

2018-01-08

**Client: 0.035.2**  
**Firmware: 0.035.0**

Fixes:

- (client) Fixed crash when creating/editing Switch (bug since client version 0.034.1)

2018-01-02

**Client: 0.035.1**  
**Firmware: 0.035.0**

Fixes:

- (client) Fixed crash when editing CANbus Mob on firmware lower than 0.035

2017-12-21

**Client: 0.035.0**  
**Firmware: 0.035.0**

New features:

- Support for new '**4x2 Ecumaster (7 colors)**' keypad
- Support for **Pectel SQ6 CAN stream** (Use Import CANX from Project Tree)

Improvements:

- Now CANbus Inputs are automatically grouped by CANbus Mobs (firmware 0.035 required)
- Maximum length of names in a project increased to 30 characters (up from 20) - works with any firmware
- Heating model for outputs is now calculated using filtered current. It fixes some Overcurrent situation when Inrush current was equal to Max current.

Fixes:

- EMU\_BLACK.canx - fixed c\_ecu\_injPW and c\_ecu\_ignAng

2017-12-07

**Client: 0.034.1**  
**Firmware: 0.034.0**

This is Client only update. Contains firmware 0.034.0, the most recent firmware.

**The firmware 0.034.0 fixes CAN terminator issues on CAN1 / CAN2.**

**Now it works as documented:**

- **CAN1: no terminator (USBtoCAN termination or external terminator on CAN1 required)**
- **CAN2: user selectable terminator (Treeview/PMU/CANbus setup)**

Improvements:

- Added c\_ecu\_cltError to EMU\_BLACK.CANX
- Generate Pinout command: added *Min current*, *Max current*, *Inrush current* / *Inrush time* for outputs (menubar: Devices/Generate Pinout)

Fixes:

- Fixed bug with minimum and maximum value when creating the Table.
- Password is now correctly replaced with ●●●●●● (fixed regression from version 0.033)

2017-12-07

**Client: 0.034.0**

**Firmware: 0.034.0**

**The firmware 0.034.0 fixes CAN terminator issues on CAN1 / CAN2.**

**Now it works as documented:**

- **CAN1: no terminator (USBtoCAN termination or external terminator on CAN1 required)**
- **CAN2: user selectable terminator (Treeview/PMU/CANbus setup)**

Improvements:

- Switch element – range has been extended to 0..255 (up from 0..4)
- Default frequency of some channels has been increased:
  - pmu.o?.voltage now logged at 25Hz (up from 5Hz)
  - pmu.a?.voltage now logged at 25Hz (up from 5Hz)
  - pmu.acc\*/pmu.gyro\* now logged at 25Hz (up from 5Hz)

Fixes:

- Fixed program freezing after 5 hours of working
- Fixed terminator issues on CAN1 / CAN2
- Project Tree: Fixed channel corruption when Move up/Move down/Delete command was used and project used output.dc, output.timeAboveMax or mob.timeout channels.

2017-11-20

**Client: 0.033.0**

**Firmware: 0.033.0**

New Features:

- User-defined tables (2D / 3D, variable size, each axis can be user-selectable), can be used as **PWM tables**

Improvements:

- Wipers: “Brake delay time” added to allow fine-tuning of the wiper parking spot. The wiper motor is not powered in this state.
- PWM: When the Duty cycle is ZERO, the output is completely turned off.
- PWM can be activated even if the output is Active. No need to turn off / turn on the output.
- Project Tree: added keyboard shortcut for Move up / Move down – Alt+UpArrow / Alt+DownArrow

- Ecumaster USBtoCAN device: reliability and performance improvements (USBtoCAN software update to v0.5 is offered automatically when starting PMU Client).
- Parameter panel and Status bar are properly scaled on high-DPI devices.

