- Firmware Changelog -

SmartLink MX

MG Energy Systems B.V.

To update the SmartLink MX, install the MG Diagnostic tool from the MG Download Center and follow the instructions from the manual.

Latest release:
SmartLink MX firmware: Version 1.13
Diagnostic tool: Version 3.11
https://downloads.mgenergysystems.eu/

v1.13 - 9-9-2024
Changes:
- *Added programmable input mode: 'Warning suppressor'. This will temporarily suppress the programmable output mode 'warning' for x seconds or until a new warning pops up.*
  Suppress time can be set from 1 to 60 minutes. Note that it will only have effect on the programmable output if it is set to mode 'warning'.
- *Added programmable output mode: 'Current limit'. This allows switching the output based on charge or/and discharge current limit.*
- *Added status flag 'All selected serial numbers active' that can be used to switch the programmable output. This mode only works if the selection method is set on 'Serial number'.*
- *Added additional information to the events 'BMS with failsafe' and 'All BMSs with failsafe'. This information includes the serial numbers of the devices with failure.*
- *Added current limit value checks that clamp the maximum current to the maximum supported (15000A).*
- *Fixed wrong response (invalid request) when temporary (dis)charge current limit is trying to be set (MG-regs 0xDEF0 and 0xB902). Current limit was being set correctly, but the response was invalid.*
- *Fixed issue with minimum cell voltage check if programmable output mode 'Battery cell voltage' is used.*
- *Fixed issue with data type boundary check for combined current.*
- *Fixed issue with showing invalid voltage of connected BMSs in the MG Connect App. This bug was only visible once the system voltage was higher than 327V.*

v1.12 - 15-4-2024
Changes:
- *Fixed bug that caused a periodic error for the Skylla-I charger. During this error, the charger was going to off state and recovered after a second. This bug was only caused if optional CAN-bus charger 'Skylla-I' was selected. To fix this, VE-reg 'Charger link percentage' is no longer transmitted on the CAN-bus by the SmartLink MX.*

v1.11 - 8-3-2024
Changes:
- *Fixed bug that disabled support for MG Master LV PC+. This bug also caused the 'Unknown Device: 0' notification in the Diagnostic tool.*
- *Fixed wrong conversion of software version number in diagnostic tool.*

v1.10 - 20-2-2024
Changes:
- *Fixed issue where random CAN-bus message reception was lost due to unexpected internal task handling (introduced in version 1.9).*

v1.9 - 7-2-2024
Changes:
- *Updated MG NMEA2000 MG-reg statuses periodically time and on change condition. See communication guide.*
- *Added variable/higher internal Bluetooth module communication speed.*
- *Fixed difference of 'highest ever discharge' value between MG Diagnostic Tool and MG Connect App.*
- *Fixed wrong combining of the 'Contactor opening' bit. It is now also combined from BMSs that are going to shut down.*

- *Fixed bug that once a hardware configuration failure was detected, the system was not able to shutdown BMSs or turn off ATC, ATD and the current limits.*
- *Updated Secondary boot loader.*
- *Updated NMEA2000 services.*
- *Improved reliability of the initialization/start-up procedure.*
- *Fixed bug with measurement interval time.*

v1.8 - 13-11-2023
Changes:
- *Fixed bug that the 'discharge almost not allowed' output mode was inverted as how it should work. WARNING: After the update, be aware that the output (that was in this mode before updating) is inverted automatically. If needed, it can be changed back by inverting the output.*
- *Fixed bug with value 'link charge current'. Value was not limited by the settings or inputs of the SmartLink MX. This value is used by Skylla chargers.*
- *Added Skylla charger as 'Additional CAN-bus chargers' which improves the stability of charging with Skylla chargers. This also enables current distribution over more than 1 charger.*
- *Added Delta-Q charger to 'Additional CAN-bus chargers' that will control Delta-Q chargers based on the CAN-Open protocol.*
- *Fixed issue with DVCC charge current limit once it reached the maximum value size.*
- *Fixed bug that prevented saving events before CAN-Bus was initialized.*
- *Fixed the check of invalid internal measurements.*
- *Added 2 new MG-regs for temporary current limits that can be set via the public CAN-Bus (NMEA2000). See [communication guide](#) for more information.*
- *Increased data availability using the MG Connect App and therefor also in snapshots made by the App.*
- *Fixed and improved value and status display in the MG Connect App.*
- *Added support for restarting all BMSs in failsafe via CAN-bus using the VE-reg 'Combined control State commands' message (VE-reg ID: 0x0378).*
- *Added new event that describes if the 'restarting all BMSs in failsafe via CAN-Bus' command has been requested.*
- *More code improvements, not affecting functionality.*

