

Application Note:
Unique level probe design eliminates false switching



Rhomberg's range of probe holders with conductive electrodes offer superior reliability when detecting level of liquids. The most common probe holder, the CP-3C, is supplied with 3 screw-in 1 metre long electrodes which are powder epoxy coated. In most applications, the electrodes are cut to length to suit the requirement. The coating, ensures that the rods are electrically insulated from each other, so even in the event of the rods touching, they will not provide a false level detection signal. The electrodes only conduct between the bare ends of the electrodes, and because the electrodes are usually cut to different lengths, they cannot give false signals.

Many applications require a common electrode, as well as a high and low level electrode. This can be achieved

with the CP-3C or if the tank is earthed metal, the CP-2C (with only two electrodes) can be used for the high and low, as the tank can be used as the common. For single level detection, either the CP-2C or CP-1C can be used. If necessary, electrodes can simply be extended by screwing in EP1/CEXT extension rods to the end of any electrode.

The probe holders are extremely robust, especially with the tamper-proof cap which screws on, unlike many cheap alternatives on the market that just clip on. The probe holder has a 1.5" BSP male tread, is IP65 rated and all metal components, electrodes and screw terminals are stainless steel, grade 316.

All Rhomberg CP models are designed to be connected directly to one of Rhomberg's liquid level control relays, the SC130 (11-pin plug-in) or the AC130 (slim 22.5mm wide DIN rail unit). These relays are available in 12 or 24VDC, 24, 110, 240 or 415 VAC, and provide a safe isolated 4VAC/100Hz signal to the probes, as well as a 10A/250VAC potential free relay switch (N/O or N/C). All relays can be programmed for filling or draining, or simple high or low level detection. They also provide LED indication of status and have a sensitivity adjustment to furthermore ensure reliable switching.

Applications include borehole pump control, filling or draining of reservoirs, low or high level alarms, control of sewerage pumps, dosing of liquids, chemicals or fertilisers.

