Type Series	Product-Data Sheet - 10.2020
AE-115-A	**Electronic Level Indicator Evaluating Processor Unit LC-V-a**

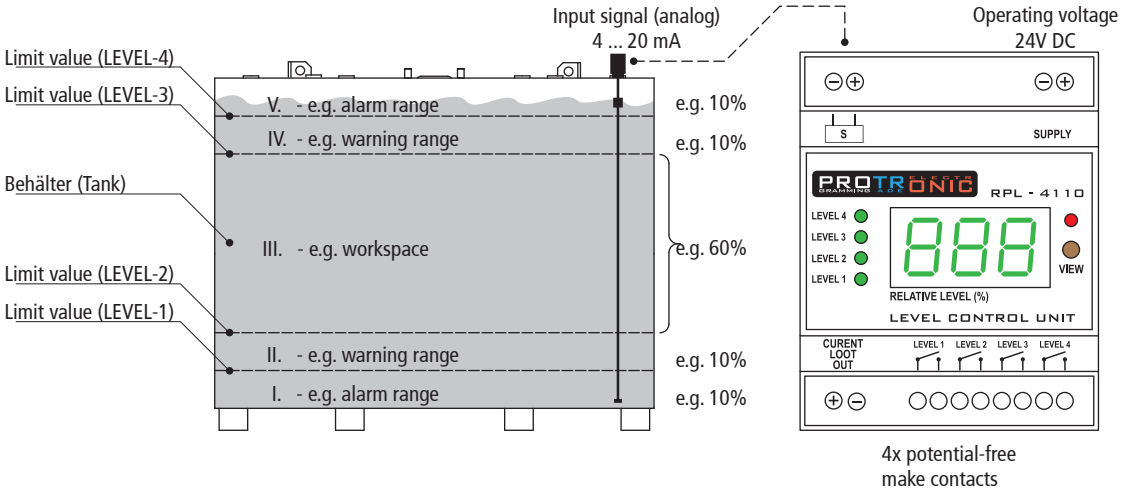
Characteristic	Area of Application / Media			Transportation / Installation	
					
	E5 inflammable	**E10** diesel / heating oil / mineral oil	**E12** hazardous to ground water		

Levelcontrol Type LC

The electronic level indicator is a complete measuring system for detecting levels in tanks. With this system, different tank heights can be adjusted and up to four limit values can be set.

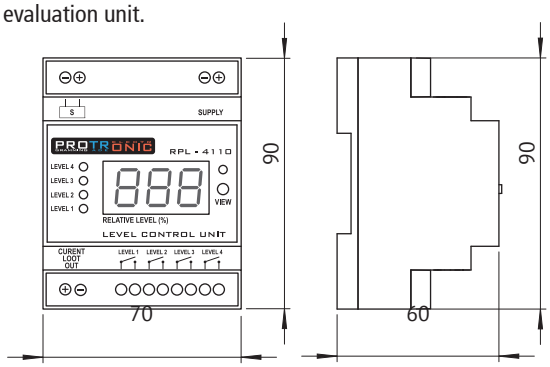
Levelcontrol type LC consisting of:

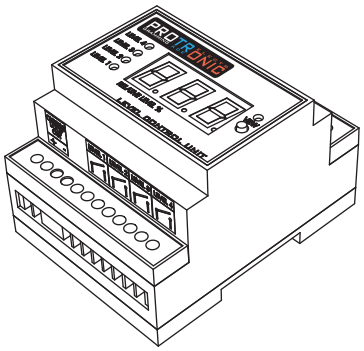
- Level evaluation unit LC-V-a
- Level rod probe (level transmitter) LC-V-s

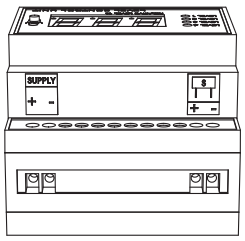


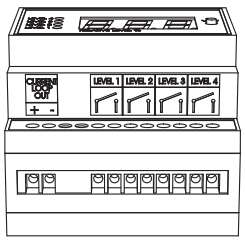
Evaluating Processor Unit LC-V-a

The LC-V-a level evaluation unit is a processor-controlled tank level indicator with limit value detection. It is an easy-to-operate unit that can also be used for other measuring tasks. The prerequisite for this is a 4-20 mA sensor, for example for pressure, temperature or flow measurement. The evaluation unit has been designed as a rail-mounted device for mounting on DIN rails. This ensures easy integration into existing control systems. The relay contacts are galvanically isolated from the system. The system displays the level in percent on the evaluation unit.









