

## smart memo

Electronic pressure measuring case for pressure tests on gas and water pipelines with enhanced functionality



Send test reports directly by mail with **LTE** data transmission

**LTE**   **GPS**



### Inputs

Easily operated and fast input via touch screen



### Signature

directly on the display

- small and handy – half the size of a DIN A4 sheet
- dynamic pressure tests with optimised adjustment times
- intelligent, interlinkable temperature and pressure sensors
- enlarged display with touch function
- signature on the display possible
- LTE data transmission and GPS position data storage
- Bluetooth integrated
- operating time doubled

## PICTURES OF APPLICATION



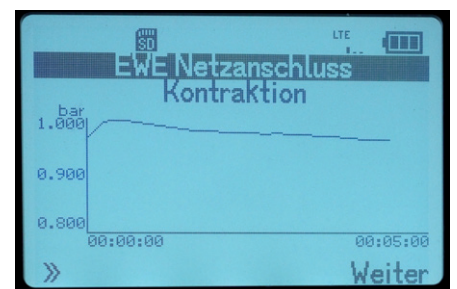


# SMART MEMO

## SIMPLY SMALLER, SIMPLY MORE FLEXIBLE, SIMPLY SMARTER

Pressure tests are essential for the approval of pipelines. The smart memo offers you excellent technology in practical design. The small and handy case is half the size of a DIN A4 sheet and therefore particularly space-saving.

Enlarged **display** for clear, concise presentation of all relevant data before, during and after the pressure test. The current pressure curve can be displayed at any time during the test as a **graphic** via a function key. This allows the user to maintain an overview and obtain valuable information graphically even without a paper printer.



## SIMPLE DATA TRANSFER

With the **LTE function** (optional), the smart memo can transmit data digitally. The finished reports can be sent directly from the construction site. You simply enter the e-mail address in the smart memo. No additional app or software is required.

**Bluetooth** is integrated in the smart memo

- protocols including the signature are secure, transmitted quickly and without errors to the PC1 software (with LINK to the PC).
- update function for the smart memo (with LINK to the PC)
- printer interface



In addition, the pressure measuring case contains the convenience function GPS (optional), which enables clear location information for documentation.

