1 Short product description

A new Flygt mid-end Level Transmitting Unit has been released - the LTU 601 - to compliment the level sensor product range. The Flygt LTU 601 is a submersible hydrostatic level transmitting unit, intended for measuring a liquid level.

The LTU 601 combines smart design, performance and price to offer an ideal level sensor to match the water & wastewater needs in today's many different installations the world over.

1.1 Customer value

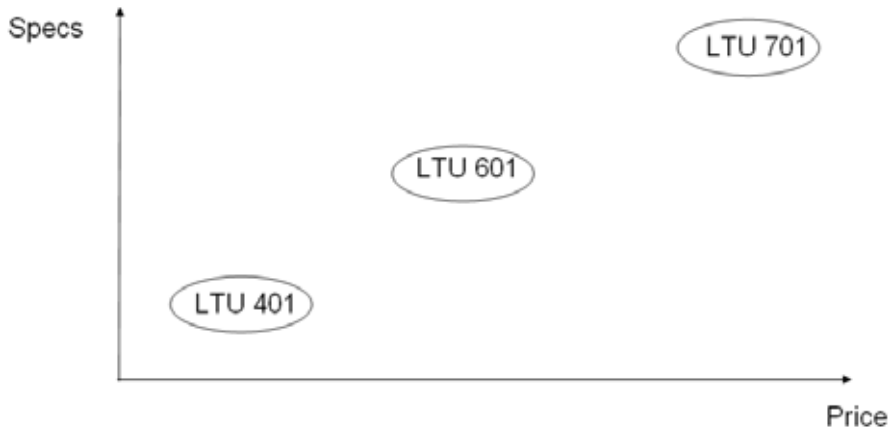
- Robustness, quality and pricing at a new level leading to a very good price-performance ratio
- It adds improvement to important issues like clogging, weight and the ability to withstand sea-water
- Attractive looks with the printed product information and feel of robustness with the heavy weight

Features:

- ✓ Installed in thousands of installations under the MJK name – well proven track record
- ✓ The transmitter is suitable for measuring level in wastewater pumping stations, tanks and containers at sewage plants, water works, as well as in industrial plants.
- ✓ Large membrane protection holes for minimum clogging
- ✓ Heavy weight for easy and safer installations
- ✓ Suitable for salt water installations. Copper ring that prevents build-up available as accessory.
- ✓ 1'' ISO threaded top for pipe mounting available as separate part numbers for all three measurement ranges
- ✓ Very robust
- ✓ Good for VFD installations (EMC capabilities)
- ✓ High pull strength (200lb) PUR Cable
- ✓ Nice white part Information printed on the sensor body (Printed part information withstands harsh media longer than a sticker!)

Sales Arguments	**Customer Benefits**
- More robust design (heavy weight, large protection holes)	Less service visits => less costs & more time for other things
- Cost effective	Competitive pricing means reaching more customers, getting a project and being able to spend money on other parts of an installation
- Proven track record	Higher chance of less failure

Differentiation towards the end customers



Flygt Hydrostatic Level Transmitter Range Differentiation

	LTU 401	LTU 601	LTU 701
Pricing	Low	Mid	Premium
Supply voltage range:	8-30VDC	10-30VDC	9-48VDC
Temperature range:	5-40°C	-10 – 60°C	-20 – 80°C
Accuracy, FS:	1%	0,5%	0,1%
Measuerement Principle & diaphragm:	Ceramic/SS	Piezo resistive/SS	Piezo resistive/Hastelloy
Printed part nr info:	Yes	Yes	Yes
Suitability for sea water:	Yes	Yes	Yes
Heavy weight for higher chance of no effect of turbulence	No	Yes	Yes
Very large protective holes for less chance of clogging	No	Yes	Yes
HART	No	No	Yes
Possibility for temp Measurement in media:	No	No	Yes (through PI100)
Built-in lightning protection:	No	No	Yes (2/7 part nrs)
Degree of Customization Possible	Low	Medium	High
ATEX/CSAc-us	No	No	Yes

1.2 Functionality

The Flygt level sensor LTU 601 is used to measure a liquid level and to give a standard 4-20mA direct current output signal, proportional to the measured level, to a control system.

The piezo resistive sensor is connected to the measured media by means of a diaphragm and a capillary tube.

