1   Requirements / Tools

- con::lyte D-320 and i::scan
- Appropriate multifunctional slide for optical path length(=OPL): E-431-1 (35 mm) or E-431-2 (5 mm)
- Distilled water
- Cleaning solutions: 3% HCl (Hydrochloric acid), pure alcohol/ethanol, s::can cleaning agent: B-61-1
- Cleaning material: soft cloth, paper tissues e.g. Kim wipes, cleaning sticks, cleaning brushes: B-60-2

2   General Information

The "function check" checks the condition of the i::scan and is required for one of the following reasons:

- Initial startup
- Routine functional check, e.g. before checking correlation to reference method (calibration)
- After modifications, e.g. change within automatic cleaning system or sensor position
- Suspicion of malfunction

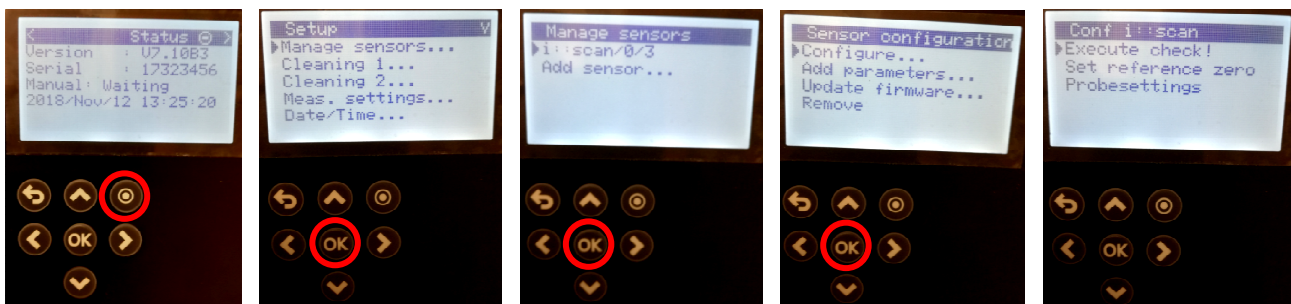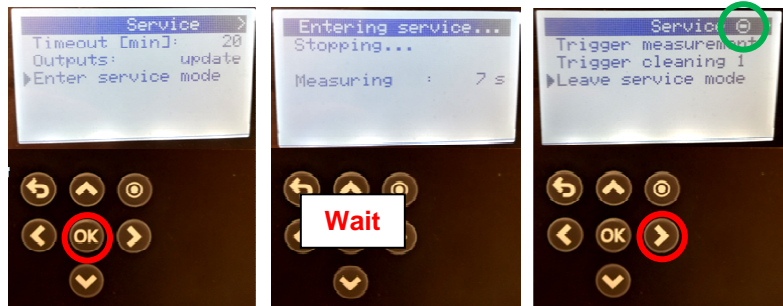| Possible issues with parameter readings	Typical causes
Drift over time	Bio-film build-up, deposits (e.g. ferric, manganese), etc.
Steps at a single point	Indication of local calibration or sensor is out of the water
"NaN" (Not a number) displayed	Optical path length (OPL) is obstructed by either auto-brush, debris, ragging, etc.
Scattering	Optical path not completely submersed, temporary or partially blocked OPL (e.g. by brush), or improper installation resulting in air getting stuck in the OPL

3   Instruction

⚠️ **Always use proper PPE (personal protective equipment) when handling cleaning solutions or acids. Do not clean or handle the i::scan without _Enter service mode_, indicated by** 🔲 **(see green cycle below)!**

