0F: Next SEMAC IP

0x10: IP Camera IP

0x11: SET Controller/Sub-Controller/Dummy Reader(for WEBPASS only)

0x1B: Sound for verify card (for WEBPASS)

0x20: Bypass Mode

0x21: KAYPAD & LED Sleep Time (for WEBPASS)

0x22:RESV for TA

0x23: Sound for KEYPAD (for WEBPASS)

0x24: Relay Mode Control(for S2 Car Parking)

0x25:RESV for COLOR

0x26:RESV for COLOR

- **VALUE**

SEMAC Parameter	VALUE N(Byte)
0x00(Save Configuration)	0
0x01(SEMAC ID)	2
0x02(WG Reader Format)	1(0/1: WG 26/WG 34)
0x03(SEMAC IP Address)	4(e.g. 192.168.1.10 should be filled as C0 A8 01 0A in hex)
0x04(SEMAC Subnet Mask	4(e.g. 255.255.255.0 should be filled as FF FF FF 00 in hex)
0x05(SEMAC Gateway)	4(e.g. 192.168.1.10 should be filled as C0 A8 01 0A in hex)
0x06(SEMAC DNS Server)	4(e.g. 192.168.1.10 should be filled as C0 A8 01 0A in hex)
0x07(Control Mode)(webpass no)	1(0/1: 2 doors(1 way)/1 door(2 way))
0x08(Listen Port Number)	2
0x09(Anti Pass Back)	3:1(0/1: Disabled/Enabled)+2(Tolerance Time)
0x0A(Anti Duress)	4:1(0/1: Disabled/Enabled)+3(Password: 3 digits(0~9) in ASCII)
0x0B (Reserved)	
0x0C(Web Management Port)	2
0x0D(Alarm Trigger Level)	1
0x0E (Software IP Address)	N(e.g. 192.168.1.10 in ASCII, max is 64 bytes)
0x0F (Next SEMAC IP)	4(e.g. 192.168.1.10 should be filled as C0 A8 01 0A in hex)
0x10 (IP Camera IP)	168(IP camera data)—Note 2.
0x11(Working mode for WEBPASS only)	1(0/1/2: Controller/Sub-Controller/Dummy Reader)
0x12 (RESV for W)	
0x13 (RESV for W)	
0x1B (Sound for verify card for WEBPASS)	1(0/1: disable/enable)
0x20(Bypass mode)	2(Bypass mode data) --Note 3
0x21 (LCD Sleep Time for WEBPASS)	1(value: 0 ~ 255) 0 not's sleep
0x22(RESV for TA)	
0x23 (Sound for KEYPAD for WEBPASS)	1(0/1: disable/enable)
0x24 Relay Mode Control(for S2 Car Parking Remote Control)	1(2/1/0 in/out/both)
0x25(RESV for COLOR)	

0x26(RESV for COLOR)	

Note 2. IP camera data

	Size (bytes)
IP camera index(1~8)	1
IP camera IP(e.g. C0 A8 01 0A)	4
IP camera PORT	2
IP camera type(0:7131 ; 1:7133/7330)	1
User name	30
User password	30
CGI cmd	100

Note 3 Bypass mode

	Size (bytes)
Bypass mode (0/3 : disable/enable)	1
Blacklist switch(0/1: disable/enable)	1

BYPASS MODE enable, black list can set

BYPASS MODE disable, black list can't set

The return packet for this command is as follows.

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
Command	1
MAC Address	6
CHECKSUM : byte sum from BS to MAC Address	1
ETX (0x04)	1

- **RESULT**

0x00 : Successfully changed

0x02 : Unknown error has occurred

0x04 : Check sum error

0x05 : Other packet error

0x08 : Unknown command

0x09 : Unacceptable parameter

0x12 : over max IP Camera number

3.8 Get System Parameter (0x17)

	Size (bytes)

ACK (0x07)	1
STX (0x03)	1
LENGTH : 12+N	4
TID	2
COMMAND : 0x17	1
SEMAC Parameter	1
Parameter value	N
CHECKSUM : byte sum from ACK to SEMAC Parameter	1
ETX (0x04)	1

Note 1:

SEMAC Parameter	VALUE N(Byte)
0x0B(Reserved)	

Note 2:

Only the Parameter Value is needed for Get IP Camera IP (parameter 0x10).

For example:

	Size (bytes)
W Series Parameter(0x10)	1
Parameter value (IP camera index 1 to 8)	1
IP camera IP(e.g. C0 A8 01 0A)	4
IP camera PORT	2
IP camera type(0:7131 ; 1:7133/7330)	1
User name	30
User password	30
CGI cmd	100

The return packet for this command is as follows.

When Result = 0x00

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 19+N	4
TID	2
RESULT	1
Command	1
MAC Address	6
SEMAC Parameter (Refer to 3.7)	1
Value (Refer to 3.7)	N(0/1)
CHECKSUM : byte sum from BS to Value	1
ETX (0x04)	1

SEMAC Parameter	Parameter value Size(Bytes)
0x00(Save Configuration)	0
0x01(SEMAC ID)	0
0x02(WG Reader Format)	0
0x03(SEMAC IP Address)	0
0x04(SEMAC Subnet Mask	0
0x05(SEMAC Gateway)	0
0x06(SEMAC DNS Server)	0

0x07(Control Mode)(webpass no)	0
0x08(Listen Port Number)	0
0x09(Anti Pass Back)	0
0x0A(Anti Duress)	0
0x0B (Reserved)	
0x0C(Web Management Port)	0
0x0D(Alarm Trigger Level)	0
0x0E (Software IP Address)	0
0x0F (Next SEMAC IP)	0
0x10 (IP Camera IP)	168(IP Camera index 1-8)
0x11(Working mode for WEBPASS only)	0
0x12 Relay Mode Control(for S2 Car Parking Remote Control)	0
0x13 (Sound for KEYPAD for WEBPASS)	1(0/1: disable/enable)
0x1B (Sound for verify card for WEBPASS)	1(0/1: disable/enable)
0x20(Bypass mode)	2(Bypass mode data)
0x21 (LCD Sleep Time for WEBPASS)	1(value: 0 ~ 255) 0 not's sleep

Bypass mode

	Size (bytes)
Bypass mode (0/3 : disable/enable)	1
Blacklist switch(0/1: disable/enable)	1

When others Result

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 19	4
TID	2
RESULT	1
Command	1
MAC Address	6
SEMAC Parameter (Refer to 3.7)	1
CHECKSUM : byte sum from BS to Value	1
ETX (0x04)	1

- **RESULT**

0x00 : Successfully changed

0x02 : Unknown error has occurred

0x04 : Check sum error

0x05 : Other packet error

0x08 : Unknown command

0x09 : Unacceptable parameter

0x12 : over max IP Camera number

0x0F : Version No Support

3.9 Set WEB Log-on Password (0x18)

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 94	4
TID	2
COMMAND : 0x18	1
Level(0/1/2: User Level/Administrator Level/User0 Level)	1
Account	47
Password	35
CHECKSUM : byte sum from ACK to SEMAC Parameter	1
ETX (0x04)	1

The return packet for this command is as follows.

