

LDP200 Series Stainless Steel Overfill Probes

Liquip's LDP200 Series Stainless Steel Overfill Probes are used in overfill prevention systems on road tankers and storage tanks to detect the presence of a liquid at a defined level. The probe's stainless steel body and FFKM seals provide superior resistance to chemical corrosion, making them well suited to Petroleum as well as Chemical Industry applications. The LDP200 Series Probes are compatible with industry standard signal formats (EN 13922), providing interoperability with both Liquip's existing Gantry Monitors and other compliant Monitors.



Operation

When connected to a Gantry Monitor or similar device, the probe generates industry compatible signals that indicate whether the probe is dry (Permissive) or wet (Non-Permissive). The diagnostic red LED at the rear of the probe allows an operator to determine the probe status. If LED is ON then the probe is dry and if it is OFF, then the probe is wet or not powered.

Ordering Information

LDP202SC	2 Wire Probe, SS-316 Body with FFKM Seals
LDP205SC	5 Wire Probe, SS-316 Body with FFKM Seals
LDP202SS	2 Wire Probe, SS-316 Body with Viton Seals
LDP205SS	5 Wire Probe, SS-316 Body with Viton Seals

Specifications



Electrical Parameters:

IECEX/ATEX/UKEX:	Ui = 30V, Ii = 690mA, Pi = 9W, Ci = 105pF, Li = 0mH
Operating Temperature:	-40°C to +65°C
IP Rating:	IP66
Level Repeatability:	±0.5mm
Design Pressure:	600kPa

Power Limit (Pi = 9W) applies:

Ii max = 690mA when Ui max = 13.04V OR
Ii max = 300mA when Ui max = 30V

Safety Certification

LDP202SC, LDP205SC, LDP202SS, LDP205SS,	• IECEx Certificate: IECEx ITA 14.0014X	• UKEX Certificate: EMA21UKEX0076X
	• Marking: Ex ia IIA T3 Ga IP66 Tamb = -40°C to +65°C	
	• ATEX Certificate: ERO21ATEX0019X	
	• Marking:  2813  II 1 G Ex ia IIA T3 Ga Tamb = -40°C to +65°C	

Chemical Compatibility • FFKM (Perfluoroelastomer) - Contact Liquip for product compatibility

Apparatus is approved to following standards: IEC60079-0:2011, IEC60079-11:2011, IEC60079-26:2006
EN 60079-0:2012, EN 60079-11:2012, EN 60079-26:2007



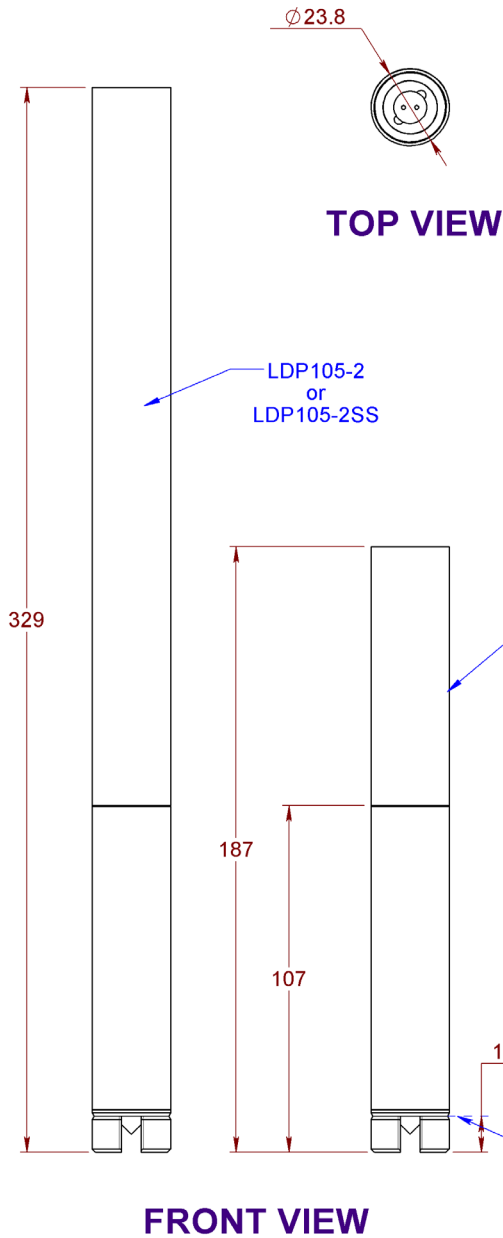
IMPORTANT: WARRANTY VOID IF PRISM RETAINER REMOVED. NO REPLACEABLE PARTS IN TIP.

