

## IS - 3400 RFID Reader



ISO 14443-A

ISO 14443-B

ISO 15693

Mifare Classic

Mifare UltraLight

RFID - Reader

2012.02.29	V1.0	V 1.0 Release

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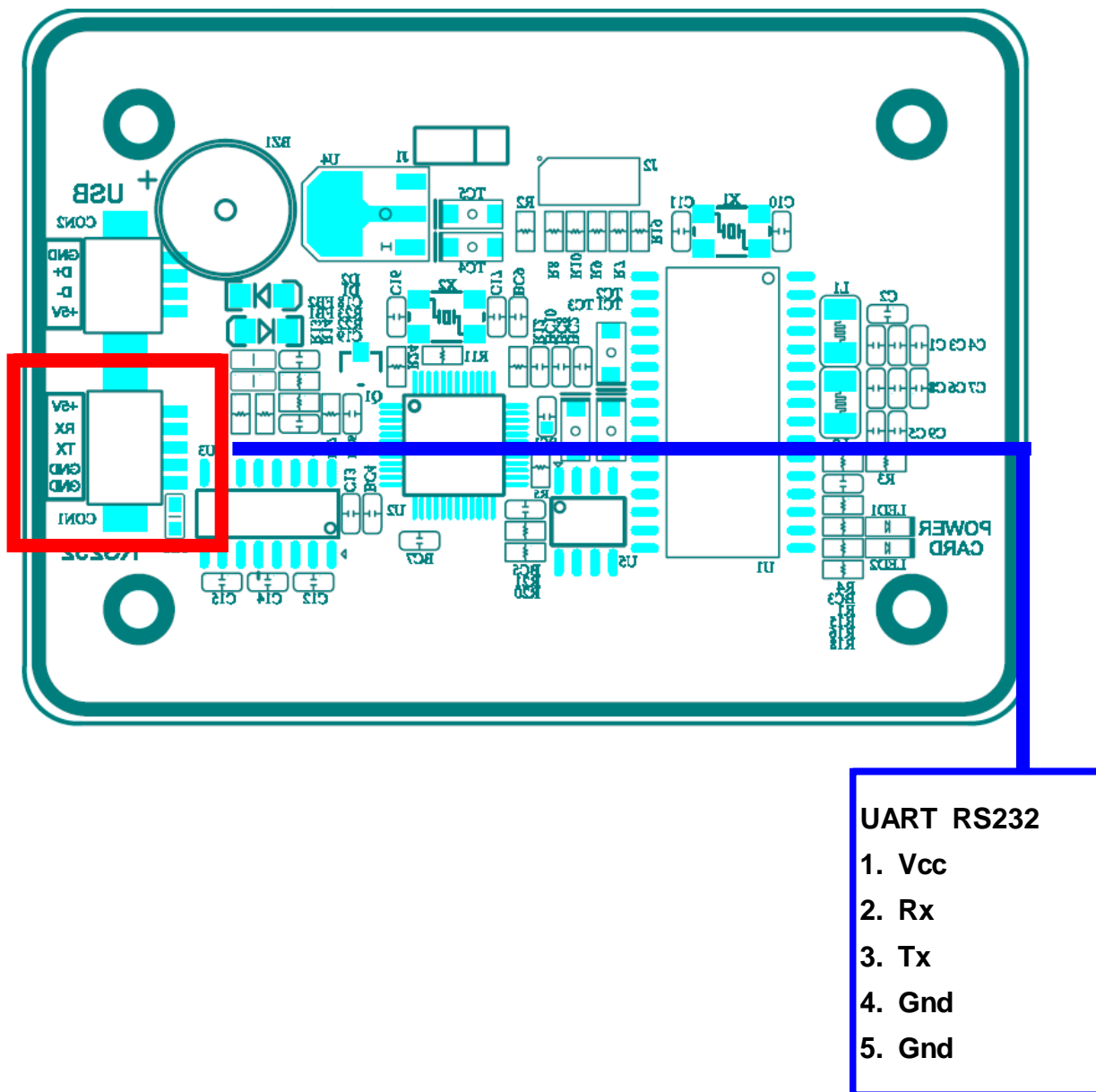
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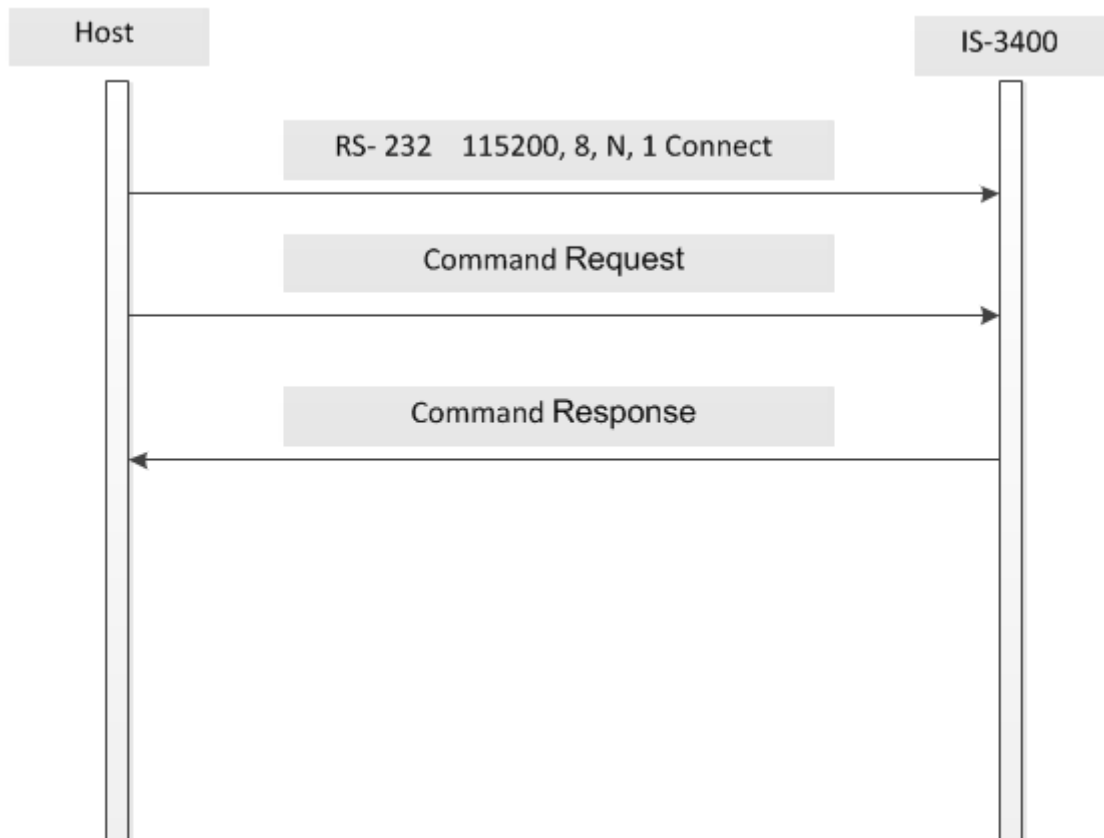
## 1. Specification

