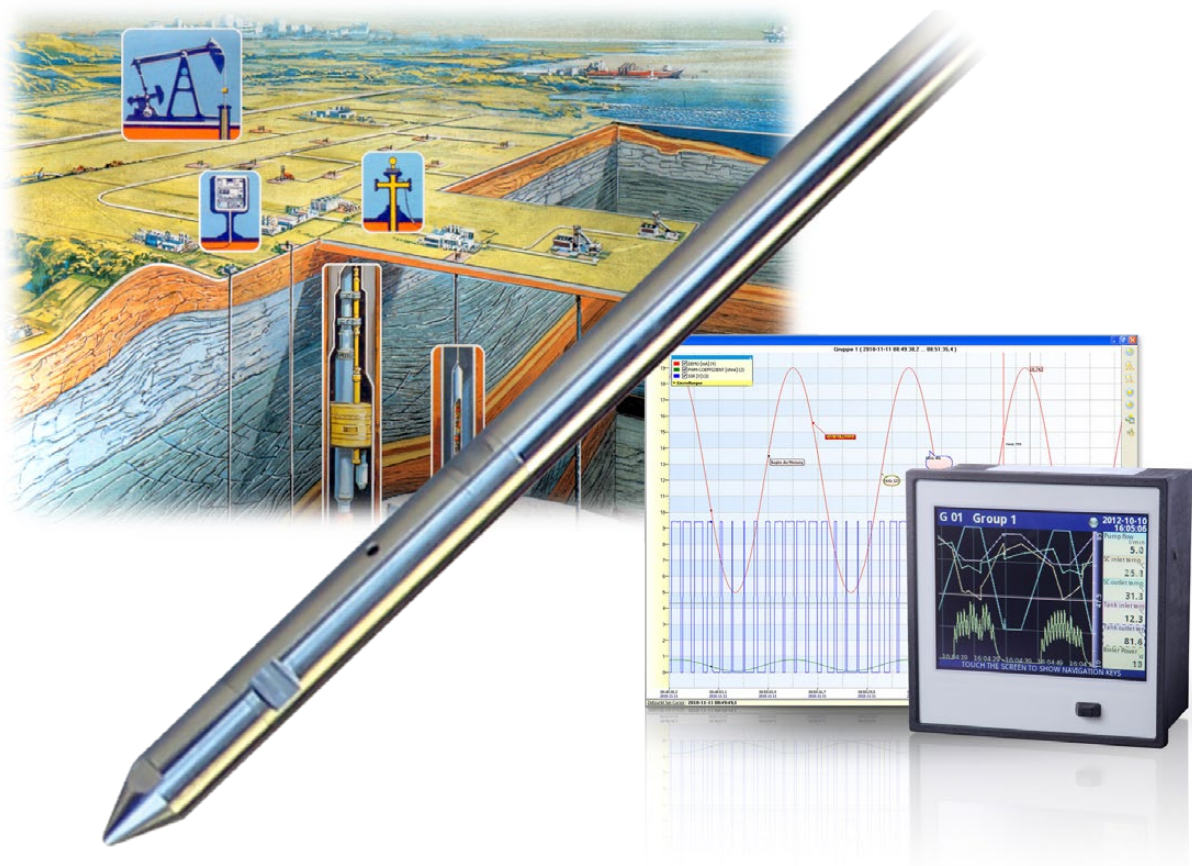


# Permanent measurement and control system PK

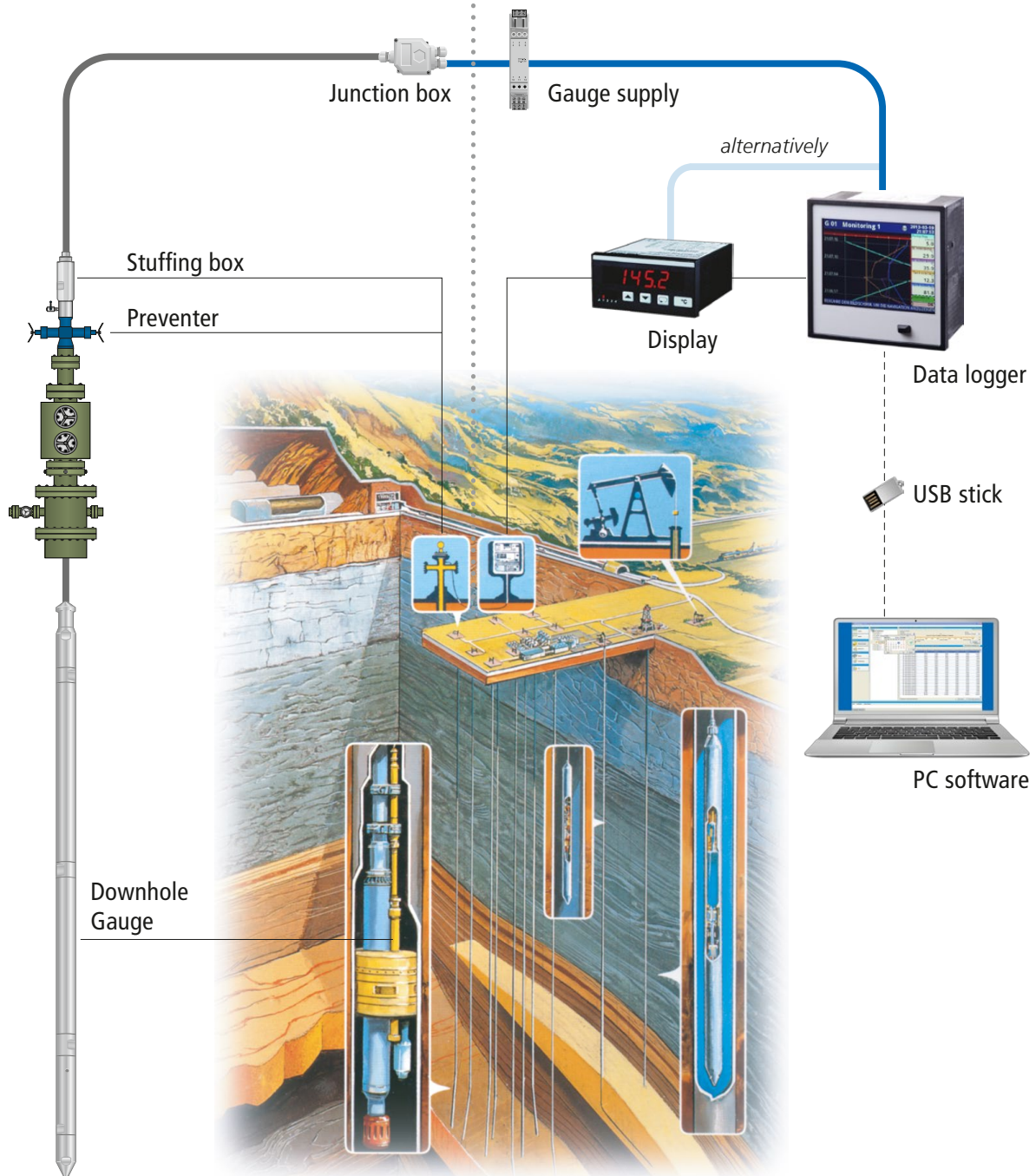


## Pressure and temperature gauges

System for pressure and temperature measurements in deep wells, surface display and data logging or remote transmission to SCADA systems

**Gauges and accessories**  
Pressure/temperature measurement

**Measuring data processing**  
Display, Storage, Evaluation



Schematic function diagram PK system

