

1. VS1x: USB Communication in CDC Mode

Commands:


Commands and answers are ASCII character strings. Each command line ends with <CR>. The VS1x acknowledges commands with /a + <LF>. Not acknowledge is /n + <LF>.

#Bnnnnnnnnnnnnnnnnnnnnnnn: write device name
 n: device name, 20 characters (numbers, letters, spaces)
 acknowledge: /a
 not acknowledge if parameter not a text: /n

#Em: set measurement mode (VS11/12)
 m: 0 = RMS/peak, polling with command #M
 1 = RMS/peak, VS1x sends values each second
 2 = FFT with 1 kHz bandwidth,
 polling of spectrum with command #H or main frequency/amplitude with #N
 3 = FFT with 1 kHz bandwidth,
 VS1x sends main frequency/amplitude every 2 seconds
 4 = FFT with 10 kHz bandwidth,
 polling of spectrum with command #H or main frequency/amplitude with #N
 5 = FFT with 10 kHz bandwidth,
 VS1x sends main frequency/amplitude every 2 seconds
 6 = Envelope analysis
 polling of spectrum with command #H or main frequency/amplitude with #N
 acknowledge: /a
 not acknowledge if parameter not a number or too high: /n

#Fhlli: set filters
 h: high pass index 1 (2 digits),
 l: low pass index 1 (2 digits),
 i: integrator, a (acceleration) or v (velocity)
 acknowledge: /a
 not acknowledge if parameter not a number or invalid character for integrator: /n

#Gg: set gain
 g: gain (1 digit), 0 = 1, 1 = 10, 2 = 100, 3 = amplifier input shorted for noise test, 4 = Auto
 acknowledge: /a
 not acknowledge if parameter not a number or invalid gain: /n

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#H: FFT polling (VS11/12)

return:
 aaaa.a
 ... 360 lines
 aaaa.a
 a: amplitude in m/s² (5 digits with decimal point position depending on gain)
 example : 0000.0
 0000.0
 0003.4
 0012.1
 ...
 0000.0
 0000.0
 /a
 at overload: OVERLOAD
 /a
 no acknowledge if not in FFT mode (command #E0 or #E1): /n

#I: load default settings

acknowledge: /a

#Kx: teach-in factor of measured amplitude Amplitude and alarm threshold which is set automatically when pressing the button

x = 1 ... 9

acknowledge: /a

Notice: If the measured amplitude at pressing teach-in is zero, the entered teach in factor will be used as decimal place of the alarm limit.

example: teach in-factor = 2, alarm limit = 0.2

#Lmxxxx.x: set alarm limit

m: r = RMS, p = peak

x: alarm limit, 5 digits, 0.1 to 6000.0, with decimal point before last digit,

example: #Lr0012.0 (RMS, 12 m/s²)

acknowledge: /a

not acknowledge if parameter too high or invalid character: /n

#M: RMS / peak polling

return:

rrrrr.r ppppp.p

r: RMS, 6 digits, no leading zeros, decimal point position depending on gain

p: peak, 6 digits, no leading zeros, decimal point position depending on gain

acknowledge: /a

at overload: OVER OVER /a

not acknowledge if not in mode #E0: /n

example : 22.81 23.52

/a

#N: main frequency and amplitude polling (VS11/12)

return: ffff aaaa.a

f: main frequency in Hz (5 digits with leading zeros), space


a: amplitude in m/s² (5 digits with leading zeros, decimal point position depending on gain)

acknowledge: /a

not acknowledge if not in mode #E2: /n

example: 01200 023.40

/a

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#Onffffaaa.a: send limits for FFT monitoring (VS11/12)

n: limit no. (0 - 9, 1 digit),

f: frequency in Hz (5 digits),

a: amplitude in m/s² (5 digits with decimal point before last digit)

example: #2015000010.0 (limit no. 2 at 1500 Hz and 10,0 m/s²)

The frequency limits are to be entered in the order from low to high.

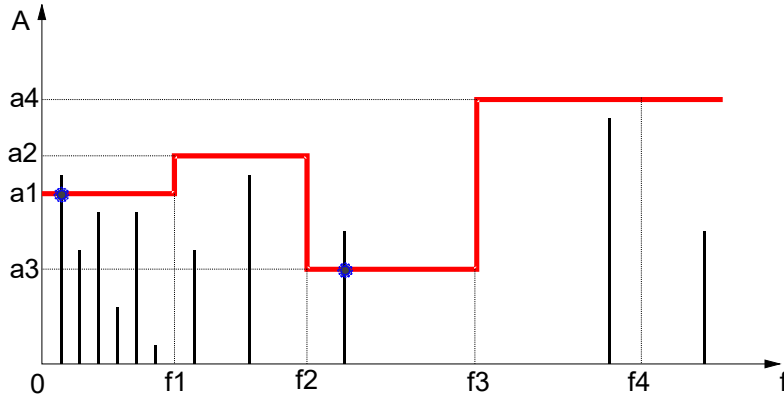
Decoding stops at an entered frequency "00000".