MATERIALS	<ul style="list-style-type: none"> Stainless steel body, retainer & extension, Pyrex glass prism, and epoxy. Viton O-rings OR FFKM O-rings
MAINTENANCE	Irreparable item, no routine maintenance required, replace with new if found faulty.
INSTALLATION	<ul style="list-style-type: none"> Only genuine Liquip Parts are to be used to ensure correct mechanical sealing protection and to meet electrical approvals. It is the requirement of the ATEX Approval that the probe is installed in such a way that the probe is electrostatically grounded. Install the grubscrew in PJB500, PJB301 & VOH200-5 kit for this requirement. It is recommended to use Liquip PJB500, PJB301 or VOH200-5 probe holder which is compatible with Liquip manhole covers. Probe can be removed from tank top without having to access interior to remove a hood. Installation should be in accordance with applicable standards such as EN60079-14 and EN60079-25 or IEC60079-14 and IEC60079-25 or ANSI/ISA RP12.06.01 and ANSI/NFPA 70 or CSA C22.1 Part 1, Appendix F or equivalent. Users shall avoid ignition hazards due to impact or friction on the apparatus when used in Zone 0 areas. Any free ends of cable not connected shall be appropriately terminated to ensure no contact with additional sources of power is possible. If replacing probes clean the areas thoroughly and replace with all new O-rings & gaskets supplied. If using an extension, replace with new extension/housing O-rings. The use of Loctite 243 is critical to lock & seal off the extension & thread area. Liquip recommend the use of a quality IP66 Electrical conduit/gland fittings for the wiring & box junction point area. If the probe area is subject to heavy spray water jets during cleaning then dual rated conduit/glands are recommended (IP68/IP69K). <p>Note: Failure to follow the above procedure could result in liquid ingress and premature failure of electrical components and void warranty.</p>
WIRING METHOD	<ol style="list-style-type: none"> 2 - Wire System for LDP202SS and LDP202SC Series Attached drawing shows a typical 6 channel compartment system based on Australian Standard. For 8 channel compartment system ask Liquip for more details. 5 - Wire System for LDP205SS and LDP205SC Series Attached drawing shows a typical 7 compartment tanker, the number of probes varies with the number of compartments in the tanker as the probes are connected in series.
OPERATIONAL PARAMETERS	<p>Liquid properties must conform to the following:</p> <ul style="list-style-type: none"> Have refractive index between 1.10 and 1.47. If in doubt, carry out test with sample of liquid at working temperatures. Not be reflective (e.g. milk will not trip probe as white reflects) Be non-gelling and remain liquid at all operational temperatures. Viscosities up to 3500 cSt, work without suffering from clingage. No particles in suspension which can form clinging opaque surface coating on prism. Use with standard petroleum products and water-based compounds only. Any other chemical content must be checked with Liquip. Do not allow sunlight to access prism during operation. Do not install probe, or carry out routine tests adjacent to any reflective surface. (Incident light and reflections may cause false readings)
HANDLING PRECAUTIONS	<p>Treat with care, in particular protect tip until probe is installed. Protect open end of probe from moisture and chemicals. The probe prism is protected and light-shielded by the retainer.</p>
ACCESSORIES	<p>Extension bars of aluminium or stainless steel to suit various length applications. The following extension bars can only be used:</p> <ul style="list-style-type: none"> LDP102-4 (80mm long) LDP102-4SS (80mm long stainless steel) LDP102-8 (Gauged, 80mm long) LDP105-2 (222mm long) LDP105-2SS (222mm long stainless steel) Note: LC99 extension bar is not compatible.
ASSOCIATED EQUIPMENT	<ul style="list-style-type: none"> RM100 Series Rack Monitor TP Series "Ground Boss" truck plug DP305 Dummy Probe DP307 Dummy Probe PJB301 Probe holder PJB500 Probe holder VOH200-5 (imperial) & VOH200-5M (metric) Series Probe holder VOH200-5AT (imperial) & VOH200-5ATM (metric) Series Probe holder

Overall dimensions shown on the drawing overleaf.