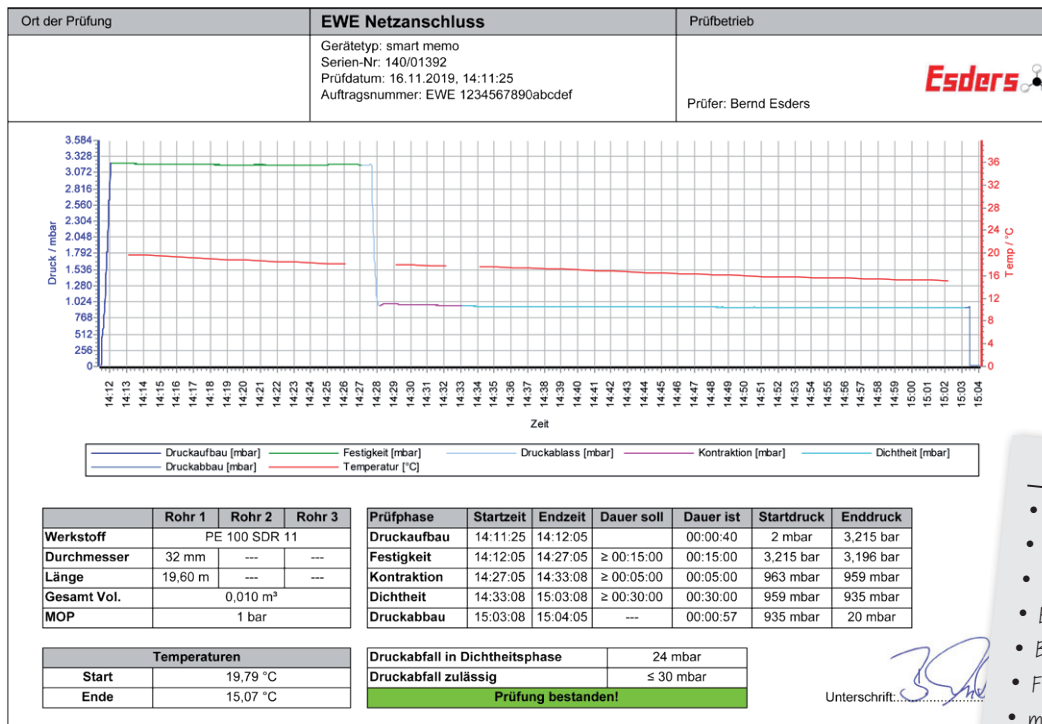


LTE



GPS





#### Overview of all tests:

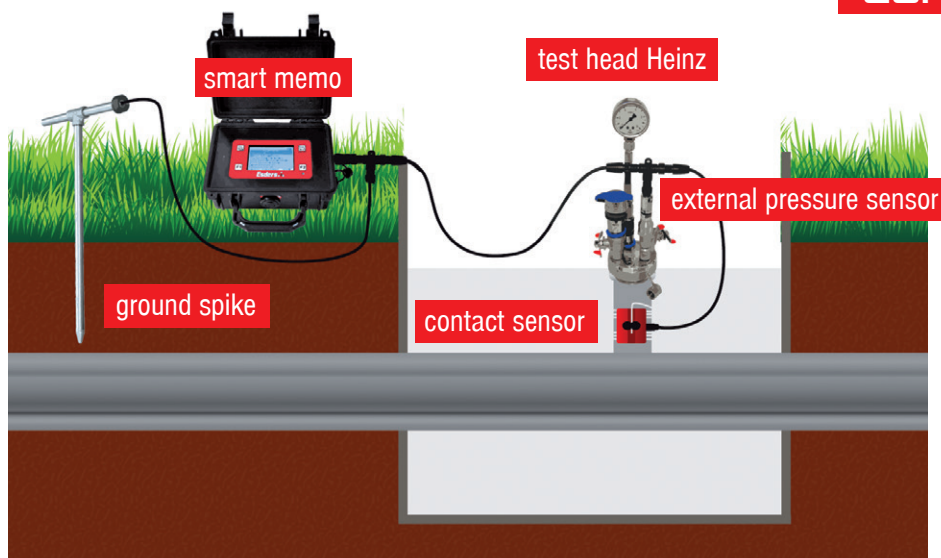
- W 400 Contraction test
- W 400 Standard procedure
- W 400 Accelerated procedure
- B3 service line G 459-1
- B3 supply line G 469
- Free pressure tests
- more to come

## ALWAYS BE UP TO DATE

With our Esders Update Tool it is possible to upload different tests on the smart memo without having to send in the device. This is to update and upgrade the smart memo at a later date even with your customised settings and menu items. The big advantage for you is that the upgrade can be performed fully automatically from your workplace.

## Handle the same task and save time with the smart memo! Because time is money!

By connecting several intelligent, interlinkable sensors, it is possible to simultaneously measure and document temperatures with high precision via the ground spike and contact sensor. The new smart function "Dynamic Pressure Test" automatically allows optimised pressure tests during the adjustment time with significant time savings.



## CONNECTION EXAMPLE

A new feature is the use of external pressure sensors, which are connected by cable to the line. They can be used as independent units and can be connected to any smart memo. They are calibrated and certified for themselves. This brings significant advantages, for example, during servicing or when additional sensors are purchased later.

## TECHNICAL DATA

### SMART MEMO

Dimensions	B x H x T approx. 220 x 90 x 168
Weight	approx. 1450 g
Display	240 x 160 Pixel, touch display and backlight
Power supply	Lithium-Ionen 7,2 V 10.000 mAh
Charging time	approx. 8 hours
Charging	Power supply or car adapter, 12 V
Operating time (without backlight, 20 °C, one sensor)	approx. 200 hours, every additional sensor -10 %
Operating time (with backlight 20 °C, one sensor)	approx. 100 hours
Operation and charging at the same time	yes
Operating temperatur	-10 to +40 °C
Storage temperature	-20 to +60 °C
Data storage	> 2.000.000 measured values (several thousand measurements, depends on the measurement time)
Protection type	IP 67 (when lid and protecting caps are closed)
Number of connectable sensors EDS2	up to 5 pieces
max. cable length for sensors	all in all approx. 100 m
Bluetooth	Interface for measurement data transfer, printer and updates/upgrades
LTE (optional)	E-Mail

### PRESSURE SENSOR EDS2-P



Protection type	IP 67
Connection	outer thread 1/4", O-Ring
Length, width	approx. 100 mm, 28 mm
Sensor connection cable, Length	5 m

Pressure measuring range	max. excess pressure	measurement accuracy	Applications, e. g.
0-1 bar	1,5 bar	0,5 % f. s.	Gas-low-pressure
0-10 bar	15 bar	0,5 % f. s.	various
0-10 bar	15 bar	0,1 % f. s.	various
0-10 bar	15 bar	0,1 % f. s.	DVGW G 469 B3
0-25 bar	40 bar	0,01 % f. s.	DVGW G 469 C3
0-25 bar	40 bar	0,5 % f. s.	various
0-25 bar	40 bar	0,1 % f. s.	DVGW W 400
0-100 bar	150 bar	0,1 % f. s.	Industry

The display resolution of smart memo meets the requirements of the test procedures!

#### Temperature sensors EDS2-T

- Docking element to measure the temperature of the pipe wall
- Ground spike to measure the soil temperature

Technical specifications subject to change! Status 2020/06



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