DLH Self-monitoring High Water Level Limiter

Application and function

In conjunction with the DP211 or DP221 level probe, the DLH self-monitoring high water level limiter is a limiter with safety function in accordance with the Pressure Equipment Directive (PED) (special design according to Water Level 100).
The product meets EC Directive 2014/68/EC (PED). Conformity (CE marking) is certified in accordance with Annex III, Modules B+D (Category IV); notified body NB 0035.
Regulations applied: corresponding DIN EN standards.

DLH function

The DLH high water level limiter works in conjunction with the Igema DP211 or DP221 level probe on the basis of the conductive fill level method of measurement whereby the electric conductivity of the water medium is used. The conductivity of the medium is measured in µS/cm. For the secure functioning of this method of measurement a minimum conductivity of the substance to be measured is required.
The conductive method of measurement makes two statements: Electrode submerged or electrode uncovered or switch point reached or not reached. Before installation the electrode must be brought to the measure at which the switch procedure is to be used, e.g. for switching off burner and interrupting the safety circuit.
The evaluation device supplies the limiter probe, which is fitted in the boiler, with power and evaluates its signals. The serial number of the probe used must be entered in the evaluation device so that the evaluator can communicate with this probe.
With the aid of the measurement data received from the probe electronics the evaluation device determines the current water level (electrode submerged / electrode uncovered) in the boiler. If all conditions for correct operation are met, the safety chain for the steam generator is enabled (burner can switch on). On detection (maximum level exceeded) the relay output “pre-alarm” is switched on immediately and the LED “FAILURE” starts to flash. Should this state be present for longer than the alarm delay time set, the relays of the safety chain will be switched off (safe operation mode) and the LED “FAILURE” remains permanently lit.

- EC Type Approval
- SIL 3
- Production monitored

In the event of a fault (e.g. broken cable, probe defective, ...) the safety chain is switched of immediately.
Safe operating mode during which the relay contacts of the device go into rest position, corresponds at the same time to the de-energised state of the evaluation device.

Standard technical equipment

- DLH in a plastic plug-in housing for fitting into switch cabinets
- Quick fitting with a spring catch for standard 35 mm carrier rail according to DIN EN 50022 or screw fixing on a mounting plate

Technical data

Component identification mark / EC type-examination	01 202 931-B-12-0011 CE 0035
Mains connection	230V -15% +10% / 50Hz
Power consumption	3 VA
Device fuse	63 mA/T
Protection class according to DIN EN 60529	IP40 [1)]
Allowable ambient temperature	0° C - 55° C

[1)] as per DIN EN 12592-11,4.3.4 in the boiler area protection class IP54 is to be ensured (switch cabinet)

Maximum ratings of potential free contacts		
Safety chain	Switching voltage	max. 250 VAC
	Switching current	max. 4 A resistive
		max. 0.75 A inductive φ 0.5
Additional fault reporting	Switching voltage	max. 250 VAC
	Switching current	max. 4 A resistive
		max. 0.75 A inductive φ 0.5

Electrical conductivity of the fluid	0,5 µS/cm ≤ æ ≤ 10.000 µS/cm
Length of connecting cable	max. 250m

Self-test every 3sec