LDP202 & LDP205



METERS - VALVES - VENTS - MANHOLES - HOSEREELS - OVERFILL PROTECTION - LOADING ARMS - ELECTRONIC DIPSTICKS



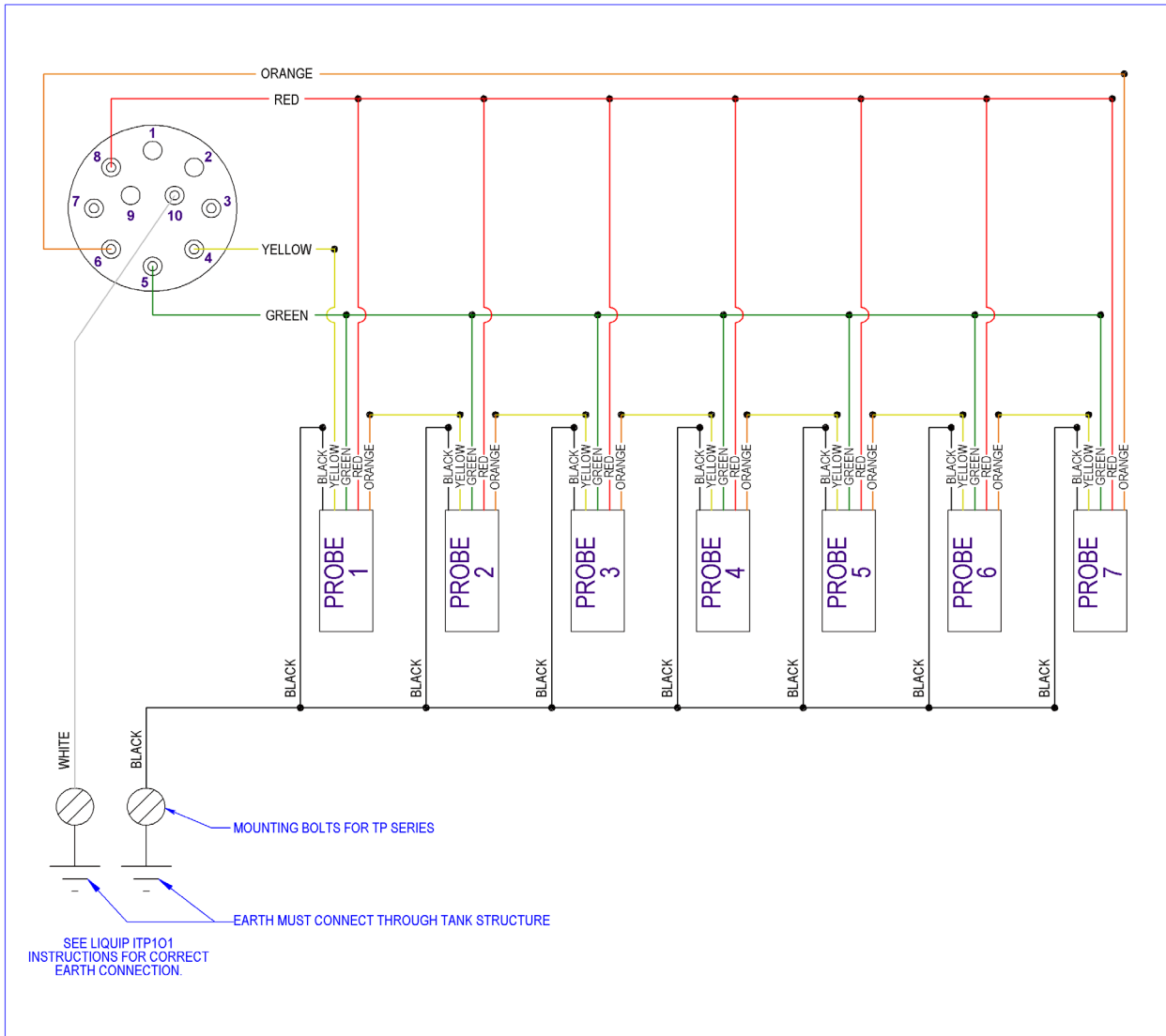
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OVERFILL PROTECTION WIRING (5-WIRE)

7 COMPARTMENTS



NOTES:

1. IF GREEN BECOMES DISCONNECTED, 'PROBE DOCTOR' OPERATES CORRECTLY EXCEPT DIAGNOSTIC LIGHTS ALL BLINK.
2. CHECK YOUR LOCAL STANDARD ON 'TRUCK PLUG' & 'GANTRY SOCKET' FOR NUMBER OF BAYONET PINS; TP103 & GP103 HAVE 3-PIN BAYONETS AND TP104 & GP104 HAVE 4-PIN BAYONETS.
3. CHECK YOUR LOCAL REQUIREMENT FOR WIRING AND CONSIDERATION OF SPACING SHOULD BE MADE REGARDING INTRINSIC SAFETY.

