

THE LIQUIP

MPP102 MINI MONITOR

2 CHANNEL OVERFILL
MONITOR



Tech Talk No 0053

Product Description

The MPP102 mini monitor has been developed for sites or vehicles with one or two tanks only but have the necessity for overflow protection.

The monitor is extremely small and compact the housing is cast aluminium with a polycarbonate cover and has a clear screen to view the LED control lights.

The MPP102 monitor was developed to carry out overflow protection by

- 1) Either a single electronic overflow sensor
- 2) Single fibre optic sensor
- 3) One of each overflow sensors simultaneously
- 4) Via a truck plug connected to a gantry monitor.

There are 2 output controls on the monitor one intrinsically safe switch to operate the monitor via the truck plug and gantry monitor the other being a power switch capable of operating a solenoid valve or cutting power to a product pump. The MPP102 monitor has a positive alarm output to activate an audible or visible alarm if the probe becomes faulty or wet. This function will require some additional wiring that is detailed in the wiring diagram.

The LED display has 3 lights, a dry operational sensor is confirmed by a unlit LED, a wet or faulty sensor will display a brightly lit LED light. Power to the monitor is confirmed by a single remote flashing LED light, if only one sensor probe is being used the other channel will need to be dummied out by a loop wire.

Product applications.

The positioning of the MPP102 Monitor is preferred to be in the vicinity of the controls so that operators can easily tell the status of the monitor. If the monitor is to be mounted on a vehicle ensure that it is not mounted near mudguards or high splash areas.

For the Monitor to be mounted on a vehicle it will need to have a power supply of between 11.5Vdc to 30Vdc and will draw a maximum current of 200mA, when electronic probes are used all wiring and cabling will need to be inside conduit rated IP66 or better and Junction boxes will need to have threaded ports for extra strength and to prevent water entry.

If fibre optic probes are fitted, split conduit should be used, as fibre optic cable should never be pulled through conduit with force.

If the MPP102 monitor is to be used on storage tank depot applications a 12V or 24V DC power supply is needed, Run conduit and place power unit with reference to safety requirements for hazardous areas.

The MPP102 monitor can be retro fitted to suit existing vehicles as the monitor has dual outputs. If the vehicle already has top sensors in place the monitor can be wired to save replacement and rewiring costs, for new tankers we suggest the use of fibre optics for ease of installation, cost and reliability.

The MPP102 monitor can also be installed at service station site tanks as well as LPG road tankers and LPG site tanks.

The MPP102 monitor can be used to monitor interstitial space with a electronic probe used for overfill protection and a fibre optic probe mounted on the side of the tank to measure the interstitial space.

Probe types compatible for the MPP102 Monitor

The use of fibre optic sensors and cable eliminates the usual concerns with electrical wiring with moisture, corrosion, short circuits etc. The use of split conduit is recommended for fibre optic cable and provides a cheaper and convenient means of providing mechanical support and protection.

Electronic liquid sensing probes for road tankers and storage tanks, are LC99 & AGP102 probes.

Major Selling Features

The monitors size 119.4 wide x 146 long x 61.6 deep and with a weight of just 1.35 Kg is a good selling feature and can be located in areas when space is limited.

The monitors price is a selling feature combined with Liquips overfill probe this is a affordable 2 channel single tank overfill protection system, with an approx temperature range of -25 to +55deg C

The MPP102 monitors versatility, it can be used to monitor LPG storage tanks, Depot storage tanks , be mounted on a vehicle and be able to monitor interstitial space on storage tanks using 2 channels.

Pricing

Below is list pricing for the monitor and major components.

1)MPP102	Monitor	\$997.40 + Gst
2)AGP102A	Glass Probe	\$267.71 + Gst
3)FOT100	Fibre Optic Probe	\$250.90 + Gst
4)LC99A	Electronic Probe	\$152.85 + Gst

Testing and commissioning

Ensure monitor has been wired as specified in the wiring diagram, physically wet test the sensors ensure power output is operational and all LED lights are working. If front cover has been removed for wiring purposes ensure main seal is sitting correctly and refit cover check all conduit glands and fittings.

When checking the diagnostics of the monitor with Liquip's HTA204 hand tester or Probe Doctor, channels 1 to 4 are used for electronic sensors , channels 5 to 8 are for fibre optic sensors.

Competition

The MPP102 monitor is a market leader, a 2 channel monitor for overflow protection that uses Electronic and fibre optic sensors, this monitoring system is the only 2 channel monitor known to Liquip. Competitors monitors are multi channel eg, Scully Intellicheck system which is similar to Liquips PPM series monitors

Codes and Regulations

The MPP102 monitor is designed to operate in Zone 1 with the overflow sensor suited to Zone 0. The monitor is designed to meet Australian Safety standards, certification will be granted October 2003.

General Installation Guidelines / Possible problems.

- Ensure tanker and vehicle are gas free upon installation
- Never weld on a vehicle unless all electronic equipment is completely disconnected electrically from both the tanker and other equipment
- Use high quality water proof conduit and fittings to IP66 minimum for all wiring and junction boxes
- Mount all equipment away from direct spray areas

- Common grounding of a system is most important, do not rely on common chassis grounding at various points, run full length dedicated grounding cable.
- Always completely segregate power and intrinsically safe wires into separate conduit and in accordance with I.S wiring rules.
- Observe international and local legal requirements.
- Apply cable relief inside all housing entries to allow for future servicing
- All equipment to be supplied from a fused power supply
- Do not route communication cables past noisy electrical apparatus such as solenoids and alternators
- Check instruction manual for recommended cable type
- Use specialised and genuine tools for all electrical work
- Use anti seize lubricants or water proof grease on all screw in equipment and fasteners
- Contact manufacturer should there be installation problems