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
Command	1
MAC Address	6
CHECKSUM : byte sum from BS to MAC Address	1
ETX (0x04)	1

- **RESULT**

0x00 : Successfully changed

0x02 : Unknown error has occurred

0x04 : Check sum error

0x05 : Other packet error

0x08 : Unknown command

0x09 : Unacceptable parameter

3.10 Get WEB Log-on Password (0x19)

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 12	4
TID	2
COMMAND : 0x19	1
Level(0/1/2: User Level/Administrator Level/User 0 Level)	1
CHECKSUM : byte sum from ACK to Level	1
ETX (0x04)	1

The return packet for this command is as follows.

when Result = 0x00

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH :100	4
TID	2
RESULT	1
Command	1
MAC Address	6
Account	47
Password	35
CHECKSUM : byte sum from BS to Password	1
ETX (0x04)	1

When others Result

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH 18	4
TID	2
RESULT	1
Command	1
MAC Address	6
CHECKSUM : byte sum from BS to Password	1
ETX (0x04)	1

- **RESULT**

0x00 : Successfully changed

0x02 : Unknown error has occurred

0x04 : Check sum error

0x05 : Other packet error

0x08 : Unknown command

0x09 : Unacceptable parameter

3.11 Set Multi-Badge ID (0x1A)(Webpass no Support)

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 12+13*N	4
TID	2
COMMAND : 0x1A	1
Multi-Badge Group Count (N, max 10)	1
Multi-Badge ID List	13*N
CHECKSUM : byte sum from ACK to Multi-Badge ID List	1
ETX (0x04)	1

Multi-Badge ID List

	Byte
Multi-Badge Group Index	1
User 1 ID	4
User 2 ID	4
User 3 ID	4

The return packet for this command is as follows.

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
Command	1
MAC Address	6
CHECKSUM : byte sum from BS to MAC Address	1
ETX (0x04)	1

- **RESULT**

0x00 : Successfully changed

0x02 : Unknown error has occurred

0x04 : Check sum error

0x05 : Other packet error

0x08 : Unknown command

0x09 : Unacceptable parameter

0x0F : Version No Support

3.12 Get Multi-Badge ID (0x1B) (Webpass no Support)

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x1B	1
CHECKSUM : byte sum from ACK to COMMAND	1
ETX (0x04)	1

The return packet for this command is as follows.

When Result = 0x00

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 19+13*N	4
TID	2
RESULT	1

Command	1
MAC Address	6
Multi-Badge Group Count (N, max 10)	1
Multi-Badge ID List	13*N
CHECKSUM : byte sum from BS to Multi-Badge ID List	1
ETX (0x04)	1

When Others Result

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
Command	1
MAC Address	6
CHECKSUM : byte sum from BS to Multi-Badge ID List	1
ETX (0x04)	1

Multi-Badge ID List

	Byte
Multi-Badge Group Index	1
User 1 ID	4
User 2 ID	4
User 3 ID	4

- **RESULT**

0x00 : Successfully changed

0x02 : Unknown error has occurred

0x04 : Check sum error

0x05 : Other packet error

0x08 : Unknown command

0x09 : Unacceptable parameter

0x0F : Version No Support

3.13 Get System Information (0x1C)

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x1C	1
CHECKSUM : byte sum from ACK to COMMAND	1
ETX (0x04)	1

The return packet for this command is as follows.

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 65	4
TID	2
RESULT	1
Command: 1C	1
MAC Address	6
Model Name	1
Serial Number	3
Registered User	4
Max User Capacity	4
Firmware Version	20
Current Defense State(0/1: disabled /enabled)	1
Fire Alarm Detection(0/1: enabled/disabled)	1
Current Fire Alarm Input State(0/1: On/Off)	1
Reserved	12
CHECKSUM : byte sum from BS to Reserved	1
ETX (0x04)	1

Model Name (10/11/12/13: SEMAC S1/SEMAC S2/SEMAC S3/ SEMAC S2 Car Parking/
20/21:WEBPass Access Control/WEBPass Lift Control)

- **RESULT**

0x00 : Successfully processed

0x02 : Unknown error has occurred

0x04 : Check sum error

0x05 : Other packet error

0x08 : Unknown command

4 Access Control Related

Time Set

4.1 Add Time Set (0x20)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 12 + N * 5	4
TID (Master)	2
COMMAND : 0x20	1
Count of Time Set : N	1
Time Sets	N * 5
CHECKSUM	1
ETX (0x04)	1

Time Sets Format :

	Size (bytes)
Index	1
Start Hour	1
Start Minute	1
End Hour	1
End Minute	1

Return :

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x20	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result :

0x00 : Successful

0x09 : Parameter Error

0x10 : Parameter Exist

0x11 : Time Range Error

4.2 Delete One Time Set (0x21)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 12	4
TID	2
COMMAND : 0x21	1
Index	1
CHECKSUM	1
ETX (0x04)	1

Return :

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1

COMMAND:0x21	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result :

0x00 : Successful

0x09 : Parameter Error

4.3 Delete All Time Set (0x22)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID (Master)	2
COMMAND : 0x22	1
CHECKSUM	1
ETX (0x04)	1

Return

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x22	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result

0x00 : successful

4.4 Get One Time Set (0x23)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 12	4
TID (Master)	2
COMMAND : 0x23	1
Index	1
CHECKSUM	1
ETX (0x04)	1

Return (successful) :

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 23	4
TID	2
RESULT : 0x00	1
COMMAND:0x23	1
MAC Address	6
Time Sets	5
CHECKSUM	1
ETX (0x04)	1

Time Sets :

	Size (bytes)
Index	1
Start Hour	1
Start Minute	1
End Hour	1
End Minute	1

Return (Others Error) :

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x23	1
Mac Address	6
CHECKSUM : byte sum from BS to RESULT	1
ETX (0x04)	1

Result

0x09 : Parameter Error

0x12 : Parameter Not Exist

Time Zone

4.5 Add Time Zone (0x24)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 12 + N * 129	4
TID	2
COMMAND : 0x24	1
Count of Time Zone : N(max 10)	1
Time Zones	N * 129
CHECKSUM	1

ETX (0x04)	1

Time Zones Format:

16 Time Sets for each Day (Mon. ,Tus. ,Wed. ,Thur. ,Fri. ,Sat. ,Sun. ,Holiday)

	Size (bytes)
Index	1
Monday Time Set 1 (T.S Index)	1
Monday Time Set 2 (T.S Index)	1
Monday Time Set 3 (T.S Index)	1
….	….
Monday Time Set 16 (T.S Index)	1
Tuesday Time Set 1 (T.S Index)	1
Tuesday Time Set 2 (T.S Index)	1
Tuesday Time Set 3 (T.S Index)	1
….	….
Tuesday Time Set 16 (T.S Index)	1
……	
Holiday Time Set 1 (T.S Index)	1
Holiday Time Set 2 (T.S Index)	1
Holiday Time Set 3 (T.S Index)	1
….	….
Holiday Time Set 16 (T.S Index)	1

