



TAKT Clock Specification

Rev 3

9/13/2017

Part Number

Monday, August 14, 2017

TAKT Time

+25:00

Units

00

Start of Shift

End of Shift

Complete
Unit

Settings

Operational Specifications

- Lean production output is managed by TAKT time, or the rate at which a finished product needs to be completed in order to meet customer demand.
- Purpose of the TAKT clock is to provide a visual to assembly workers on the amount of time left to produce one unit.
- It is a count down timer that can go negative, signifying that the line is producing a rate too slow to meet demand. When the timer goes negative, it will turn red and count up from zero.
- At the start of each shift, the “Start of Shift” button is used to decrement “Units” to zero, set the timer to TAKT time, set the title of the screen to the part number and output date, start time and part number to file.
- After each unit is completed, the “Completed Unit” button will be clicked, resetting the count down timer to the TAKT time, starting the countdown and incrementing the “Units” field by 1. The actual time will be output as end time for current unit and the start time for the next unit, quantity of 1 and the part number will also be saved.
- Each day the “End of Shift” button is used to stop the timer and leave the counter at the current count. The actual time will be output as the end of the last unit along with the part number. No quantity will be output.

Operational Specifications

- In addition to being a visual aid for assembly, the program must also collect data on each unit. Data to be collected are:
 1. Date
 2. Unit Number (sequentially starting at 1 each shift after “Start of Shift” is clicked)
 3. Part Number
 4. Start Time : set when the previous unit is reported complete.
 5. End Time : set when a unit is completed.
- This data must be written to either a CSV or Excel file located on the network.

Settings

TAKT Time (minutes)

Part Number

Unit Goal

File/Email
Settings

Save

Close

Operational Specs - Settings

- Users must be able to use the “Settings” button to access a separate window to enter the following information:
 1. TAKT Time : the value to be used by the clock each time the “Completed Unit” or “Start of Shift” button is clicked.
 2. Part Number : the Part Number being built. Ideally this could be a list or array of multiple part numbers from which to choose.
 3. Unit Goal : daily production goal in units
- The “Save” button would save the settings.
- The “File/Email Settings” button will change to the “File/Email Settings” screen to enter email addresses for notifications, as well as output file name and network location.
- The “Close” button will return the user to the main clock screen.

File/Email Settings

Output File

File Location

Email Notification Addresses

Save

Close

Operational Specs – Email Settings

- Users must be able to use the “File/Email Settings” button to access a separate window to enter the email address(es) to which an email is sent when the goal is achieved along with:
 1. Output File : the name of the file to which data is written and saved.
 2. File Location : the network location of the output file.
- The email would contain the following:
 1. Part Number : the Part Number being built.
 2. Unit Goal : daily production goal achieved in units
 3. Time: the time the goal was achieved.
- The “Save” button would save the settings.
- The “Close” button will return the user to the main clock screen.

Technical Specifications

- Must be able to be used on multiple versions of Windows, in particular Windows 7 and 10.
- Must be able to use large format LCD/LED screens in landscape mode.
- Must allow inputs from traditional mouse/keyboard or touch enabled displays.
- The intent is to use large format LG LED displays with a small form factor computer mounted to it with USB inputs and Ethernet connectivity.
- Must be able to deploy same program in multiple locations capturing different data.