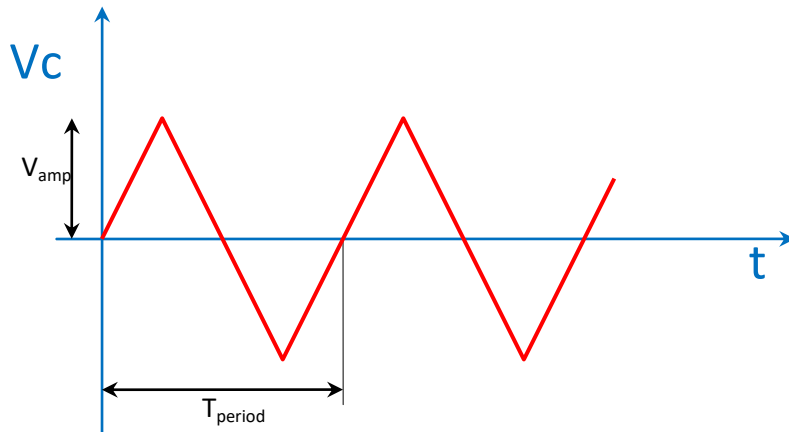


e4- e16 VOLTAGE PROTOCOL LIST

1) Triangular wave (infinite repetition)

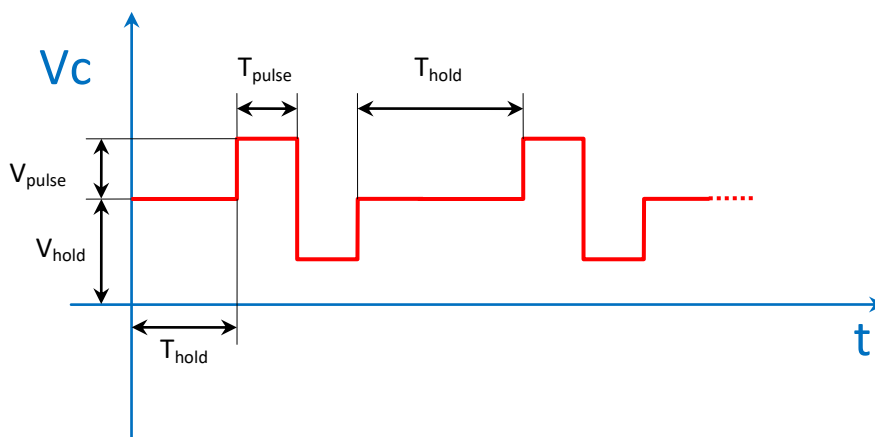


Triangular wave parametric. Possible values:

$V_{amp} = 25, 50, 75, 100 \text{ mV}$

$T_{period} = \text{variable from } 1\text{ms to } 1000\text{ms}$

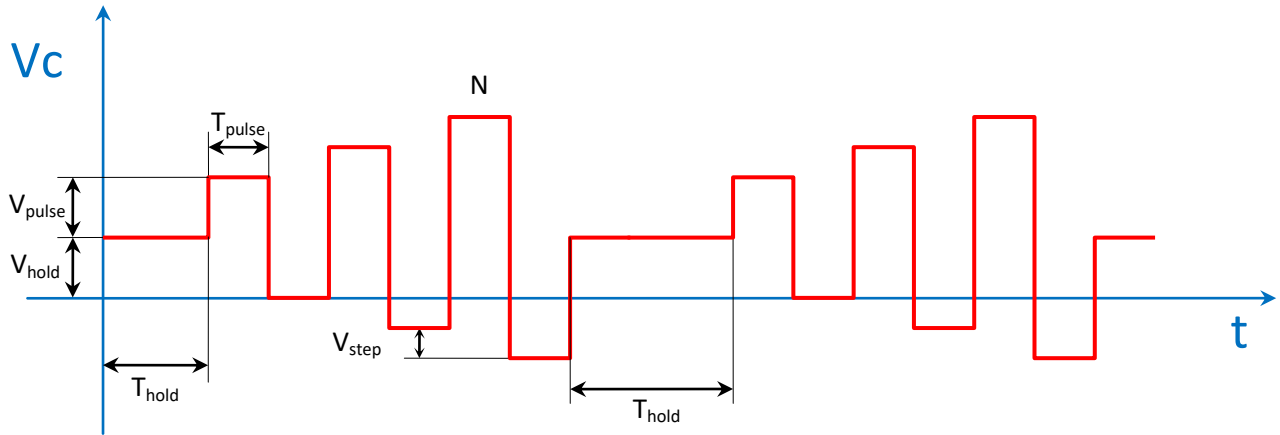
2) Seal Test (infinite repetition)



Parameters: V_{hold} , V_{pulse} , T_{pulse} , T_{hold}

3) Conductance estimation

Test for the conductance estimation.