Return

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x24	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result

0x00 : successful

0x09 : Parameter Error

0x13 : Timeset Not Exist

4.6 Delete One Time Zone (0x25)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 12	4
TID	2
COMMAND : 0x25	1

Time Zone Index	1
CHECKSUM	1
ETX (0x04)	1

Return

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x25	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result

0x00 : successful

0x09 : Parameter Error

0x12 : Parameter Not Exist

4.7 Delete All Time Zone (0x26)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x26	1
CHECKSUM	1
ETX (0x04)	1

Return

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x26	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result

0x00 : successful

0x09 : Parameter Error

4.8 Get One Time Zone (0x27)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 12	4
TID	2
COMMAND : 0x27	1
Index	1
CHECKSUM	1
ETX (0x04)	1

Return (Success)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 147	4
TID	2
RESULT : 0x00	1
COMMAND:0x27	1
MAC Address	6
Time Zones	129
CHECKSUM : byte sum from BS to RESULT	1
ETX (0x04)	1

Time Zones :

16 Time Sets for each Day (Mon. ,Tus. ,Wed. ,Thur. ,Fri. ,Sat. ,Sun. ,Holiday)

	Size (bytes)
Index	1
Monday Time Set 1 (T.S Index)	1
Monday Time Set 2 (T.S Index)	1
Monday Time Set 3 (T.S Index)	1
….	….
Monday Time Set 16 (T.S Index)	1
Tuesday Time Set 1 (T.S Index)	1
Tuesday Time Set 2 (T.S Index)	1
Tuesday Time Set 3 (T.S Index)	1
….	….
Tuesday Time Set 16 (T.S Index)	1
……	
Holiday Time Set 1 (T.S Index)	1
Holiday Time Set 2 (T.S Index)	1

Holiday Time Set 3 (T.S Index)	1
….	….
Holiday Time Set 16 (T.S Index)	1

Return (others Error):

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x27	1
Mac Address	6
CHECKSUM	1
ETX (0x04)	1

Result

0x01 : failure

0x09 : Parameter Error

0x12 : Parameter Not Exist

Group

4.9 Add Group (0x28)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 12 + N * 10	4
TID (Master)	2
COMMAND : 0x28	1
Count of Group : N	1
Groups	N * 10
CHECKSUM	1
ETX (0x04)	1

Group Format :

	Size (bytes)
Group Index	1
Time Zone (T.Z Index) mapping to Door 1	1
…..	….
Time Zone (T.Z Index) mapping to Door 8	1
Accessible Door : 0/1 unaccessible/accessible, bit 0~7 means door #1 to door #8	1

Return

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4

TID	2
RESULT	1
COMMAND:0x28	1
Mac address	6
CHECKSUM	1
ETX (0x04)	1

Result

0x00 : successful

0x09 : Parameter Error

0x13 : Timezone Not Exist

4.10 Delete One Group (0x29)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 12	4
TID (Master)	2
COMMAND : 0x29	1
Group Index	1
CHECKSUM	1
ETX (0x04)	1

Return

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x29	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result

0x00 : successful

0x09 : Parameter Error

0x13 : Group Not Exist

4.11 Delete All Group (0x2A)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x2A	1
CHECKSUM	1
ETX (0x04)	1

Return

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x2A	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result

0x00 : successful

0x09 : Parameter Error

4.12 Get One Group (0x2B)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 12	4
TID (Master)	2
COMMAND : 0x2B	1
Index	1
CHECKSUM	1
ETX (0x04)	1

Return (Success)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 28	4
TID	2
RESULT : 0x00	1
COMMAND:0x2B	1
MAC Address	6
Group	10
CHECKSUM	1
ETX (0x04)	1

Group Format :

	Size (bytes)
Group Index	1
Time Zone (T.Z Index) mapping to Door 1	1
…..	….
Time Zone (T.Z Index) mapping to Door 8	1
Accessible Door : 0/1 inaccessible/accessible, bit [0:7] means door #1 to door #8	1

Return (Others Error)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x2B	1
MAC Address	6
CHECKSUM : byte sum from BS to RESULT	1
ETX (0x04)	1

Result

0x01 : failure

0x09 : Parameter Error

0X13 : Group Not Exist

Holiday

4.13 Add Holiday (0x2C)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 12 + 3 * N	4
TID (Master)	2
COMMAND : 0x2C	1
Count of Holiday : N	1
Holiday	3 * N
CHECKSUM	1
ETX (0x04)	1

Holiday Format

	Size (bytes)
Holiday Index	1
Month	1
Date	1

Return

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x2C	1
MAC address	6
CHECKSUM	1
ETX (0x04)	1

Result

0x00 : successful

0x09 : Parameter Error

Holiday Index(0~99);

4.14 Delete One Holiday (0x2D)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 12	4
TID	2
COMMAND : 0x2D	1
Holiday Index	1
CHECKSUM	1
ETX (0x04)	1

Return

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x2D	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result

0x00 : successful

0x09 : Parameter Error

Holiday Index(0~99)

4.15 Delete All Holiday (0x2E)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1

LENGTH : 11	4
TID	2
COMMAND : 0x2E	1
CHECKSUM	1
ETX (0x04)	1

Return

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x2E	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result

0x00 : successful

0x09 : Parameter Error

4.16 Get All Holiday (0x2F)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x2F	1
CHECKSUM	1
ETX (0x04)	1

Return (Success)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 19 + N *3	4
TID	2
RESULT : 0x00	1
COMMAND:0x2F	1
MAC Address	6
Total Count of Holiday : N	1
Holiday	N * 3

CHECKSUM : byte sum from BS to RESULT	1
ETX (0x04)	1

Holiday Format

	Size (bytes)
Holiday Index	1
Month	1
Date	1

Return (Others Error)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x2F	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result

0x09 : Parameter Error

Holiday Index(0~99)

Door

4.17 Door Setting (0x30)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 13+3xN	4
TID	2
COMMAND : 0x30	1
Door No.	1
Door Parameter Count (N)	1
Door Parameter	3xN
CHECKSUM	1
ETX (0x04)	1

Door No.:

1/2/…/8: Door 1/Door 2/…/Door 8

Door Parameter:

	Size(Byte)
Parameter Index(see below mapping table)	**1**
Parameter 1	**1**
Parameter 2	**1**

Parameter Index mapping table:

