

# *CleverLevel*<sup>®</sup> level switches

The really clever alternative to vibrating forks.



# Really clever limit level detection.

A new era in point level detection begins with the *CleverLevel*® series by Baumer – maintenance-free level switches that function reliably.



## Your alternative to vibrating forks



- Outstanding cleaning capability – reliable processes in hygienic applications
- Insensitivity to adhesions – no error signals and thus minimized downtimes
- Short immersion length – reduced process influence and simplified machine construction
- Suitable design variants (short, long, suspended, sliding) – high level of installation flexibility
- One sensor for liquids, pastes and solids – simplified spare parts storage and maintenance
- Distinction between foam and liquid or between separating layers – excellent process stability

The use of medium temperatures of up to +150 °C/200 °C in the long term is possible. The bright blue LED output indicator increases user-friendliness. The IP 69K stainless steel housing guarantees a long service life in harsh environments. Wide range of variants in the process connection simplifies integration and modification.

# The perfect solution for your applications.

## Variants for optimum process adaptation

Whether for installation in insulated tanks, adjustment of the switching level for overflow protection or adaptation to practically all existing process connections, with various immersion lengths and high temperature versions, the optimum solution can be found for every installation situation.



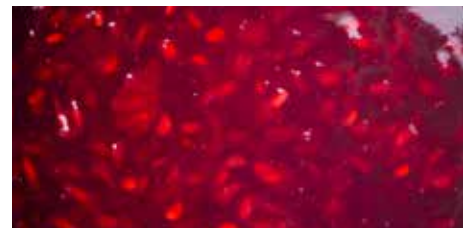
## Detection of foam and separating layers

In certain processes, the medium occurs in different states (e.g. liquid or foam). These can be selectively detected or masked (e.g. foam layer). A clear distinction is also possible between the media of one separating layer (e.g. oil on water).



## Reliability with viscous media

In the processing of sticky and viscous media, viscosity and adhesion properties play a large part. For *CleverLevel*<sup>®</sup> adhering remains do not represent a challenge. It always switches reliably and is maintenance-free.



## Process safety with bulk goods

Bulk goods come in many different grain sizes in a large number of applications. Vibrating forks pose a risk of material deposition or jamming of these media, which triggers error signals. *CleverLevel*<sup>®</sup>, on the other hand, is suitable for all media. Unwanted production downtimes are a thing of the past.



## Dry running protection for pumps

The dry running of pumps is a critical process problem. It can lead to metering discrepancies or damage. For *CleverLevel*<sup>®</sup>, this challenge is child's play.





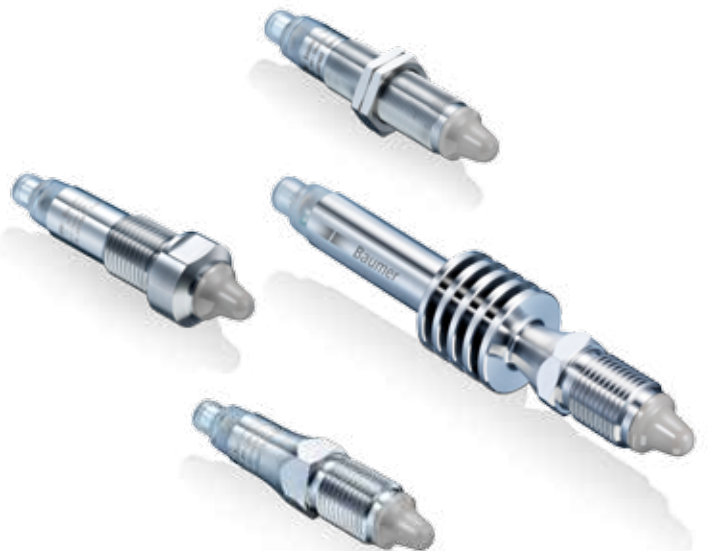


## Reliable filling levels, regardless of the application or medium.

The *CleverLevel*<sup>®</sup> series meets the requirements of process automation and the regulations for mobile systems and ships.

On the basis of frequency sweep technology, *Clever-Level*<sup>®</sup> level switches are suitable for liquid, pasty and solid media. The compact sensor allows installation even in small pipe diameters.

These level switches master the challenges of practically all applications.



Overfill protection and leak detection  
approved according to WHG by





## When it has to be hygienic – we have a clean solution for you.

With their special design and through the use of high-quality materials such as stainless steel and PEEK, our sensors meet the requirements of the food, beverage and pharmaceutical industries.