Fixes:

- Fixed rare crash related to “Use client data”/“Get data from PMU” when working with 2 PMUs.
- Fixed crash related to the escape key pressed in Canbus Mob creation invoked from Canbus Input dialog
- Fixed crash when exiting application in Offline mode

**2017-10-13**

**Client: 0.031.1**  
**Firmware: 0.031.0**

Fixes:

- Fixed connection problems between Ecumaster USBtoCAN and the latest firmware 0.031.0

**2017-10-04**

**Client: 0.031.0**  
**Firmware: 0.031.0**

New Features:

- (firmware) Improved Power Control Model. Support for devices with delayed activation (such a ABS module in the car).
- (firmware) Password protection
- Added ability to choose “Use client data” or “Get data from PMU” if data are different when connecting
- Autoscale on GraphLog (requires firmware 0.030.0 or later)
- Export GraphLog data to Excel (CSV file format); also works with selection
- Display filter can be assigned to each GraphLog channel (GraphLog - right mouse button - Properties). Useful for smoothing accelerometer data. Turned on by default for two pmu.boardTemperatures.
- (firmware) Channels can be multiplied by constant \*1, \*10, \*100, \*1000, \*custom, raw in CANbusExport
- (firmware) Each subchannel can be multiplied by constant \*1, \*10, \*100, \*1000, raw in Number
- (firmware) Decimal places in Canbus Input – for example, c\_pmu.batteryVoltage is now 12,5V instead of 12500
- Some channel can be viewed as bitfields (pmu.can1.state, pmu.can2.state, pmu.outActiveMask, pmu.outFaultMask, pmu.outOvercurrentMask, pmu.outShutdownMask) (requires firmware 0.031.0 or newer)
- (firmware) Number: added Modulo operation (reminder)
- (firmware) Number: added Lookup operations (for simple lookup tables; 2,3 or 4 entries)

Improvements:

- Reconnect command (Shift+Ctrl+B) – two PMU can be turned on one after another
- Hot unplug/plugin Ecumaster USBtoCAN possible

- When downloading log from DL memory of PMU, the file is saved to Logs\ directory with date/time included in file name (e.g. Logs\20170622\_1703\_12.pmulog)
- Added warning message when one of PC<=>PMU communications CAN IDs is used in CANbus Export (IDs 0x12-0x17 on CAN1).
- GraphLog – value axis has now variable number of helper lines
- GraphLog – current value displayed on each graph
- Wipers dialog – added check to ensure that Park Switch could be used only with output O8.
- Logs saved on PC: It's now possible to analyze logs, even if some modification was made to the project. Only names of elements must match.
- GraphLog min/max ranges automatically configured for CanbusInputs, AnalogInputs, keyboard buttons
- Pausing the GraphLog works as expected in all situations
- Channels outside of 8 bytes in Canbus Export are now disabled for easier understanding.
- EMU\_BLACK.CANX updated to support decimal places (for example: c\_ecu\_lambda from EMU/BLACK has now fractional part) – (requires firmware 0.031.0 or newer)
- PMU.CANX updated to support decimal places (requires firmware 0.031.0 or newer)
- GraphLog: Inrush current and Max current lines visible on o\_name.current channels

Fixes:

- Constant -16383 can be assigned to any channel (as stated in the documentation).
- Fixed bug when some u16/s16 empty channel in the middle of Canbus Export was not properly saved to the device.
- GraphLog now shares the same configuration for all desktops
- Sometimes during connecting Client showed that PMU data are corrupted and asked for restore. This rare bug has been fixed.
- When saving .pmulog file, the debug file .pmulograw is no longer saved
- Fixed focus problem on some popup windows, when clicked outside the popup

2017-07-19

**Client: 0.026.6 exp**  
**Firmware: 0.026.6**

Fixes:

- (firmware) Fixed proper activation of brake circuit for wipers. Wipers should park as expected now.
- (client) Fixed rare crash after firmware upgrade.
- (client) Fixed crash when using popupMenu on empty GraphLog

2017-07-04

**Client: 0.026.5 exp**  
**Firmware: 0.026.2**

This is Client only update. Contains firmware 0.026.2, the most recent compatible firmware.