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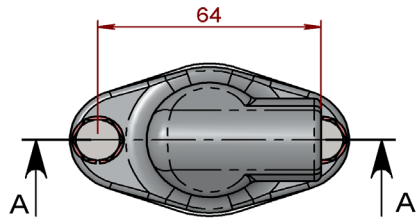
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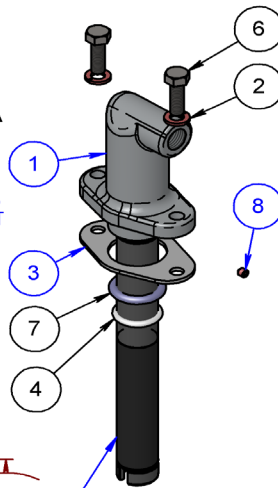
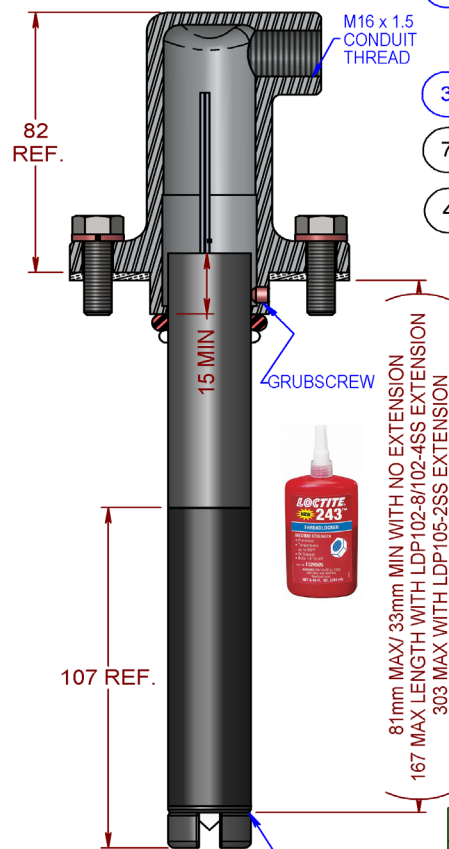
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VOH200-5AT & -5ATM KIT & INSTALLATION



LDP200 SERIES STAINLESS STEEL ASSEMBLY PROCEDURE:

1. INSTALL EXTENSION AS REQUIRED.
2. SLIDE THE O-RINGS & GORTEX SEAL OVER THE PROBE TIP AND ABOVE THE TRIP POINT AS INDICATED BY THE GROOVE. POSITION THE GASKET BETWEEN THE HOUSING AND THE MOUNTING POINT (MANHOLE COVER OR VRB-13).
3. INSERT THE PROBE (TIP) INTO THE MOUNTING POINT (MANHOLE OR VRB-13) AND PUSH PROBE DOWN TO THE DESIRED TRIGGER POINT. TOP OF THE PROBE MUST BE 15mm MIN ABOVE THE O-RINGS. FOR LOWER SETTINGS AN EXTENSION MUST BE USED.
- NOTE: HOLD ONTO THE PROBE WIRES AND TAKE CARE NOT TO DAMAGE TIP OR DROP PROBE.**
4. CAREFULLY REMOVE THE PROBE FROM THE MOUNTING POINT AND SLIDE DOWN THE O-RINGS 3mm TOWARDS THE TIP TO ALLOW FOR O-RING BEDDING. ENSURE O-RINGS ARE STRAIGHT.
5. THREAD THE PROBE WIRES THROUGH THE VOH200-5 HOUSING WITH THE WIRES COMING OUT OF THE ENTRY AND SLIDE THE PROBE INTO THE HOUSING, TAKING CARE NOT TO DISTURB THE O-RINGS.
6. TIGHTEN GRUBSCREW (55056) TO APPROX 1Nm.
7. FIT THE 2 BOLTS WITH WASHERS AND TIGHTEN EVENLY TO A TORQUE OF 15-20 Nm.
8. CHECK THE PROBE HEIGHT.



LDP200 SERIES PROBE & EXTENSION (ILLUSTRATION ONLY, SOLD SEPARATELY)

NOTES:

1. WHEN MOUNTING USE APPROPRIATE FASTENERS FROM KIT (i.e. TO SUIT TAPPED OR THROUGH HOLES), DISCARD REMAINDER.
2. GRUBSCREW IN KIT IS FOR POSITIONING PROBE HEIGHT AND FOR LDP PROBE ATEX INSTALLATION REQUIREMENTS.
3. USE VRB-13 MOUNTING BASE IF NOT MOUNTING DIRECTLY TO A MANHOLE COVER.
4. IF EXTENSION IS USED PLEASE ENSURE LOCTITE 243 IS APPLIED TO THE EXTENSION THREAD AS PER INSTRUCTIONS LISTED IN DOCUMENT 6406.

SECTION A-A
SCALE 1 : 2

ITEM	PART No.	DESCRIPTION	VOH200-5AT	VOH200-5ATM	MATERIAL
1	C0338A	BOX JUNCTION	1	1	ALUMINIUM
2	0824	WASHER SPRING	2	-	ST STEEL
	6586	WASHER SPRING	-	2	ST STEEL
3	4315	GASKET	1	1	EXP-PTFE
4	AGP100-22	SEAL PACKING	1	1	EXP-PTFE
5	6406	INSTRUCTION LEAFLET	1	1	PAPER
6	4839	SETSCREW HEX	2	-	ST STEEL
	4942	CAPSCREW METRIC	-	2	ST STEEL
7	4644	O-RING	1	1	VITON A
8	55056	GRUBSCREW CUP POINT	1	1	ST STEEL

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