TZ: Time Zone

	Index	Parameter 1	Parameter 2
First Admin Card IN Time Zone	0x01	TZ Index	Reserved
Multiple Badge+Admin Password Time Zone	0x02	TZ Index	Double/Triple Verify(0/1:double/triple)
Multiple Badge+Personal Password Time Zone	0x03	TZ Index	Double/Triple Verify(0/1:double/triple)
Multiple Badge Time Zone	0x04	TZ Index	Double/Triple Verify(0/1:double/triple)
Card+Admin Password Time Zone	0x05	TZ Index	Reserved
Admin Password Time Zone	0x06	TZ Index	Reserved
Card+Personal Password Time Zone	0x07	TZ Index	Reserved
Common Password Time Zone	0x08	TZ Index	Reserved
Card Only Time Zone	0x09	TZ Index	Reserved
Card or Common Password Time Zone	0x0a	TZ Index	Reserved
Lock Release Time Zone	0x0b	TZ Index	After First Card Needed(0/1:No Need/Needed)
Exit Button Time Zone	0x0c	TZ Index	Reserved
Anti Pass Back	0x0d	IN Level	OUT Level
Dual Interlocking Checking	0x0e	0/1: Disabled/Enabled	Reserved
Remote Grant Needed	0x0f	0/1: No Need/Needed	Reserved
Lock Release Time	0x10	2 Bytes	
Door Open Delay Time	0x11	2 Bytes	
Access Log Record	0x12	0/1/2: Ignored /Recorded/TA	Reserved
Two Way Time Zone Control	0x13	0/1: Both/Only IN	Reserved
Door Sensor Mode	0x14	0/1/2: None /Normal/Circoit	Reserved
Still Open Delay Time	0x15	1 Byte	Reserved
Reserved	0x16	Reserved	Reserved

Return

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x30	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result

0x00 : successful

0x09 : Parameter Error

0x0D: Door NO Error

0x13 : Timezone Not Exist

P.S. : In SEMAC S3 "Dual Interlocking Checking" is not used in door 1

4.18 Get Door Setting (0x31)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 12	4
TID	2
COMMAND : 0x31	1
Door	1
CHECKSUM	1
ETX (0x04)	1

Return (Success):

	Size (bytes)
ACK (0x09)	1
STX (0x03)	1
LENGTH : 100	4
TID	2
RESULT : 0x00	1
COMMAND:0x31	1
MAC Address	6
Door No.	1
First Specified Card IN Time Zone Index	1
Multiple Badge+Admin Password Time Zone Index	1
Double/Triple Verify(0/1:double/triple)	1
Multiple Badge+Personal Password Time Zone Index	1
Double/Triple Verify(0/1:double/triple)	1
Multiple Badge Time Zone Index	1
Double/Triple Verify(0/1:double/triple)	1
Card+Admin Password Time Zone Index	1
Admin Password Time Zone Index	1
Card+Personal Password Time Zone Index	1
Common Password Time Zone Index	1
Card Only Time Zone Index	1
Card or Common Password Time Zone Index	1
Lock Release Time Zone Index	1
After First Card Needed(0/1:No Need/Needed)	1
Exit Button Time Zone Index	1
Anti Pass Back IN Level	1
Anti Pass Back OUT Level	1
Dual Interlocking Checking(0/1: Disabled/Enabled)	1
Remote Grant Needed(0/1: No Need/Needed)	1
Lock Release Time	2
Door Open Delay Time	2
Access Log Record (0/1/2: Ignored /Recorded/TA)	1
Two Way Control for Time Zone limitation(0/1: Both/Only IN)	1
Door Sensor Mode	1
Still Open Delay Time	1
Reserved	53
CHECKSUM : byte sum from ACK to FD	1
ETX (0x04)	1

Return (Others Error)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x31	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result

0x09 : Parameter Error

0x0D: Door NO Error

4.19 Relay (for Door lock) Remote Control (0x32)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 13	4
TID	2
COMMAND : 0x32	1
Door(1/2../8 means door #1/…door #8)	1
Door lock state(0/1/2: Force open/Force close/ Normal)	1
CHECKSUM	1
ETX (0x04)	1

Door 1~8 (bit 0~7) (webpass only check bit0)

Return :

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x32	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result :

0x00 : Successful

0x09 : Parameter Error

4.20 Get Relay (for Door lock) Status (0x33)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x33	1
CHECKSUM	1
ETX (0x04)	1

Return : (SEMAC)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 26(in semac)/19(in webpass)	4
TID	2
RESULT	1
COMMAND:0x33	1
MAC Address	6
Security Status	8
CHECKSUM	1
ETX (0x04)	1

Return : (WEBPASS)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 19	4
TID	2
RESULT	1
COMMAND:0x33	1
MAC Address	6
Security Status	1
CHECKSUM	1
ETX (0x04)	1

Security Status

	Byte
Door #1 (0/1/2/3: Force open/Force close/ Normal/not used)	1
Door #2	1
Door #3	1
Door #4	1
Door #5	1
Door #6	1
Door #7	1
Door #8	1

Result :

0x00 : Successful

0x09 : Parameter Error

4.21 Set Alarm Level (0x34)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 12+6xN	4
TID	2
COMMAND : 0x34	1
Total Alarm Count(N)	1
Alarm Level	6xN
CHECKSUM	1
ETX (0x04)	1

Alarm Level:

	Byte
Alarm Index	1
New Level(range from0 to 5)	1
Latched Time(seconds)	2
Relay Alarm (0/1: Deactivated/Active)	1
IP Camera Capture (0/1: Deactivated/Active)	1

Alarm Index Mapping Table:

Alarm	Index	Default Level
Unregistered User	0x00	0
Deactivated User	0x01	0
Not Allowed Door	0x02	0
Multi-Badge Violation	0x03	0
Time Zone Violation	0x04	0
Expired User	0x05	0
Anti Pass Back Violation	0x06	0
Door open too long	0x07	1
Backup Power Used	0x08	1
Tamper Switch Breakdown	0x09	1
BF50 connection down	0x0a	1
Door Intruded	0x0b	2
Duress Alarm On	0x0c	2
Fire Alarm On	0x0d	2

Return:

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x34	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result :

0x00 : Successful

0x09 : Parameter Error

4.22 Get All Alarm Level (0x35)

Command Format :

	Size (bytes)
BS (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND:0x35	1
CHECKSUM	1
ETX (0x04)	1

Return:

	Size (bytes)
ACK (0x09)	1
STX (0x03)	1
LENGTH : 19+N*6+1	4
TID	2
Result	1
COMMAND : 0x35	1
MAC Address	6
Total Alarm Count(N)	1
Alarm Level	6xN
CHECKSUM	1
ETX (0x04)	1

Alarm Level:

	Byte
Alarm Index	1
New Level(range from0 to 5)	1
Latched Time(seconds)	2
Relay Alarm (0/1: Deactivated/Active)	1
IP Camera Capture (0/1: Deactivated/Active)	1

Result :

0x00 : Successful

0x09 : Parameter Error

4.23 Get Door Sensor status (0x36)

Command Format :

	Size (bytes)
BS (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND:0x36	1
CHECKSUM : byte sum from BS to RESULT	1
ETX (0x04)	1

Return: (SEMAC)

	Size (bytes)
ACK (0x09)	1
STX (0x03)	1
LENGTH : 26	4
TID	2
Result	1
COMMAND : 0x36	1
MAC Address	6
Door Sensor Status(from door#1 to door #8)	8
CHECKSUM	1
ETX (0x04)	1

Return: (WEBPASS)

	Size (bytes)
ACK (0x09)	1
STX (0x03)	1
LENGTH : 19	4
TID	2
Result	1
COMMAND : 0x36	1
MAC Address	6
Door Sensor Status(door#1)	1
CHECKSUM	1
ETX (0x04)	1

