Manufacturer Information

for users regarding software updates
(following the NAMUR recommendation 53)

1 Type of device

- ☒ Field device / signal processing device
- ☐ Monitoring– / operation system / hand held terminal etc.
- ☐ Modem / interface

Manufacturer	: Endress+Hauser
Device	: Liquiline
Type	: CM442, CM444, CM448
Previous software version	: 1.03.01

How can the previous software version number be identified:

> (a) With standard HART or PROFIBUS Communication
> (b) with FieldCare/DTM
> (c) Display

2 Software

New software version : 1.04.00

Description of the modification in comparison with the predecessor version:

Liquiline CM44 - New Features/Availabilities:

· Integrated 24 VDC extension power supply for Liquiline CM444/CM448

· New extension module: 2x digital input & 2x digital output ("DIO") featuring:

o Input: Measuring range switch for conductivity
o Input: External Hold
o Input: triggering of a cleaning cycle via an external signal
o Input: PID-controller enable/disable e.g. via CCA250-Proximity switch
o Input: usable as "analog input" for Pulse Frequency Modulated (PFM) input signals
o Output: static, usable comparable to a relay, e.g. for signalizing diagnostic states, limit switches, etc.
o Output: dynamic, usable comparable to a wearless "analog output" with Pulse Frequency Modulated (PFM) signals (e.g. for dosing pump control)

· Status of Relays, digital inputs and digital outputs can be displayed also in user definable measurements screens

· Key lock (by long pressing the Navigator) with optional password protection

· The printing of the device configuration via FieldCare is optimized

· PID-Controller: now supports also disturbance feed forward control allowing e.g. flow proportional dosing via 0/4..20mA, digital fieldbus or the new digital inputs.

· Mathematics: pH out of conductivity value is now also calculable basing on LiOH
(according the new "VBG Powertech group guideline" for the power & energy industry)

Liquiline CM44 - Enhancements & Improvements:

· Offset Icon - Harmonization across all parameters to not display the offset icon anymore

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    o Note: Offset Icon will only be displayed at pH and ORP

· Human Machine Interface (HMI): Translation of all new menu items (including the items of the release 3a) into all available languages

ISE: New Features, Enhancements & Improvements

· Re-arranged and simplified calibration menu implemented

· Calibration of any two parameters in one sequence is possible (except pH/temperature)

· Slot numbers in the menus are replaced by parameter name

· A user defined ISE type can be chosen

· At the end of the standard addition the concentration of the original sample is displayed.

pH/ ORP: New Features, Enhancements & Improvements

· Support of CPSx6 combined pH/ORP electrodes

· Icon for automatic, manual or medium compensation (ATC/ MTC/ MED) same as with conductivity are available

Conductivity: New Features, Enhancements & Improvements

· The raw value in resistivity mode at the unit "µS" is available with three decimal places

· Extension of ISO Temperature compensation table by "Water ISO7888 (20°C)"

· Integration of new & enhancing existing concentration tables

Dissolved Oxygen: New Features, Enhancements & Improvements

· All units now available with three decimal places (e.g. 0.003 mg/l)

· A warning message for zero current now also for negative values (before: just+1nA, now: +/-1nA)

· After successful calibration the new slope and in addition the used calibration pressure value is now shown. User can now cross check if the calibration pressure of the extended setup/calibration setting is used.

Turbidity, Nitrate, SAC: New Features, Enhancements & Improvements

· Turbidity: auto ranging can be switched on or off. In the Off-mode, the units mg/l or g/l or % can be chosen. In the On-mode, the system selects the units mg/l or g/l automatically.

· Turbidity, SAC, Nitrate: A Dataset can be saved also after editing its name

· Turbidity, SAC, Nitrate: When copying datasets, it is now indicated what will be used as source and as target.

· Turbidity, SAC, Nitrate: Values for Offsets can now be entered for a wide range. The range is not defined anymore by the sensor.
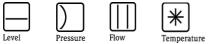
3 Compatibility

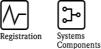Is the operating tool compatible with the installed device software?

☒ Yes
☐ No, description:

The HART DD and the HART DTM are fully compatible.

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Is a software update generally recommended?

☐ Yes, reason:

    The software update can be performed by means of …
- SD card

☒ No, reason:

    Update only necessary if functional enhancements are desired

4   Instruction manual

Is a new instruction manual necessary due to the modification of the software?

☐ Yes
☒ No

Which manual corresponds to the new software:

Device	Communication options	Manual	Marking
CM442/444/448	All	BA00444CEN.pdf	Liquiline Commissioning
		BA00445CEN.pdf	Liquiline Maintenance & Diagnostics
		BA00450CEN.pdf	Liquiline Operation & Setting
		BA00451CEN.pdf	Liquiline Calibration

The new instruction manuals can be referred in Internet:
http://www.endress.com   – area „DOWNLOAD"
                       – declaration of the device and kind of manual

5   Price

Change in price of device in comparison with the predecessor version?

☐ Yes, new list price and update costs (without installation) are enclosed
☒ No

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