

EMPRESS™ 2.4GHz Active RFID Reader

Communication API Guide (Model: HKRAR-EM02 Series)

Revision: 2.0.0.5

Before use, please read these instructions completely



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Connection Method

HKRAR-EM02 Series Active Reader support TCP/IP (LAN Cable / Wireless Network) or RS-232 (Comport) for communications interface.

RS-232 Version

Supported Model:	HKRAR-EM02-SP
Port:	Comport (RS-232)
Baud Rate:	38400, 8, n, 1

TCP Version

Supported Model:	HKRAR-EM02-ETH, HKRAR-EM02-POE, HKRAR-EM02-WF
IP Address:	Configurable (See Reader User Guide)
TCP port:	5000

Packet Format

The following is HKRAR-EM Series Reader communication packet structure for both host and reader side.
For example:

Field Name →	Header	Size	Command	Data	Checksum	Footer
Sample Data →	0x02	0x06	0xAA	0x12	0xBC	0x03

In the case, raw packet data is 02 06 AA 12 BC 03

Here is details description to packet fields:

Header (1 byte):	0x02
Size (1 byte):	length of whole packet (included header and footer)
Command (1 byte):	Command Code, refer to command in next section.
Data (N bytes)	<Data>
Checksum (1 byte):	XOR of Header + Size + Command + Data
Footer (1 byte):	0x03

Command List

Tag Inventory

	Command Name	Command Code	Supported Reader Version	Supported Product	Remarks
1	Start / Stop reading tag	0X07	EM / EM02		
2	Reader return tag ID	0x06	EM / EM02		
3	Get tag buffer	0x56	EM02		EM02 Passive mode
4	Get and clear tag buffer	0x57	EM02		EM02 Passive mode
5	Clear tag buffer	0x58	EM02		EM02 Passive mode

Tag Reading Setting

	Command Name	Command Code	Supported Reader Version	Supported Product	Remarks
6	Get gain	0x01	EM / EM02		
7	Set gain	0x02	EM / EM02		
8	Set reader channel	0x0B	EM / EM02		
9	Set reader frequency	0x12	EM / EM02		
10	Set sample time	0x14	EM / EM02		
11	Get sample time	0x15	EM / EM02		
12	Set reader mode	0x54	EM02		
13	Set request mode	0x55	EM02		

Reader Hardware Special Output (/Input)

	Command Name	Command Code	Supported Reader Version	Supported Product	Remarks
14	Set LED on	0x16	EMSP-S		
15	Set buzzer on	0x17	EMSP-S		
16	Set LED + buzzer on	0x18	EMSP-S		
17	Set GPIO direction	0x59	EM02		
18	Set GPIO value	0x5A	EM02		

Reader Advanced Setting

	Command Name	Command Code	Supported Reader Version	Supported Product	Remarks
19	Get reader version	0x0C	EM / EM02		
20	Get serial number	0x51	EM02		
21	Get reader status	0x53	EM02		
22	Set reader time	0x5C	EM02		
23	Set heart beat	0x5E	EM02		
24	Reset reader	0x5B	EM02		

Active Tag Control

	Command Name	Command Code	Supported Reader Version	Supported Product	Remarks
25	Set LED on	0x0D		RT ZT	
26	Set LED flash	0x0E		RT ZT	
27	Broadcast LED flash	0x0F		RT	
28	Reset button log	0x10		RT	

Command Details

Start /Stop reading tag (0x07)

Reader will start list tag data when host-side send a start reading command.

Command	Data	Return
0x07	0x00 → Stop reading 0x01 → Start reading	Return same packet if command executed successfully

Example:

PC side send:

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x07	0x00	0x03	0x03

Reader return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x07	0x00	0x03	0x03

Tag ID return by reader (0x06)

Tag ID will be returned when Reader activated start reading with command (0x07) until Stop Read command.

There are two types of format return packet for classic EM series and modern EM02 reader series. The type of return format depends on Reader Mode (0x54) value and Reader Channel (0x0B) value.

