



**ID Ident 5000**  
**Combined Reader for Optical Codes and HF-RFID**  
**Communication Protocol**

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## 1 Introduction

### 1.1 Telegram Format

The telegrams are the same on the USB as on the Ethernet.

#### Packet format for Command Telegra from PC/PLC to RFID device

Start Byte	STATION ID	DATA LENGTH	CMD	DATA[0..N]	BCC	End Byte
0xAA	0x00	0x00...0xFF	0x00...0xFF	0x00...0xFF	0x00...0xFF	0xBB

#### Packet format for Reply Telegram from RFID device to PC/PLC

STX	STATION ID	DATA LENGTH	STATUS	DATA[0..N]	BCC	End Byte
0xAA	0x00	0x00...0xFF	0x00...0xFF	0x00...0xFF	0x00...0xFF	0xBB

The following table describes the packet fields:

Start Byte	Length	Description	Remark
Start Byte	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	Always 0x00
DATALLENGTH	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 command telegram
STATUS	1	Return status byte: status return from Reader to Host	Only used in reply telegram.
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 STX (0xAA) and ETX (0xBB)	
End Byte	1	0xBB: ' stop byte' – standard control byte, means end of data package	0xBB = 0b1011.1011

### 1.2 Description of Telegrams

- >> Telegram is sent from a PC/PLC to the RFID device.
- << Telegram is replied from the RFID device to a PC/PLC.

## 2 Command Descriptions

### 2.1 Get Version Info (0x86)

```
>> AA 00 01 86 87 BB
<< AA 00 1C 00 49 44 20 49 64 65 6E 74 20 35 30 30 30 20 56 31 2E 30 20 32 35 30 35 31 34 50 4D 25 BB
```

49 44 20 49 64 65 6E 74 20 35 30 30 30 20 56 31 2E 30 20 32 35 30 35 31 34 50 4D = ID Ident 5000 V1.0 250514PM

#### The Bytes in Detail

AA Start Byte  
 00 Address Byte  
 01 Length  
 86 Command Code  
 87 Checksum  
 BB End Bytes

### 2.2 Control\_Led (0x88)

```
>> AA 00 03 88 18 0A 99 BB
<< AA 00 02 00 80 82 BB
```

#### The Bytes in Detail, Command Telegram

AA Start Byte  
 00 Address Byte  
 03 Length  
 88 Command Code  
 18 Duration, 0x32 = 50 maximum value gives almost constant light signal. Each unit is a duration of 50 ms ON time.  
 0A Repetition, Number of cycles to turn on/off the LED. The cycle time is one second.  
 B3 Checksum  
 BB End Bytes

#### The Bytes in Detail, Reply Telegram

AA Start Byte  
 00 Address Byte  
 02 Length  
 00 Status, 0x00 = OK  
 80 Substatus, 0x80 = Set OK  
 82 Checksum  
 BB End Bytes

#### Examples

```
>> AA 00 03 88 32 0A B3 BB – gives single light signal, length controlled by 2nd parameter, 10 seconds.
>> AA 00 03 88 32 02 BB BB – gives single light signal, length controlled by 2nd parameter, 2 seconds.
```

#### 2.2.1 SetBuzzer (0x89)

```
>> AA 00 03 89 18 0A 98 BB
<< AA 00 02 00 80 82 BB
```

#### Examples

```
>> AA 00 03 89 32 01 B9 BB - maximum length of 50 = 0x32
```

```
>> AA 00 03 89 16 01 9D BB – nice short confirmation beep
>> AA 00 03 89 16 03 9F BB – suitable rejection beep, 3 times
```

### 2.2.2 SetRelay (0x8E)

Switch relay ON:

```
>> AA 00 02 8E 01 8D BB
<< AA 00 02 00 80 82 BB
```

Switch relay OFF:

```
>> AA 00 02 8E 00 8C BB
<< AA 00 02 00 80 82 BB
```

### 2.2.3 SetRelayTime (0x8F)

Example, relay control time in 100ms:

```
>> AA 00 03 8F 00 0A 86 BB
<< AA 00 02 00 80 82 BB
```

### The Bytes in Detail, Command Telegram

AA	Start Byte
00	Address Byte
03	Length
8F	Command
00 0A	Duration time, in units of 10 ms
86	Checksum
BB	End Bytes

### Examples

2 Seconds for door opener

```
>> AA 00 03 8F 00 C8 44 BB
<< AA 00 02 00 80 82 BB
```

```
>> AA 00 03 8F 01 2C A1 BB – app. 3 Seconds
<< AA 00 02 00 80 82 BB
```

### 2.2.4 Configure Prefixes and Postfixes

```
>> AA 00 11 FE 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F 10 FF BB
<< AA 00 02 00 80 82 BB
```

Next reading of ISO14443A type card is:

```
<< 01 02 03 04 05 06 07 08 30 34 35 33 31 37 34 41 46 33 32 38 38 30 09 0A 0B 0C 0D 0E 0F 10 – prefixes and postfixes,
received on both interfaces
```

Next reading of barcode is:

```
01 02 03 04 05 06 07 08 31 34 39 30 38 33 33 31 31 34 09 0A 0B 0C 0D 0E 0F 10
```

### 3 Error & Status Codes

#### 3.1 System Error/Status Codes

0x00	Command OK.
0x01	Command FAILURE
0x80	SET OK.
0x81	SET FAILURE
0x82	Reader reply time out error
0x83	The card do not exist
0x84	The data response from the card is error
0x85	The parameter of the command or the Format of the command Error
0x87	Unknown Internal Error
0x8F	Reader received unknown command