A201-PH

ChangeLog
Firmware History

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Table of Contents

Firmware History

Version 1.1.1

ISM Sensors
New evaluation method for remaining lifetime (DLI). Wear indication "SENSOR WEAR" has been omitted. With ISM sensors, the adaptive calibration timer is called "ACT". It is directly managed in the sensor.

Signaling that calibration data are written into the sensor
When calibration data are written into an InduCon or ISM sensor, the lower display line shows "STORING DATA". At the same time the hourglass blinks. With InduCon, the red LED on the sensor blinks in addition.

CONFIG display
In the "SENSOR" configuration menu only "DS" is displayed to identify a digital sensor (InduCon, ISM, Memosens).

No "A" icon when only one parameter set is used ⌷SEP⌷(PARSET FIX A)

Version 2.0.0

-U1- specifiable buffer set
With "Buffer set -U1-" selected in the configuration, the user is provided with a buffer set containing two buffer solutions whose pH/temperature values can be freely entered from 0 to 95 °C.

Display when time/date have not been set
If the clock has stopped after prolonged power outage (> 5 days) or has been set to an invalid value, this is signaled as follows:
a) All occurrences of the time display are replaced by dashes.
b) The time in the analyzer remains invalid until the user has set the clock.

Memosens function implemented
Select: Sensor type digital (ISM / MEMOSENS)
Default setting: Memosens

Sensocheck for reference electrode
When the value falls below the Sensocheck limits (short circuit), the monitor now displays 0 Ω.
When the value exceeds the limits (open circuit), dashes are displayed.

Calibration
Now, the calibration values are only saved after the calibration has been finished (menu item: END, MEAS).
The calibration timer is only reset after a successful calibration.

Models renamed
The A201 INDPH models are renamed to A201 MSPH.

Error messages
In the case of an invalid setting of the current input span (I-INPUT) now the "ERR 105: INVALID SPAN I-INPUT" error message will be generated.
When a wrong sensor has been connected (e.g., pH sensor to oxygen analyzer) now "NO SENSOR" is displayed instead of "WRONG SENSOR".

Info icon for sad Sensoface
When Sensoface is "sad", now the **i** icon appears in the measurement display to indicate that an information text can be retrieved.

Version 2.1.1

Memosens ISFET sensors
The pHiso value is included in the calculation of the ISFET pH value.

Memosens: Sensocheck for glass electrodes
Memosens provides the "GLASS-SCS Failure" signal together with the impedance.
Now only this signal will be evaluated for Sensocheck.

Memosens manufacturer and sensor designation
"KNICK" is displayed as manufacturer when the order code begins with "SE". If the order code begins with "CPS", "COS" or "CLS", "E+H" is entered and displayed as manufacturer. For all other order codes, "---" is entered as manufacturer.

CIP/SIP entry in the logbook
CIP/SIP cycles are entered in the logbook together with time, date and max. temperature.

Version 2.1.3

New chip identifier activated in bootloader

Version 2.2.0

New pH/pNa ISM sensor

Version 3.1.1

Model designation changed
The A211 model designation is replaced by A201 + TAN for HART.

Buffer set DIN 19267
DIN 19267 buffer set implemented under -10-:
-10- DIN 19267 1.09 / 4.65 / 6.79 / 9.23 / 12.75

No CIP/SIP entry when switched off
With CIP/SIP COUNT OFF, no CIP/SIP entry is made in the sensor.

More temperature probes are supported
NTC 8.55 kΩ (Mitsubishi) -10 … 130 °C
Balco 3 kΩ -20 … 130 °C

User-defined TC table 0 … 95 °C

Change in the wear evaluation for Memosens glass sensors

Additional displays in the sensor monitor
For MEMOSENS glass sensors, the following two displays are added to the sensor monitor:
SENSOR WEAR [%] and LIFETIME [day] (representation as for InduCon)

Wear icon suppressed
When Sensocheck is switched off, the Sensoface icon for wear will be suppressed.

Memosens ORP sensors are supported

Flow measurement
For checking and evaluating the flow volume, a pulse-type flow meter can be connected to the CONTROL input.

pH display during calibration
After start of calibration (Calimatic or manual buffer entry) the pH value is displayed in the left secondary display instead of the time.

Menu access with lower cursor key only

INFO text
The INFO text in measuring mode is changed to: NO INFO

More display possibilities in measuring mode
Additional measured values can be indicated in the display.
Any desired display can be defined as main display, which will automatically be shown after exiting a function (e.g., after calibration) or in measuring mode after a timeout (60 s).

Displaying the two output currents

The brief display of the two output currents on pressing **enter** is omitted. The output currents have been added to the regular display options. Their display is accessed by pressing **meas**.

