



Lidec electronic liquid level switches



Zone Acticentre - Bâtiment H - 156/220

Rue des Famards - CRT2 - CS 10210 - 59273 FRETIN

Tél. 03 20 62 06 80 Télécopie : 03 20 96 95 62

E-mail : contact@dimelco.com

For safety and precision

Overfill protection – an absolute prerequisite

Everybody engaged in the field of bulk tank storage knows all too well the vital importance of reliable and accurate liquid level switches. Without this protection against overfill there is a very real risk of damage occurring to the environment, the process or the costly installation. Just think of the environmental and financial damage arising from an oil spillage, quite apart from the indirect damage due to negative publicity. Or the consequential damage which may result. An overfill protection with built-in alarm function can prevent that damage. Instrumentation of this type is therefore a prerequisite for everybody in the world of bulk tank storage and intermediate storage.

Lidec – the robust and reliable solution

Lidec overfill protection systems offer the functionality required to prevent such damage to the environment, the process, or the installation. The complete range of Lidec electronic liquid level switches is available in various types closely matching the various areas of operation. These switches are featured by the absence of moving parts. Consequently they are maintenance-free and mechanical wear is out of the question. In this way the overfill protection systems not only have a very long life but they also contribute towards an improved cost of ownership of your installation.

Lidec electronic liquid level switches require no calibration and are rapid and simple to commission. Their user friendliness is further enhanced by continuous monitoring of possible electronic or transducer failures. Equally important is that these liquid level switches are fail-safe.

Lidec electronic liquid level switches are supplied with probes of various lengths. The wide range even includes flexible probes, and caters for a very broad area of application. Lidec electronic liquid level switches are capable of protecting all liquids, both low and high viscosity. In addition, the probes are insensitive to changes in density or dielectric constant. Reliability in the true sense of the word.

We think tank

Lidec electronic liquid level switches are marketed by Enraf. The instruments form part of a comprehensive package of solutions which the company supplies for gauging and protection purposes in bulk tank storage and intermediate storage. Lidec electronic liquid level switches originated in the maritime world – an environment which by its very nature sets the highest demands as regards instrumentation. So you may expect the very best when it comes to reliability, availability and accuracy. Enraf combines those characteristic features with a customer-oriented market strategy. Speedy installation, problem-free commissioning, outstanding service and minimum maintenance are key-words here. That approach has wide appeal, which is further underlined by the many tens of thousands of Enraf systems that are in operation world-wide day in day out. That enormous number of systems is perhaps the best possible proof that Enraf solutions are among the world's best. We are pleased to offer such a solution to you too.

Lidec electronic liquid level switches: for any liquid

Lidec electronic liquid level switches are available in six types. These enable an appropriate solution to be offered for any operating environment and for any customer requirement. The probes are based on the phenomenon of wave propagation in metal. The principle is totally static and consequently there are no moving parts or vibration. The six Lidec types are the L20, L20-70 D, L30, L40, L91 and L92.



L20 – robust and reliable

The Lidec L20 is supplied with a probe having an accuracy of ± 2 mm and a length of 75, 120 or 200 mm. The L20 is suitable for both horizontal and vertical assembly. Depending on the transmitter housing selected, the L20 is available in explosion proof form.



L20-70 D – long probe

The Lidec L20-70 D is characterized by its probe length. Its maximum length of no less than 30 m enables the detector element to be positioned at a very large distance. The stainless steel and explosion proof probe of the L20-70 D features an accuracy of ± 2 mm. Both horizontal and vertical assembly is possible.



L30 – flexible probe

The Lidec L30 has a probe having an accuracy of ± 2 mm and an optional length of 500, 1000, 2000 or 2500 mm. This explosion proof probe can be bent, permitting even the most difficult corners to be reached. The L30 can be assembled either horizontally or vertically. Depending on the transmitter housing selected, the L30 is available in explosion proof form.