v1.7 - 13-7-2023
Changes:
- *Fixed generating 'start request' events once starting is not allowed. For example using the safety key.*
- *Fixed bug that Powerfinn chargers did not turn off when the connected charger type was changed from Powerfinn to another option.*
- *Added "State of Health" to the combining data as lowest off all individual BMS data.*
- *Added setting: "Combine enabled" that makes connecting to a single BMS without combining possible.*
- *Added extra mode to programmable input "E-Stop" that sets the DVCC values to 0 as fast as possible. NOTE: It will not shutdown connected masters.*
- *Added extra mode to "status" mode of programmable output: "E-Stop activated". NOTE: This can only be used as indication, not actual E-stop functionality.*
- *Added "E-stop Activated" event.*
- *Improved the "Almost not allowed to discharge" output mode.*
- *Added power supply failure detect for SmartLink PLC.*
- *More code improvements, not affecting functionality.*

v1.6 - 20-4-2023
Changes:
- *Fixed strange blinking behavior of data in the SmartLink MX tool.*
- *Fixed bug that caused chargers to shut down during the startup of a BMS.*
- *Reduced fluctuation of critical data on CAN-Bus. For example "(Dis)charge current limit".*
- *Changed behavior of "Warning output mode" for programmable output's. If a warning is present, it also stays on during an error and it can also be (de)activated once the system is in standby.*
- *Discharge current limit remains 0A when the number of active BMSs is below the minimum required BMSs. This prevents loads to start discharging to early.*
- *Charge current limit is divided by 10 when the number of active BMSs is below the minimum required BMSs. In this way BMSs can still be charged to the same voltage level.*
- *Fixed bug that MG data did not get refreshed when CAN-A cable was disconnected.*
- *Data value "(Dis)charge voltage limit" is directly combined once a BMS is connected to the DC bus instead of after the BMS state changed to "running".*
- *More code improvements, not affecting functionality.*

v1.5 - 11-1-2023
Changes:
- *Added support for Energy Monitor version 2.10.*
- *Added device name support on NMEA2000 CAN-bus.*
- *Fixed wrong event types.*
- *Implemented new VE flags and errors to the combine data.*
- *More code improvements, not affecting functionality.*

Known issues:
- *A forced update of the software is needed once the current version is V1.4 or lower. During this update it is possible that the settings have changed. Please check settings after updating and change if needed.*

v1.4 - 1-12-2022
Changes:
- *Fixed unexpected combined data during startup procedure of all BMSs.*
- *Fixed wrong combined data once all BMSs are in failsafe.*
- *Fixed displaying invalid voltage with high voltage systems.*
- *Fixed Discharged today value in tracking data.*
- *Update interval of combined data in the tool is increased from 500ms to 1 second.*
- *Added charging controller unit support for Tim Riester TR-LS2 CCU.*
- *Added setting: "Charging Controller Unit".*
- *Added setting: "AC charge current limit".*
- *Improved (dis)charge current when the allowed to (dis)charge inputs are used.*
- *More code improvements, not affecting functionality.*

v1.3 - 18-08-2022
Changes:
- *Fixed the BMS state failure. The SmartLink MX now requests the BMS state message each second.*
- *Updated Bluetooth support.*
- *Improved event names.*
- *Fixed the clearing of an error that occurred before the SmartLink MX was fully started up.*
- *Fixed bug for controlling chargers when the "Allowed to charge" flag is false.*
- *Fixed non automatic recovery when public CAN has a bus-off event.*
- *Fixed the unexpected restarting of system when BMSs going to error state*
- *Added programmable input mode "Current limiter".*
- *Added programmable output mode "Almost not allowed to discharge".*
- *Fixed system state detection when all BMSs disconnect at the same time.*
- *Improved system stability when CAN-bus is unstable.*
- *Improved the combined data when system is shutting down. For example the data value's "discharge voltage limit" and "charge voltage limit" are not invalidated during shutdown.*
- *Changed the availability of combined data when system is not running.*
- *Removed battery configuration setting data from the combined data.*
- *Added reset function for the SmartLink itself when button is pushed and hold for more than 5 seconds.*
- *More code improvements, not affecting functionality.*

v1.2 - 17-06-2022
Changes:
- *Optimized data transmission of all BMSs via private CAN-bus.*
- *Combined data "(dis)charge current limit" is not set to 0 when the "allowed to (dis)charge" flag is false. The connected BMSs will reduce their "(dis)charge current limit" if needed.*
- *Fixed issues with the watchdog timer.*
- *Updated Bluetooth support.*
- *Added "Deepest discharge" to the combining data as sum off all individual BMS data.*
- *Fixed clearing errors when BMSs are manually removed from the combine list.*
- *Fixed bug with buzzer when SmartLink is getting updated.*
- *Changed the CAN-bus protocol names, so they match with the names of the BMS.*
- *Fixed "High temperature warning" and "BMS hardware combination is invalid" event overrun.*
- *Updated invalidation of data.*
- *Fixed update handling when it software is not supported.*
- *Changed default mode for programmable relay 3.*
- *Fixed issues with the implementation of BMS data in the SmartLink MX Tool.*
- *Fixed update failure of the SmartLink MX with PCAN device.*
- *More code improvements, not affecting functionality.*

Known issues:
- *A forced update of the software (from v1.1 to v1.2 or higher) is needed. During this update it is possible that the settings have changed. Please check settings after updating and change if needed.*

v1.1 - 31-01-2022
Changes:
- *First release of the software*