Command	Data	Return
0x06	N/A	Tag ID and Status if start reading. <i>(See following Format Description)</i>

Tag ID Packet Format

There is packet format for Tag ID return value

Reader Returned Packet

Header	Size	Command	Data	Checksum	Footer
0x02	0x0E (Variable)	0x06	XX ... XX (9 to 14 bytes)	CS (Variable)	0x03

Returned DATA value

The DATA value of Returned Packet will in special formatting. According to Reader Mode value (*see command 0x54 for setting Read Mode*), the returned Data will be in different format:

Mode Code	Reader Mode	Data value Format	Remarks
0x01	EM02	A	Supported by EM02 reader series only
0x00	Classic	B	Supported by all Empress reader series

Data Value Format A:

All Tag return with EM02 Reader Mode (0x01). Reader will return total Tag read count before first tag data packet return. Format as below:

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x06	XX (1 bytes for number of Tags ID)	CS (Variable)	0x03

After that, Tags ID packet will be returned as below format:

Reader mode: EM02 Mode (value 0x01)

DATA Value express in:

BYTES	→	0	1	2	3	4	5	6	7	8	9	10	11	12	13
DATA	→	Tag ID								Status	RSSI	Read time			

Data value example: 81 00 7E 02 25 50 00 00 21 4D 52 C3 CB 00

1st to 8th bytes of returned data value is Tag ID (see Appendix for TAG id).

9th byte is Status, see next chapter of this document for detail description to status value.

RSSI located at 10th byte of packet. Convert this value from hexadecimal value to decimal value and multiple -1. It will become RSSI value which unit in dBm. Example: RSSI Data 0x4D -> 77 (decimal) X -1 = -77dBm

11th to 14th bytes of data is Read Time which in UNIX-Time format. Example, 52 C3 CB 00 (Hex) = 1388534400 (Dec) = 2014-01-01 08:00:00

Data Value Format B:

Reader mode: Classic Mode (value 0x00)

DATA Value express in:

BYTES	→	0	1	2	3	4	5	6	7	8
DATA	→	Tag ID							Status	

Data value example: 81 00 7E 02 25 50 00 00 21

1st to 8th bytes of returned data value is Tag ID (see Appendix for TAG id).

9th byte is Status, see next chapter of this document for detail description to status value.

Status Byte value

Returned Tag Data must contain STATUS byte for the packet. According to Reader Channel value (see command 0x0B for setting Reader Channel), the STATUS will be in different format:

Code	Reader Mode	Data value Format	Remarks
0x02	EM	I	Support Empress series Tags
0x01	LX	II	Support LX series Tags

Status Value format I

For Empress (EM) Tag series, STATUS byte consists of 8 bits data for describing returned Tags status and parameters. It is expressed as below:

MSB								LSB											
Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0												
Button Triggered Value 1: Changed 0: Non-Changed	Instant Button Status Value 1: Pressed 0: Released	Signal Strength Value 1: High 0: Low	Tag Tx Power Value <table><tr><td>0</td><td>0</td><td>-18 dBm</td></tr><tr><td>0</td><td>1</td><td>-12 dBm</td></tr><tr><td>1</td><td>0</td><td>-6 dBm</td></tr><tr><td>1</td><td>1</td><td>0 dBm</td></tr></table>		0	0	-18 dBm	0	1	-12 dBm	1	0	-6 dBm	1	1	0 dBm	-Reserved -		Battery status Value 1: Normal 0: Low Battery
0	0	-18 dBm																	
0	1	-12 dBm																	
1	0	-6 dBm																	
1	1	0 dBm																	

Bit 7 : Button Triggered (Available with Tag model: HKRAT-ZT02). Changed means that the status of button on the tag which has been changed. For example, button has been pressed or released since last reset status. For reset the status, please see command 0x10 (Reset button log).

Bit 6 : Instant Button Status (Available with Tag model: HKRAT-ZT02). Instant Status(Pressed or Released) to the button of related tag.

Bit 5 : Received signal strength. For EM02 reader mode, instead of this value, reference RSSI.