Fixes:

- Fixed Group Selection command (Ctrl+G or button "Group"). The names of all elements in the project were corrupted after this command.

2017-06-08

**Client: 0.026.2 exp**  
**Firmware: 0.026.2**

Fixes:

- (firmware) Fixed not responding buttons on Ecumaster keyboard
- Fixed crash when using Undo (Ctrl+Z) too deeply after Firmware Upgrade

Improvements:

- Ecumaster USBtoCAN - performance improved on slower computers

2017-05-09

**Client: 0.026.0 exp**  
**Firmware: 0.026.0**

New Features:

- (firmware) CAN 2.0B support with extended ID (29 bits)

Improvements:

- Improved reliability of client on slow computers

Fixes:

- Fixed crash when saving some projects
- Fixed loading of projects containing channel with dot character (e.g. c\_pmu.a3.voltage)

2017-04-24

**Client: 0.025.0 exp**  
**Firmware: 0.025.0**

Improvements:

- (firmware) CANbus Input: Timeout value and Default value separated.

Fixes:

- Fixed Ecumaster USBtoCAN rare disconnection bug. USBtoCAN software update is offered automatically when starting PMU Client.
- Fixed CANbus Export – channels were accidentally changed when deleting other elements.

Changes:

- Changed MinimalClientVersion required to load project. You will not be able to load project saved by this Client software in its previous version.

2017-04-10

**Client: 0.024.0 exp**  
**Firmware: 0.024.0**

#### New Features:

- Support for Life Racing keyboard (ProjectTree: Add/Keyboard and change Size to '4x5 - Life Racing')
- Support for new Ecumaster 3x2 (7 colors) keyboard.
- Speed of CAN2 could be configured: 125 Kbps, 250 Kbps, 500 Kbps, 1000 Kbps (TreeView: PMU/CANbus Setup)

#### Improvements:

- Confirmation message added when deleting element that is referenced by other element.
- "EMULATED" text is shown on toolbar of Output/Analog Monitor when appropriate Emulator is used.
- Import .CANX file: CANbus ID could be configured (useful when using two EMUBLACKs in one car or EMUBLACK on non standard ID)
- Pinout Generator (menu Devices/Generate Pinout) - added CANbus Mobs and Keyboards.
- EMU\_BLACK.canx updated: added inputs c\_ecu\_nitrus and c\_ecu\_starterRequest

#### Changes:

- Changed MinimalClientVersion required to load project. You will not be able to load project saved by this Client software in its previous version.

#### Fixes:

- Device name is properly updated on Device Bar (#1. #2. #3. #4. #5.)
- Fixed rare crash when closing the application.
- When creating new CANbus Input default frame offset is now +0.
- Opened file name is preserved when doing Make Permanent and Upgrade Firmware.
- Keyboards: Radiobuttons now work as expected even if no 'Radiobutton Group' is present.
- F4 shortcut (Channel List) work properly when editing Power Outputs.
- Generated pinout is now properly displayed in Internet Explorer, Microsoft Edge and Mozilla Firefox.

2017-03-24

**Client: 0.023.2 exp**

**Firmware: 0.023.2**

#### Fixes:

- (firmware) Fixed Output Emulator for outputs with double/triple pins.
- Several fixes for "Support for high DPI tablets/laptops and custom font size in Control Panel"

2017-03-22

**Client: 0.023.1 exp**

**Firmware: 0.023.0**

#### Improvements:

- Support for high DPI tablets/laptops and custom font size in Control Panel.

2017-03-17

**Client: 0.023.0 exp**

**Firmware: 0.023.0**

#### New Features:

- **Analog Emulator and Output Emulator** - just connect your PMU on your desk and you can emulate analog inputs and power outputs. See Help (F1) for details.
- Brightness support for CAN keyboard (key LED brightness / back light brightness)
- Up to 20 Switches can be created in project (up from 8).