RF Frequency	13.56MHz
Power Supply	4.5 to 5.5V DC Operation
Supply Current	40mA @ 5V
Dimensions	70 x 50 x 6 mm
RF Protocol	ISO14443-A/B, ISO15693 Mifare Classic, Mifare UltraLight
Host Interface	USB Bulk 1.2M Bps , Uart RS232
Antennna	50-ohm Internal antenna
RF Power	150mW @ 5V
Read Range	50mm internal ant
Anticollision	Support(1tags)

## 2. IS-3400 구성



### 3. Serial Setup Interface



- 비트/초 : 115200 Bps
- 데이터 비트 : 8
- 패리티 : None
- 정지 비트 : 1
- 흐름 제어 : 없음

## 4. Command Interface

### 4.1 Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Command	1	Command	Hex	0x0F : Unique ID 0x10 : Firmware Version 0x11 : Buzzer beep Onf 0x16 : All Card Serial 0x17 : ISO14443A & Mifare Card Serial 0x18 : ISO14443B 0x1A : ISO15693 0x1F : Card Type Read 0x20 : Mifare Card Active 0x21 : Mifare Classic Key Authentication 0x22 : Mifare Classic Block Read 0x23 : Mifare Classic Key Authentication Block Read (       ) 0x24 : Mifare Classic Sector Read 0x25 : Mifare Classic Key Authentication Sector Read (       ) 0x26 : Mifare Classic Block Write 0x27 : Mifare Classic Key Authentication Block Write (       ) 0x28 : Mifare Classic Sector Write 0x29 : Mifare Classic Key Authentication Sector Write (       ) 0x2A : Mifare Classic Electronic Purse Create (       ) 0x2B : Mifare Classic Electronic Purse Read (       ) 0x2C : Mifare Classic Electronic Purse Increment (       ) 0x2D : Mifare Classic Electronic Purse Decrement(       ) 0x2E : Mifare Classic Electronic Purse Transfer(       ) 0x2F : Mifare Classic Electronic Purse Restore(       )
Data Length	2	Hi Byte	Hex	Packet Lens
Data Length		Low Byte	Hex	
Data	N		Hex	Request Data
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

