Data Sets for VW1150

(Version 1.2, 24.08.11, © Dr. Westerboer GmbH, Germany)

$PWES0: Data Output, every second[1]

$PWES0,DD,VVVV,MMMM,NNNN,BBBB,SSSS,AAAAA,QQQQQ,IIII,TTTT,
UUU,CCCC*CS<CR><LF>

Symbol	Parameter	Units	Range	Example	Devices
DD	Device		20=VW1000, 21=VW1010, 22=VW1020, 23=VW1030	20 for VW1000	
VVVV	Vario * 10	m/s	-999 .. 999	-22 = -2.2 m/s	1, 2, 3, 4
MMMM	Averager * 10	m/s	-999 .. 999	22 = +2.2 m/s	2, 3, 4
NNNN	Nettovario * 10	m/s	-999 .. 999	-22 = -2.2 m/s	3, 4
BBBB	Aver. Nettovario * 10	m/s	-999 .. 999	2 = +0.2 m/s	3, 4
SSSS	Speed to Fly Command * 10		-999 .. 999	Negative values: fly faster	3, 4
AAAAA	STD Altitude	m	0 .. 99999	589 = 589 m	2, 3, 4
QQQQQ	QNH Altitude	m	0 .. 99999	589 = 589 m	2, 3, 4
IIII	IAS * 10	km/h	0 .. 9999	1295 = 129.5 km/h	3, 4
TTTT	TAS * 10	km/h	0 .. 9999	1295 = 129.5 km/h	3, 4
UUU	Battery * 10	V	0 .. 999	128 = 12.8 V	2, 3, 4
CCCC	Temperature * 10	°C	-999 .. 999	295 = 29.5 °C	2, 3, 4

[1] Every second for data rates >= 19200 Baud; 2 seconds for data rates >= 4800 Baud; 4 seconds for data rates < 4800 Baud

$PWES1: Data Output, on request or if parameter changed on VW10x0

$PWES1,DD,MM,S,AAA,F,V,LLL,BB*CS<CR><LF>

Symbol	Parameter	Units	Range	Example	Devices
DD	Device		20=VW1000, 21=VW1010, 22=VW1020, 23=VW1030	22 for VW1020	1, 2, 3, 4
MM	MacCready * 10	m/s	0 .. 60 in steps by 5	25 = 2.5 m/s	3, 4
S	climb/cruise switch		0 (climb), 1 (cruise)		3, 4
AAA	Averager Time	s	2 .. 120	15 = 15 s	2, 3, 4
F	Damping		1, 2, 3		1, 2, 3, 4
V	Audio Volume		0 .. 8		1, 2, 3, 4
LLL	Wing loading * 10	Kg/m²	200 .. 999 in steps by 5	385 = 38.5 kg/m²	3, 4
BB	bugs	%	0 .. 20		3, 4

$PWES2: Data Output, Device Parameter

$PWES2,DD,SSSS,YY,FFFF*CS<CR><LF>

Symbol	Parameter	Units	Range	Example	Devices
DD	Device		20=VW1000, 21=VW1010, 22=VW1020, 23=VW1030, 60=VW1150	22 for VW1020	1, 2, 3, 4
SSSS	Serial Number		0 .. 9999		1, 2, 3, 4
YY	Year of production		0 .. 99	10 = 2010	1, 2, 3, 4
FFFF	Firmware * 100		100 .. 9999	101 = 1.01	1, 2, 3, 4

$PWES4: Data Input, General Parameter

$PWES4,S,MM,V,LLL,BB,D,AAA,QQQQ,R*CS<CR><LF>

Symbol	Parameter	Units	Range	Example	Devices
S	Request of Dataset		0 or nothing 1-> PWES1 2-> PWES2	2 -> PWES2 of VW1150 and ext VW10x0	1, 2, 3, 4
MM	MacCready * 10	m/s	0 .. 60 in steps by 5	25 = 2.5 m/s	3, 4
V	Audio Volume		0 .. 8		1, 2, 3, 4
LLL	Wing loading * 10	kg/m²	200 .. 900 in steps by 5	385 = 38.5 kg/m²	3, 4
BB	bugs	%	0 .. 20		3, 4
D	Vario damping		1, 2, 3		1, 2, 3, 4
AAA	Aver. Time	s	2 .. 120	15 = 15 s	2, 3, 4
QQQQ	Altitude of start, for QNH	m	0 .. 9999	405 = 405 m	2, 3, 4
R	Range of the pointer		1= -3 .. 3 2= -6 .. 6 3= -12 .. 12		1, 2, 3, 4

Is one parameter omitted, his old value remains in the VW10x0.
Then, no space is allowed between commas.
For example to request only data set $PWES2, send the following to VW1150:
$PWES4,2,,,,,,,,*CS<CR><LF>.
Other example: To set MC to 3.0 m/s and damping to value 2:
$PWES4,,30,,,,2,,,*CS<CR><LF>

By a request of data set $PWES1 or after editing a parameter on the external variometer, only $PWES1 of the external variometer will be sent. After a request of $PWES2, VW1150 answers with $PWES2 of its own parameters and $PWES2 of the external variometer.

$PWES5: Data Input, Polar of the Glider

$PWES5,AAA,BBB,CCC,DDD,EEE,FFF,LLL*CS<CR><LF>

Symbol	Parameter	Units	Range	Example
AAA	V1	km/h	0 .. 250	100 = 100 km/h
BBB	W1 * -100	m/s	0 .. 999	65 = -0.65 m/s
CCC	V2	km/h	0 .. 250	120 = 120 km/h
DDD	W2 * -100	m/s	0 .. 999	92 = -0.92 m/s
EEE	V3	km/h	0 .. 250	150 = 150 km/h
FFF	W3 * -100	m/s	0 .. 999	120 = -1.20m/s
LLL	Wing load for the Polar * 10	kg/m²	200 .. 600	385 = 38.5 kg/m²

CS is the checksum. It is calculated by an EXCLUSIVE OR over all bytes between ‚$' and ‚*'. Output as HEX value.
<CR> Carriage return = 0x0D ASCII-Code
<LF> Line feed = 0x0A ASCII-Code

Devices, for witch the parameters in the line are relevant:
1 = VW1000, 2 = VW1010, 3 = VW1020, 4 = VW1030