

APPENDIX: VERSION HISTORY

Version 1.0

- Initial release
- Power factor correction in pump menu

BUGFIXES

- Various minor corrections in manuals
- Backflush reminder volume can be set with 0.1l granularity

Version 1.1

- Display content can be rotated
- OLED brightness limit can be removed
- Analog noise displayed in info menu
- Preinfusion and flood phase can be excluded from dosing and shot timer

BUGFIXES

- Backflush volume counter in info menu didn't increment
- Output limit in disabled R&S profiles was not disregarded

Version 1.2

- Improved pressure profiling: Finer-grained settings; integral cycle time configurable

- Integral and proportional terms of pressure control output reported to Status Monitor

Version 1.3

- Serial menu commands to set energy saver mod (MCe, MCE and MCa)
- Setpoints directly after flood phase increased to flood pressure, if lower
- Improved autotuning accuracy (deadband to guard against sensor noise)
- Independent protection limits for PID1 and PID2
- Shot timer is displayed for a few seconds after shots (configurable)

BUGFIXES

- Setting boiler protection time to "-" didn't turn protection off

Version 1.4

- Option in pressure sensor menu to choose if 3-way grouphead valve is installed before or after sensor
- Pressure profiling improvements
 - Related menus reorganized
 - Presets for preinfusion and shot separated
 - Flow compensation in pump properties
 - Relative pressure setpoints for preinfusion profiles

- Transition from flood to shot and from PI to shot is automatically improved (drops to zero eliminated)
- Ramp & Soak:
 - New state "Cold start"
 - Feed forward can be set independently of PID configuration
- More reset-to-defaults menu items (in Ramp & Soak menu, in pump properties menu, in pump control menu)
- Pins 2 to 4 of ENC header can be used as contacts if no encoder is installed
- Flow rate displayed during shots (Q=...)
- Autostart for warm-up program if temperature is below a user-defined limit
- Restarting a program stops it, except dosing programs (restarting doubles volume)

BUGFIXES

- TSIC sensors with label "IST18 TO1C" didn't work reliably (100us bits instead of 125us bits)
- User-defined end-actions for shot parts of pressure profiles (e.g. "sustain pressure") were not ignored if the shot part was disabled.
- Serial Menu:
 - Commands related to PID settings caused

- erroneous behavior if PID was disabled
- Non-interactive commands did end ECO mode and standby – they shouldn't¹

Version 1.5

- Support for OLED displays with SH1106 controller
- XML files for Status Monitor 2.x

BUGFIXES

- Turning PID2 off didn't end transmission of data to serial interface
- Flood pressure setting was not ignored if user had no pressure sensor

Version 1.6

- 16bit timer used for phase control to achieve improved pump power control resolution with 60hz mains power
- Tutorial "Pressure control loop tuning" added
- An error message is displayed if backflushing was aborted to to lack of pressurization
- New preinfusion profile "CHAMBER"

BUGFIXES

- First item in pressure presets was not accessible

1 If you have previously relied on that behavior, use the new MCA command to wake the firmware from ECO mode or standby.

Version 1.7

- Support for Bluetooth LE as of its PCB revision 2.0
- Support for dosing by weight with “Skale 2”
- Battery level of “Skale 2” displayed in info menu
- Quick BLE re-connect attempt if connection is lost
- Valve test in ‘Run’ menu
- Cause of last MCU reset recorded in info menu
- Automatic Wifi reset after power on
- Configurable smoothing filter in scale menu
- “Factory settings restored” alert

BUGFIXES

- Less packet loss if two TSic sensors are installed
- “Pump pwr” values in ml/min were not displayed

Version 1.8

- Support for display modules with two buttons
- Putting weight on scale wakes display up
- More forgiving if pressure profiling setup is not optimal (wider proportional range)
- Using OK/CANCEL in menu does not stop warm-up program

BUGFIXES

- Weight not displayed if scale was turned on, off and on again

Version 1.9

- Barista light switch in root menu
- Pressure profiles can override temperature setpoints
- Pressure test improved (finer-grained)
- More shortcuts in menu
- More pressure profiles
- Vent option for warm-up program

BUGFIXES

- The MCR command only worked if reporting was turned on
- Pressure profile setpoints after 25.0s were ignored (only in firmware 1.9 rc1)

Version 2.0

- Support for Felicita Arc scale
- Configurable display title in display menu
- Three user setpoints added to PID menu which can be assigned to menu shortcuts
- Safety limit in ramp & soak profiles
- Command to dump setup in serial menu (MCu)
- User-saved tare in scale menu
- Offset correction for pressure sensors

BUGFIXES

- MCU command didn't dump settings under Input→Configure menu

Version 2.1

- Support for Eureka Precisa scale
- 'Stop early' added to scale menu
- Flow rates can be displayed as ml/s or ml/min
- Brew ratio calculator added to dose menu
- Café Allongé pressure profile preset
- LED wiring function WAND
- Automatic flow meter calibration with wireless scale
- Warm-up programs waits for PID to reach setpoint before flushing begins (optional)

BUGFIXES

- Pressure band didn't include user-defined offset
- MCU command (print setup) didn't dump relevant data if dose method was "by weight" or "by volume"
- Phase plots appeared even if pressure profiling was not possible due to missing SNS signal
- Wrong buzzer sound played when aborting programs

Version 2.2

- Filter option in Pump→Control menu

- Pressure profile resizing
- Doses can have associated pressure profiles
- Cup detection
- Left/right encoder rotation can be configure independently, for example rotate left into list of doses, rotate right into menu
- Fast start option in warm-up program's settings

BUGFIXES

- Cup's pressure profile was not activated if cup's dose was undefined

Version 2.3

- Sensor calibration program for thermocouples (for users of afe16/24 thermocouple interface)
- Mcc command to remotely execute functions (p.224)
- Option to skip from preinfusion to shot when the first drop is detected (p.126)
- After dosing, the pressure profile used before dosing is restored if dosing changed it
- Venting duration during warm-up program configurable
- Configurable weight limit for drop-ends-PI function
- Increased range for integral constant in pump control
- Support for Digimesa nano flow meters
- Serial output speed doubled (requires Status Monitor 3)

BUGFIXES

- Kc and I values in pump control menu were wrongly formatted (**see errata, p.103**)
- Phase values in “leva!-64C3F8DB.xml” file had wrong unit (percent instead of degree)

Version 3.0

- Flow rate tracking (p.159)

BUGFIXES

- Small rounding errors in pressure profile resizing code