At a frequency point "00000" (command #00 00000 0000.0) the amplitude is ignored for monitoring.

acknowledge: /a

not acknowledge if parameter is an invalid character or wrong frequency order: /n

Explanation of limits: The first entered limit is used from 0 Hz up. A limit is valid up to the frequency of the next entered limit. If no further limit follows or the next frequency is "00000" the limit is valid up to the end of the frequency range.



Example: FFT monitoring

#Raddeeh: relay settings


a: switch mode, 0 = switches on at alarm, 1 = switches on at warning,

2 = switches off at alarm, 3 = switches off at warning (1 digit)

d: switch delay, 0 – 99 s (2 digits)

e: power on delay of relay after switching on power supply, 0 – 99 s (2 digits)

h: hold time, 1 – 9 s, 0 = latching, reset with pushbutton (1 digit)

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#S: polling device data and settings

VS10:

tttt Ver. sss.hhh Ser. xxxxxx

B: bbbbbbbbbbbbbbbbbbbb

C: mm yyyy

D: dddd

E: e

F: hhli

G: ggg m

K: k

L: xlll.l

Www:

R: mddooh

t: type code (VS10, 4 characters),
s: software version (3 digits), h: hardware version (3 digits),
x: serial no. (6 digits)
b: device name (20 upper case letters / digits / spaces)
m: month* (3 characters), y: year (4 digits) of calibration date
d: calibration value (5 digits)
e: measurement mode (1 digit)
h: high pass index (2 digits), l: low pass index (2 digits),
i: integrator (a / v); (1 character)
g: gain (0 = 001; 1 = 010; 2 = 100; 3 digits)
m: f = fix, a = auto ranging, z = zero correction (1 character)
k: teach in-factor (1 – 9)
x: r = RMS, p = peak (1 character),
l: alarm limit (5 digits with decimal point before last digit)
w: warning limit (10 to 90 in percent; 2 digits)
m: relay switch mode, d: switch delay,
o: power on delay, h: hold time

VS11/12:

tttt Ver. sss.hhh Ser. xxxxxx

B: bbbbbbbbbbbbbbbbbbbb

C: mm yyyy

D: dddd

E: e

F: hh ll i

G: ggg m

L: xlll.l

Www:

R: mddooh

O0: ffff aaaa.a

...

...

O9: ffff aaaa.a


t: type code (VS11/VS12, 4 characters),
s: software version (3 digits), h: hardware version (3 digits),
x: serial no. (6 digits)
b: device name (20 upper case letters / digits / spaces)
m: month* (3 characters), y: year (4 digits) of calibration date
d: calibration value (5 digits)
e: measurement mode (1 digit)
h: high pass index (2 digits), l: low pass index (2 digits),
i: integrator (a / v); (1 character)
g: gain (0 = 001; 1 = 010; 2 = 100; 3 digits)
m: f = fix, a = auto ranging, z = zero correction (1 character)
x: r = RMS, p = peak (1 character),
l: alarm limit (5 digits with decimal point before last digit)
w: warning limit (10 to 90 in percent; 2 digits)
m: relay switch mode, d: switch delay,
o: power on delay, h: hold time
limits for FFT monitoring
f: frequency in Hz (5 digits)
a: amplitude 1 (5 digits with decimal point before last digit)

* months: Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec

acknowledge: /a /a

example:

VS10 Ver. 001.001 Ser. 123456
B: VIBRATION SWITCH 123
C: Dec 2014
D: 10016
E: 0
F: 02140
G: 010 f
K: 2
L: r0005.0
W: 70
R: 005102
O0: 00050 0005.0

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O1: 00100 0010.0
 O2: 00200 0010.0
 O3: 00250 0020.0
 O3: 00300 0020.0
 O4: 00350 0040.0
 O5: 01000 0040.0
 O6: 00000 0000.0
 O7: 00000 0000.0
 O8: 00000 0000.0
 O9: 00000 0000.0
 /a


#Www: set warning threshold

w: warning threshold in percent of alarm threshold (10 – 90 %), 2 digits

acknowledge: /a

acknowledge if parameter not a number or too high: /n

#Z: for device detection only, always returns /a

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