Changelog of new features and bug fixes of AMG ELM

AMG ELM-1F (2080420000)
AMG ELM-2F (2080480000)
AMG ELM-4F (2080490000)
AMG ELM-6F (2080500000)
AMG ELM-8F (2080600000)
AMG ELM-10F (2080650000)
AMG ELM-10F SLOW (2821700000)

Hardware Version Number (HVN) 1.1.6　　　　　　　　　　**Release date: June 2025**

- Bug fix: Fixed known Bug where voltage drops during startup resulting in unattended tripping
- Bug fix: Fixed Bug with Randomized startup delay
- Improved handling of short circuit with low output resistances
- Improved power-up behaviour for capacitive load

Hardware Version Number (HVN) 1.1.5　　　　　　　　　　**Release date: May 2024**

- Bug fix: Fixed problem with random tripping or switching off in case of slowly decreasing input voltage
- Boot up delay increased. Switch-on delay is still < 1s
- Known Bug: Very sensitive to voltage drops during startup, resulting in unattended tripping

Hardware Version Number (HVN) 1.1.4　　　　　　　　**Release date: September 2022**

- Bug fix: The load monitor could be switched on when the input voltage was <18V
- Bug fix: Solved incorrect tripping for loads <0,5A by an input voltage range of 18V-18,5V

Hardware Version Number (HVN) 1.1.3　　　　　　　　**Release date: December 2021**

- Add Approval: UKCA

Hardware Version Number (HVN) 1.1.2　　　　　　　　　**Release date: March 2021**

- Add new profiletype

Hardware Version Number (HVN) 1.1.1　　　　　　　　　　**Release date: July 2018**

- Enable Reverse Current Switch off protection
- Bug fix: Reset initiated via the FIM-C or CM enabled the output but not the LED

Hardware Version Number (HVN) 1.1.0　　　　　　　　　**Release date: January 2017**

- Disable wirebreak detection (usage AMG ELM with FIM-0)

Hardware Version Number (HVN) 1.0.0　　　　　　　　　**Release date: August 2016**

- Improved Short-Circuit detection and switch off to prevent destruction of the device

Hardware Version Number (HVN) without Identifier released　　　　**Release date: May 2016**

- First released version

AMG ELM-6 (2080360000)
AMG ELM-12 (2080410000)

Hardware Version Number (HVN) 1.1.8   **Release date: June 2025**

- Improved handling of short circuit with low output resistances
- Improved power-up behaviour for capacitive load

Hardware Version Number (HVN) 1.1.7   **Release date: August 2023**

- Bug fix: Fixed problem with random tripping or switching off in case of slowly decreasing input voltage
- Boot up delay increased. Switch-on delay is still < 1s

Hardware Version Number (HVN) 1.1.6   **Release date: February 2023**

- Bug fix: Fixed problem with 8A slow tripping curve in the AMG ELM-12 that could not trip

Hardware Version Number (HVN) 1.1.5   **Release date: September 2022**

- Bug fix: The load monitor could be switched on when the input voltage was <18V
- Bug fix: Solved incorrect tripping for loads <0,5A by an input voltage range of 18V-18,5V

Hardware Version Number (HVN) 1.1.4   **Release date: December 2021**

- Add Approval: UKCA

Hardware Version Number (HVN) 1.1.3   **Release date: November 2021**

- Implemented new microcontroller
- Pre warning changed from 80% to 90%
- Input out of range changed from >32V to >31,2V

Hardware Version Number (HVN) 1.1.2   **Release date: April 2021**

- Bug fix: The load monitor can trip with only resistive load
- Improved power-up behaviour for capacitive load

Hardware Version Number (HVN) 1.1.1   **Release date: July 2018**

- Enable Reverse Current Switch off protection
- Bug fix: Reset initiated via the FIM-C or CM enabled the output but not the LED

Hardware Version Number (HVN) 1.1.0   **Release date: January 2017**

- Disable wirebreak detection (usage AMG ELM with FIM-0)

Hardware Version Number (HVN) 1.0.0   **Release date: August 2016**

- Improved Short-Circuit detection and switch off to prevent destruction of the device

Hardware Version Number (HVN) without Identifier released   **Release date: May 2016**

- First released version

AMG ELM-18 (2859800000)

Hardware Version Number (HVN) 1.0.7   **Release date: June 2025**

- Improved handling of short circuit with low output resistances
- Improved power-up behaviour for capacitive load

Hardware Version Number (HVN) 1.0.6   **Release date: August 2023**

- Bug fix: Fixed problem with random tripping or switching off in case of slowly decreasing input voltage
- Boot up delay increased. Switch-on delay is still < 1s

Hardware Version Number (HVN) 1.0.5   **Release date: February 2023**

- No changes

Hardware Version Number (HVN) 1.0.4   **Release date: September 2022**

- First released Version

AMG ELM-1F CL2 (2491270000)
AMG ELM-2F CL2 (2491280000)
AMG ELM-4F CL2 (2491290000)

Hardware Version Number (HVN) 1.1.8   **Release date: June 2025**

- Bug fix: Fixed known Bug where voltage drops during startup resulting in unattended tripping
- Bug fix: Fixed Bug with Randomized startup delay
- Improved handling of short circuit with low output resistances
- Improved power-up behaviour for capacitive load

Hardware Version Number (HVN) 1.1.7   **Release date: May 2024**

- Bug fix: Fixed problem with random tripping or switching off in case of slowly decreasing input voltage
- Boot up delay increased. Switch-on delay is still < 1s
- Known Bug: Very sensitive to voltage drops during startup, resulting in unattended tripping