The atmospheric pressure on the reverse side of the sensor (used for obtaining reference pressure) is accessed through a capillary tube embedded in the probe cable. Assure that no moisture or condensation water gets in the tube during installation as that can warrant the function of the transmitter.

When the pressure transmitter is constantly immersed, no further maintenance is required. In installations with very dirty water with a tendency to sedimentation or drying out, cleaning may be necessary. Be careful with the diaphragms - they cannot stand cleaning with sharp or pointed objects, only use a soft brush or wash off the dirt. A 10% hydrochloric acid solution might be used as degreasing agent. To further increase the robustness, the LTU 601 comes with a protection insert with large holes to minimize clogging.

2 Compatibility

The LTU 601 is specifically engineered to withstand the harsh environmental conditions typically encountered by Flygt pumps: VFDs, sewage, slurry and viscous liquids as well as sea water. The LTU 601 is well adapted to the prevalent control systems on the market including, of course the Flygt range of pump controllers.

3 Approvals, testing and results

3.1 Approvals

In accordance with EN 61000-6-1:1999, EN 61000-6-2:1999,
EN 61000-6-3:2001, EN 61000-6-4:2001

3.2 Testing

The LTU 601 has been installed in thousands of installations under the MJK name so it has a well proven track record. The LTU 601 has also been evaluated in the HQ laboratory according to QT-plan where issues such as high pressure hosing, EMC, impact, heat etc. have been tested and documented.

4 Known limitations

No known limitations.

5 Technical information/data

The LTU 601 is delivered in a complete package containing an LTU 601, cable holder and a description on how to install the level transmitter.

Technical Specifications and Installation Manual in English, French, Spanish, Swedish, German, Dutch and Italian can be found on the site for Technical Product Information (TPI): https://extranet.flygt.com/wms/Home/Salessupport/TPI.asp

Part Number	Range in m	Cable length (m)
834521	0-3	12
834527 (With threaded connection for pipe Mounting, 1'' ISO)	0-3	12
834522	0-5	12
834528 (With threaded connection for pipe Mounting, 1'' ISO)	0-5	12
834523	0-10	12
834529 (With threaded connection for pipe Mounting, 1'' ISO)	0-10	12

6 Release, Stock, Price Information and Additional Information

The part numbers will be available for order from Feb 2014. The 2014 IPL-pricing is shown below:

Part Number	IPL Price
834521	4 883
834527	5 127
834522	4 883
834528	5 127
834523	4 883
834529	5 127

The release material can be be found on the Extranet:
https://extranet.flygt.com/wms/Home/Products/Monitoringcontrol/Levelsensors/LTU601.asp .

The release package includes:

- LTU 601 product presentation
- Product Sheet (sales sheet) (MediaBank)
- Pictures for commercial and internal use (MediaBank)
- Newsletter proposal
- Tender Specification/narrative text for the LTU 601
- Xylect update
- Manual (TPI)

7 Accessories

- The 834526 Copper Ring is a dedicated accessory for LTU 601 to be used in salt water installations. The Ring prevents build up otherwise prone to happen in salt water.

- The LI 531 Field Level Indicator is an accessory for the indication of the measured level

• 3½-digit easy readable LCD display.
• Delivered as a complete digital indicator in IP65 plastic cabinet
• Supplied from 4-20 mA current signal
• Internal calibration of zero and span with optional placing of the decimal point

Calibration and adjustments are done on the back of the indicator.

Usage of LI 531 demands no need for measuring or test equipment.

- The junction box is an accessory for connecting the Flygt range of analog level sensors: LTU 401, LTU 601, LTU 701 and LSU 100 to a Flygt pump controller. It provides flexibility in both new and existing installations, it is easy to use and install and it has a sturdy aluminium casing to withstand harsh environments. The enclosure's protective rating of IP 67 makes the Junction Box suitable for mounting outdoors.

The junction box further more provides solutions to several practical issues:

- Provides protection for splicing the sensor cable, with extension of the screened control cable to the RTU, including branching of the vent tubing in the sensor cable.
- Lightning protection by means of a surge arrester.
- Noise/interference protection in VFD applications.
- Testing the sensor setup, by means of an internal power control LED.

- The 832174 Cable Holder is a dedicated spare part for Analog Pressure Level Sensors like LTU 401, LTU 601 and LTU 701.

Note: The sensor cable has to be supported without any sharp bends to prevent blocking the small air hose inside.