Bit 4 : Tag Transmitter Power, value of Tag TX power setting.

Bit 0 : Battery Power Status, 1 is Normal and 0 is Low Battery.

Detail Description to DATA

For LX Tag series, STATUS Byte used for describing Battery level of tag.

0x00 → No Battery
0xFF → Battery Normal

Data Example: 53 52 0B 00 10 00 00 79 FF (FF = Battery is normal)

Get Gain (0x01)

Get Gain Value of reader. Gain Value is reading sensibility of reader.

Command	Data	Return
0x01	N/A	Return Gain Value(1 byte) in DATA Value from 0x00 to 0x1F 0x00 → Strongest 0x1F → Weakest

PC Side Send

Header	Size	Command	Data	Checksum	Footer
0x02	0x05	0x01	NA	0x06	0x03

Example: 02 05 01 06 03

Reader Side Return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x01	0x10	0x15	0x03

Example: 02 06 01 10 15 03

Set Gain (0x02)

Get Gain Value of reader. Gain Value is reading sensibility of reader.

Command	Data	Return
0x02	Gain Level (1 byte) Value from 0x00 to 0x1F 0x00 → Strongest 0x1F → Weakest	Return same packet if command executed successfully

PC Side Send

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x02	0x10	0x16	0x03

Example: 02 06 02 10 16 03

Reader Side Return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x02	0x10	0x16	0x03

Example: 02 06 02 10 16 03

Get Tag Buffer (0x56)

Get all Tag data inside the reader buffer. This command is valid in **Passive mode**¹. No acknowledgment will be returned. Reader will return tag data according to its reader mode. For further details, please refer to **Reader return tag ID**².

Remarks:

¹ "Passive mode" please refer to "Set request mode" with command 0x55

² "Reader return tag ID" with command 0x06

Command	Data	Return
0x56	N/A	N/A

Example : 02 05 56 51 03

Get and Clear Tag Buffer (0x57)

Get and clear all the Tag data inside the reader buffer. This command is valid in **Passive mode**¹. No acknowledgment will be returned. Reader will return tag data according to its reader mode and then clear the buffer. For further details, please refer to **Reader return tag ID**².

Remarks:

¹ "Passive mode" please refer to "Set request mode" with command 0x55

² "Reader return tag ID" with command 0x06

Command	Data	Return
0x57	N/A	N/A

Example : 02 05 57 50 03

Clear tag buffer(0x58)

Clear all the Tag data inside the reader buffer. This command is valid in **Passive mode**¹.

Remarks:

¹ “Passive mode” please refer to “Set request mode” with command 0x55

Command	Data	Return
0x58	N/A	Return packet with data 0x01 indicates success

PC Side Send

Header	Size	Command	Data	Checksum	Footer
0x02	0x05	0x58	NA	0x5F	0x03

Example: 02 05 58 5F 03

Reader Side Return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x58	0x01	0x5D	0x03

Example: 02 06 58 01 5D 03

Set reader channel (0x0B)

set the channel of the reader. Differences in channel settings will result in receiving different types of tags.

Command	Data	Return
0x0B	Channel --HKRFID(0x02) <i>(Default)</i> --LX(0x01)	Return same packet if command executed successfully

PC Side Send

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x0B	0x01	0x0E	0x03

Example: 02 06 0B 01 0E 03

Reader Side Return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x0B	0x01	0x0E	0x03

Example: 02 06 0B 01 0E 03

Set Reader Frequency (0x12)

Set the frequency of the reader. Once the frequency is set, only tags using the same frequency can be read.

Command	Data	Return
0x12	Frequency --0x01 (US) (Default) --0x02 (CE)	0x01 success 0x00 fail

PC Side Send

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x12	0x01	0x17	0x03

Example: 02 06 12 01 17 03

Reader Side Return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x12	0x01	0x17	0x03

Example: 02 06 12 01 17 03

Set sample time (0x14)

Set the sampling rate of the reader.