Hardware Version Number (HVN) 1.1.6   **Release date: February 2023**

- Bug fix: The load monitor could be switched on when the input voltage was <18V
- Bug fix: Solved incorrect tripping for loads <0,5A by an input voltage range of 18V-18,5V

Hardware Version Number (HVN) 1.1.5   **Release date: December 2021**

- Add Approval: UKCA

Hardware Version Number (HVN) 1.1.4   **Release date: July 2018**

- Enable Reverse Current Switch off protection
- Bug fix: Reset initiated via the FIM-C or CM enabled the output but not the LED

Hardware Version Number (HVN) 1.1.1   **Release date: July 2017**

- Improve timing of Tripping Current
- Changed tripping current from 4,4A to 4A (UL1310 requirement <100W)

Hardware Version Number (HVN) 1.1.0   **Release date: January 2017**

- Disable wirebreak detection (usage AMG ELM with FIM-0)

Hardware Version Number (HVN) 1.0.0   **Release date: September 2016**

- First released version

AMG ELM-1F EX (2082040000)
AMG ELM-2F EX (2082050000)
AMG ELM-4F EX (2082060000)
AMG ELM-6F EX (2082310000)
AMG ELM-8F EX (2082320000)
AMG ELM-10F EX (2082430000)

Hardware Version Number (HVN) 1.1.6   **Release date: June 2025**

- Bug fix: Fixed known Bug where voltage drops during startup resulting in unattended tripping
- Bug fix: Fixed Bug with Randomized startup delay
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- Improved power-up behaviour for capacitive load

Hardware Version Number (HVN) 1.1.5   **Release date: May 2024**

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- Add Approval: UKCA

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- Enable Reverse Current Switch off protection
- Bug fix: Reset initiated via the FIM-C or CM enabled the output but not the LED

Hardware Version Number (HVN) 1.1.0   **Release date: January 2017**

- Disable wirebreak detection (usage AMG ELM with FIM-0)

Hardware Version Number (HVN) 1.0.0   **Release date: August 2016**

- Improved Short-Circuit detection and switch off to prevent destruction of the device

Hardware Version Number (HVN) without Identifier released   **Release date: May 2016**

- First released version

AMG ELM-6 EX (2082000000)
AMG ELM-12 EX (2082010000)

Hardware Version Number (HVN) 1.1.8   **Release date: June 2025**

- Improved handling of short circuit with low output resistances
- Improved power-up behaviour for capacitive load

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- Enable Reverse Current Switch off protection
- Bug fix: Reset initiated via the FIM-C or CM enabled the output but not the LED

Hardware Version Number (HVN) 1.1.0   **Release date: January 2017**

- Disable wirebreak detection (usage AMG ELM with FIM-0)

Hardware Version Number (HVN) 1.0.0   **Release date: August 2016**

- Improved Short-Circuit detection and switch off to prevent destruction of the device

Hardware Version Number (HVN) without Identifier released   **Release date: May 2016**

- First released version

AMG ELM-18 EX (2838520000)

Hardware Version Number (HVN) 1.0.7   **Release date: June 2025**

- Improved handling of short circuit with low output resistances
- Improved power-up behaviour for capacitive load

Hardware Version Number (HVN) 1.0.6   **Release date: August 2023**

- Bug fix: Fixed problem with random tripping or switching off in case of slowly decreasing input voltage
- Boot up delay increased. Switch-on delay is still < 1s

Hardware Version Number (HVN) 1.0.5   **Release date: February 2023**

- No changes

Hardware Version Number (HVN) 1.0.3   **Release date: September 2022**

- First released Version

AMG ELM-6D CO (2082440000)
AMG ELM-10D CO (2082470000)

Hardware Version Number (HVN) 1.1.8   **Release date: June 2025**

- Improved handling of short circuit with low output resistances
- Improved power-up behaviour for capacitive load

Hardware Version Number (HVN) 1.1.7   **Release date: August 2023**

- Bug fix: Fixed problem with random tripping or switching off in case of slowly decreasing input voltage
- Boot up delay increased. Switch-on delay is still < 1s
- Since December 2024: increased max. temperature range to +70°C

Hardware Version Number (HVN) 1.1.6   **Release date: February 2023**

- Bug fix: Fixed problem with 8A slow tripping curve in the AMG ELM-12 that could not trip

Hardware Version Number (HVN) 1.1.5   **Release date: September 2022**

- Bug fix: The load monitor could be switched on when the input voltage was <18V
- Bug fix: Solved incorrect tripping for loads <0,5A by an input voltage range of 18V-18,5V

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- Bug fix: Reset initiated via the FIM-C or CM enabled the output but not the LED

Hardware Version Number (HVN) 1.1.0   **Release date: January 2017**

- Disable wirebreak detection (usage AMG ELM with FIM-0)

Hardware Version Number (HVN) 1.0.0   **Release date: August 2016**

- Improved Short-Circuit detection and switch off to prevent destruction of the device

Hardware Version Number (HVN) without Identifier released   **Release date: May 2016**

- First released version

AMG ELM-1LIM CL2 EX (2838530000)

Hardware Version Number (HVN) 1.0.2 **Release date: June 2025**

- Improved handling of short circuit with low output resistances
- Improved power-up behaviour for capacitive load
- Bugfix:100mA prewarning reset will now work properly

Hardware Version Number (HVN) 1.0.1 **Release date: August 2023**

- First released Version