The short immersion length compared to vibrating forks has practically no influence on the process and simplifies cleaning.

Starting up the sensor is as easy as the operation itself. All media are detected with the help of the factory settings. Advanced functions such as the detection of separating layers or the masking of foam can easily be configured.





# The original – measurably better

## Reliability

- Insensitive to foam, adhesions, flows, turbulences and solid suspended particles
- Temperature stability and repeatability up to 200 °C medium temperature
- Resistant to shocks and vibrations

## Cost-effective

- One sensor for all media
- Maintenance-free

## Functionality

- Bright blue LED output indicator
- Short response time of < 100 ms
- Robust, corrosion-resistant housing
- Fully integrated electronics
- No moving parts

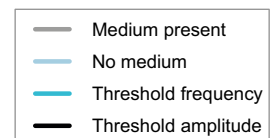
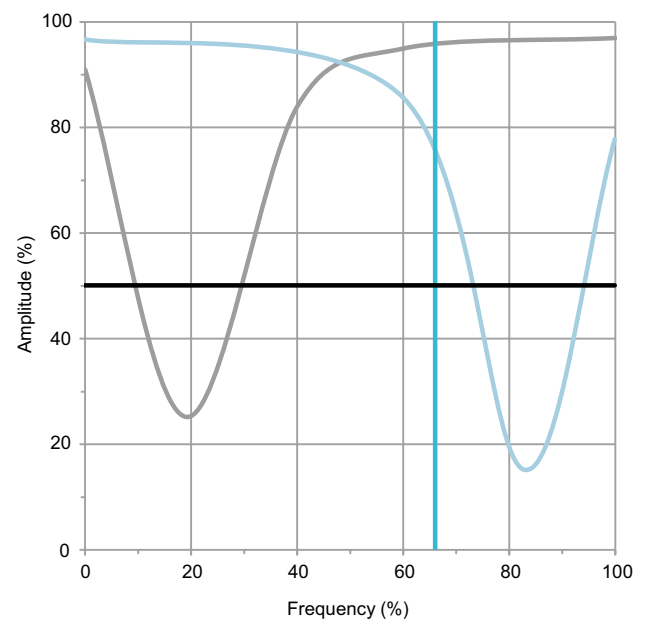
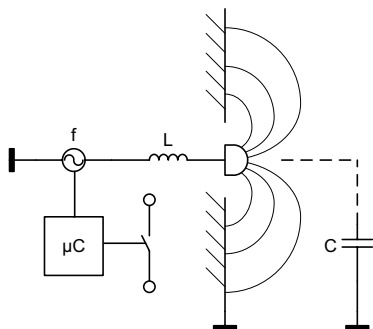
## Flexibility

- Extensive portfolio of designs for different applications
- Wide selection of process connections and adapters



## Frequency sweep technology.

An electrode inside the sensor tip builds a capacitor together with the surroundings. The medium with its dielectric constant (DC value) is defining the capacitance value. A resonance circuit is created in combination with a coil in the sensor head. Switching signal tripping is according to the measured resonance frequency and the programmed trigger thresholds.

