PA-70-00005

Controller type: FAWS (for high transmission speed) Firmware: alpla106

Short description / Function

The status of each beam is being output as Bit-value.
Additionally signal strength values for up to 16 beams can be output.
(This parameterization is for 6 signal stength values).

Output via serial interface.

Important commands

‘B’ permanent output of data
‚0’ stop output of data
‚@’ command mode

Data

Part 1: Beam-bit

7 beams are being transmitted in one byte. The most highest value bit in the first byte (bit 7, value 128) is being set for the synchonisation of the data-block. In the rest of the bytes bit 7 is 0. In the last byte the lowest value bit (bit 0) is beam 1.

Example:
Beams marked with „X“ (1-7, 10-12, 15, 20) are interrupted.
„S“: Synchronisation bit

Strahlnr.	S	21	20	19	18	17	16	15
Strahlmuster			X					X
Binär	1	0	1	0	0	0	0	1
HEX	A1							

S	14	13	12	11	10	9	8
			X	X	X		
0	0	0	1	1	1	0	0
1C							

S	7	6	5	4	3	2	1
	X	X	X	X	X	X	X
0	1	1	1	1	1	1	1
7F							

Processing of bitwise data takes approx. 1,5µs per beam. If appliccable, transmission time needs to be added.

Part 2: Signal strength

By setting the configuration values 16400.1 to 16400.16, up to 16 beams can be defined. Signal strength for these 16 beams can be transmitted. Two beams are being transmitted in one byte. The first beam in the low value nibble, the second beam (if defined) in the higher value nibble. In each nibble values from 0…7 (equals 0…100%) are possible. The highest value bit in a nibble always stays 0 (for synchronization - see above)

Example:
„S“: Synchronisation bit

	S	Value 2				Value 1		
Binary	0	0	1	0	0	1	1	1
Hex		2				7		
Signal strength		25%				100%		
HEX	27							

Processing of two analogue values (one byte) takes approx. 11µs.

Serial interface

Integer parts of 1500kBit/s are being used:
1,5MBit/s, 750kBit/s, 500kBit/s, 375kBit/s, 300kBit/s[1], 250kBit/s, 214,3kBit/s, 187,5kBit/s, 166,7kBit/s, 150kBit/s, etc.

Transfer rate is being set with following parameters:

```
:24304.0 = 11520 (5...12500, default=11520, serial ifc baud /10)
```

Please note:

High transfer rates only with short cable lengths.

Parameterisation

```
:16400.1=1    (brightness value beam 1)
:16400.2=8
:16400.3=16
:16400.4=24
:16400.5=32
:16400.6=40   (brightness value beam 40)

:20993.0=248 (0...256, default=96, stored rod end number)
```

If necessary, adjust to actual number of beams.

```
:24304.0=11520 (5...12500, default=11520, serial ifc baud /10)
```

Information:

```
:20740.0 = 1212 (0...65535, default=0, cycle time (us))
```

[1] Not guaranteed

Terminal assignment / Outputs

Klemme	Bez.	Bemerkung / Funktion
1	TxD	EIA232 send data
2	RxD	EIA232 receive data
3	Minus	
4	+24 Vdc	
5	Minus	
6	S	n.a.
7	S’	n.a.
8	–	n.a.

All rights, mistakes and subject changes DUOmetric AG

History

2022-03-10	pm	rod end number changed
2016-12-01	fw	New layout
2009-06-24	Fb	created