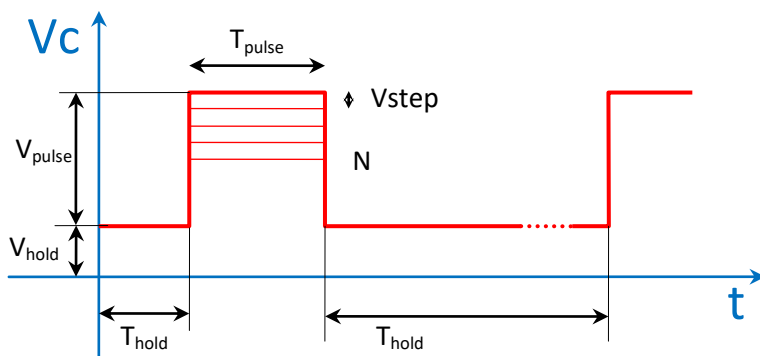
Parameters: V_{hold} , V_{pulse} , V_{step} , T_{pulse} , T_{hold} , N , NR

N : number of symmetric pulses

NR : number of repetition of the protocol. If 0, infinite repetitions.

4) Rectangular pulse with variable amplitude

Pulse with amplitude variable between two consecutive pulses of V_{step} quantity



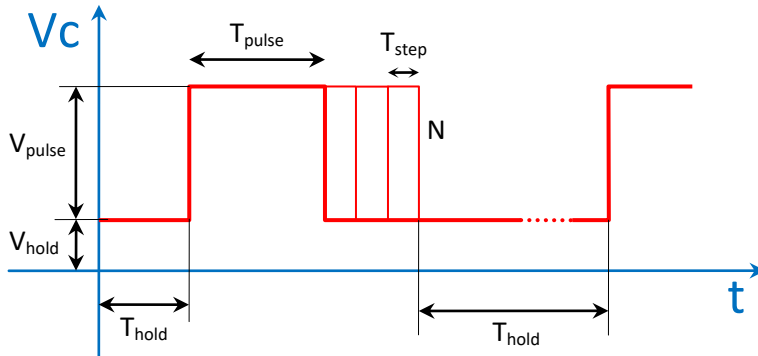
Parameters: V_{hold} , V_{pulse} , V_{step} , T_{pulse} , T_{hold} , N , NR

N : number of pulses with changing amplitude from the previous pulse

NR : number of repetition of the protocol. If 0, infinite repetitions.

5) Rectangular pulse with variable duration

Variation of the time duration of the pulse of the quantity T_{step}



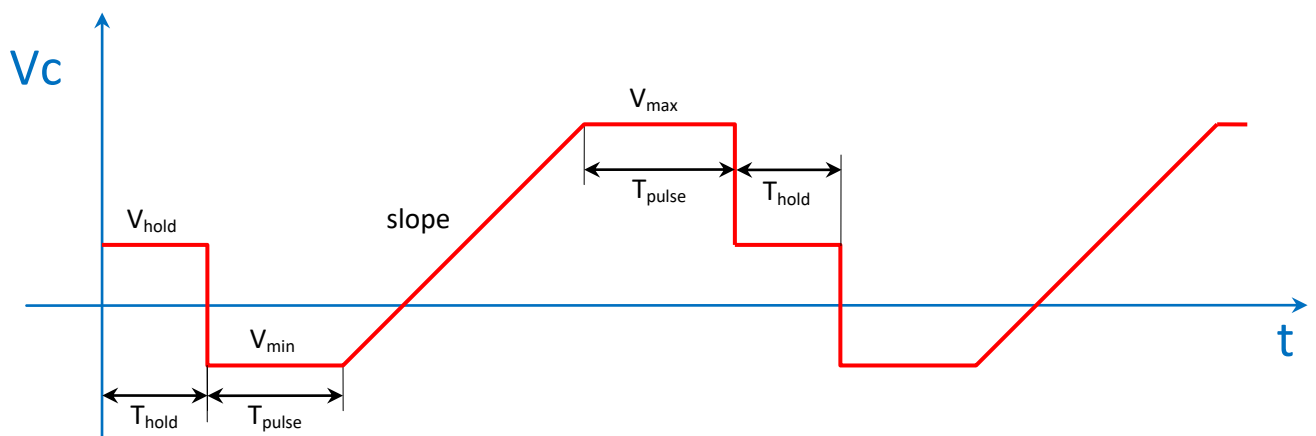
Parameters: V_{hold} , V_{pulse} , T_{pulse} , T_{step} , T_{hold} , N , NR