3.1   Preparing con::lyte for Function Check

1. Navigate to the most left con::lyte screen (_Service_)
2. Select _Enter Service Mode_ to suspend all automatic processes
3. Select the correct sensor (_i::scan_) in _Setup_ screen using _Manage sensor…_ menu
4. Select _Configure…_ menu to have the _Execute check!_ menu available
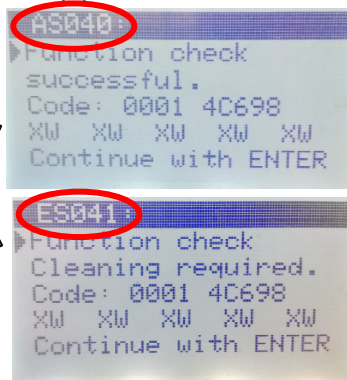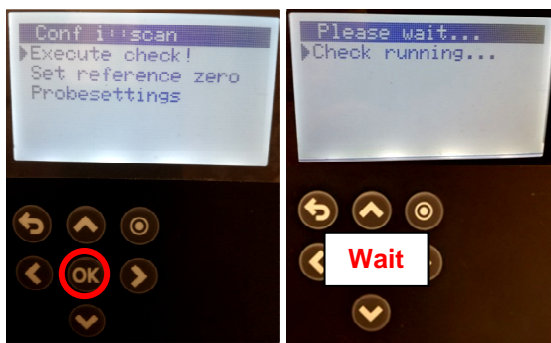
3.2 Preparing i::scan for Function Check

1. Dismount the i::scan from the installation place (e.g. flow cell)
2. Clean measuring path, any screws, the cleaning socket but DO NOT CLEAN THE WINDOWS
3. If the i::scan has an integrated air cleaning, flush the internal cleaning pipe with distilled water
4. Place the cleaned multifunctional slide over the measuring path
5. Rinse the multifunctional slide using distilled water 2 times
6. Slowly add distilled water taking care to prevent air bubbles. Double check for air bubbles after filling
7. Slowly rotate the i::scan by 180° such that the measurement path can no longer be seen. Rotate back, make sure that all air bubbles are removed and rotate again the i::scan by 180°

3.3 Perform Function Check and follow-up

1. Select "Execute check" an push OK. After this is ready you will see one of the following results:

Wait

AS040:
i::scan can further be used.
The i::scan passes the function check.

ES041 or any other E-code:
i::scan shall not be further used, manual cleaning of i::scan windows is necessary. Most proberly automatic cleaning is needed/not working fine.

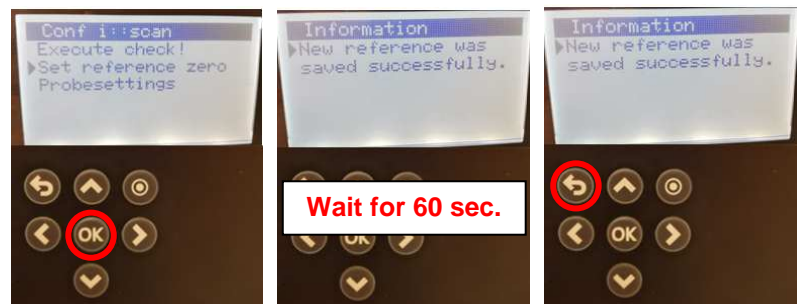In case of **"ES041 or any other E-code"** follow-up with cleaning the i::scan windows:

- The windows can be soaked using cloth with a cleaning solution for up to 5 minutes
- The cleaning brushes can be used to manually clean the i::scan windows
- Use cloth to clean the windows from the left to the right side
- Rinse the optical path and slide with distilled water before executing the check again

   If the i::scan passed the function check now successful, this is an indication that automatic cleaning did not work properly (check and intensify automatic cleaning system is recommended)!

   If the i::scan does not pass the check after 3rd time of cleaning, follow-up with **_Set reference zero_**

3.3.1 Set reference zero - only necessary if i::scan did not pass the function check (see above)!

- Repeat all steps from above inclusive cleaning of windows before performing _Set reference zero_.
- Confirm _Set reference zero_ with _OK_ and **wait for 60 sec.**
- Repeat the function check to see if the i::scan passes the function check after _Set reference zero_:

Wait for 60 sec.

3.4 Finish Function Check

Only continue using the i::scan if it has passed the function check ("AS040")!
The stored zero reference on the i::scan is very stable. If _Set reference zero_ is needed more often than once per year, we recommend to contact your s::can Sales Partner.
Be sure to Leave service mode within the Service screen to initiate measurements again.

Version history: (PLEASE DO NOT PRINT THIS PAGE IN FINAL PDF DOCUMENT)

Vers. No.	Date	Author	Description of the change
V1.0	13.11.2018	JE	Document creation by JE
V1.1	26.11.2018	WL	Complete new layout and several adaptions by WL
V1.1	03.04.2019	JE	Corrections: Requirements/Tools, General Information and 3.2 . New chapters "Set reference zero" and "Finish Function check".