



OEM-HF2-R840/OEM-HF-R840-SET
13.56 MHz OEM RFID Module
Commands for HID Function Configuration

iDTRONIC GmbH
Donnersbergweg 1
67059 Ludwigshafen
Germany/Deutschland

Phone: +49 621 6690094-0
Fax: +49 621 6690094-9
E-Mail: info@idtronic.de
Web: idtronic.de

Issue 0.1
– 26. April 2023 –

Subject to alteration without prior notice.
© Copyright iDTRONIC GmbH 2023
Printed in Germany

Contents

1	Telegram Composition	4
1.1	Communication Parameters	4
1.2	Nomenclature	4
1.3	Packet Format	4
2	Command Descriptions	5
2.1	Request Serial Number	5
2.2	Request Software Version	5
2.3	Configure HID Function.....	5
2.4	Read Out HID Function Setting	6

1 Telegram Composition

1.1 Communication Parameters

Parameter	Description
Baud Rate	9600 (default), 19200, 38400, 57600, 1152000
Data Bits	Fixed: 8 bits
Start Bit	Fixed: 1 bit
Stop Bit	Fixed: 1 bit
Parity	None

1.2 Nomenclature

>> Telegram sent from PC/PLC to RFID device

<< Telegram sent from RFID device to PC/PLC

Examples are hexadecimal values.

1.3 Packet Format

There are two types of data packets. Command Message is the packet Send from the Host to the reader device. The Reply Message is the packet Send from the reader to the Host.

Packet format for Command Message from PC/PLC to RFID device

Start	Device Address	Data Length	CMD	DATA[0..N]	BCC	Stop
0xAA	0x00...0xFF	0x00...0xFF	0x00...0xFF	0x00...0xFF	0x00...0xFF	0xBB

Packet format for Reply Message from RFID device to PC/PLC

Start	Device Address	Data Length	STATUS	DATA[0..N]	BCC	Stop
0xAA	0x00...0xFF	0x00...0xFF	0x00...0xFF	0x00...0xFF	0x00...0xFF	0xBB

The following table describes the packet fields:

Field	Length	Description	Remark
Start	1	0xAA: 'start byte' – standard control byte, means the start of one data package.	0xAA = 0b1010.1010
STATION ID	1	Device address, necessary in multiple device communicating, when reader receive data package, it will judge the inner address if match up with itself preset, only response when match up	Address 0x00 is the special address only used under Single mode, reader will response any data package with 0 address (no address judge).
DATALENGTH	1	Data byte length in data package, including CMD/STATUS and DATA field, but no BCC. LENGTH= numbers of byte (CMD/STATUS + DATA[0..N])	
CMD	1	Command byte: compose with one Cmd byte	Only used in Send package
STATUS	1	Return status byte: status return from Reader to Host	Only used in Return package
DATA [0-N]	0–241	This is a data flow related to Length and CMD byte. Some part of commands no need additional data	
BCC	1	XOR over all Bytes except Start (0xAA) and Stop (0xBB)	
Stop	1	0xBB: 'stop byte' – standard control byte, means end of data package	0xBB = 0b1011.1011

2 Command Descriptions

2.1 Request Serial Number

>> AA 00 01 83 82 BB

<< AA 00 0A 00 00 AA BB AA BB AA BB AA BB 0A BB

This "00" is the address of the module, and the following 8 bytes are the S/N of the RFID device.

2.2 Request Software Version

>> AA 00 01 86 87 BB

<< AA 00 11 00 49 44 54 35 32 37 45 2D 56 36 2E 30 2D 53 45 54 01 BB

49 44 54 35 32 37 45 2D 56 36 2E 30 2D 53 45 54 = IDT527E-V6.0-SET

2.3 Configure HID Function

#	Value Range	Description
1	AA	Start of Telegram
2	00...FF	Device Address
3	0D	Bytes of Payload (Command + Parameters)
4	FD	Command Code
5	3F/CO	HID Function OFF/ON, 3F (0011.1111) = OFF, C0 (1100.0000) = ON
6	00...08	Select HID Function: 00: 14443A LSB 01: Ultralight Data 02: Mifare Data 03: Mifare Data + UID 04: 15693 UID 05: 15693 UID + Data 06: 14443A MSB 07: 14443A LSB-DEC 08: 14443A MSB-DEC
7	00...FF	Start Memory Position, Blocks (Mifare) or Pages (Ultralight, ISO15693)
8	00...FF	Key for Mifare Memory Access
9	00...FF	
10	00...FF	
11	00...FF	
12	00...FF	
13	00...FF	
14	10/20	10: HID output in hexadecimal number, 20: HID output in ASCII number
15	60/61	Select Key for Mifare Memory Access, 60: Key A, 61: Key B
16	00...FF	left MSB nibble: Start Data Position, right LSB nibble: Data Length
17	BCC	Checksum
18	BB	End of Telegram

Example: Shut OFF HID function

>> AA 00 0D FD 3F 00 00 FF FF FF FF FF FF 10 60 00 BF BB

<< AA 00 02 00 80 82 BB

Example: Factory Preset

>> AA 00 0D FD C0 00 00 FF FF FF FF FF FF 10 60 00 40 BB

Read UID of ISO14443A type and output it LSB first.

2.4 Read Out HID Function Setting

Command to Read the current Setting

>> AA 00 01 FE FF BB

Reply Telegram

#	Value Range	Description
1	AA	Start of Telegram
2	00...FF	Device Address
3	10	Bytes of Payload (Command + Parameters)
4	00...FF	Status Code, 00 = OK
5	AA	RFU
6	55	RFU
7	3F/CO	HID Function OFF/ON, 3F (0011.1111) = OFF, C0 (1100.0000) = ON
8	00...08	Current HID Function: 00: 14443A LSB 01: Ultralight Data 02: Mifare Data 03: Mifare Data + UID 04: 15693 UID 05: 15693 UID + Data 06: 14443A MSB 07: 14443A LSB-DEC 08: 14443A MSB-DEC
9	00...FF	Start Memory Position, Blocks (Mifare) or Pages (Ultralight, ISO15693)
10	00...FF	Key for Mifare Memory Access
11	00...FF	
12	00...FF	
13	00...FF	
14	00...FF	
15	00...FF	
16	10/20	10: HID output in hexadecimal number, 20: HID output in ASCII number
17	60/61	Select Key for Mifare Memory Access, 60: Key A, 61: Key B
18	00...FF	left MSB nibble: Start Data Position, right LSB nibble: Data Length
19	AA	RFU
20	0F	RFU
21	BB	RFU
22	AA	RFU
23	00	RFU
24	04	RFU
25	00	RFU
26	3F	RFU
27	05	RFU
28	00	RFU
29	BCC	Checksum
3B	BB	End of Telegram

Standard setting with HID function activated for ISO14443A UID-LSB

AA 00 10 00 AA 55 C0 00 00 FF FF FF FF FF FF 10 60 00 AA F5 BB AA 00 04 00 C0 00 00 C4 BB