## 4.2 Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Command	1	Command	Hex	0x30 : Mifare Ultra Light Block Read 0x31 : Mifare Ultra Light Block Write 0x32 : Mifare Ultra Light All Block Read  0x33 : ISO14443A/B Card Active APDU Active 0x34 : ISO14443A/B Card Read/Write APDU Command 0x35 : T-Money 0x36 : K-Cash  0x3C : RF Off  0x40 : ISO15693 Card Active 0x41 : ISO15693 Block Read 0x42 : ISO15693 Block Write 0x43 : ISO15693 Block Lock 0x44 : ISO15693 Multi Block Read 0x46 : ISO15693 Get Sys 0x47 : ISO15693 AFI Write 0x48 : ISO15693 DSFID Write 0x49 : ISO15693 AFI Lock 0x4A : ISO15693 DSFID Lock 0x4B : ISO15693 Stay Quiet 0x4C : ISO15693 Reset To Ready
Data Length	2	Hi Byte	Hex	Packet Lens
Data Length		Low Byte	Hex	
Data	N		Hex	Request Data
Check Sum	1		Hex	"Check Sum"
ETX	1	03	Hex	End Data

Command 수행 후 성공 하면 부저 비프음 발생 명령

최상위 비트를 1로 만들면 비프음 발생, 최상위 비트가 0이면 비프음 발생 하지 않음

[ Exmaple ] Card Serial Num 비프음 발생 Command

Command = 0x20 | 0x80;

BIT 7	BIT 6	BIT 5	BIT 4	BIT 3	BIT 2	BIT 1	BIT 0
1	0	1	0	0	0	0	0
Command							



### 4.3 Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Command	1	Command	Hex	0x0F : Unique ID 0x10 : Firmware Version 0x11 : Buzzer beep Onf 0x16 : All Card Serial 0x17 : ISO14443A & Mifare Card Serial 0x18 : ISO14443B 0x1A : ISO15693 0x1F : Card Type Read 0x20 : Mifare Card Active 0x21 : Mifare Classic Key Authentication 0x22 : Mifare Classic Block Read 0x23 : Mifare Classic Key Authentication Block Read (        ) 0x24 : Mifare Classic Sector Read 0x25 : Mifare Classic Key Authentication Sector Read (        ) 0x26 : Mifare Classic Block Write 0x27 : Mifare Classic Key Authentication Block Write (        ) 0x28 : Mifare Classic Sector Write 0x29 : Mifare Classic Key Authentication Sector Write (        ) 0x2A : Mifare Classic Electronic Purse Create (        ) 0x2B : Mifare Classic Electronic Purse Read (        ) 0x2C : Mifare Classic Electronic Purse Increment (        ) 0x2D : Mifare Classic Electronic Purse Decrement(        ) 0x2E : Mifare Classic Electronic Purse Transfer(        ) 0x2F : Mifare Classic Electronic Purse Restore(        )
State	1		Hex	0x01 : 0xFF :
Data Length	2	Hi Byte	Hex	Packet Lens
Data Length		Low Byte	Hex	
Data	N		Hex	Response Data
Check Sum	1		Hex	"Check Sum        "
ETX	1	03	Hex	End Data

#### 4.4 Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Command	1	Command	Hex	0x30 : Mifare Ultra Light Block Read 0x31 : Mifare Ultra Light Block Write 0x32 : Mifare Ultra Light All Block Read  0x33 : ISO14443A/B Card Active APDU Active 0x34 : ISO14443A/B Card Read/Write APDU Command 0x35 : T -Money 0x36 : K-Cash  0x3C : RF Off  0x40 : ISO15693 Card Active 0x41 : ISO15693 Block Read 0x42 : ISO15693 Block Write 0x43 : ISO15693 Block Lock 0x44 : ISO15693 Multi Block Read 0x46 : ISO15693 Get Sys 0x47 : ISO15693 AFI Write 0x48 : ISO15693 DSFID Write 0x49 : ISO15693 AFI Lock 0x4A : ISO15693 DSFID Lock 0x4B : ISO15693 Stay Quiet 0x4C : ISO15693 Reset To Ready
State	1		Hex	0x01 : 0xFF :
Data Length	2	Hi Byte	Hex	Packet Lens
Data Length		Low Byte	Hex	
Data	N		Hex	Response Data
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

## 5. Check Sum 계산법

Check Sum = (BYTE)(Command + Length(0) + Length(1) + Data(0) + Data(1) + Data(n) )

Example 1:

All Card Serial Read 데이터

0x02 0x16 0x00 0x00 0x16 0x03

Cmd	Length(0)	Length(1)	Check Sum			
0x16	+	0x00	+	0x00		0x16

0x16 = 0x16 + 0x00 + 0x00

Example 2:

Mifare Classic Block Read 데이터

0x02 0x22 0x00 0x01 0x01 0x24 0x03

Cmd	Length(0)	Length(1)	Data(0)	Check Sum				
0x22	+	0x00	+	0x01	+	0x01		0x24

0x24 = 0x22 + 0x00 + 0x01 + 0x01

◆ Stx, Etx, CheckSum 은 제외

## 6. Protocol Data

### 6.1 Firmware Version Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Command	1	0x10	Hex	0x10 : Firmware Version
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	“Check Sum 계산법” 참조
ETX	1	03	Hex	End Data

※ Fireware Version을 읽어 옵니다.

