

Knows when it's enough!

LS 300 with LS 500

Thermal limit switch with ATEX approval

With our limit switch, the overfilling of tanks and process containers is prevented. It consists of a sensor (LS300) installed inside the tank and a transducer (LS500) with an output relay. For water-polluting liquids, this overfill prevention device is an indispensable component for environmental protection.



Installed and tested in the following applications

» Full and empty notifications in process containers, storage tanks, above-ground tanks, IBCs, tank wagons, vats, bottles and retention ponds.

Dependable

» The overfill prevention device fulfils the requirements of the German Water Resources Act (WHG).

Durable

» There is no abrasion since there are no moving parts. A long life time is guaranteed with consistent reliability.

Always fits

» There is almost no installation condition for which we have not developed a sensor. Whether adaptable, bent or flexible, as an intermediate flange, only 3 mm in diameter or with DN 200 flange; we have a solution.

Easy to get started

» Easy installation with a 2-wire terminal to the transducer, fitted independent of polarity. The sensor requires no maintenance after the installation, therefore there are no hidden costs!

LS 300 with LS 500 in brief

- Proven millions of times in many applications
- Polarity-independent two-wire cable to the transducer
- Permanent self-testing of the sensors
- Space-saving, robust and corrosion-free design
- No moving parts
- No on-site calibration required
- Maintenance-free
- Approved for Ex zone 0
- Approved as overfill prevention device

Attractive examples?

Limit sensors and overflow prevention devices

Below are examples of where the LS 300 and 76A are being used successfully:

Overflow prevention



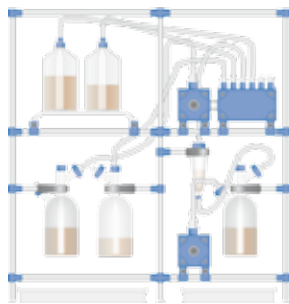
The FAFNIR overflow prevention solutions can be used in all storage containers. Whether it's a storage tank with a volume of over 1,000 litres, or several smaller containers, Fafnir has the appropriate overflow prevention. For hazardous liquids our LS 300 with the LS 500 is used. For non-hazardous liquids the 76 A comes with the NB 220.

Sumps



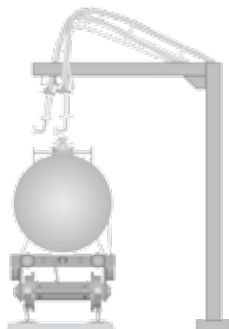
For safety reasons, many containers from a 1 litre bottle in the safety cabinet up to free-standing, large containers are placed in sumps. This is done to prevent escape of liquid into the environment in the event of a bottle breakage or leakage of liquid. A potential risk with this application is evaporation of the liquid causing an explosive atmosphere. By monitoring the tub with the LS 300 in combination with the LS 500, you will be informed of the escape of fluids.

Pilot plant and prototype systems



The LS300 with its probe diameter of 3 mm is ideal for use in the small glass containers used in pilot plants and prototype systems. Unlike other sensors, the LS 300 requires little space to install, has a lightweight head to minimise tipping and can have its electronics separately mounted in a cabinet.

Tank Arm During Filling



Additionally, the LS 300 overflow sensor is suited perfectly for use as a fill limiter or as an additional safety device used in combination with a flow measurement device for automatic filling of tankers or other large containers. The sensor is as flexible as the tank arm, requires little space, has a lightweight head and can have its electronics separately mounted, there is no need to build your system around a sensor, but instead the sensor can be built around your application.

LS 300

General

Name		LS 300
Process temperature	Standard:	- 25 °C to + 50 °C High temperature: - 25 °C to + 80 °C Low temperature: - 40 °C to + 50 °C (pressure-free)
Process pressure		0 bar to 25 bar
Immersion switch delay		< 2 s
Heating-up time		at - 20 °C < 2 min., at + 60 °C < 15 s
Probe tube		
Wetted parts		Stainless steel 316 Ti, 316 L; Hastelloy® C4, C22; Hastelloy® B2, B3

Standard variants

Name	LS 300 Standard	LS 300 Heavy Duty	LS 300 Duo
Technical drawing			
Connection housing			
Material	Brass chrome-plated	Stainless steel	Brass chrome-plated
Casing protection class	IP67		
Cable terminal	Screw terminal with cable gland		
Probe tube			
Outer diameter	10 mm	24 mm	2 x 10 mm
Process connection			
Gland	G 3/8"	G 1"	
Flange	DN 15	DN 25	
Options		pneumatic test connection pneumatic test connection with check valve	

LS 300

Pluggable Versions

For vehicles, tank containers, and tanks which are moved frequently, we also offer our limit switches with a plug. This allows a quick coupling and decoupling of the limit switch.

