



## PRESSURE AND LEVEL TRANSMITTERS For the Pulp and Paper Industry

# SERIES 8000



*Level transmitter with extended diaphragm*



- "All Stainless" Design
- Flush mounted Diaphragms
- Rugged and Compact
- Strong Diaphragms
- High overpressures
- Accuracy 0,2%



*Level transmitter with special ball-valve*

### DESCRIPTION

The series 8000 Pressure transmitter is designed for reliable pressure measurement in the Pulp and Paper industry.

The small size and **rugged Stainless steel housing** make it ideal for paper mill applications on stock lines,

refiners, screens, cleaners, vacuum boxes and tanks. The transmitters have a **strong flush mounted diaphragm** and can withstand high overpressures. Zero and span are adjustable in wide ranges. All common process connections are available.

Made by:

**KLAY-INSTRUMENTS B.V.**

Nijverheidsweg 5  
P.O. Box 13  
Tel. +31-521-591550

7991 CZ DWINGELOO  
7990 AA DWINGELOO  
Fax +31-521-592046

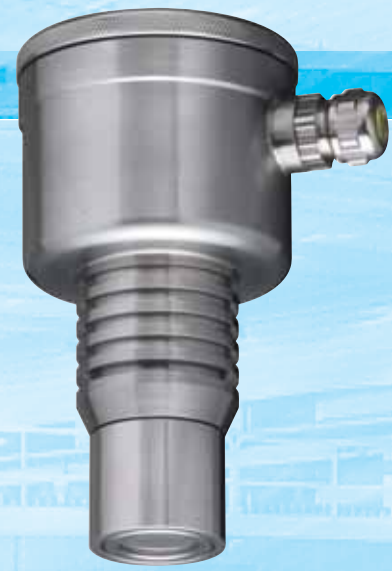
The Netherlands  
E-mail: [info@klay.nl](mailto:info@klay.nl)  
Website: [www.klay.nl](http://www.klay.nl)

Our representative in your area is:

# Specifications

|  |   |
|--|---|
| Measuring ranges                               | : 0,1 bar to 80 bar                               |
| Output signal                                  | : 4-20 mA, 2-wire                                 |
| Adjustment                                     | : Zero and span internally                        |
| Overall accuracy                               | : 0,2% of adjusted span                           |
| Power supply                                   | : 13 to 36 Vdc (ATEX: 13 to 26,5 Vdc)             |
| Electrical connection                          | : PG9 / 1/2" NPT / M20                            |
| External load (max.)                           | : 550 Ohms/24 V to 1200 Ohms/36 Vdc               |
| Protection grade                               | : IP66  |
| Process temperature                            | : -20°C to +80°C (Option: HT versions till 250°C) |
| Ambient temperature                            | : -20°C to +65°C                                  |
| Temperature sensitivity                        | : +/- 0,015%/K                                    |
| Process connections                            | : See Ordering Code                               |
| Wetted parts                                   | : AISI 316 (standard) other materials on request  |
| Electronic housing                             | : AISI 304 (standard) other materials on request  |
| Vacuum and compound ranges available (specify) |   |

Specifications can change without notice



Model 8000-Range-W  
with diam 33 mm weld-on nipple.

## How to choose the right range?

When you choose the range, *take the range with the highest overpressure.*

**Example 1:** Your calibrated range must be 0-3 bar. Now you can choose between our range E or F. Both ranges can be calibrated at 0-3 bar (E = 1-4 bar and F = 2,5-10 bar). In this case take range F because it can withstand a much higher

overpressure (30 bar) against range E (16 bar). *By doing this, the lifetime of the transmitter will be much longer.*

**Example 2:** Your calibrated range must be 0-10 bar. Choose between range F (2,5-10 bar) or G (7,5-16 bar). Take range G because the overpressure for range G is 80 bar and overpressure range F is 30 bar.

## Ordering Code

|  |                       |                                       |                           |   |   |    |   |
|--|-----------------------|---------------------------------------|---------------------------|---|---|----|---|
| Order code   |                       |                                       | 8000-                     |   |   |    |   |
| Order code for Flanged process connection  |                       |                                       | 8000-SAN-                 |   |   |    |   |
| measuring range bar  | max. overpressure bar | adjustable span-range bar min. - max. |                           |   |   |    |   |
| 0 - 0,1 ...0,4   | 6,4                   | 0 - 0,1 / 0 - 0,4                     | B                         |   |   |    |   |
| 0 - 0,4 ...0,7   | 6,4                   | 0 - 0,4 / 0 - 0,7                     | C                         |   |   |    |   |
| 0 - 0,7 ...1,5   | 10,5                  | 0 - 0,7 / 0 - 1,5                     | D                         |   |   |    |   |
| 0 - 1 ...4   | 16                    | 0 - 1 / 0 - 4                         | E                         |   |   |    |   |
| 0 - 2,5 ...10  | 30                    | 0 - 2,5 / 0 - 10                      | F                         |   |   |    |   |
| 0 - 7,5 ...16  | 80                    | 0 - 7,5 / 0 - 16                      | G                         |   |   |    |   |
| 0 - 16 ...50   | 120                   | 0 - 16 / 0 - 50                       | H                         |   |   |    |   |
| 0 - 40 ...80   | 200                   | 0 - 40 / 0 - 80                       | I                         |   |   |    |   |
| <b>PROCESS CONNECTIONS:</b>  |                       |                                       |                           |   |   |    |   |
| - Weld-on nipple diam. 33 mm (flush diaphragm)(equal to 1" PMC)  |                       |                                       | W                         |   |   |    |   |
| - G1" (1" BSP) threaded connection   |                       |                                       | S                         |   |   |    |   |
| - 1" NPT threaded connection   |                       |                                       | N                         |   |   |    |   |
| - M 44 x1.25 with lock ring (equal to PMC, Vega, Rosemount)  |                       |                                       | X2                        |   |   |    |   |
| - Valmet/Satron G1" connection (fits in PASVE valve)   |                       |                                       | X12                       |   |   |    |   |
| - Other process connections, i.e. Valcom, etc. (specify)   |                       |                                       | X                         |   |   |    |   |
| - Flanged DIN or ANSI, all sizes available (specify size)  |                       |                                       | Typecode: 8000-SAN-range- | F |   |    |   |
| <b>OPTIONS:</b>  |                       |                                       |                           |   |   |    |   |
| - Digital local Indicator 3 1/2 digit, programmable  |                       |                                       |                           | I |   |    |   |
| - Vacuum Ranges (Specify relative or absolute). Compound range available (example -1 / +1 bar)         |                       |                                       |                           |   | V |    |   |
| - Intrinsically safe: ATEX II 1 G Ex ia IIC T4 Ga (-30°C < T <sub>amb</sub> < 70°C)                    |                       |                                       |                           |   |   | Ex |   |
| - Various options, example: Cable entry 1/2" NPTf (code G1), M20 (code G2), Hastelloy C Diaphragm (G7) |                       |                                       |                           |   |   |    | G |



