

## HF-DES Protocol Comparison

### Command Telegrams from PC/PLC to RFID Device

HF-Series			DESFire-Series		
Length	Description	Value	Length	Description	Value
1 Byte	Start of Telegram	0xAA (fixed value)	1 Byte	Start of Telegram	0x50 (fixed value)
1 Byte	Device Address	0x00...FF	–	–	–
1 Byte	Length	0x00...FF	2 Bytes	Length	0x00...FF
1 Byte	Command Code	0x00...FF	1 Byte	Command Code	0x00...FF
0...n Bytes	Data	0x00...FF	0...n Bytes	Data	0x00...FF
1 Byte	Checksum, XOR starting with 2 <sup>nd</sup> Byte	0x00...FF	1 Byte	Checksum, XOR with all previous Bytes	0x00...FF
1 Byte	End of Telegram	0xBB (fixed value)	–	–	–

### Reply Telegram from RFID Device to PC/PLC

HF-Series			DESFire-Series		
Length	Description	Value	Length	Description	Value
1 Byte	Start of Telegram	0xAA (fixed value)	1 Byte	Start of Telegram	0x50 / 0xF0 (fixed values)
1 Byte	Device Address	0x00...FF	–	–	–
1 Byte	Length	0x00...FF	2 Bytes	Length	0x00...FF
–	–	–	1 Byte	Command Code	0x00...FF
1 Byte	Status	0x00...FF	–	–	–
0...n Bytes	Data	0x00...FF	0...n Bytes	Data or Error Status	0x00...FF
1 Byte	Checksum, XOR starting with 2 <sup>nd</sup> Byte	0x00...FF	1 Byte	Checksum, XOR with all previous Bytes	0x00...FF
1 Byte	End of Telegram	0xBB (fester Wert)	–	–	–

### Request of Firmware Version

0xAA 00 01 86 87 BB	0x50 00 00 04 54
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