Name	LS 300 FUC Duo	LS 300 FUSCP Duo	LS 300 Ex Steck (Duo)
Technical drawing			
Connection housing			
Protection class	IP67		
Cable terminal	DD 28 plug connection		M12 connector
Probe tube			
Outer diameter	2 x 10 mm	24 mm	12 mm
Process connection			
Minimal gland	G 1"	G 1"	G 3/8"
Minimal flange	DN 25	DN 25	—

Special Designs

We offer a variety of special designs that are designed where space is limited or installation conditions are difficult and challenging.

Here are some examples from our portfolio of special designs – challenge us !

Name	LS 300 compact	Laboratory LS	LS 300 Flex
Technical drawing			
Connection housing			
Protection class	IP67		
Cable terminal	Cable is moulded and fixed		
Probe tube			
Outer diameter	6 mm	3 mm	10 mm
Process connection			
Minimal gland	R 1/4"	—	—

LS 300

Level sensor

Order code

Version										
LS 300 (order code)		-	-	-	-	-	-	-	-	-
Material (probe tube)										
Stainless Steel 316 Ti	SS									
Stainless Steel 316 L	SC									
Hastelloy® C4, C22	C4									
Hastelloy® B2, B3	B2									
Version (probe tube)										
Standard Ø 10 mm	A									
Heavy duty Ø 24 mm	S									
Process connection										
Screw-in units (G ³ / ₈ " with A; G1" with S)	EU									
Flange (DN15) Probe tube standard	FU									
Flange (DN25) Probe tube heavy	FU									
Other screw-in unit	AE									
Other flange	AU									
Length / Extra charge for probe or fitting length more than 1,000 mm / per 100 mm										
	Standard version									
	Heavy duty version									
Temperature range										
	Normal temperature (-25 °C to +50 °C)	N								
	High temperature (-25 °C to +80 °C)	H								
	Low temperature, pressure-free (-40 °C to +50 °C)	K								
Pressure range										
	0 to 3 bar	03								
	0 to 6 bar	06								
	0 to 10 bar	10								
	0 to 16 bar	16								
	0 to 25 bar	25								
Protective sleeve										
	None	N								
	For vapour movement	G								
	For strong vapour movement	S								
Cable terminal										
	Cable gland	CC								
	Plug connection DD 28	DD								
	Moulded cable	FC								
Pneumatic test connection										
	None	N								
	Including	P								
	Including check valve	R								

Other versions and special requirements on request.

Knows when it's enough!

LS 500

Transducer



LS 500



LS 500 19"

Technical data

Name	LS 500	LS 500 19 Inch Module	LS 500 19" Duo
Number of connections	1 Level sensor		2 Level sensor
Auxiliary power	230 V _{AC} ; 115 V _{AC} ; 24 V _{DC} ; 24 V _{AC}		
Power input	max. 5 W		max. 10 W
Ambient temperature	- 25 °C to + 50 °C		
Casing protection class	IP40	n.A.	
Dimensions	H 150 x W 75 x D 110 [mm]	Euroboard 160 x 100; 7 TE	
Outputs	Potential-free changeover contact: AC: U ≤ 250 V, I ≤ 4 A, P ≤ 100 VA DC: U ≤ 250 V, I ≤ 250 mA, P ≤ 50 W		
Output 1	Response to level sensor 1		
Output 2	Optional: Option Z (response to level sensor 1); Option S (dysfunction)		Response to level sensor 2
Options	Approval for LPG	Approval in accordance with AK5	

Order code

Version	LS 500			-	-	-
Version	LS 500	ST	19			
	LS 500 19 Inch Module	DU				
	LS 500 19" DUO (no option possible)					
Options	None	N				
	Option Z	Z				
	Option S	S				
Function	Overfill prevention device			U		
	Dry run protection			T		
Auxiliary power					230 V _{AC}	230
					115 V _{AC}	115
					24 V _{DC}	24D
					24 V _{AC}	24 A

Order numbers

Name	Version	Order code
LS 500 LPG	230 V _{AC}	904855
LS 500 19" AK5	24 V _{DC}	904895
LS 500 19" AK5	24 V _{AC}	904896