# Level Transmitters with Kynar®-Diaphragm

## Series 36 XKY

FOR SEWAGE APPLICATIONS / NON-FOULING

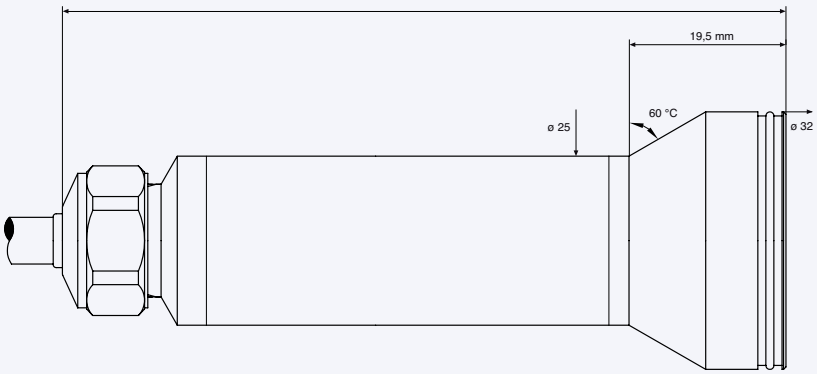
Specifically designed for extended service in sewage lift station environments, the 36 XKY by KELLER features a relatively wide sensing diaphragm yet small overall size. The 36 XKY incorporates a monolithic diaphragm formed from Kynar®, which combines the non-stick quality of Teflon with superior toughness and abrasion resistance that simplify installation and eliminate the need for bulky and expensive protective cages.

The 36XKY utilizes proven piezoresistive silicon measurement technology combined with Keller's state-of-the-art, microprocessor-based signal conditioning circuitry to provide outstanding accuracy and reliability over a wide compensated temperature range.
It is perfectly suited for pump control applications that require standard 2-wire (4…20 mA current loop) or 3-wire (0…10 V) output transmitters. The RS485 interface allows users to scale the analog output to any desired range within the standard pressure range. The 36 XKY is typically suspended into the liquid by a standard Hytrel®-jacketed cable that is both self-supporting and vented. Optional: Keller's enhanced lightning protection makes this trans-mitter ideal for installation in areas prone to chronic damage due to transients caused by lightning.

Using the Keller CCS30 software and appropriate adapter cable, the user can scale the analog output of the 36 XKY, display and record pressure and temperature readings, and access a variety of other available functions. All of the available functions are defined in the Series 30 Communications Protocol. The CCS30 and Series 30 Communications Protocol are available free of charge from the company website.


Product Benefits:

- Non-fouling diaphragm design
- Housing resist chemical attack (AISI 316L)
- Digital interface RS485
- Rangeable analog output
- Mathematically compensated
- Increased reliability in lightning-prone regions




**Electrical Connections**

| Output | Function | Wire Color |
|---|---|---|
| 4…20 mA | OUT/GND | White |
| 2-wire | +Vcc | Black |
| 0…10 V | GND | White |
| 3-wire | OUT | Red |
| | +Vcc | Black |
| Digital | RS485A | Blue |
| | RS485B | Yellow |

CE

**KELLER AG für Druckmesstechnik**
CH-8404 Winterthur
+41 52 235 25 25
info@keller-druck.com

**KELLER Ges. für Druckmesstechnik mbH**
D-79798 Jestetten
+49 7745 9214 0
eurocenter@keller-druck.com

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Companies approved to ISO 9001
www.keller-druck.com

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## Specifications

| | Standard Pressure Ranges (FS) and Overpressure in Bar | | |
|---|---|---|---|
| PR-36 XKY | 1 | 3 | 10 |
| Overpressure | 2 | 5 | 20 |

All intermidiate ranges for the analog output are realized by downscaling from the next higher standard range. The accuracy is calculated from the standard range. Ranges below 1 bar are realized with the 1 bar range. Accuracy for these ranges is +/- 5 mbar (0 .. 50 °C).

| | Analog 2-wire | RS485 only | Analog 3-wire | | |
|---|---|---|---|---|---|
| **Output** | 4…20 mA | RS485 | 0…5 V / 0…10 V | 0…2,5 V | 0,1…2,5 V |
| **Dig. Interface** | RS485 [1] | RS485 | RS485 | RS485 | RS485 |
| **Supply (VDC)** [2] | 8…28 V | 6…28 V | 8…28 V / 13…28 V | 6…28 V | 3,5…12 V |
| **Current Consumption** [3] | 3,2…22 mA | < 8 mA | < 8 mA | < 8 mA | < 3 mA |
| **Accuracy @ RT** [4] | +/- 0,3 %FS | +/- 0,3 %FS | +/- 0,3 %FS | +/- 0,3 %FS | +/- 0,3 %FS |
| **Total Error Band** [5] **0…50 °C** | +/- 0,5 %FS | +/- 0,5 %FS | +/- 0,5 %FS | +/- 0,5 %FS | +/- 0,5 %FS |

[1] During RS485 communication the analog signal will be influenced.
[2] With lightning protection: Minimum supply voltage increase by 1 V
[3] With no load on the analog output and no RS485 communication. For RS485 current consumption see details below.
[4] Includes linearity (BFSL), hysteresis and repeatability
[5] Includes accuracy as well as temperature coefficients of zero and span tolerance

| | |
|---|---|
| Load Resistance (Ω) | < (U–8 V) / 0,025 A (2-wire) > 5'000 Ω (3-wire) |
| Resolution | 0,002 %FS |
| Electrical Connection | Cable: Hytrel®-jacketed, integrated capillary tube (optional: Polyethylene jacket) |
| Protection | IP68 |
| Compensated Temperature Range | 0…50 °C |
| Storage Temperature Range | -10…80 °C |
| Linearity (BFSL) | +/- 0,2 %FS |
| Power – on time | 600 ms |
| Isolation (CASE–GND) | 4…20 mA: > 10 MΩ@300 VDC<br>0…10 V and RS485 only: > 10 MΩ@50 V |
| EMC | EN 61326-2-3 |
| Communication | KELLER-BUS and MODBUS RTU, 9600 baud and 115200 baud |
| Options | - Enhanced lightning protection:<br>Protects supply (4…20 mA) and RS485 lines up to 10 kA @ 8/20 µs.<br>Minimum supply voltage increase by 1 V.<br>Insulation voltage is 200 V.<br>- Different housing material |

RS485 current consumption details:
Without termination, the current during communication is typ. + 2 mA. Using terminated RS485 lines, the current during communication may reach up to 40 mA.
Typically, termination of the RS485 lines is only needed for applications where the operating environment is noisy, or for long cable lengths which exceed 100 m.

**KELLER AG für Druckmesstechnik**
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+41 52 235 25 25
info@keller-druck.com

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