Key features:

- level switch/indicator and transmitter for hard-to-reach measuring points.
- analog input signal (galvanically isolated) 4 ... 20 mA with input filter and measuring circuit monitoring
- Scaling for zero and full scale, disconnectable power supply for level rod probe
- three digit 10 mm high LED display for fill level in %.
- Indicator LEDs for measuring circuit monitoring and limit values LEVEL 1-4 (indication of switching status)
- 4x independent switching points for limit value adjustment in the entire measuring range
- 4x potential free relay contacts
- analog output signal 4 ... 20 mA (galvanically isolated)

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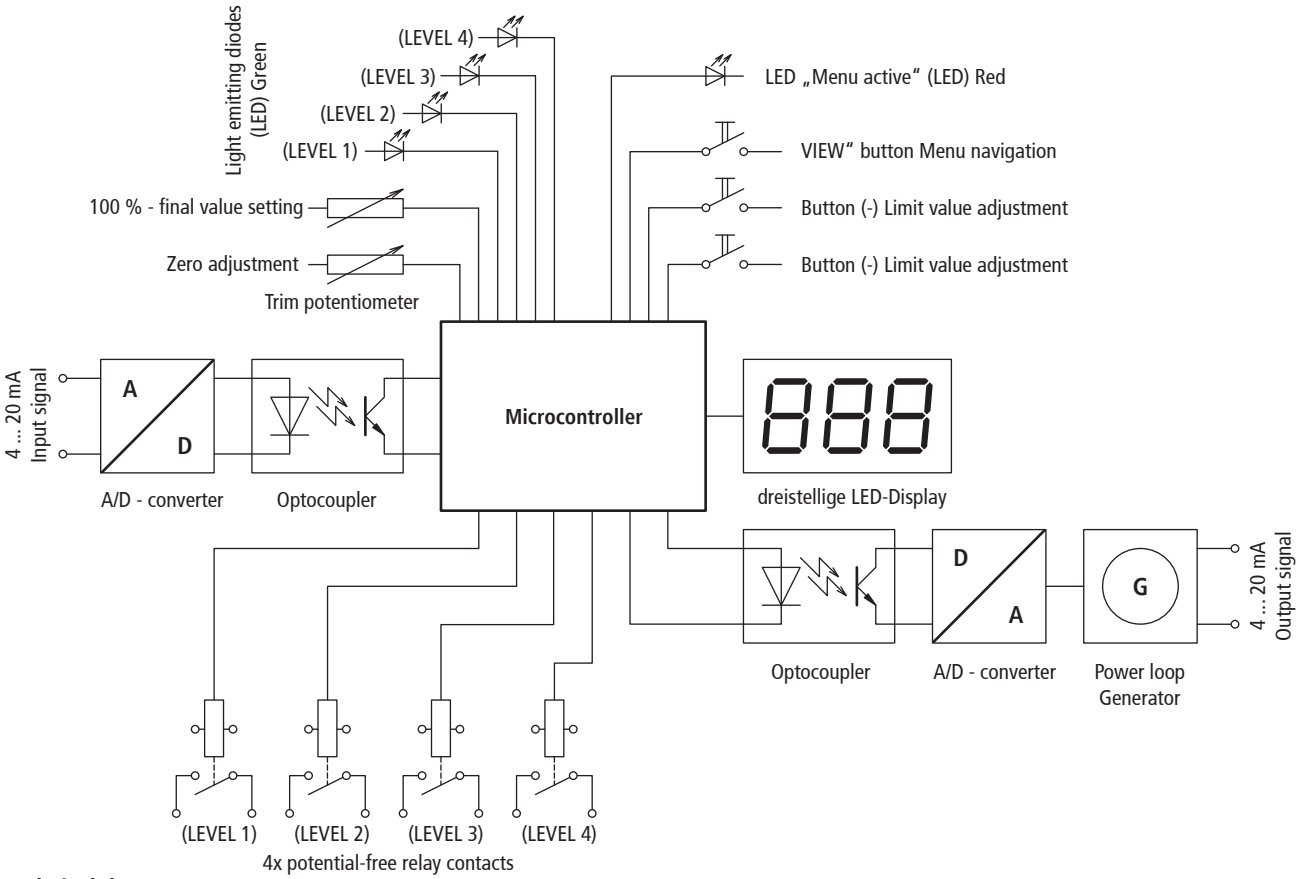
Functional description

The current signal supplied by the level probe is connected to the input module. In input module, the current signal is filtered and monitored. Monitoring is carried out for interruption and short-circuit of the rod probe connection line. This current signal is then adjusted to the corresponding tank level via the "Zero point" and "End value" potentiometers. With this setting, the density of the medium in the tank must be taken into account. This adjusted signal is now digitized and is available to the microprocessor for further evaluation. The signal is shown on the LED display from 0 to 100 %. Furthermore, the microprocessor determines limit values are determined. The setting is made with keys according to the application (e.g. control for a lubricating oil supply system).

Limit value 4	Range 70 to 100 %	(max / max alarm message "Tank overfill")
Limit value 3	Range 40 to 80 %	(max control pump "OFF")
Limit value 2	Range 20 to 50 %	(max control pump "ON")
Limit value 1	Range 0 to 20 %	(min / min alarm message "Tank empty")

If the signal exceeds or falls below the set limit value, the corresponding LED light and the corresponding relay are switched on. This means that the user has one potential-free normally open contact for each limit value. The digitized signal is galvanically isolated from the evaluation unit and is available to the user as an analog current signal 4...20 mA at the output terminals for further processing in the downstream system control.

Functional diagram of level evaluation unit LC-V-a:



Technical data:

Operating voltage: 24 V DC
Power consumption: 150 mA
Measured value display: 3 digit LED 10 mm high
Protection class of the housing: IP 20 according to DIN EN 60529
- analog input signal 4 ... 20 mA (galvanically isolated)
- analog output signal 4 ... 20 mA (galvanically isolated)
- 4x potential free relay contacts as normally open (NO) with a contact load 230V / 2A

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