

MEDIS – Module 2

Microcontroller based systems for controlling industrial processes

Lab 4.2: Basic interrupt functions

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1.1 Objectives of the lab

1.2 Work orders

1.3 Conclusion

Aims of the lab

- Learn use of interrupt functions
- Programm interrupt functions
- Enhance control of liquid tank

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1. Extend your program from lab #4.1 (2) with the following functions:
 - The filling process can be stopped immediately by pressing an emergency button. The heater and mixer are off.
 - The filling process can be resumed when pressing the start button again.
 - If the desired temperature is not reached after a maximum of 60 seconds, the heater must be switched off for 30 seconds. After that the heating process can be continued
 - If the emptying process is not completed after 2 minutes an alert is signaled.
 - The duration of all processing steps should be measured and logged.

Lab 4.2: Basic interrupt functions

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Conclusion

1. Know the programming of advanced timer functions
2. Know the programming of interrupts
3. Deepen knowledge of process control of liquid tank