Command	Data	Return
0x14	Sample time(2byte) --each step is 1/32768 second --valid range 0x1000 - 0xFFFF	0x01 success 0x00 fail

Example : Set the reader to sample tag data every 0.5 seconds

Sample period = $0.5 \times 32768 = 16384 = 0x4000$ (Hex)

PC Side Send

Header	Size	Command	Data	Checksum	Footer
0x02	0x07	0x14	0x4000	0x51	0x03

Example: 02 07 14 40 00 51 03

Reader Side Return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x14	0x01	0x11	0x03

Example: 02 06 14 01 11 03

Get sample time (0x15)

Get the sampling rate of the reader.

Command	Data	Return
0x15	N/A	sample time(2byte) each step is 1/32768 second valid range 0x1000 - 0xFFFF

PC Side Send

Header	Size	Command	Data	Checksum	Footer
0x02	0x05	0x15	N/A	0x12	0x03

Example: 02 05 15 12 03

Reader Side Return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x07	0x15	0x8000	0x90	0x03

Example: 02 07 15 80 00 90 03

Set LED on(0x16)

Set green LED of the reader to flash once. (Only HKRAR-EMSP-S supports this function.)

Command	Data	Return
0x16	N/A	Return packet with data 0x01 indicate success

PC Side Send

Header	Size	Command	Data	Checksum	Footer
0x02	0x05	0x16	N/A	0x11	0x03

Example: 02 05 16 11 03

Reader Side Return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x16	0x01	0x13	0x03

Example: 02 06 16 01 13 03

Set Buzzer on(0x17)

Set the reader beep sound. (Only HKRAR-EMSP-S supports this function.)

Command	Data	Return
0x17	N/A	Return packet with data 0x01 indicate success

PC Side Send

Header	Size	Command	Data	Checksum	Footer
0x02	0x05	0x17	N/A	0x10	0x03

Example: 02 05 17 10 03

Reader Side Return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x17	0x01	0x12	0x03

Example: 02 06 17 01 12 03

Set LED + buzzer on(0x18)

Set the reader LED to flash and the buzzer to beep once. (Only HKRAR-EMSP-S supports this function.)

Command	Data	Return
0x18	N/A	Return packet with data 0x01 indicate success

PC Side Send

Header	Size	Command	Data	Checksum	Footer
0x02	0x05	0x18	N/A	0x1F	0x03

Example: 02 05 18 1F 03

Reader Side Return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x18	0x01	0x1D	0x03

Example: 02 06 18 01 1D 03

Set GPIO direction(0x59)

EM02 has 3 GPIOs for advanced purposes. This command can set the GPIOs as user-defined input/output.

Command	Data	Return
0x59	<p>Mask (1Byte): Bit mapping format, 1: valid setting; 0: ignore setting</p> <p>Direction (1Byte) : Bit mapping format, 0: input; 1: output</p> <p>Remark: bit0 map to pin1 bit1 map to pin2 bit2 map to pin3</p>	Return packet with data 0x01 indicate success

Example:

Set pin1 as output, pin 2 as input, pin 3 unchanged

Mask: 0x03 (aim to set Pin 1 and Pin 2)

Direction: 0x01 (Pin 1: output, Pin 2: input)

PC Side Send

Header	Size	Command	Data (Mask)	Data(Direction)	Checksum	Footer
0x02	0x07	0x59	0x03	0x01	0x5E	0x03

Example: 02 07 59 03 01 5E 03

Reader Side Return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x59	0x01	0x5C	0x03

Example: 02 06 59 01 5C 03

Set GPIO value(0x5A)

EM02 have 3 GPIOs for advanced purposes. This command can set the GPIOs value by users. Values can only be set on GPIO output pins.