### 6.2 Firmware Version Response Pass (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Command	1	0x10	Hex	0x10 : Firmware Version
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Data(0 ~ 10)	11	Result	Hex	"IS3400_V1.0"
Check Sum	1		Hex	“Check Sum ”
ETX	1	03	Hex	End Data

### 6.3 RFID Buzzer beep On Setting Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x11	Hex	0x11 : Buzzer beep On
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

※ RFID 모듈에 있는 부저 비프음 발생

### 6.4 RFID Buzzer beep On Setting Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x11	Hex	0x11 : Buzzer beep On
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.5 Card Type ALL Serial Read Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Command	1	0x16	Hex	0x16 : Card Type All serial Read
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum 계산법" 참조
ETX	1	03	Hex	End Data

※ Card(Mifare Classic, UltraLight, IS014443A/B, IS015693 등등) 읽기 가능한 모든 카드를 조회 하여

Serial Number를 읽어 옵니다.

## 6.6 Card Type ALL Serial Read Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Command	1	0x16	Hex	0x16 : Card Serial
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		N + 1	Hex	
Data(0)	1	Card Type	Hex	0x20: 14443-A Type 0x08: Mifare Classic 1K 0x09: Mifare Classic Mini 320Byte 0x28: 14443-A + Mifare Classic 1K 0x18 : Mifare Classic 8K 0x00: Mifare Ultralight 0x02: 14443-B Type 0x03: 14443-C Type(FeliCa) (IS-3400-I 가 ) 0x04: ISO15693 (IS-3400 가 )
Data(1)	1	4, 7	Hex	UID 4 Digit, UID 7Digit,
Data(2 ~ N)	N		Hex	Card Serial Number
Check Sum	1		Hex	“Check Sum ”
ETX	1	03	Hex	End Data

✓ 실행 완료후 자동으로 RF Off 됩니다.

### 6.7 Card ISO14443-A Type Serial Read Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Command	1	0x17	Hex	0x17 : Card ISO14443-A Serial Read
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum 계산법" 참조
ETX	1	03	Hex	End Data

※ Card(Mifare Classic, UltraLight, ISO14443A) Serial Number를 읽어 옵니다.

### 6.8 Card ISO14443-A Type Serial Read Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Command	1	0x17	Hex	0x17 : Card ISO14443-A Serial Read
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		N + 1	Hex	
Data(0)	1	4, 7	Hex	UID 4 Digit, UID 7Digit,
Data(1 ~ N)	N		Hex	Card Serial Number
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

✓ 실행 완료후 자동으로 RF Off 됩니다.



### 6.9 Card ISO14443-B Type Serial Read Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Command	1	0x18	Hex	0x18 : Card ISO14443-B Serial Read
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	“Check Sum 계산법” 참조
ETX	1	03	Hex	End Data

※ Card(ISO14443A) Serial Number를 읽어 옵니다.

### 6.10 Card ISO14443-B Type Serial Read Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Command	1	0x18	Hex	0x18 : Card ISO14443-B Serial Read
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		N + 1	Hex	
Data(0)	1	4, 7	Hex	UID 4 Digit, UID 7Digit,
Data(1 ~ N)	N		Hex	Card Serial Number
Check Sum	1		Hex	“Check Sum ”
ETX	1	03	Hex	End Data

✓ 실행 완료후 자동으로 RF Off 됩니다.

### 6.11 Card ISO 15693 Type Serial Read Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Command	1	0x1A	Hex	0x1A : Card Felica Serial Read
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	“Check Sum 계산법” 참조
ETX	1	03	Hex	End Data

※ Card(ISO1593) Serial Number를 읽어 옵니다.

### 6.12 Card ISO 15693 Type Serial Read Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Command	1	0x1A	Hex	0x1A : Card Felica Serial Read
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		N + 1	Hex	
Data(0)	1	4, 7	Hex	UID 4 Digit, UID 7Digit,
Data(1 ~ N)	N		Hex	Card Serial Number
Check Sum	1		Hex	“Check Sum ”
ETX	1	03	Hex	End Data

✓ 실행 완료후 자동으로 RF Off 됩니다.

## 6.13 Card Type 확인 Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x1F	Hex	0x1F : Card Type
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

※ Card 종류를 확인 할 수 있습니다.

## 6.14 Card Type 확인 Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x1F	Hex	0x1F : Card Type
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x01	Hex	
Data(1)	1		Hex	0x20: 14443-A Type 0x08: Mifare Classic 1K 0x09: Mifare Classic Mini 320Byte 0x28: 14443-A + Mifare Classic 1K 0x18 : Mifare Classic 8K 0x00: Mifare Ultralight 0x02: 14443-B Type 0x03: 14443-C Type(FeliCa) (IS-3400-I 가 ) 0x04: ISO15693 (IS-3400 가 )
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

✓ 실행 완료후 자동으로 RF Off 됩니다.