Retrieving the complete tag number [TAG]
When the tag number is retrieved by pressing **meas**, still only the first 10 digits will be displayed. When the TAG is longer than 10 digits, it is marked with an arrow on the margin and can be moved on the display using the [right/left] cursor keys.

Evaluation method for ISM sensors
ACT (Adaptive Calibration Timer), TTM (Time To Maintenance),
DLI (Dynamic Lifetime Indicator), autoclaving counter
Operating time, weighted operating time and remaining lifetime (DLI, Dynamic Lifetime Indicator) are retrieved directly from the sensor.

Diagnostics menu
The following parameters are added to the "MONITOR" display in the Service menu: ACT (adaptive calibration timer), TTM (adaptive maintenance timer), DLI (Dynamic Life Time Indicator).
If the time exceeds 168 h (one week), the display automatically switches to days.

SIP counter also for Memosens

Current outputs OUT1/OUT2 triggered by Sensoface alerts
Now, both current outputs OUT1 and OUT2 can also be set to 22 mA by a Sensoface alert (sad Sensoface).
This can be separately switched on/off for each current output in the CONFIG menu.

pH compensation for ultrapure water implemented

Pfaudler standard pH sensors and Pfaudler Memosens pH sensors are supported (TAN)

Sensoface with PFAUDLER option
Info text: "SENSOR ZERO/SLOPE CALIBRATE OR CHANGE SENSOR"
For the PFAUDLER option, the zero and slope values are evaluated separately but generate only one message (compatibility to the other analyzers).

pHiso and Viso taken into account for Memosens sensors

Calculation of ORP value was corrected

Buffer set -02- renamed
The Knick "-00- KNI" buffer set has been removed.
The Merck/Riedel "-02- M/R" buffer set has been renamed to "-02- KNC" Knick CaliMat.
Factory setting: "-02- KNC".

Version 3.1.2

Optimization of Sensoface display for Memosens sensor wear

Version 3.2.1

Optimization of switch-on behavior

Optimization of response time for flow measurement

Bootloader version is displayed

Optimization of ERR 98

Adaptation IrDA to WIN 7

Optimization of manual pH calibration procedure regarding buffer detection

Version 3.2.2

Filter for flow measurement revised

Problem with clock adjustment was fixed

Hamilton recognized as manufacturer of Memosens sensors

Version indication was extended

Sensoface evaluation for Memosens
Sensoface for sensor wear will now be evaluated for Memosens.
Sensocheck of reference electrode will not be run for Memosens any more.

Waiting time after WASH function was changed
The waiting time was increased from 20 to 30 seconds.

Flow measurement
The unsteady measurement display in the case of low flow rates was stabilized.

Version 3.3.0

Optimization of internal memory tests

Service/IrDA menu removed

Version 3.4.0

Memosens monitoring was optimized

New standard buffer set according to NIST DIN 19266 implemented

-05- NIST standard   1.679/4.006/6.865/9.180 for a reference temperature of 25 °C / 77 °F

HART

Bootloader version can be read out via HART.

All active error messages are output via HART command 48:

Command 48 - "Read Additional Device Status"

Limits for minimum current span were removed

IrDA port was disabled

Adjustment, testing, and software update take place via the RS-485 Memosens interface.

Sensor verification with measuring point (TAG) and group of measuring points (GROUP)

Version 3.5.0

Memosens pH/ORP sensors are supported

Temperature correction for Memosens sensors was optimized

Sensor verification using TAG and GROUP was implemented

Microcontrollers with larger program memory are supported

Version 3.6.0

HART

Sensor wear and lifetime are available as HART TV or QV Dynamic Variable.

Due to the expansion of the HART interface, the Device Revision was increased from 5 to 6.

Version 3.7.0

HART

Glass impedance and Sensoface are available as HART TV or QV Dynamic Variable.

The device status (e.g., calibration) is available as HART TV or QV Dynamic Variable.

Due to the expansion of the HART interface, the Device Revision was increased from 6 to 7.

Version 3.8.0

New: Display backlighting can be switched off

The display backlighting can be switched off in the configuration menu**.**

Change: Support for ISM simulators improved

For ISM simulators from Mettler-Toledo, the printed values are displayed.

Change: ORP calibration date

The calibration date for the Memosens pH/ORP combination sensor is entered in the sensor.

New: Buffer sets Hamilton A, Hamilton B and Kraft added

The following buffer sets are added under SNS: BUFFERSET:

-11-HMA - Hamilton A

-12-HMB - Hamilton B

-13-KRF - Kraft

Bugfix: Calibration method in Memosens

In the Memosens pH/ORP sensor the wrong data for a product calibration was entered.

Version 3.9.0

Optimization of the production interface (no change in product properties)