L40 – extended probe

The Lidec L40 is available with a probe length of 500, 1000 or 2000 mm. Its stainless steel probe has an accuracy of ± 2 mm. The L40 can be assembled both horizontally and vertically.



L91 / 92 – built-in test function

The intrinsically safe Lidec L91 and L92 are equipped with a built-in test instrument, which offers many advantages notably in terms of service and maintenance.

The L91 provides single detection, while the L92 possesses two fully independent probes each with its own power supply and output. In addition, this version is particularly suitable for use in environments where strict safety requirements apply. The probe, which has an accuracy of ± 2 mm, is supplied in lengths up to 1500 mm to customer order.



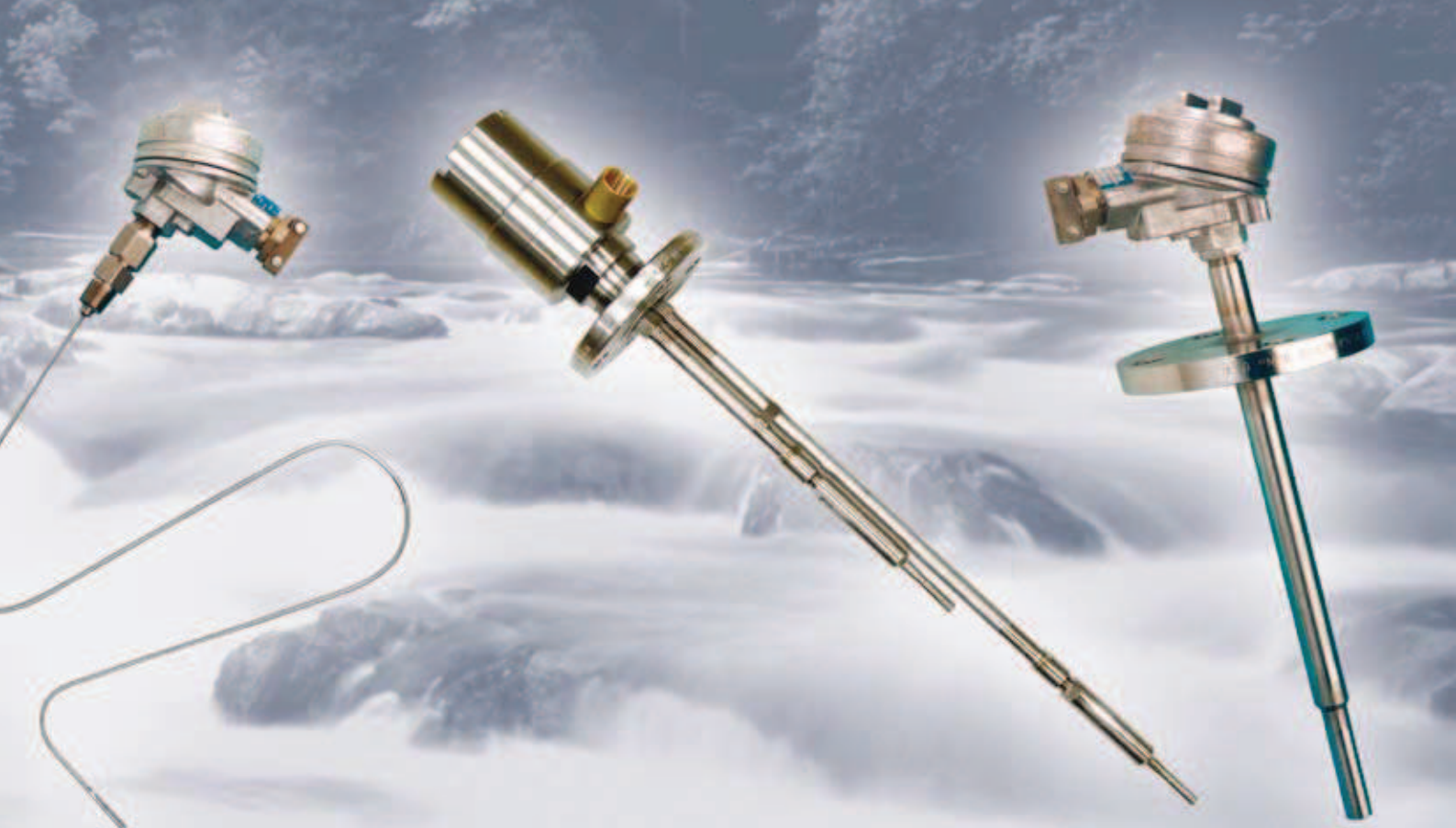
Lidec – broad area of application

In whatever environment you want to use the Lidec liquid level switch, can supply the right solution. Ready to use, it can be installed and commissioned with the minimum of effort.

The L20, L20-70 D, L30 and L40 are supplied with two different types of head. The D type head is provided with an aluminum housing conforming to IP 65. The L type head offers the additional feature of having an explosion proof housing. In this way you can match the design of the liquid level switch system to the specific requirements of your process or installation. Both the D type and L type heads are equipped with a packing gland for cables with a maximum diameter of 15 mm. The probes are equipped as standard with a ½" BSP process connection. The explosion proof probes are suitable for use in ambient temperatures between -25 °C and +70 °C and in liquid temperatures between -40 °C and +150 °C.

Special models

A special innovation on the Lidec L30 is the flexible probe with a maximum length of 2500 mm. This model enables you to use the overflow protection system for example in otherwise inaccessible corners in tanks. Then there is the L20-70, which has a maximum length of no less than 30 m and can therefore be remotely positioned. Specifically for pressured environments or environments where highly toxic materials is used, offers a special version of the L40. This is equipped with a valve enabling the probe to be removed without requiring your process or installation to be shut down.