## 6.15 Card Mifare Active Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Command	1	0x20	Hex	0x20 : Card Mifare Active
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

※ Card(Mifare Classic, UltraLight) Active 시킵니다.

## 6.16 Card Mifare Active Response Pass (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Command	1	0x20	Hex	0x20 : Card Mifare Active
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		N + 1	Hex	
Data(0)	1	UID Length	Hex	UID 4 Digit, UID 7Digit,
Data(1 ~ N)	4, 7	Result	Hex	Card Serial Number
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.

✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

### 6.17 Card Mifare Classic Authentication Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Command	1	0x21	Hex	0x21 : Card authentication
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x08	Hex	
DATA(0)	1	0x00~CardMax	Hex	Card Block Number
DATA(1)	1	0x01 : KeyA 0x02 : KeyB	Hex	Key Type
DATA(2~ 7)	6	Auth Key	Hex	Key Value
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.18 Card Mifare Classic Authentication Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Command	1	0x21	Hex	0x21 : Card authentication
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

- ✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.
- ✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

## 6.19 Card Mifare Classic Block Data Read Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x22	Hex	0x22 : Card Block Data Read
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x01	Hex	
DATA(0)	1	0x00 ~ Block Max	Hex	Block Number
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

## 6.20 Card Mifare Classic Block Data Read Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x22	Hex	0x22 : Card Block Data Read
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x10	Hex	
Data(1 ~ 16)	16	Result	Hex	Card Block Data
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.

✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

## 6.21 Card Mifare Authentication and Block Read Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Command	1	0x23	Hex	0x23 : Card authenticationand & Block Read (        )
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x08	Hex	
DATA(0)	1	0x00~CardMax	Hex	Card Block Number
DATA(1)	1	0x01 : KeyA 0x02 : KeyB	Hex	Key Type
DATA(2~ 7)	6	Auth Key	Hex	Key Value
Check Sum	1		Hex	“Check Sum        ”
ETX	1	03	Hex	End Data

## 6.22 Card Mifare Authentication and Block Read Request Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Command	1	0x23	Hex	0x23 : Card authenticationand & Block Read (        )
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x10	Hex	
Data(0 ~ 15)	16	Result	Hex	Card Block Data
Check Sum	1		Hex	“Check Sum        ”
ETX	1	03	Hex	End Data

✓ 실행 완료후 자동으로 RF Off 됩니다.

### 6.23 Card Mifare Classic Sector Read Request

(Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Command	1	0x24	Hex	0x24 : Card Auth and Sector Read
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x01	Hex	
DATA(0)	1	0x00 ~ Sector Max	Hex	Card Sector Number
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.24 Card Mifare Classic Sector Read Request Response

(IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x24	Hex	0x24 : Card Auth and Sector Read
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x40	Hex	
Data(0 ~ 15)	16	Result	Hex	Card Sector Block 0 Data
Data(16 ~ 31)	16	Result	Hex	Card Sector Block 1 Data
Data(32 ~ 47)	16	Result	Hex	Card Sector Block 2 Data
Data(48 ~ 63)	16	Result	Hex	Card Sector Block 3 Data
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

- ✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.
- ✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.



## 6.25 Card Mifare Classic Authentication and Sector Read Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Command	1	0x25	Hex	0x25 : Card authentication and Sector Read
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x08	Hex	
DATA(0)	1	0x00 ~ Secotr Max	Hex	Card Secotr Number
DATA(1)	1	0x01 : KeyA 0x02 : KeyB	Hex	Key Type
DATA(2~ 7)	6	Auth Key	Hex	Key Value
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

## 6.26 Card Mifare Classic Authentication and Sector Read Request Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x25	Hex	0x25 : Card authentication and Sector Read
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x40	Hex	
Data(0 ~ 15)	16	Result	Hex	Card Sector Block 0 Data
Data(16 ~ 31)	16	Result	Hex	Card Sector Block 1 Data
Data(32 ~ 47)	16	Result	Hex	Card Sector Block 2 Data
Data(48 ~ 63)	16	Result	Hex	Card Sector Block 3 Data
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

✓ 실행 완료후 자동으로 RF Off 됩니다.

## 6.27 Card Mifare Classic Block Data Write Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x26	Hex	0x26 : Card Block Data Write
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x11	Hex	
DATA(0)	1	0x00~CardMax	Hex	Block Number
DATA(1 ~ 16)	16	Block Data	Hex	Block Data
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

## 6.28 Card Mifare Classic Block Data Write Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x26	Hex	0x26 : Card Block Data Write
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

- ✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.
- ✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

### 6.29 Card Mifare Classic Authentication And Block Data Write Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x27	Hex	0x27 : Card Authentication And Block Data Write
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x18	Hex	
DATA(0)	1	0x00 ~ Block Max	Hex	Block Number
DATA(1)	1	0x01 : KeyA 0x02 : KeyB	Hex	Key Type
DATA(2~ 7)	6	Auth Key	Hex	Key Value
DATA(8 ~ 23)	16	Block Data	Hex	Block Data
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.30 Card Mifare Classic Authentication And Block Data Write Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x27	Hex	0x27 : Card Authentication And Block Data Write
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

✓ 실행 완료후 자동으로 RF Off 됩니다.

