**DIPLOMA THESIS**

**DOCUMENTATION**

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| Author(s) | Florian Hintermeier / Dominik Gansch |
| Form  Academic year | 5AHELS – 2019/20 |
| Topic | Universal highly-dynamic LED-Driver |
| Co-operation Partners | ZKW Group GmbH |

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| Assignment of Tasks | The company ZKW wants a universal usable LED-Driver for their in development or in production LED-Devices. It should be able to set the brightness of each LED individually, at a maximum of 84 LEDs. |

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| Realisation | The voltage is converted up or down by the SEPIC circuit, so that it can be set to fit the needed application. The current is set using a digital potentiometer or can be set by hand. The 32-bit microcontroller AT32UC3C allows the communication between the devices. |

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| Results | The circuits for the microcontroller and for the voltage and current setting have been developed. A PCB was developed but could no longer be produced due to the corona crisis. Therefore, no functional tests could be carried out. The programming work of the communications have been done. |

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| Illustrative Graph, Photo (incl. explanation) | Block diagram of the LED driver. All essential parts can be seen. |

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| Participation in Competitions  Awards | None |

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| Accessibility of  Diploma Thesis | The diploma thesis can be seen in the HTL St. Pölten, Waldstraße 3, 3100 St. Pölten |

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| Approval  (Date / Signature) | Examiner | Head of College/Department |