Timers

All given times are calculated by taking the average time of ten measurements.

**TEnd** is the moment of termination of the timer, so when the timer reaches zero. The timer is a count-down timer that is set to a certain value and runs at a frequency of 10 kHz.

**Motor Down** is defined as the time it takes for the engine of the sorter to move the sorter from the lowest point to the highest point, until sorting mechanism touches the push sensor. This takes 0.30 seconds.

**Motor Up** is the state of the sorter moving from the highest point to the bottom of the engine sorter. Since the engine sorter for Motor Down and Motor Up have the same voltage, this will take 0.30 seconds as well.

**Sort** is the amount of time it takes for a disc to be transported from the black/white detector to the end of the conveyor belt, which is measured to be 0.85 seconds.

**Belt** is the period that a disc travels from the feeder to the end of the conveyor belt, until the disc reaches the tray for black discs. This action takes 2.0 seconds.

**Tic** is defined as one clock tick of the PP2.

Machine Design Software Specification

The inputs of the Machine Design phase, specifically the system level requirements, are the outputs of Software Specification. Machine Design forms the physical machine built from Fisher Technik components, while Software Specification defines the software that controls the machine.