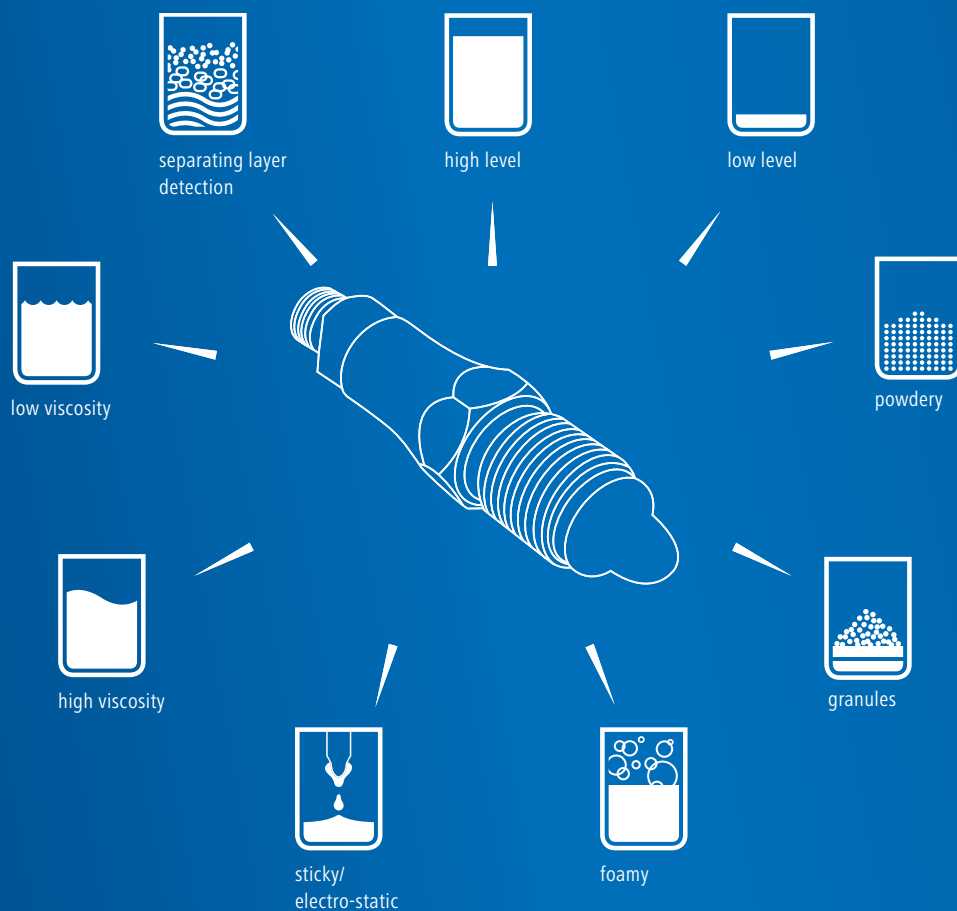




# Level switch technology for all media.

Requirements for sensors are just as diverse as the media the sensors are supposed to detect. Applications vary from dry running protection for pumps through reliable overflow protection or leak detection to the selective detection and masking of foam or separating layers. For the first time, Baumer has made

it possible to meet all of these requirements with one single sensor technology. Here it does not matter whether we are dealing with bulk goods, powders, liquids or foam, or whether the medium is sticky or has high or low viscosity.



## Improvement through simplification.

The reduction of the confusing variety of components through the use of the same sensor type has many advantages. Procurement and spare parts logistics as well as maintenance cost less. The development of new plant and machinery is also more

efficient. Multiple usage also reduces the amount of documentation required. The large number of available process connections and adapters simplifies integration into existing systems.

# Product overview *CleverLevel*<sup>®</sup> level switches

One sensor – various designs



Product	Process connection	Process temperature	Application area
<i>CleverLevel</i> <sup>®</sup> LBFS	G1/2 A, G3/4 A, G1 A, 1/2-14 NPT, 3/4-14 NPT	–40 ... 115 °C	Industry
<i>CleverLevel</i> <sup>®</sup> LBFS	G1/2 A hygienic	–40 ... 115 °C	Hygiene
<i>CleverLevel</i> <sup>®</sup> LBFS	G1/2 A in-shell installation	–40 ... 115 °C	Industry
<i>CleverLevel</i> <sup>®</sup> LBFS	M18 × 1	–40 ... 115 °C	Industry



Product	Process connection	Process temperature	Application area
<i>CleverLevel</i> <sup>®</sup> LBFS	G1/2 A, 1/2-14 NPT with cooling line	–40 ... 150 °C	Industry
<i>CleverLevel</i> <sup>®</sup> LBFS	G1/2 A hygienic, length 82 mm	–40 ... 115 °C	Hygiene
<i>CleverLevel</i> <sup>®</sup> LBFS	G1/2 A hygienic with sliding connection, length 250 mm	–40 ... 200 °C	Hygiene/Industry



Product	Process connection	Process temperature	Application area
<i>CleverLevel</i> <sup>®</sup> LFFS	G1/2 A hygienic	–40 ... 115 °C	Hygiene
<i>CleverLevel</i> <sup>®</sup> LFFS	BHC 3A DN38	–40 ... 115 °C	Hygiene
<i>CleverLevel</i> <sup>®</sup> LFFS	G1/2 A hygienic with sliding connection, length 150/250 mm	–40 ... 200 °C	Hygiene/Industry

More level measurement information and products as well as our data sheets are available at [www.baumer.com/CleverLevel](http://www.baumer.com/CleverLevel)

Find your local partner: [www.baumer.com/worldwide](http://www.baumer.com/worldwide)



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