## Description

The PK system implements measurement and control tasks at and in mineral oil and natural gas wells and underground storages as well as water wells including geothermal wells.

Apart from pure measurement tasks, such as measuring pressure in the bore-hole or pressure and temperature at the wellhead and other parameters such as pipeline pressure, liquid levels and a lot more process parameters can be measured, stored and evaluated.

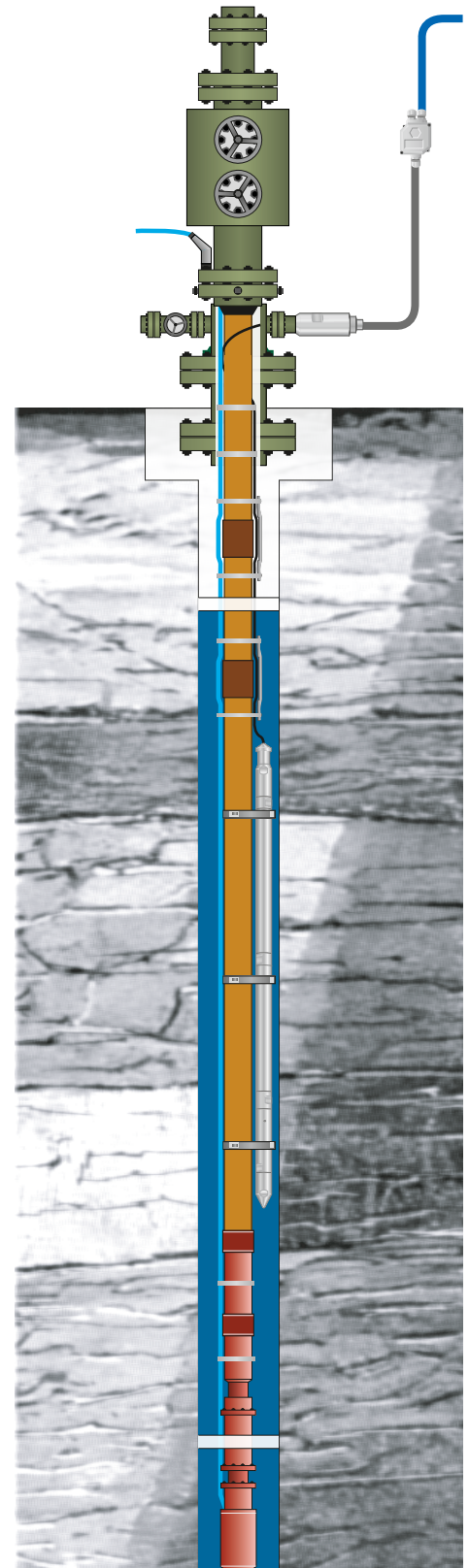
The PK system features enhanced applications, compared to conventional pressure and temperature transmitters.