Enhanced safety

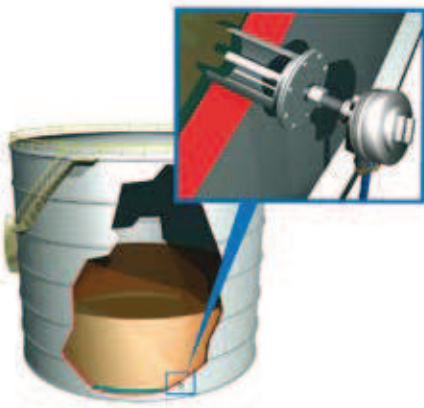
For environments where chemicals are employed or where high temperatures prevail, the L91 and L92 are the solutions of choice. The intrinsically safe probes possess a built-in test functionality. This allows maintenance and service to be performed as and when really necessary. The L92 is equipped with two fully independent probes, each with its own power supply and output. This assures the added functionality needed in environments where enhanced safety is required. The probes are made of stainless steel and can be supplied in any desired length up to 1500 mm. These versions are equipped as standard with a process connection flange. The explosion proof probe is suitable for use in ambient temperatures between $-25\text{ }^{\circ}\text{C}$ and $+70\text{ }^{\circ}\text{C}$ and in liquid temperatures between $-40\text{ }^{\circ}\text{C}$ and $+150\text{ }^{\circ}\text{C}$.

Approved solutions

Because the liquid level in bulk storage tanks always remains between given minimum and maximum levels, the overfill protection system will in principle never be actuated. For that reason the liquid level switches must be 100% fail-safe. In that respect you may have full confidence in Lidec : the switch complies with the requirements of IEC 61508.

appreciates better than anybody that safety, reliability and accuracy are of paramount importance for your overfill protection system. That is why Lidec electronic liquid level switches are certified by all major classification societies. Please request the type approvals to receive further information.

Lidec – proven technology



Lidec electronic liquid level switches have been used for decades in the maritime sector, an environment where the highest demands are imposed on safety, reliability, availability and accuracy.

Those features are combined in Lidec electronic liquid level switches thanks to their proven technology. These electronic liquid level switches are based on the Surface Acoustic Wave (Rayleigh wave) principle.