### 6.31 Card Mifare Classic Sector Data Write Request

(Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x28	Hex	0x28 : Card Sector Data Write
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x31	Hex	
DATA(0)	1	0x00 ~ Sector Max	Hex	Sector Number
DATA(1 ~ 48)	48	Sector Data	Hex	Sector Data
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.32 Card Mifare Classic Sector Data Write Response

(IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x28	Hex	0x28 : Card Authentication And Block Data Write
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

✓ 3개의 Block에 48 Byte(16 Byte \* 3) 에 데이터를 Write 합니다.

Data Block																	
Data Block					3	Data Block Write											
Data Block																	
Traiter Block					Write												

✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.

✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

### 6.33 Card Mifare Authentication And Sector Data Write Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x29	Hex	0x29 : Card Sector Data Write
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x38	Hex	
DATA(0)	1	0x00 ~ Sector Max	Hex	Sector Number
DATA(1)	1	0x01 : KeyA 0x02 : KeyB	Hex	Key Type
DATA(2~ 7)	6	Auth Key	Hex	Key Value
DATA(8 ~ 55)	48	Sector Data	Hex	Sector Data
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

다음 장에 계속...

## 6.34 Card Mifare Authentication And Sector Data Write Response

(IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x29	Hex	0x29 : Card Authentication And Block Data Write
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

✓ 3개의 Block에 48 Byte(16 Byte \* 3) 에 데이터를 Write 합니다.

Data Block																	
Data Block					3	Data Block Write											
Data Block																	
Traiter Block					Write												

✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.

✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

### 6.35 Card Mifare electronic purse Create(전자지갑 생성) Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x2A	Hex	0x2A: Electronic purse Create (전자지갑 생성)
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x05	Hex	
DATA(0)	1	0x01 ~ Block Max	Hex	Sector Number
DATA(1 ~ 4)	4	Money	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.36 Card Mifare electronic purse Create(전자지갑 생성) Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x2A	Hex	0x2A: Electronic purse Create (전자지갑 생성)
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

- ✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.
- ✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

### 6.37 Card Mifare electronic purse Read(전자지갑 잔액 읽기) Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x2B	Hex	0x2B: Electronic purse Read (전자지갑 잔액 읽기)
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x01	Hex	
DATA(0)	1	0x01 ~ Block Max	Hex	Sector Number
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.38 Card Mifare electronic purse Read(전자지갑 잔액 읽기) Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x2B	Hex	0x2B: Electronic purse Read (전자지갑 잔액 읽기)
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x04	Hex	
DATA(0 ~ 3)	4	Money	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

- ✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.
- ✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.



### 6.39 Card Mifare electronic purse Increment (전자지갑 충전) Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x2C	Hex	0x2C : Electronic purse Increment (전자지갑 충전)
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x05	Hex	
DATA(0)	1	0x00 ~ Block Max	Hex	Block Number
DATA(1 ~ 4)	4	Money Data	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.40 Card Mifare electronic purse Increment (전자지갑 충전) Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x2C	Hex	0x2C : Electronic purse Increment (전자지갑 충전)
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

- ✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.
- ✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

#### 6.41 Card Mifare electronic purse Decrement (전자지갑 지불) Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x2D	Hex	0x2D : Electronic purse Decrement (전자지갑 지불)
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x05	Hex	
DATA(0)	1	0x00 ~ Block Max	Hex	Block Number
DATA(1 ~ 4)	4	Money Data	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

#### 6.42 Card Mifare electronic purse Decrement (전자지갑 지불) Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x2D	Hex	0x2D : Electronic purse Decrement (전자지갑 지불)
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

- ✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.
- ✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

### 6.43 Card Mifare electronic purse Transfer (전자지갑 카드로 저장) Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x2E	Hex	0x2E : Electronic purse Transfer (전자지갑 카드로 저장)
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x01	Hex	
DATA(0)	1	0x00 ~ Block Max	Hex	Block Number
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.44 Card Mifare electronic purse Transfer (전자지갑 카드로 저장) Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x2E	Hex	0x2E : Electronic purse Transfer (전자지갑 카드로 저장)
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

- ✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.
- ✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

### 6.45 Card Mifare electronic purse Restore(전자지갑 결제 취소) Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x2F	Hex	0x2F : Electronic purse Restore (전자지갑 결제 취소)
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x01	Hex	
DATA(0)	1	0x00 ~ Block Max	Hex	Block Number
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.46 Card Mifare electronic purse Restore(전자지갑 결제 취소) Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x2F	Hex	0x2F : Electronic purse Restore (전자지갑 결제 취소)
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

- ✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.
- ✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

## 6.47 Card Mifare UltraLight Block Read Request

(Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x30	Hex	0x30 : Mifare UltraLight Block Read
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x01	Hex	
DATA(0)	1	0x00 ~ Block Max	Hex	Block Number
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

## 6.48 Card Mifare UltraLight Block Read Response

(IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x30	Hex	0x30 : Mifare UltraLight Block Read
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x10	Hex	
Data(0 ~ 15)	16	Block Data	Hex	Card Block Data
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.

✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

## 6.49 Card Mifare UltraLight Block Write Request

(Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x31	Hex	0x31 : Mifare UltraLight Block Write
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x05	Hex	
DATA(0)	1	0x00 ~ Block Max	Hex	Block Number
Data(1 ~ 4)	4	Block Data	Hex	Card Block Data
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

## 6.50 Card Mifare UltraLight Block Write Response

(IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x31	Hex	0x31 : Mifare UltraLight Block Write
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.

✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

### 6.51 Card Mifare UltraLight Block All Read Request

(Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x32	Hex	0x32 : Mifare UltraLight Block All Read
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.52 Card Mifare UltraLight Block Write Response

(IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x32	Hex	0x32 : Mifare UltraLight Block All Read
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x40	Hex	
Data(0 ~ 63)	64	Block Data	Hex	Card Block All Data
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

- ✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.
- ✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

### 6.53 Smart Card APDU Active Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x33	Hex	0x33 : Smart Card APDU Active
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

※ ISO14443A/B Card Active

### 6.54 Smart Card APDU Active Response Pass

(IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x33	Hex	0x33 : Smart Card APDU Active
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		N + 1	Hex	
Data(0)	1	UID Length	Hex	UID 4 Digit, UID 7Digit,
Data(1 ~ N)	N	Card Serial	Hex	Card Serial Number 4 Digit or Card Serial Number 7 Digit
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.

✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.



### 6.55 Smart Card APDU Command Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x34	Hex	0x34 :Smart Card APDU Command
Data Length	2	N	Hex	Packet Lens : 최대 512 Byte
Data Length		N	Hex	
Data	N	APDU Command	Hex	APDU Command
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.56 Smart Card APDU Command Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x34	Hex	0x34 : Smart Card APDU Active
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	N	Hex	Packet Lens : 최대 512 Byte
Data Length		N	Hex	
Data(1 ~ N)	N	APDU Command Response		APDU Command Response
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

- ✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.
- ✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

### 6.57 Card T - Money 잔액 조회 Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x35	Hex	0x35 : T-Money
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.58 Card T - Money 잔액 조회 Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x35	Hex	0x35 : T-Money
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x04	Hex	
Data(0 ~ 3)	4	Result	Hex	T-Money
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

#### Basic 표현식]

T-Money 잔액 = (Data(0) \* 16777216) + (Data(1) \* 65536) + (Data(2) \* 256) + Data(3)

C언어 표현식]

T-Money 잔액 = (Data[0] << 24) + (Data[1] << 16) + (Data[2] << 8) + Data[3]

Example ] 00h 00h 0Bh D6h (Hex Data)

3030 = (00h \* 16777216) + (00h \* 65536) + (0B \* 256) + D6

3030 = (00h << 24) + (00h << 16) + (0B << 8) + D6

✓ 실행 완료후 자동으로 RF Off 됩니다.

### 6.59 Card K - CASH 잔액 조회 Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x36	Hex	0x36 : K-CASH
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.60 Card K - CASH 잔액 조회 Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x36	Hex	0x36 : K-CASH
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x04	Hex	
Data(0 ~ 3)	4	Result	Hex	K-CASH
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

#### Basic 표현식]

K-CASH 잔액 = (Data(0) \* 16777216) + (Data(1) \* 65536) + (Data(2) \* 256) + Data(3)

C언어 표현식]

K-CASH 잔액 = (Data[0] << 24) + (Data[1] << 16) + (Data[2] << 8) + Data[3]

Example ] 00h 00h 0Bh D6h (Hex Data)

3030 = (00h \* 16777216) + (00h \* 65536) + (0B \* 256) + D6

3030 = (00h << 24) + (00h << 16) + (0B << 8) + D6

✓ 실행 완료후 자동으로 RF Off 됩니다.

### 6.61 RF OFF Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x3C	Hex	0x3C : RF OFF
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.62 RF OFF Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x3C	Hex	0x3C : RF OFF
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.63 Card ISO15693 Card Active Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Command	1	0x40	Hex	0x40 : ISO15693 Card Active
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

※ Card(ISO15693) Active 시킵니다.