## General Information



Topview with local indicator (option).

Strong flush and flat diaphragm with code W connections (from 1 bar and up).



### Active Temperature compensation:

The series 8000 are all fully temperature compensated. A temperature sensor, which monitors the process temperature, is mounted directly behind the diaphragm.

### Zero / span adjustability:

All transmitters from series 8000 are internally adjustable on zero and span over wide ranges.

### Stainless steel electronics housing:

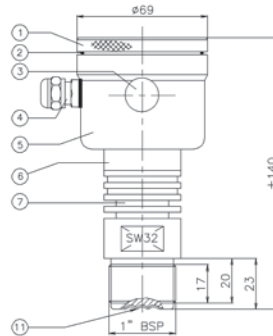
The electronics housing from series 8000 transmitters are standard made out of stainless steel. This creates a very compact and rugged transmitter suitable for many heavy industries.

Standard protection grade IP 66, optional IP 68.

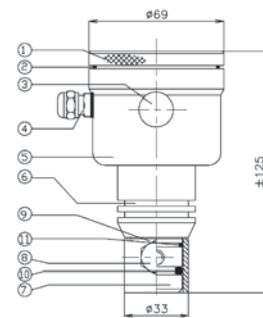
### Parts description code W

|                       |          |
|-----------------------|----------|
| 1. Cover              | AISI 304 |
| 2. O-ring             | EPDM     |
| 3. Venting            | PA       |
| 4. Cable entry        | PA       |
| 5. Electronic housing | AISI 304 |
| 6. Foot/cooling fins  | AISI 304 |
| 7. Diaphragm flush    | AISI 316 |
| 8. M8 lock screw      | AISI 304 |
| 9. Weld-on nipple     | AISI 316 |
| 10. O-ring            | Viton    |
| 11. O-ring            | Viton    |

### Code S



### Code W



## Applications

The series 8000 pressure transmitters are suitable for all pressure applications in the Pulp and paper industry, like on:

- stock lines
- refiners
- screens
- cleaners
- vacuum boxes, etc.

For Level applications, see description below.



## Level transmitters

Klay Instruments manufactures a wide range of hydrostatic Level transmitters series 8000-SAN with flush diaphragm for various applications.

These series 8000-SAN are fully temperature compensated and can also be adjusted on zero and span over wide ranges. All common process connections are available, like Flanges (DIN or ANSI sizes), G1½" threaded connections, etc.

Both series 8000 and 8000-SAN are available in "Intelligent" execution, our series 2000. See information on page 4. A detailed brochure is available for all versions.





### Series 8000-VALVE

The series 8000-Valve is a combination of a level transmitter and a special ball-valve. The design permits **flush installation** of the diaphragm and a transmitter which can be removed without shutting down the process. Process connections are DIN or ANSI size Flanges, G 1 1/2" threaded connection or a special weld on nipple.

### Extended Diaphragms

The series 8000-SAN-EXTD are Flange mounted level transmitters with an extended diaphragm. The extension length and diameter must be specified, always refer to Klay drawing no. 8000-61.

The technical specifications are equal to the series 8000 mentioned in this brochure.



## "INTELLIGENT" Pressure/Level Transmitters



The series 2000 is a complete range of "Intelligent" Pressure and Level Transmitters. Zero and span can be calibrated very easily by 3 pushbuttons and a local display, without test pressure or by HART® HHT or PC. All process connections from series 8000 are also available for series 2000 transmitters (more than 40).



- Easy calibration without test pressure by 3 push buttons and display
- Accuracy 0,1%
- "All Stainless" design
- Wide rangeability
- Adjustable damping
- HART® Protocol
- Profibus PA

### Pressure transmitter

The "Peramic" is a Pressure transmitter with a ceramic sensor and a G 1/2" (1/2" BSP) or 1/2" NPT process connection. These series CER-8000 are designed for pressure measurement on clean fluids, gases and vapours.

### Brochures

A detailed brochure is available from all mentioned instruments on this page.



### Submersible level transmitter

For level measurement in open basins, concrete bunkers, etc.. Klay manufactures a range of submersible level transmitters with cable or SS extension, series "Hydrobar"



Strong flush diaphragm