

Raw Data ESAAP (optical telegram)

Donnerstag, 16. Juli 2015 07:35

Com Port setting
- Baudrate 9600
- 8 Databits
- no parity
- 1 Stopbit

Format 0

AAAAAA BBBB CCCC DDDDDD EEEE FFFFFFFF GG

	comment	type	Calculate to decimal
AAAAAA	EMF	int24	Value * 0.00000333
BBBB	Magnetic field	int16	
CCCC	Flow	Int16	Value * 0.225 * Scaling factor
DDDDDD	Volume	int24	Value / 16000 * Scaling factor
EEEE	Flip time	uint16	
FFFFFFF	timestamp	uint32	Value / 8192
GG	Checksum	byte	

Format 11

AAAAAA BB CC DDDDDDD EEEEEEE FFFFFFFF GGGG HHHHHH IIIIII JJ

	comment	type	Calculate to decimal
AAAAAA	Raw ADC data	uint24	
BB	Field flip polarity	uint8	
CC	Impedance polarity	uint8	
DDDDDDDD	volume correction value	Int32	
EEEEEEEE	Resistive Impedance	Int32	
FFFFFFF	Capacitive Impedance	Int32	
GGGG	raw flowrate	uint16	Value * 0.225 * Scaling factor
HHHHHH	raw volume accumulator	uint24	Value / 16000 * Scaling factor
IIIIII	timestamp	uint32	Value / 8192
JJ	Checksum	byte	

Between the datas are TABs and at the end CR + LF

Scaling factor

Meter type	Meter size	Factor
0	DN15	1
1	Coax	1
2	DN20	2
3	DN25	4
4	DN26	8
5	DN32	8
6	DN40	16

Path and Filename of a raw data file

RawDataDirectory\YY\MM\DD\PCB_AA_BB_HH_MI_SS.txt

	Comment	Example
RawDataDirectory	Path for the raw data files	d:\temp
YY	The last 2 digits from the year	15
MM	Month (2 digits)	06
DD	Day (2 digits)	18
PCB	PCB number	385153820123
AA	Place in the test bench (2 digits)	05
BB	Number of flow (2 digits) Q3 -> 03; Q2 -> 02; Q1 -> 01	03
HH	Hour from the start time of the complete test (2 digits)	09
MI	Minutes from the start time of the complete test (2 digits)	42
SS	Seconds from the start time of the complete test (2 digits)	34

Example : d:\temp\15\06\18\385153820123_05_03_09_42_34.txt

Raw Data File Format

ttttttttttt cccc : AAAAAA BBBB CCCC DDDDDD EEEE FFFFFFFF GG HHHHHH IIIII JJJJJJ KKKKK LLLL MMMMMMMM NNNNNN OOOOOO PPPPP QQQQ RR

	comment	digits	example
ttttttttttt	Actual time with milliseconds	12	08:35:43.811
cccc :	counter	6	144 :
AAAAAA	EMF (hex)	6	001561
BBBB	Magnetic field (hex)	4	45D5
CCCC	Flow (hex)	4	1FF0
DDDDDD	Volume (hex)	6	42CC3F
EEEE	Flip time (hex)	4	0095
FFFFFFF	Timestamp (hex)	8	1F5D8351

GG	Checksum (hex)	2	26
HHHHHH	EMF (dec)	1.4	0,0018
IIIIII	Magnetic field (dec)	5.0	17877
JJJJJJ	Flow (dec)	5.2	3679,20
KKKKKK	Volume (dec)	5.4	547,2079
LLLL	Flip time (dec)	4.0	149
MMMMMM	Timestamp (dec)	6.4	64236,1036
NNNNNN	Actual flow from the test bench	5.2	3710,00
OOOOOO	Delta volume to the volume 1 line before	2.4	0,1277
PPPPPP	Delta time to the start timestamp	4.3	15,377
QQQQ	Scaling factor	2.1	2,0
RR	Start and End test labeling		

Example:
08:35:30.639 21 : FFEEFC 45DD 2050 40D9BF0095 1F5B9742 88 -0,0015 17885 3722,40 531,2559 149 64220,7268 3711,000 0,1292 0,000 2,0 ##### start test #####
...
08:35:43.686 143 : FFEE6C 45D5 2010 42C841 0095 1F5D7F43 52 -0,0015 17877 3693,60 547,0801 149 64235,9769 3710,000 0,1282 15,250 2,0
08:35:43.811 144 : 001561 45D5 1FF0 42CC3F 0095 1F5D8351 26 0,0018 17877 3679,20 547,2079 149 64236,1036 3710,000 0,1277 15,377 2,0
08:35:43.936 145 : FFEF98 45D5 1FC0 42D0370095 1F5D8742 61 -0,0014 17877 3657,60 547,3349 149 64236,2268 3710,000 0,1270 15,500 2,0
...
08:37:08.951 825 : FFEE87 45D9 1F90 4D94110095 1F682742 4A -0,0015 17881 3636,00 635,5221 149 64321,2268 3719,000 0,1262 100,50 2,0 ##### end of test #####

Between the datas are TABs and at the end CR + LF