

Documentation:

List of commands for serial control

frequency converter models:

SFU0051

SFU0151, SFU0152, SFU0154, SFU0156

SFU0200

SFU0200DV

SFU0300

SFU0303

SFU0303DV

RS232 Interface setting: 115kBd, 8data, no parity, 1stop bit

SFU0102, SFU0202

SFU0302

SFU0303/2, SFU0200(Bd96), SFU0303(Bd 96)

RS232 Interface setting: 9600Bd, 8data, no parity, 1stop bit

1-Byte-Commands in HEX Format:

1.

Command:	Start		For a continuous operation of the spindle after the command "Start" 0x24h , make sure that a permanent communication takes place.
Transmit:	0x24		Either by permanently sending the start command or by continuously reading out the status word.
Receive:	0xE4	Answer	Otherwise, a spindle stop is automatically triggered after 4 seconds to prevent the spindle from continuing to run uncontrolled in the event of a communication loss with the converter.
	0xll	Low Byte rpm	
	0xhh	High Byte rpm	

2.

Command:	Stop	
Transmit:	0x25	
Receive:	0xE5	Answer
	0xll	Low Byte rpm
	0xhh	High Byte rpm

3.

Command:	Transmit duty speed (*10)	
Transmit:	0x41	
Receive:	0xC1	Answer
	0xll	Duty Speed Low Byte
	0xhh	Duty Speed High Byte

the sent value comes in hex format and must be multiplied by 10

4.

Command:	Transmit current speed of the converter (*10)	
Transmit:	0x42	
Receive:	0xC2	Answer
	0xll	Current Output Speed of the converter Low Byte
	0xhh	Current Output Speed of the converter High Byte

the sent value comes in hex format and must be multiplied by 10

5.

Command:	Transmit duty speed of the spindle(*10)	
Transmit:	0x43	
Receive:	0xC3	Answer
	0xll	spindle speed Low Byte
	0xhh	spindel speed High Byte

the sent value comes in hex format and must be multiplied by 10

If a rotary encoder is connected and activated in the characteristic, this is the real speed of the spindle, otherwise it is the output speed of the converter..

6. _____ nur für DressViewLight Versionen **DV** _____

Command: **Calibration / zero value of the DV_Load Value**

Transmit: **0x30**

Receive: 0xF0 Answer
 0xll (**irrelevant**) Low Byte
 0xhh (**irrelevant**) High Byte

7. _____ nur für DressViewLight Versionen **DV** _____

Command: **Transmit current DV_Load Value (range of values 0-1023)**

Transmit: **0x31**

Receive: 0xF1 Answer
 0xll **DV_Load** Low Byte
 0xhh **DV_Load** High Byte

8.

 Command: **Transmit converter status**
Transmit: **0x60**
 Receive: 0xE0 Answer
 0xll **Status Word** Low Byte
 0xhh **Status Word** High Byte
Bits des Status Worts:

Bit	0	reserved
Bit	1	Status Start/Stop
Bit	2	Status Pulse blocking circuit active
Bit	3	Status Remote control active
Bit	4	Status Current speed reached (with connected speed sensor Ist = Soll Drehzahl)
Bit	5	Status Duty speed reached
Bit	6	Status Spindle Stop
Bit	7	Status Under voltage
Bit	8	Status Over voltage
Bit	9	Status Varioload reached
Bit	10	Status Error RS232 Interface
Bit	11	Status Spindle not ready
Bit	12	Status Converter not ready
Bit	13	Status Overload
Bit	14	Status Overtemperature converter
Bit	15	Status Overtemperature spindle

**Attention!**

After the command "Start" 0x24h, please make sure that a permanent communication takes place e.g.: by continuous reading of the status word. Otherwise, a spindle stop is automatically triggered after 4 seconds to prevent the spindle from continuing to run uncontrolled in the event of a communication loss with the converter.

3-Byte-Commands in HEX Format:

9.