*Examples are:*

- Storage of measured values at site and remote transmission of data
- Analysis of optimum production and storage capacity
- Monitoring of and automatic response to alarm situations
- Continuous monitoring of fluid level in the well
- Pump operation control according to fluid level for deep well sucker rod pumps, electric submersible pumps and screw pumps
- Measuring data acquisition, communication and evaluation

For the measurement data processing further customer specific solutions are possible. Optionally the PK system can be powered by solar energy or batteries respectively.

The PK controller can be delivered completely mounted in weatherproof boxes or cabinets.



*Gauge installation in annular space - for pump monitoring*

Please download this questionnaire from our website  
<https://www.leutert.com/oil-gas-division/en/products/pressure-gauges/permanent-gauges.php>

## Project Engineering Questionnaire for Gauge Installation

| Customer information |      |                   |  |
|----------------------|------|-------------------|--|
| Company:             |      | Person in charge: |  |
| Department:          |      | Project:          |  |
| Phone:               | Fax: | E-mail:           |  |
| Street:              |      | City/Country:     |  |

| General questions regarding the well(s)   |  |  |                                  |
|---|--|--|----------------------------------|
| 1. Max. pressure:   | downhole:                              | wellhead:                              |                                  |
| 2. Max. temperature:  | downhole:                              | surface:                               |                                  |
| 3. Depth of pressure/temperature gauge:   |  |  |                                  |
| 4. Type of medium:<br>e. g. H <sub>2</sub> S, attach chemical analysis if available           | <input type="radio"/> gas              | description:                           |                                  |
|   | <input type="radio"/> water            |  |                                  |
|   | <input type="radio"/> oil              |  |                                  |
| 5. Type of well:  | <input type="radio"/> production well  | <input type="radio"/> observation well |                                  |
| 6. Type of gauge installation:  | <input type="radio"/> in annular space | <input type="radio"/> freely suspended |                                  |
| 7. Completion drawing as attachment:  | <input type="radio"/> for wellhead     | <input type="radio"/> for downhole     |                                  |
| 8. Cable-/pressure feedthrough for packer or hanger:<br>If yes, attach drawings or dimensions | <input type="radio"/> yes              | dimensions:                            | <input type="checkbox"/> drawing |
|   | <input type="radio"/> no               |  |                                  |
| 9. Type of pump, e. g. sucker rod pump:   |  |  |                                  |
| 10. Inner diameter of casing (ID):  |  |  |                                  |
| 11. Outer diameter of tubing (OD):  |  |  |                                  |
| 12. Deviated well   | <input type="radio"/> yes              | value:                                 |                                  |
|   | <input type="radio"/> no               |  |                                  |
| 13. Special remarks:  |  |  |                                  |

| General questions regarding the measuring technology        |  |   |   |
|---|--|---|---|
| 1. Type of measurement:                                     | <input type="radio"/> online                                   | <input type="radio"/> memory              |   |
| 2. Power supply available at wellsite:                      | <input type="radio"/> 230 V AC                                 | <input type="radio"/> 12/24 V DC          |   |
| 3. Cable for remote control or data transmission available? | <input type="radio"/> yes                                      | <input type="radio"/> no                  |   |
| 4. Gauge:   | <input type="radio"/> for pressure measurement                 |   |   |
|   | <input type="radio"/> for pressure and temperature measurement |   |   |
| 5. Surface installation:                                    | <input type="radio"/> with digital display                     |   |   |
|   | <input type="radio"/> with digital display and datalogger      |   |   |
| 6. Power supply by solar panel:                             | <input type="radio"/> yes                                      | solar panel height:                       | <input type="radio"/> 1.7 m <input type="radio"/> 6 m |
|   | <input type="radio"/> no                                       |   |   |
| 7. Surface unit:  | <input type="radio"/> in weather proof housing (IP 65)         |   |   |
|   | <input type="radio"/> in rack mounted 19" panel (IP 54)        |   |   |
|   | <input type="radio"/> desktop housing with 19" panel           |   |   |
|   | <input type="radio"/> mobile datalogger (IP 65)                |   |   |
| 8. Suitable working range: e.g. 4...20 mA ± 0...300 bar     |  |   |   |
| 9. Measuring units:   | <input type="radio"/> metric, e. g. bar, MPa                   | <input type="radio"/> imperial, e. g. PSI |   |
| 10. Other required parameters: e. g. flow                   |  |   |   |

Date: \_\_\_\_\_

Signature: \_\_\_\_\_