Door Sensor Status:

Indication	value
Not Used	0x00
Normal Open	0x01
Normal Close	0x02
Short Circuit	0x03
Open Circuit	0x04
Intruded	0x05
Open too long	0x06
Not Opened	0x07
No Response	0x08

4.24 BF50 Relay (No.2,No.3) Control (0x37)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 14	4
TID	2
COMMAND : 0x37	1
Door No.(1/2../8 indicates door #1/…door #8)	1
No. of relay(1/2: No.2/No.3)	1
Action (0/1: Off/On)	1

CHECKSUM	1
ETX (0x04)	1

Return (Success):

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x37	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result :

0x00 : Successful

0x01: BF50 not exist

0x09 : Parameter Error

0x0F : Version No Support

4.25 Change User Anti-Pass back Level (0x38)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 16	4
TID	2
COMMAND : 0x38	1
User ID	4
New APB Level	1
CHECKSUM	1
ETX (0x04)	1

Return:

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x38	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result :

0x00 : Successful

0x01 : User ID not exist

0x09 : Parameter Error

4.26 Get Current User Anti-Pass back Level (0x39)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 15	4
TID	2
COMMAND : 0x39	1
User ID	4
CHECKSUM	1
ETX (0x04)	1

Return: (when Result = 0x00)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 19	4
TID	2
RESULT	1
COMMAND:0x39	1
MAC Address	6
Current APB Level	1
CHECKSUM	1
ETX (0x04)	1

Return: (Others Result)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x39	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result :

0x00 : Successful

0x01 : User ID not exist

0x09 : Parameter Error

4.27 Auto Search BF50/BF20 (0x3a)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x3a	1
CHECKSUM	1
ETX (0x04)	1

Return: (when Result = 0x00)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 26	4
TID	2
RESULT	1
COMMAND:0x3a	1
MAC Address	6
BF50 found (0/1: Not Found/Found)	8
CHECKSUM	1
ETX (0x04)	1

Return: (Others Result)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x3a	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result :

0x00 : Successful

0x09 : Parameter Error

0x0F : Version no support

4.28 Get BF50/BF20 Status(0x3b)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x3b	1
CHECKSUM	1

ETX (0x04)	1

Return: (SEMAC)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 26	4
TID	2
RESULT	1
COMMAND:0x3b	1
MAC Address	6
BF50 Alive(0/1/2: not found/Alive/No Response, Door #1 to Door #8)	8
CHECKSUM	1
ETX (0x04)	1

Return: (WEBPASS)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 19	4
TID	2
RESULT	1
COMMAND:0x3b	1
MAC Address	6
BF50 Alive(0/1/2: not found/Alive/No Response)	1)
CHECKSUM	1
ETX (0x04)	1

Result :

0x00 : Successful

0x09 : Parameter Error

0x0F : Version No Support

4.29 Change Alarm/Defense State (0x3C)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 13	4
TID	2
COMMAND : 0x3C	1
Type(0/1/2: Fire Alarm Detection/Defense/Alarm Off)	1
State: Fire Alarm Detection(0/1: enabled/disabled) Defense(0/1: disabled/ enabled) Alarm Off(resv)	1
CHECKSUM	1
ETX (0x04)	1

Return:

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x3C	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result :

0x00 : Successful

0x09 : Parameter Error

0x0F : Version No Support

4.30 Set Alarm E-mail Address(0x3D)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 333	4
TID	2
COMMAND : 0x3D	1
SEMAC Location	59
Mail Server	47
Alarm E-mail Address 1	47
Alarm E-mail Address 2	47
Mail From	47
SMTP server requires authentication(0:1 / no:yes)	1
SMTP username	45
SMTP password	29
CHECKSUM	1
ETX (0x04)	1

Return:

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2

RESULT	1
COMMAND:0x3D	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result :

0x00 : Successful

0x09 : Parameter Error

4.31 Get Alarm E-mail Address(0x3E)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x3E	1
CHECKSUM	1
ETX (0x04)	1

Return:

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 340	4
TID	2
RESULT	1
COMMAND:0x3E	1
MAC Address	6
SEMAC Location	59
Mail Server	47
Alarm E-mail Address 1	47
Alarm E-mail Address 2	47
Mail From	47
SMTP server requires authentication(0:1 / no:yes)	1
SMTP username	45
SMTP password	29
CHECKSUM	1
ETX (0x04)	1

Result :

0x00 : Successful

0x09 : Parameter Error

4.32 Pulse Open Door(0x3F)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 12	4
TID	2
COMMAND : 0x3F	1
Door(1/2../8 means door #1/…door #8)	1
CHECKSUM	1
ETX (0x04)	1

Door 1~8 (bit 0~7)

Return:

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x3F	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result :

0x00 : Successful

0x09 : Parameter Error

4.33 Retrieving TimeSet I.D. list (0x48)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x48	1
CHECKSUM	1
ETX (0x04)	1

Return (Success)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 22 + N*1	4
TID	2
RESULT	1
Command	1
MAC Address	6
Number of TimeSets in lists(N)	4
LISTS	1*N
CHECKSUM : byte sum from BS to LISTS	1

ETX (0x04)	1

TimeSets range: 2-255

LISTS:

	Size (bytes)
Time Set Index	1
Time Set Index	…

Return (Others Error)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x48	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result :

0x00 : Successful

0x09 : Parameter Error

4.34 Retrieving TimeZone I.D. list (0x49)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x49	1
CHECKSUM	1
ETX (0x04)	1

Return (Success)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 22 + N*1	4
TID	2
RESULT	1
Command	1
MAC Address	6
Number of TimeZone in lists(N)	4
LISTS	1*N
CHECKSUM : byte sum from BS to LISTS	1
ETX (0x04)	1

TimeZone range: 2-120

LISTS:

	Size (bytes)
Time Zone Index	1
Time Zone Index	…

Return (Others Error)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x49	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result :

0x00 : Successful

0x09 : Parameter Error

4.35 Retrieving Group I.D. list (0x4A)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x4A	1
CHECKSUM	1
ETX (0x04)	1

Return (Success)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 22 + N*1	4
TID	2
RESULT	1
Command	1
MAC Address	6
Number of Group in lists(N)	4
LISTS	1*N
CHECKSUM : byte sum from BS to LISTS	1
ETX (0x04)	1

Group range: 2-255

LISTS:

	Size (bytes)
Group Index	1
Group Index	…

Return (Others Error)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x4A	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result :

0x00 : Successful

0x09 : Parameter Error

4.36 Get BF333 Status(0x4b) (For SEMAC S3)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x4b	1
CHECKSUM	1
ETX (0x04)	1

Return:

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 26	4
TID	2
RESULT	1
COMMAND:0x4b	1
MAC Address	6
BF333 Alive(0/1/2: not found/Alive/No Response, Door #1 to Door #8)	8
CHECKSUM	1
ETX (0x04)	1

Result :