### 6.64 Card ISO15693 Card Active Response Pass (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Command	1	0x40	Hex	0x40 : ISO15693 Card Active
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		N + 1	Hex	
Data(0)	1	UID Length	Hex	8 Digit,
Data(1 ~ N)	8, N	Result	Hex	Card Serial Number
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

- ✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.
- ✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

### 6.65 Card ISO15693 Block Read Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x41	Hex	0x41 : ISO15693 Block Read
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x01	Hex	
DATA(0)	1	0x00 ~ Block Max	Hex	Block Number
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.66 Card ISO15693 Block Read Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x41	Hex	0x41 : ISO15693 Block Read
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x04	Hex	
Data(0 ~ 3)	4	Block Data	Hex	Card Block Data
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

- ✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.
- ✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

### 6.67 Card ISO15693 Block Write Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x42	Hex	0x42 : ISO15693 Block Write
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x05	Hex	
DATA(0)	1	0x00 ~ Block Max	Hex	Block Number
Data(1 ~ 4)	4	Block Data	Hex	Card Block Data
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.68 Card ISO15693 Block Write Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x41	Hex	0x41 : ISO15693 Block Read
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.

✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

### 6.69 Card ISO15693 Block Lock Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x43	Hex	0x43 : ISO15693 Block Lock
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x01	Hex	
DATA(0)	1	0x00 ~ Block Max	Hex	Block Number
Data(1)	1	Block Data	Hex	Card Block Data
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.70 Card ISO15693 Block Lock Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x43	Hex	0x43 : ISO15693 Block Lock
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.

✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.



### 6.71 Card ISO15693 Multi Block Read Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x44	Hex	0x44 : ISO15693 Multi Block Read
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x02	Hex	
DATA(0)	1	0x00 ~ Block Max	Hex	Block Number(            )
DATA(1)	1	Block Count	Hex	Block        (10        10        )
Check Sum	1		Hex	“Check Sum        ”
ETX	1	03	Hex	End Data

### 6.72 Card ISO15693 Multi Block Read Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x44	Hex	0x44 : ISO15693 Multi Block Read
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	N	Hex	Packet Lens
Data Length		N	Hex	
Data(N)	N	Block Data	Hex	Card Block Data
Check Sum	1		Hex	“Check Sum        ”
ETX	1	03	Hex	End Data

✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.

✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

### 6.73 Card ISO15693 Get Sys Read Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x46	Hex	0x46 : ISO15693 Get Sys
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

✓ ISO15693 Card 정보를 읽어 옵니다.

### 6.74 Card ISO15693 Get Sys Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x46	Hex	0x46 : ISO15693 Get Sys
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		N	Hex	
Data(N)	N	Data	Hex	ISO15693 Card
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.

✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

### 6.75 Card ISO15693 AFI Write Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x47	Hex	0x47 : ISO15693 AFI Write
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x01	Hex	
Data	1	AFI Data	Hex	AFI Data
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.76 Card ISO15693 AFI Write Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x47	Hex	0x47 : ISO15693 AFI Write
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

- ✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.
- ✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

### 6.77 Card ISO15693 DSFID Write Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x48	Hex	0x48 : ISO15693 DSFID Write
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x01	Hex	
Data	1	DSFID Data	Hex	DSFID Data
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.78 Card ISO15693 DSFID Write Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x48	Hex	0x48 : ISO15693 DSFID Write
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

- ✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.
- ✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

### 6.79 Card ISO15693 AFI Lock Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x49	Hex	0x49 : ISO15693 AFI Lock
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.80 Card ISO15693 AFI Lock Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x49	Hex	0x49 : ISO15693 AFI Lock
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

- ✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.
- ✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

### 6.81 Card ISO15693 DSFID Lock Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x4A	Hex	0x4A : ISO15693 DSFID Lock
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.82 Card ISO15693 DSFID Lock Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x4A	Hex	0x4A : ISO15693 DSFID Lock
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

- ✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.
- ✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

### 6.83 Card ISO15693 Stay Quiet Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x4B	Hex	0x4B : ISO15693 Stay Quiet
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.84 Card ISO15693 Stay Quiet Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x4B	Hex	0x4B : ISO15693 Stay Quiet
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

- ✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.
- ✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.

### 6.85 Card ISO15693 Reset To Ready Request (Target , PC → IS-3400)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x4C	Hex	0x4C : ISO15693 Reset To Ready
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

### 6.86 Card ISO15693 Reset To Ready Response (IS-3400 → Target , PC)

ITEM	BYTE	DESC		REMARK
STX	1	0x02	Hex	Start Data
Commad	1	0x4C	Hex	0x4C : ISO15693 Reset To Ready
State	1	0x01 0xFF	Hex	0x01 : 0xFF :
Data Length	2	0x00	Hex	Packet Lens
Data Length		0x00	Hex	
Check Sum	1		Hex	"Check Sum "
ETX	1	03	Hex	End Data

- ✓ 실행 완료 후 처리 동작이 성공 하면 자동으로 RF ON 상태 유지 됩니다.
- ✓ 실행 완료 후 처리 동작이 실패 하면 자동으로 RF OFF 됩니다.