#### Improvements:

- CAN keyboard can now be disconnected and reconnected again.
- CAN keyboard can now be powered by one of PMU power output without any problems.

#### Fixes:

- (client) Fixed USBtoCAN support on **Windows Vista** (USBtoCAN performance improvements on other systems as well)
- canSwBoard\_ID668.canx renamed to canSwBoard\_ID666.canx (This is only filename change, you don't need to reimport/change anything).
- EMU\_BLACK.canx, canSwBoard\_ID334.canx, canSwBoard\_ID666.canx - reintroduced changes from v0.020.6 (fixed regression from v0.021.0)
- CANbus Export now correctly supports CAN2

2017-03-09

**Client: 0.022.0 exp**  
**Firmware: 0.022.0**

- (firmware) Fixed reliability of logging to PC when working on slow computer / heavy loaded CAN1.
- (client) Added support for Kvaser CAN adapter.
- (client) Fixed several crashes related to handling corrupted logging data.
- (client) Fixed rare crash when PMU was disconnected
- (client) Proper detection of disconnection when CAN1 L and H is shorted.
- (client) Fixed firmware upgrade after previous upgrade was aborted.

2017-03-02

**Client: 0.021.1 exp**  
**Firmware: 0.021.1**

- Up to 50 Numbers can be created in project (increased from 20).
- Changed MinimalClientVersion required to load project. You will not be able to load project saved by this Client software in its previous version.
- (firmware) Fixed: Temperature values (temperature1/temperature2/flashTemperature) are correct immediately after starting the device
- Updated example projects in EXAMPLES/EXPO/
- Added link in Help menu: Online ChangeLog
- Default value for Inrush Current has been changed to 120A.
  - a) This settings allow easier tuning of Inrush Current (use the maximum value, test the output, see the Peak Current in Output Monitor and alternatively lower the Inrush Current value to proper value)
  - b) This settings protect output transistors from excessive flyback energy in the case of inductive load.
- Warning messages added to Help.

2017-02-24

**Client: 0.020.6 exp**  
**Firmware: 0.020.6**

- (firmware) Fixed: PMU16 (non DL) can freeze during startup when checking presence of DL memory.
- Client now checks if firmware is not outdated and suggest upgrade
- Added status bar information in Client about available: functions / numbers / operations.
- EMU\_BLACK.canx updated:
  - added input c\_ecu\_fuelPumpSt
  - added input c\_ecu\_coolantFanSt
  - added input c\_ecu\_acClutchSt
  - added input c\_ecu\_acFanSt
  - aln1..aln6 – changed Volts to miliVolts (0..5000 steps instead of just 0..5)
  - mob renamed to "m\_emublack"
- canSwBoard\_ID668.canx / canSwBoard\_ID668.canx updated:
  - mob renamed to "m\_canSwBoard"

2017-02-20

**Client: 0.020.5 exp**  
**Firmware: 0.020.4**

- Several fixes for slow computers
- [CHANGE] USBtoCAN adapter is detected ONLY once during Client startup. Single PMU can be connected later. But still if using multiple PMU – devices need to be connected before Client Startup.
- Fixed fatal popup window: assert failed: !"unreachable"
- Fixed fatal popup window: assert failed: "IsRunning(), Use ScheduleExit() on not running loop"
- Faster disconnection detection
- Fixed validation for PowerOutputs confirming dialog by ENTER key
- Updated HELP file
- Changed destination email address for BugTrap.
- [NEW] Ability to print Pinout - use menu item: Device/Generate Pinout to generate .HTML file
- [KNOWN ISSUE] Password protection is still not working. Please do not enter password.

2-02-2017

**Client: 0.020.4 exp**  
**Firmware: 0.020.4**

- (Firmware) Fixed initialization of DataLogging system in PMU16-DL

24-01-2017

**Client: 0.020.3 exp**  
**Firmware: 0.020.3**

- Initial Release