N : number of pulses with changing duration from the previous pulse

NR : number of repetition of the protocol. If 0, infinite repetitions.

6) Ramp

The min voltage step is 1mV.

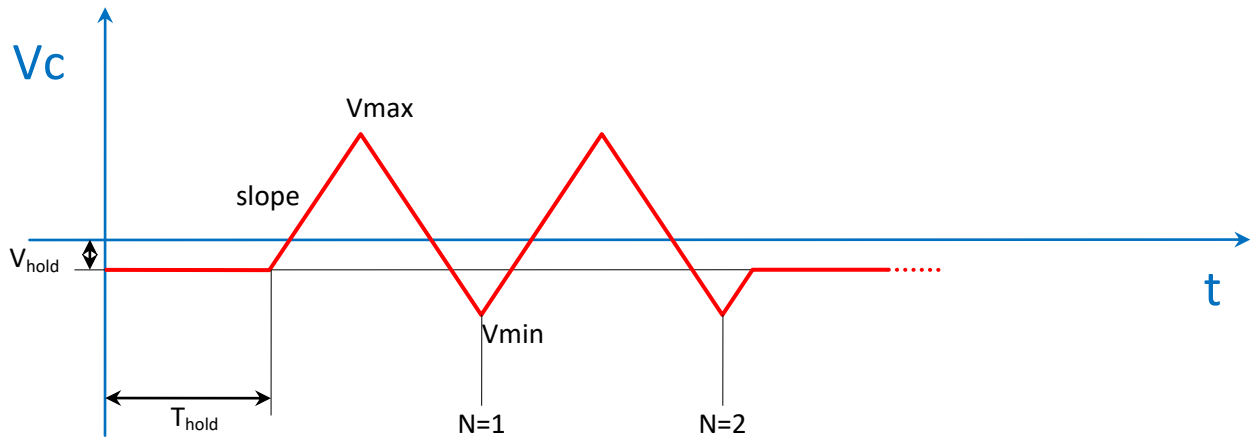


Parameters: V_{hold} , V_{min} , V_{max} , T_{pulse} , T_{hold} , Slope, NR

NR : number of repetition of the protocol. If 0, infinite repetitions.

7) Cyclic voltammetry

The min voltage step is 1mV.



Parameters: V_{hold} , V_{pulse} , V_{min} , V_{max} , Slope, N

N: number of cycle V_{max} - V_{min} - V_{max}

Ranges for Voltage protocol parameters:

V_{hold} : ± 500 mV, min step 1mV

V_{pulse} : ± 500 mV, min step 1mV

V_{step} : ± 500 mV, min step 1mV

V_{max} : ± 500 mV, min step 1mV

V_{min} : ± 500 mV, min step 1mV

T_{pulse} : from 0 to $2^{28} * 1$ ms, equal to about 74h

T_{hold} : from 0 to $2^{28} * 1$ ms, equal to about 74h

T_{step} : from 0 to $2^{27} * 1$ ms, equal to about 37h, with sign

N: number of repetition of pulses, from 1 to 1000

NR: number of repetition of the full set of pulses, from 1 to 1000. If 0, infinite repetition of the full set of pulses.

Slope: inclination of the ramp, in mV/ms, variable from 1mV/ms to 1000mV/ms