Command	Data	Return
0x5A	<p>Mask (1Byte): Bit mapping format, 1: valid setting; 0 : ignore setting</p> <p>Value(1Byte) : Bit mapping format, 1: high; 0: low</p> <p>Remark: bit0 map to pin1, bit1 map to pin2, bit2 map to pin3</p>	Return packet with data 0x01 indicate success

Example:

Set pin 1 to high, set pin 2 to low , pin 3 unchanged

Mask: 0x03 (aim to set Pin 1 and Pin 2)

Value: 0x01 (Pin 1: high, Pin 2 : low)

PC Side Send

Header	Size	Command	Data(Mask)	Data(Value)	Checksum	Footer
0x02	0x07	0x5A	0x03	0x01	0x5D	0x03

Example: 02 07 5A 03 01 5D 03

Reader Side Return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x5A	0x01	0x5F	0x03

Example: 02 06 5A 01 5F 03

Get Reader Version (0x0C)

Command	Data	Return
0x0C	N/A	Return Reader Version (1Byte) in DATA field

PC Side Send

Header	Size	Command	Data	Checksum	Footer
0x02	0x05	0x0C	NA	0x0B	0x03

Example: 02 05 0C 0B 03

Reader Side Return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x0C	0x20	0x28	0x03

Example: 02 06 0C 20 28 03

0x20 is Reader Version

Get Serial Number(0x51)

Get the reader serial number that you are connecting.

Command	Data	Return
0x51	N/A	Serial number

PC Side Send

Header	Size	Command	Data	Checksum	Footer
0x02	0x05	0x51	N/A	0x56	0x03

Example: 02 05 51 56 03

Reader Side Return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x0D	0x51	0x11111111 11111111	0x5E	0x03

Example: 02 0D 51 11 11 11 11 11 11 11 5E 03

Get reader status(0x53)

Get the reader status that you are connecting.

Command	Data	Return
0x53	N/A	Reader status(20 byte): Gain: 0x01 (0-31) Reader channel: 0x02 (0x01: Bx, 0x02: HKRFID) Reader frequency: 0x03 (0x01: US, 0x02: EU) Sampling frequency: 0x0405 (0-0xFFFF) Reading status: 0x06 (0x00: stop reading, 0x01: start reading) Reader mode: 0x07 (0x00: classic, 0x01: upgrade version) Request mode: 0x08 (0x00: active/classic, 0x01: passive) GPIO direction: 0x09 GPIO value: 0x10 (Bit 1: high, Bit 0: low) Reader time: 0x11 12 13 14 (MSB LSB) Heart beat: 0x15 (0x00: disabled, 0x01: enabled) Following 5 bytes: reserved

PC Side Send

Header	Size	Command	Data	Checksum	Footer
0x02	0x05	0x53	N/A	0x54	0x03

Example: 02 05 53 54 03

Reader Side Return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x19	0x53	0x010203040 50607080910 11121314150 000000000	0x48	0x03

Example: 02 19 53 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 00 00 00 00 00 48 03

Set reader mode(0x54)

Set the reader mode

Command	Data	Return
0x54	Reader mode 0x01: EM02 mode, with RSSI, read time, number of tag read 0x00: classic mode	Return packet with data 0x01 indicate success

PC Side Send

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x54	0x01	0x51	0x03

Example: 02 06 54 01 51 03

Reader Side Return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x54	0x01	0x51	0x03

Example: 02 06 54 01 51 03

Set request mode (0x55)

Set the reader request mode

Command	Data	Return
0x55	request mode 0x00: active mode, auto return tag data after start read 0x01: passive mode, need PC request tag data	Return packet with data 0x01 indicate success

PC Side Send

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x55	0x00	0x51	0x03

Example: 02 06 55 00 51 03

Reader Side Return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x55	0x01	0x50	0x03

Example: 02 06 55 01 50 03

Set reader time(0x5C)

Set the system time of the reader. The system time should in Unix time format.