 Command: **Set duty speed (= desired value / 10)**

 Transmit: **0x01**
 0xll Low Byte **Duty speed**
 0xhh High Byte **Duty speed**

 Receive: 0xC1
 0xll Low Byte
 0xhh High Byte

The desired value must be divided by 10 and then sent to the converter.

for example, set the speed to 20.000: $20.000/10 = 2.000d = 07D0h \Rightarrow$ send "01 D0 07".

10.

 Command: **Set data pointer for reading a data variable**

 Transmit: **0x0C**
 0xll Low Byte Pointer
 0xhh High Byte Pointer

 Receive: 0xCC
 0xll Low Byte value
 0xhh High Byte value

With the help of this function every converter variable can be read out.

A list of available addresses can be found at the end of this document.

11.

 Command: **Set direction of rotation to clockwise** (seen from behind on the spindle)

 Transmit: **0x0A** **direction to clockwise** (like drilling)
 0x00 Low Byte = irrelevant
 0x00 High Byte = irrelevant

 Receive: 0xCA
 0xll Low Byte Wert
 0xhh High Byte Wert

12.

 Command: **Set direction of rotation to counter clockwise** (seen from behind on the spindle)

 Transmit: **0x0B** **direction to counter clockwise** (as when loosening a screw)
 0x00 Low Byte = irrelevant
 0x00 High Byte = irrelevant

 Receive: 0xCB
 0xll Low Byte value
 0xhh High Byte value

List of addressable internal variables

Variable	Adresse[Hex]	Multiplicator	Required additional operation
Current load current	0BB6	0,01	Change into decimal
Spindle voltage	0BD4	0.1	Change into decimal
DC Link-Spannung	0BCC	0.1	Change into decimal
Current load value in %	08A4	0,1	Change into decimal
Heatsink temperature	0CDA	0,1	Change into decimal
Min speed	087C	10	
Max speed	087E	10	
Operating time conv (H):	0AE2	1	
Operating time conv (Min):	0AE4	1	
Delay overload	086C	1/256	
Delay overtemp converter	086E	1/256	
Delay overtemp spindle	0870	1/256	
Delay RS232	0872	1/256	
Digital / relay output	0908		
Analog input 1	090A	1/1024	=> 10V/1024 per Digit
Analog input 2	090C	1/1024	=> 10V/1024 per Digit
Analog input 1	090E		
Analog input 2	0910		
Digital Inputs	0906		digital abgebildet
	Bit	Function	
	0	StartStop	
	1	Emergency Stop	
	2	Locking	
	3	Direction of rotation	
	4	Error Reset	
	5	-	
	6	Pulse Blocking circuit (if available)	
	7	-	
	8	-	
	9	-	
	10	-	
	11	-	
	12	Overtemperaturer Spindle	
	13	-	
	14	-	
	15	-	
Error State	085A		digital abgebildet
	Bit	Function	
	0	Error overload (Delay time expired)	
	1	Overtemp converter (Delay time expired)	
	2	Overtemp spindle (Delay time expired)	
	3	Overtemp conv or spin. (Delay time expired)	
	4	Overvoltage OFF	
	5	Undervoltage OFF	
	6	Undervoltage Stop	
	7	Power Stage shut off (PDPINT)	
	8	Emergency Input locking engaged	
	9	No spindle or cable break	
	10	Timeout ser. interface	
	11	Spindle data invalid	
	12	Back energy too high	
	13	Memory Error	
	14	No standstill spindle	
	15	Error rotary encoder	

Example: **read actual current**

Address: 0x0BB6

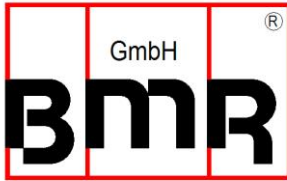
Command Datapointer:

Transmit: **0x0C**
0xB6 Low Byte Pointer
0x0B High Byte Pointer

→ 0C B6 0B

current load current = 2,3A → $2,3 * 100(\text{Multiplikator}) = 230\text{dez} = 0xE6\text{hex}$

Receive: 0xCC
0xE6 Low Byte value
0x00 High Byte value



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Quality
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Technische Änderungen vorbehalten.
23. 11. 2016