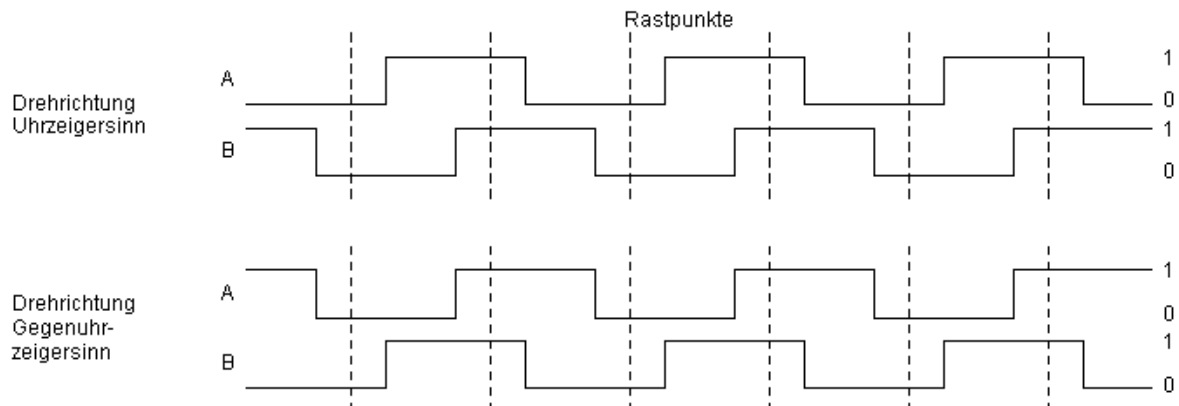
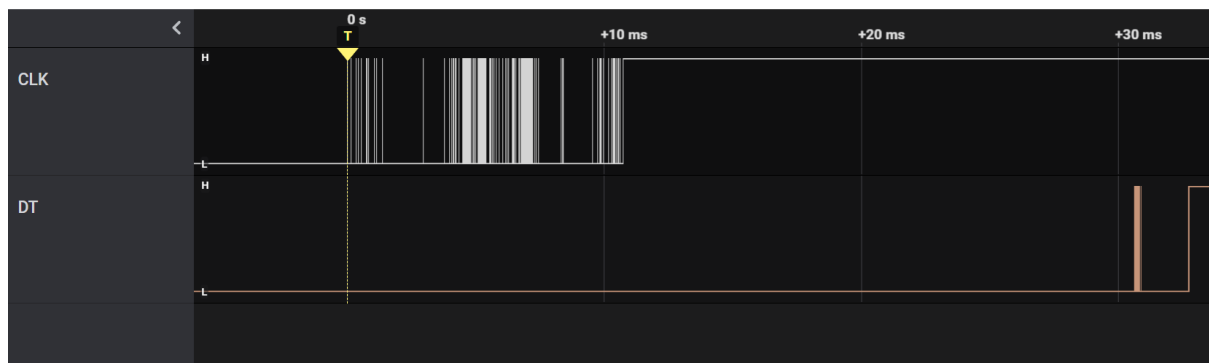


## Rotary Encoder



- Upper lines show clockwise signaling
- Lower lines show counter clockwise signaling
- A and B are the two encoder output signals
- dotted vertical lines are encoder steps (rest position) (usually 12 or 24 steps per rev)



- signaling of real encoder with bouncing
1. Encoder is in rest position when signals are either "11" or "00"
  2. Problem: signals are not ideal, due to mechanic function, bouncing of signals  
-> Input interrupt is a bad idea
  3. Solution: 1ms timer based interrupt, should be sufficient for e.g. menu control. Read of signal status every interrupt
  4. In CW, signal A changes its state first; In CCW, signal B changes its state first  
-> Need of old and new signal status
  5. Based on a status register, decision whether to count up or down, or do nothing

X	X	X	X	A_old	B_old	A	B
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Count up (cw) while following bit patterns apply: 1011 and 0100  
 Count down (ccw) while following bit patterns apply: 0111 and 1000