

DCC Continuous Level Transmitter

Application and function

The DCC continuous level transmitter is used in conjunction with the IGEMA DP411 measuring probe for the delivery of an output current proportional to the fill level 4-20 mA.

It is intended for use in steam boilers or other fluid tanks.

The product meets EC Directive 2014/68/EU (PED).

Regulations applied: corresponding DIN EN standards.

Functioning of the DCC

The DCC water level transmitter works in conjunction with the IgeMa level probe DP411 on the basis of the capacitive fill level method of measurement whereby the electric conductivity of the water medium is used. The conductivity of the medium is measured in $\mu\text{S}/\text{cm}$. For the secure functioning of this method of measurement a minimum conductivity of the substance to be measured is required.

The capacitive method of measurement enables the continuous determination of the fill level. The pre-saved limit values for 0% and 100% provide the value range for the calculation of the current fill level. After scaling the current value for the output on to the standard current interface 4-20 mA is converted into a galvanically isolated analogue signal.

The evaluation device supplies power to the limiter probe, which is fitted in the boiler, 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.

The 4-20 mA signal is available on the terminal block of the DCC for further processing.

The power output can be routed via an additional relay or error signalling can be connected.

Standard technical equipment

- DCC 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

Mains connection	230V - 15% + 15% / 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	
Power interface	4-20 mA	
Current interface load	max. 500 Ω	
Extra relay	Switching voltage	max. 250 VAC
	Switching current	max. 4 A resistive max. 0.75 A inductive φ 0.5

Electrical conductivity of the fluid	$0,5 \mu\text{S}/\text{cm} \leq \rho \leq 10.000 \mu\text{S}/\text{cm}$
Length of connecting cable	max. 250m

¹⁾ as per DIN EN 12952-11, 4.3.4 in the boiler area protection class IP54 is to be ensured (switch cabinet)

²⁾ During switching operations the load profile of the relay is to be observed! For large loads use contactor! Relay used: Schrack V23092-A1024-A301

The DCC carries out periodic self-testing.

It is expected that because of the non-linear boiler geometry the fill level (water quantity / volume) does not behave in a linear way to the fill depth / fill level!