0x00 : Successful

0x09 : Parameter Error

0x0F : Version No Support

5 Transaction/Log Related

5.1 Querying the number of log (0x40)

Command

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x40	1
CHECKSUM	1
ETX (0x04)	1

Return

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 26	4
TID	2
RESULT	1
Command	1
MAC Address	6
LOG number (number of saved log data)	4
Max Log Capacity	4
CHECKSUM	1
ETX (0x04)	1

RESULT

0x00 : Successfully processed

0x02 : Unknown error has occurred

0x04 : Check sum error

0x05 : Other packet error

0x08 : Unknown command

5.2 Retrieving all entry/exit Log(0x41)

Command

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x41	1
CHECKSUM : byte sum from ACK to COMMAND	1

ETX (0x04)	1

Return

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 22 + LOGn x 32	4
TID	2
RESULT	1
Command	1
MAC address	6
LOGn (Log number saved)	4
LOGS	LOGn x 32
CHECKSUM	1
ETX (0x04)	1

LOGS

	Size(bytes)
LOG1	32
LOG2	32
…	…
LOGn	32

LOG(n)

	Size (bytes)
Sec	1
Min	1
Hour	1
Date	1
Month	1
Year	1
IN/OUT Indication	1
Verification Source	1
Event/Alarm Code	1
Door (Door number 1 to 8)	1
USERID	4
Log Index	4
Card ID	8
Reserved	2
Remote Control (fot S2-Car Parking)	1
Reserved	3

Remote Control

0x00:NO (PS：Do not need remote control from software)

0x01:YES_IN (PS：Need remote control from software, By command 0x3F to open door in)

0x02:YES_OUT (PS：Need remote control from software, By command 0x6F to open door out)

IN/OUT Indication

0x00 : None

0x01 : Access IN

0x02 : Access OUT

0x11: Access IN during Lock Release Time zone (Normal State)

0x12: Access OUT during Lock Release Time zone (Normal State)

0x21: Access IN during Bypass ON

0x22: Access OUT during Bypass ON

0x31: Access IN during Bypass OFF

0x32: Access OUT during Bypass OFF

Verification Source: b[0] indicates Card, b[1] common password, b[2] personal password, b[3] Admin password

0 = None

1= Card

2= Common Password

5 = Card + Personal Password

8 = Admin Password

9= Card + Admin Password

Event/Alarm Code

Event/Alarm	Code
None	0x00
Door open too long	0x01
Door closed after alert	0x02
By Pass On	0x03
By Pass Off	0x04
Back to Normal from By Pass	0x05
Unauthorized User	0x06
Unregistered User	0x07
Deactivated User	0x08
Expired User	0x09
Anti Pass Back Violation	0x0a
Not Allowed Door	0x0b
Door Intruded	0x0c
Multi-Badge Violation	0x0d
Tamper Switch Breakdown	0x0e
Exit Button Pressed	0x0f
Door Normal Closed	0x10
Duress Alarm On	0x11
Fire Alarm On	0x12
Defense On	0x13
Defense Off	0x14
Tamper Switch Closed	0x15
Time Zone Violation	0x16
Lock Forced Release Time Start	0x17
Lock Forced Release Time End	0x18
Warm Start	0x19
Cold Start	0x1a
Backup Power	0x1b
Normal Power	0x1c

BF50 On	0x1d
BF50 Off	0x1e
Door Sensor short circuit	0x1f
Door Sensor open circuit	0x20
Invalid Password	0x21
Interlock Violation	0x22
Emergency Open	0x23
Emergency Close	0x24
Fire Alarm Detection Enabled	0x25
Fire Alarm Detection Disabled	0x26
Door Normal Opened	0x27
Turn Off Alarm Trigger Manually	0x28
Turn Off Alarm Trigger Automatically	0x29
IP Conflict	0x2a
Keypad is locked due to password error try	0x2b
Keypad recover	0x2c
Webpass Online	0x2d
Webpass Offline	0x2e
PulseOpenDoor	0x2f
ExitButtonShortCircuit	0x30
ExitButtonOpenCircuit	0x31
FireButtonShortCircuit	0x32
FireButtonOpenCircuit	0x33
SemacFastReg	0x3b
Fire alarm off	0x3c

RESULT

0x00 : Successfully processed

0x02 : Unknown error has occurred

0x04 : Check sum error

0x05 : Other packet error

0x08 : Unknown command

0x0E : No Log

5.3 Deleting all entry/exit log(0x42)

Command

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x42	1
CHECKSUM : byte sum from ACK to COMMAND	1
ETX (0x04)	1

Return

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2

RESULT	1
Command	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

RESULT

0x00 : Successfully processed

0x02 : Unknown error has occurred

0x04 : Check sum error

0x05 : Other packet error

0x08 : Unknown command

5.4 Retrieving all latest logs on the SEMAC (0x43)

Command :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 19	4
TID	2
COMMAND : 0x43	1
Log Index	4
Log Number	4
CHECKSUM	1
ETX (0x04)	1

Return :

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 22 + LOGn x 32	4
TID	2
RESULT	1
Command	1
MAC Address	6
LOGn (Log number saved)	4
LOGS	LOGn x 32
CHECKSUM	1
ETX (0x04)	1

RESULT

0x00 : Successfully processed

0x02 : Unknown error has occurred

0x04 : Check sum error

0x05 : Other packet error

0x08 : Unknown command

0x0D : Index Error

0x0E : No Log

5.5 Retrieving all Non-Retrieved logs on the SEMAC (0x44)

Command :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x44	1
CHECKSUM	1
ETX (0x04)	1

Return :

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 22 + LOGn x 32	4
TID	2
RESULT	1
Command	1
MAC Address	6
LOGn (Log number of Non-Retrieved)	4
LOGS	LOGn x 32
CHECKSUM	1
ETX (0x04)	1

RESULT

0x00 : Successfully processed

0x02 : Unknown error has occurred

0x04 : Check sum error

0x05 : Other packet error

0x08 : Unknown command

0x0E : No Non-Retrieved Log left

5.6 Delete all Non-Retrieved logs on the SEMAC (0x45)

Command :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x45	1
CHECKSUM	1
ETX (0x04)	1

Return :

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
Command	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

RESULT

0x00 : Successfully processed

0x02 : Unknown error has occurred

0x04 : Check sum error

0x05 : Other packet error

0x08 : Unknown command

0x0E : No Non-Retrieved Log left

5.7 Retrieving the oldest Non-Retrieved logs on the SEMAC (0x46)

Command :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x46	1
CHECKSUM	1
ETX (0x04)	1

Return :

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 22 + LOGn x 32	4
TID	2
RESULT	1
Command	1
MAC Address	6
LOGn (the oldest Log number of Non-Retrieved, max 50)	4
LOGS	LOGn x 32
CHECKSUM	1
ETX (0x04)	1

RESULT

0x00 : Successfully processed

0x02 : Unknown error has occurred

0x04 : Check sum error

0x05 : Other packet error

0x08 : Unknown command

0x0E : No Non-Retrieved Log left

5.8 Delete specified Non-Retrieved logs on the SEMAC (0x47)

Command :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 15+4xN	4
TID	2
COMMAND : 0x47	1
Number of Log Index (N, max 50)	4
Index of Log	4xN
CHECKSUM	1
ETX (0x04)	1