A piezoceramic element is used to generate waves which are propagated inside a metal rod. As long as the metal rod is not in contact with the liquid, the waves will not escape and there is no alarm status. If the probe contacts the liquid as the level rises, the waves will partly escape and thereby generate an alarm signal. By appropriately adjusting the alarm threshold, a reliable solution is offered for overfill or run-dry protection.

User friendly alarm modules

The Lidec electronic liquid level switches come with an MSL alarm module. This module has an LED display showing the alarm status. The switching threshold is 12 mA. The module is constructed in the form of a plug-in terminal block and is provided with relay outputs. The module is simple to mount on a DIN rail. The power supply is 24 V DC; current at the output relay is 150 V / 2A maximum.

Connectivity

you can be sure of a partner who has over 45 years know-how and experience at its command in support of your requirements. You will notice this not only from the advanced production technology. Besides first class products, Enraf also guarantees optimized communication interfacing with other instrumentation or systems, speed of installation and simplicity of maintenance.

Lidec electronic liquid level switches require a power supply of 220 V AC or 24 V DC. Available at the output side is a relay output or - depending on type - a 6 mA or 18 mA output.

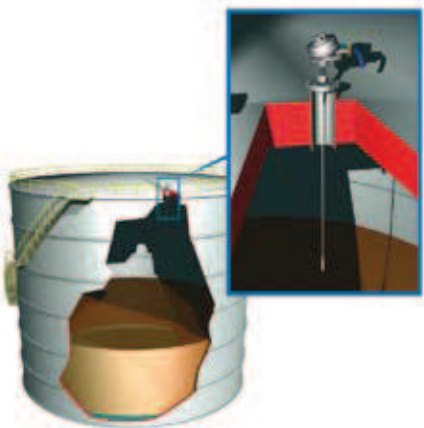
Safety in the true sense of the word

Lidec electronic liquid level switches are constructed with an integrated monitor function. This constantly checks the electronics and the transducer for failures. The result is an extremely reliable overfill or run-dry protection system.

Furthermore the electronic liquid level switches are approved for application in ATEX environments, and they are available as explosion proof types Eex ia IIC or IIB T6 or T5 or T4. The intrinsically safe overfill protection system requires the use of a certified Zener barrier, such as the MTL range.

Simple installation – quick commissioning

Lidec electronic liquid level switches were developed with particular focus on simplicity of installation. In addition, the proven Lidec technology is insensitive to changes in density, temperature or pressure, and calibration is unnecessary. Hence quick and simple commissioning is guaranteed. Moreover, as there are no moving parts, maintenance and mechanical wear are kept to the minimum.

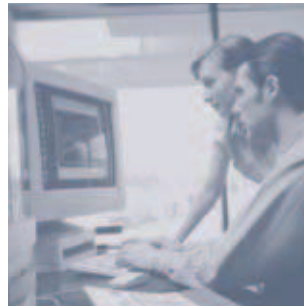


We know how to turn this system into a solution for your application

Not one application is the same, especially when installed base has to be taken in consideration and existing equipment has to be integrated. Our long-term experience in tank gauging and inventory management provides the solution.

Consultants are at your service for any advice and to discuss the technical requirements for your system. Why should you compromise when our solution no longer forces you to do so?

Following installation and commissioning of your systems, we remain at your service to help you operate and optimize your system through its entire lifetime. That's what we call life cycle management and customer dedication.



Before installation

- Site survey
- Consulting
- Functional design specification
- Product selection

At time of installation

- Hardware and Software supply
- (Supervision on) installation
- Specific application development
- System configuration and integration

After installation

- Commissioning
- Acceptance testing
- Training
- Systems optimization
- Remote and on site service programs:
 - License support
 - Extended warranty
 - Helpdesk
 - Emergency support

Terminal Automation

| Contrec

| Tanksystem

| Auxitrol Marine

| Smit Gas Systems
