

dimensions	22.5 x 99.0 x 114.5mm	
operating range	liquid resistance	≤ 200kΩ
		≤ 1MΩ
		≤ 8MΩ



- ✓ adjustable turn-on delay
- ✓ adjustable response sensitivity
- ✓ minimum or maximum safety
- ✓ level or two-step control
- ✓ compact design
- ✓ fastening to standard rails acc. to DIN EN 50020

**two potential-free relay outputs  
universal voltage design**



**description**

The *ipf FV56* filling level relay is used to evaluate one or two filling or limit levels in conductive – i.e., electrically conductive – liquids with a resistance of maximum 200kΩ, 1MΩ or 8MΩ. The device can also be used to safeguard liquids against leakage and overfilling, to set up a two-step control, e.g., for pump control, or as dry-run protection.

The signal line of the filling level relay is connected to a reference electrode or the metallic container wall or pipe wall and the meter electrodes. The AC voltage generated by the integrated electronics is then applied either between the electrode rods or between the electrode rods and the metallic container wall or pipe wall that is connected to the metallic process connection and which serves as a reference electrode. The use of an AC voltage prevents corrosion at the electrode rods and the electrolytic decomposition of the filling material.

As soon as the electrically conductive filling material forms a connection between the electrodes or between the electrode and the metallic container wall or pipe wall, an AC current flows that causes the AC voltage to decrease.

A voltage drop is detected and, depending on the set safety

circuit, the integrated evaluation circuit initiates the switching of the relay(s). The switching state of the relays is displayed on the front side of the device with two yellow light emitting diodes.

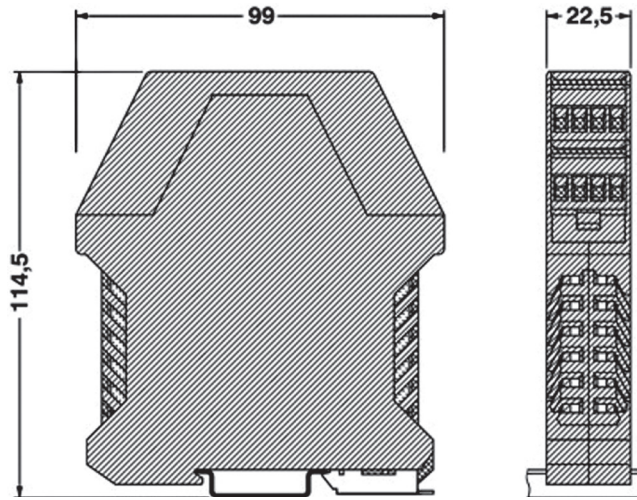
In some applications, it is necessary to compensate for strong wave movements caused, e.g., by stirrers or that result during filling or emptying in order to avoid undesired switching actions. Two switches on the front side of the device can be used to set a switching delay of 0.5 / 3 / 5 / 8s. This acts on both channels, both while energizing and de-energizing the filling level relays.

A potentiometer is provided on the front side of the device for calibrating the response threshold to the conductivity of the liquid.

**application examples**

- ▶ leakage and overfilling safeguarding
- ▶ dry-run protection for pumps
- ▶ two-step control in systems
- ▶ limit level monitoring in containers

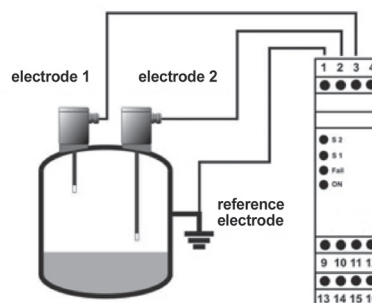
article-no.	FV565900	FV565901	FV565908
operating range	$\leq 200k\Omega$	$\leq 1M\Omega$	$\leq 8M\Omega$



### TECHNICAL DATA

operating range	$\leq 200k\Omega$	$\leq 1M\Omega$	$\leq 8M\Omega$
output	relay, 2 x change-over contact		
function	level monitoring or two-step control		
operating voltage	20 ... 253V AC / DC, 48 ... 62Hz		
power consumption	$\leq 3.5VA / 1.3W$		
switching capacity	max. 250V AC / max. 10V AC max. 2500VA with ohmic load / 500VA at $\cos\phi \geq 0.7$		
contact life	$\leq 100000$ operating cycle with max. load		
transducer power supply	$\leq \pm 10V$ (90Hz $\pm 15Hz$ ) / $\leq \pm 1mA$ (galvanically isolated)		
turn-on delay	0.5 / 3.0 / 5.0 or 8.0s		
display (operation)	green LED		
display (alarm)	red LED		
display (signal)	2 x yellow LED		
sensitivity adjustment	potentiometer		
short-circuit protection	-		
reverse polarity protection	+		
dimensions	22.5 x 99.0 x 114.5mm		
housing material	PA-polyamide		
operating temperature	-40 ... +70°C		
degree of protection (EN60529)	IP20		
weight	145g		
connection	terminals, max. 1x2.5mm <sup>2</sup> or 2x1.5mm <sup>2</sup>		

### connection:



**Warning:**  
Never use these devices in applications where the safety of a person depends on their functionality.