Return :

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
Command	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

RESULT

0x00 : Successfully processed

0x02 : Unknown error has occurred

0x04 : Check sum error

0x05 : Other packet error

0x08 : Unknown command

0x0E : No Non-Retrieved Log left

5.9 Send System Info (0x56)

Command :

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 256	4
TID	2
Result(don't care)	1
COMMAND : 0x56	1
MAC Address	6
Send System Info format version	2
Customize Product Name	32
Customize Accessory 1 Name	32
Customize Accessory 2 Name	32
Customize Accessory 3 Name	32
Real-time log format version	2
Real-time log by IP Camera log format version	2
Other log format version	2
User data format version	2
Door setup format version	2
FP template size	1
RESV	97
CHECKSUM : byte sum from BS to Resv	1
ETX (0x04)	1

Send System Info format version:

First version: 0

Real-time log format version:

First version: 0

FP template size:

0:Not used

1:352 bytes

2:384 bytes

3:M100

Return :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 64	4
TID	2
COMMAND : 0x56	1
Resv	53
CHECKSUM : byte sum from ACK to Resv	1
ETX (0x04)	1

5.10 System Transaction Auto Send(0x57)

Command :

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 86	4
TID	2
Result(don't care)	1
COMMAND : 0x57	1
MAC Address	6
System Log Format Version	2
System Log	66
CHECKSUM : byte sum from BS to Log	1
ETX (0x04)	1

System log format version:

First version: 0

(1)Log Format: 0

	Size (bytes)
Log Index	4
Log Format	1
Sec	1
Min	1
Hour	1
Date	1
Month	1
Year	1
Description	55

(2) Log Format: 1

	Size (bytes)
Log Index	4
Log Format	1
Sec	1
Min	1
Hour	1
Date	1
Month	1
Year	1
From	1
Action Type	2
User ID	4
Resv	48

From: 0/1/2/3 = From Machine/From Menu/From HTTPS/From Software

Action Type: 0/1 = Registered User/Deleted User

Return:

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 15	4
TID	2
COMMAND : 0x57	1
Log Index	4
CHECKSUM	1
ETX (0x04)	1

5.11 Delete All System Transaction (0x58)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x58	1
CHECKSUM	1
ETX (0x04)	1

Return

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x58	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result

0x00 : successful

0x09 : Parameter Error

5.12 User Transaction Auto Send(0x59)

Command Format :

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 19+N*32	4
TID	2
Result(don't care)	1
COMMAND : 0x59	1
MAC Address	6
Log Count(N, max is 20)	1
Log	N*32
CHECKSUM : byte sum from BS to Log	1
ETX (0x04)	1

LOG

	Size (bytes)
Log Index	4
Sec	1
Min	1
Hour	1
Date	1
Month	1
Year	1
IN/OUT Indication	1
Verification Source	1
Event/Alarm Code	1
Door (Door number 1 to 8)	1
USERID	4
Card ID	8
Function Key index	2
Reserved	4

IN/OUT Indication

0x00 : None

0x01 : Access IN during Normal State

0x02 : Access OUT during Normal State

0x10: None(during Lock Release Time zone)

0x11: Access IN during Lock Release Time zone (Normal State)

0x12: Access OUT during Lock Release Time zone (Normal State)

0x21: Access IN during Bypass ON

0x22: Access OUT during Bypass ON

0x31: Access IN during Bypass OFF

0x32: Access OUT during Bypass OFF

Verification Source: b[0] indicates Card, b[1] common password, b[2] personal password, b[3] Admin password

0 = None

1= Card

2= Common Password

4= Personal Password

5 = Card + Personal Password

8 = Admin Password

9= Card + Admin Password

17= Card +Finger

21= Card +Finger+ Password

Return :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1

LENGTH : 15	4
TID	2
COMMAND : 0x51	1
Log Index	4
CHECKSUM	1
ETX (0x04)	1

6 Dummy Reader Control Related

6.1 Set Webpass IP (0x70)

Command :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 43	4
TID	2
COMMAND : 0x70	1
Webpass 1 IP	4
Webpass 2 IP	4
Webpass 3 IP	4
Webpass 4 IP	4
Webpass 5 IP	4
Webpass 6 IP	4
Webpass 7 IP	4
Webpass 8 IP	4
CHECKSUM	1
ETX (0x04)	1

Webpass ip : (e.g. 192.168.1.10 should be filled as C0 A8 01 0A in hex)

Return :

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
Command	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

RESULT

0x00 : Successfully processed

0x09 : Parameter Error

0x0F : Version no support

6.2 Get Webpass IP (0x71)

Command :

	Size (bytes)

ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x71	1
CHECKSUM	1
ETX (0x04)	1

Return : (when Result = 0x00)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 50	4
TID	2
RESULT	1
Command	1
MAC Address	6
Webpass1 ip	4
…	…
Webpass 8 ip	4
CHECKSUM	1
ETX (0x04)	1

Return : (Others Result)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
Command	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

RESULT

0x00 : Successfully processed

0x09 : Parameter Error

0x0F : Version no support

7 Real-time Channel Command (SEMAC/WEBPASS to PC)

7.1 Keep Alive Check (0x50)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 80	4
TID	2
Result(don't care)	1

COMMAND : 0x50	1
MAC Address	6
Model Name	1
Serial Number	3
Registered User	4
Max User Capacity	4
Firmware Version	16
Door Sensor Status(from door#1 to door #8)	8
Security Status	8
BF50 Alive(0/1/2: not found/BF50 Alive/webpass Alive, Door #1 to Door #8)	8
Current Defense State(0/1: disabled /enabled)	1
Fire Alarm Detection(0/1: enabled/disabled)	1
Current Fire Alarm Input State(0/1: On/Off)	1
Web No Logo(0/1: Off/On)	1
RESV	6
CHECKSUM : byte sum from BS to Resv	1
ETX (0x04)	1

Web No Logo is Neutral code

Model Name (10/11/12/13/20/21/30/31/32/33/34/35: SEMAC S1/SEMAC S2/ SEMAC S3/ SEMAC S2 Car Parking/WEB Pass IP Reader/WEB Pass Lift/830W/630W/BFMiniW/BioSense/BF670W/BF870W)

Door Sensor Status:

Indication	value
Not Used	0x00
Normal Open	0x01
Normal Close	0x02
Short Circuit	0x03
Open Circuit	0x04
Intruded	0x05
Open too long	0x06
Not Opened	0x07
No Response	0x08

Security Status (0/1/2/3: Force open/Force close/ Normal/not used)

The return packet for this command is as follows. (PC Server to SEMAC)

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 64	4
TID	2
COMMAND : 0x50	1
Second	1
Minute	1
Hour	1
Date	1
Month	1
Day	1
Year	1
Log Index	4
Resv	42
CHECKSUM : byte sum from ACK to Resv	1
ETX (0x04)	1