Command	Data	Return
0x24	time (4byte) in Unix format	Return packet with data 0x01 indicate success

PC Side Send

Header	Size	Command	Data	Checksum	Footer
0x02	0x09	0x5C	0x51F0AD51	0x0A	0x03

Example: 02 09 5C 51 F0 AD 51 0A 03

Reader Side Return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x5C	0x01	0x59	0x03

Example: 02 06 5C 01 59 03

Set heart beat(0x5E)

Set the reader to enable or disable the heart beat function. After enabling heart beat, Reader will return its serial number in each heart beat interval. Heart beat interval takes 10 times of the sample time. The return packet is as follows:

02 0D 51 **11 22 33 44 55 66 77 88** D6 03 where 1122334455667788 is the reader serial number

Command	Data	Return
0x5E	heart beat enable : 01 disable : 00	Return packet with data 0x01 indicate success

PC Side Send

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x5E	0x01	0x5B	0x03

Example: 02 06 5E 01 5B 03

Reader Side Return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x5E	0x01	0x5B	0x03

Example: 02 06 5E 01 5B 03

Reset Reader(0x5B)

Function for rebooting the reader hardware.

Command	Data	Return
0x5B	N/A	Return packet with data 0x01 indicate success

PC Side Send

Header	Size	Command	Data	Checksum	Footer
0x02	0x05	0x5B	N/A	0x5D	0x03

Example: 02 05 5B 5D 03

Reader Side Return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x5B	0x01	0x5E	0x03

Example: 02 06 5B 01 5E 03

Set LED On (0x0D) (This function only available in LED supported tag.)

Set specific Tag turn on the LED until X second. Value of X range from 01 to FF.

Command	Data	Return
0x0D	Tag ID (8 bytes) + Time (1 byte) Time value in second Range from 0x01 and 0xFF	Return Data 0x01 → OK 0x00 → FAIL

PC Side Send

Header	Size	Command	Data	Checksum	Footer
0x02	0x0E	0x0D	53 52 0B 00 10 00 00 79 01	0x63	0x03

Example: 02 0E 0D 53 52 0B 00 10 00 00 79 01 63 03

Set LED of Tag (ID: 53 52 0B 00 10 00 00 79) turn on for 1 second.

Reader Side Return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x0D	0x01	0x08	0x03

Example: 02 06 0D 01 08 03

Set LED Flash (0x0E) (This function only available in LED supported tag.)

Set specific Tag flashing LED until X second. Value of X range from 01 to FF.

Command	Data	Return
0x0E	Tag ID (8 bytes) + Time (1 byte) Time value in second Range from 0x01 and 0xFF	Return Data 0x01 → OK 0x00 → FAIL

PC Side Send

Header	Size	Command	Data	Checksum	Footer
0x02	0x0E	0x0E	53 52 0B 00 10 00 00 79 01	0x60	0x03

Example: 02 0E 0E 53 52 0B 00 10 00 00 79 01 60 03

Set LED of Tag (ID: 53 52 0B 00 10 00 00 79) flashing for 1 second.

Reader Side Return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x0E	0x01	0x0B	0x03

Example: 02 06 0E 01 0B 03

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Broadcast LED Flash (0x0F) (This function only available in LED supported tag.)

Send a broadcast signal for set Tags to Flashing LED for 6 seconds.

Command	Data	Return
0x0F	N/A	Return Data 0x01 → OK ** Indicate "OK" only

PC Side Send

Header	Size	Command	Data	Checksum	Footer
0x02	0x05	0x0F	N/A	0x07	0x03

Example: 02 05 0F 07 03

Reader Side Return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x0F	0x01	0x0A	0x03

Example: 02 06 0F 01 0A 03

Reset Button Trigger (0x10) (This function only available in Button supported tag.)

Reset Button Trigger Flag value to 0 of specific Tag Status.

Command	Data	Return
0x10	Tag ID (8 bytes)	Return Data 0x01 → OK 0x00 → FAIL

PC Side Send

Header	Size	Command	Data	Checksum	Footer
0x02	0x0D	0x10	53 52 0B 00 10 00 00 79	0x7C	0x03

Example: 02 0D 10 53 52 0B 00 10 00 00 79 7C 03

Reset Button Triggered Set LED of Tag (ID: 53 52 0B 00 10 00 00 79) flashing for 1 second.

Reader Side Return:

Header	Size	Command	Data	Checksum	Footer
0x02	0x06	0x10	0x01	0x15	0x03

Example: 02 06 10 01 15 03

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