7.2 Real-time Transaction (0x51)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 19+N*32	4
TID	2
Result(don't care)	1
COMMAND : 0x51	1
MAC Address	6
Log Count(N, max is 20)	1
Log	N*32
CHECKSUM : byte sum from BS to Log	1
ETX (0x04)	1

LOG

	Size (bytes)
Log Index	4
Sec	1
Min	1
Hour	1
Date	1
Month	1
Year	1
IN/OUT Indication	1
Verification Source	1
Event/Alarm Code	1
Door (Door number 1 to 8)	1
USERID	4
Card ID	8
Reserved	2
Remote Control (fot S2-Car Parking)	1
Reserved	3

Remote Control

0x00:NO (PS：Do not need remote control from software)

0x01:YES_IN (PS：Need remote control from software, By command 0x3F to open door in)

0x02:YES_OUT (PS：Need remote control from software, By command 0x6F to open door out)

IN/OUT Indication

0x00 : None

0x01 : Access IN during Normal State

0x02 : Access OUT during Normal State

0x10: None(during Lock Release Time zone)

0x11: Access IN during Lock Release Time zone (Normal State)

0x12: Access OUT during Lock Release Time zone (Normal State)

0x21: Access IN during Bypass ON

0x22: Access OUT during Bypass ON

0x31: Access IN during Bypass OFF

0x32: Access OUT during Bypass OFF

Verification Source: b[0] indicates Card, b[1] common password, b[2] personal password, b[3] Admin password

0 = None

1= Card

2= Common Password

4= Personal Password

5 = Card + Personal Password

8 = Admin Password

9= Card + Admin Password

Event/Alarm Code

Event/Alarm	Code
None	0x00
Door open too long	0x01
Door closed after alert	0x02
By Pass On	0x03
By Pass Off	0x04
Back to Normal from By Pass	0x05
Unauthorized User	0x06
Unregistered User	0x07
Deactivated User	0x08
Expired User	0x09
Anti Pass Back Violation	0x0a
Not Allowed Door	0x0b
Door Intruded	0x0c
Multi-Badge Violation	0x0d
Tamper Switch Breakdown	0x0e
Exit Button Pressed	0x0f
Door Normal Closed	0x10
Duress Alarm On	0x11
Fire Alarm On	0x12
Defense On	0x13
Defense Off	0x14
Tamper Switch Closed	0x15
Time Zone Violation	0x16
Lock Forced Release Time Start	0x17
Lock Forced Release Time End	0x18
System Warm Start	0x19
System Cold Start	0x1a
Using Battery Power	0x1b
Using Normal Power	0x1c
BF50 On	0x1d
BF50 Off	0x1e
Door Sensor short circuit	0x1f
Door Sensor open circuit	0x20
Invalid Password	0x21
Interlock Violation	0x22
Emergency Open	0x23
Emergency Close	0x24
Fire Alarm Detection Enabled	0x25
Fire Alarm Detection Disabled	0x26
Door Normal Opened	0x27

Turn Off Alarm Trigger Manually	0x28
Turn Off Alarm Trigger Automatically	0x29
IP Conflict	0x2a
Keypad is locked due to password error try	0x2b
Keypad recover	0x2c
Webpass online	0x2d
Webpass offline	0x2e
Paulse open door	0x2f
Exit button short	0x30
Exit button open	0x31
Fire botton short	0x32
Fire botton open	0x33
SEMAC fast reg	0x3b
Fire alarm off	0x3c

Return :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 15	4
TID	2
COMMAND : 0x51	1
Log Index	4
CHECKSUM	1
ETX (0x04)	1

7.3 IP Camera Captured in JPEG (0x52)

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 54+N	4
TID	2
Result(don't care)	1
COMMAND : 0x52	1
MAC Address	6
Log Data	28
JPEG length(N)	4
JPEG Image	N
LOG Index	4
CHECKSUM : byte sum from BS to Log	1
ETX (0x04)	1

Log Data

	Size (bytes)
Sec	1
Min	1
Hour	1
Date	1
Month	1
Year	1
IN/OUT Indication	1
Verification Source	1
Event/Alarm Code	1
Door (Door number 1 to 8)	1
USERID	4

Card ID	8
Reserved	6

7.4 Pulse Open Door OUT(0x6F) PS：for S2 Car Parking (open door out in Both)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 12	4
TID	2
COMMAND : 0x6F	1
Door(1/2../8 means door #1/…door #8)	1
CHECKSUM	1
ETX (0x04)	1

Door 1~8 (bit 0~7)

Return:

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x6F	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result :

0x00 : Successful

0x09 : Parameter Error

7.5 GET S3 LIFT TYPE(0x1E) PS：for S3 LIFT

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x1E	1
CHECKSUM	1
ETX (0x04)	1

Return:

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18+1	4
TID	2
RESULT	1

COMMAND:0x1E	1
MAC Address	6
Type	1
CHECKSUM	1
ETX (0x04)	1

Type: 0/1/2 black / white list / reader mifare card snr for white list

Result :

0x00 : Successful

7.6 SET S3 LIFT TYPE(0x1D) PS：for S3 LIFT

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 12	4
TID	2
COMMAND : 0x1D	1
Type	1
CHECKSUM	1
ETX (0x04)	1

Type: 0/1/2 black / white list / reader mifare card snr for white list

Return:

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
COMMAND:0x1D	1
MAC Address	6
CHECKSUM	1
ETX (0x04)	1

Result :

0x00 : Successful

0x02 : Type Error

7.7 Set Mifare Key (0x98)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 31	4
TID	2
COMMAND : 0x98	1
Key A	6
Key B	6
resv	1
Key used	1
resv	6

CHECKSUM : byte sum from ACK to Block	1
ETX (0x04)	1

Key：KeyA or KeyB depend on the Rule

Block: block used 0~15

Key used：0：read KeyA 1：read KeyB

Id Start Position: 0~15

Id Length:1~10(text)

1~4(Hex)

Id Mode: 0/1 = hex/text

Return

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH : 18	4
TID	2
RESULT	1
Command	1
MAC Address	6
CHECKSUM : byte sum from BS to COMMAND	1
ETX (0x04)	1

Result

0x00 : successful

0x09 : Parameter Error

7.8 Get Mifare Key (0x99)

Command Format :

	Size (bytes)
ACK (0x07)	1
STX (0x03)	1
LENGTH : 11	4
TID	2
COMMAND : 0x99	1
CHECKSUM : byte sum from ACK to Block	1
ETX (0x04)	1

Return

	Size (bytes)
BS (0x09)	1
STX (0x03)	1
LENGTH :37	4
TID	2
RESULT	1
COMMAND:0x99	1

MAC Address	6
Key A	6
Key B	6
resv	1
Key used	1
resv	6
CHECKSUM : byte sum from BS to COMMAND	1
ETX (0x04)	1

Result

Key：KeyA or KeyB depend on the Rule

Block: block used 0~15

Key used：0：read KeyA 1：read KeyB

Id Start Position: 0~15

Id Length:1~10(text)

1~4(Hex)

Id Mode: 0/1 = hex/text

0x00 : successful

0x09 : Parameter Error