The Bintech LPG tank monitoring system is a simple and reliable method of monitoring tank contents. The underground tank monitoring system uses a level sensor mounted in the tank turret via the standard eight hole flange used by the magnetic drive units. Mounted in the electrical enclosure of the level sensor is a programmable transmitter that provides a linearised 4 to 20 mA output to the indicators.

In the fill box a field mount indicator is installed which can provide power to the indicator loop. Additional indicators can be installed on the system typically at the operator’s console position.

The system was designed to be cost-effective while, at the same time, being reasonably accurate and simple to install and maintain. Accuracy is dependent on the shape of the tank and the actual liquid level. For a horizontal bullet tank the incremental level variation is greatest in the centre. The typical worst case on a 17.4 kL tank is an accuracy of about ±1%.

The system for the above ground tanks is similar to the underground system but it uses a simpler sensor. It is designed to fit the standard four hole flange pattern for a top mounted contents gauge. The programmable transmitter can be installed within the stainless steel electrical housing mounted on top of the level sensor or in the enlarged Bintech indicator. The basic system may be further enhanced by connection of the 4 to 20 mA output to a telemetry system enabling the tank contents to be read remotely on a host computer.

The Bintech Product Notes provide detailed specifications of the sensors and indicator.
**Features**

- The indicator is visible in all lighting conditions allowing night deliveries; therefore there is no need for torches or other ignition sources. AS1596 Page 46 Clause 5.4.4 states:
  a) Where the contents gauge is obscured by the filling connection, a means of remote gauging system shall be used
  b) Any contents gauge within an access pit shall be capable of being read at all times, without the aid of a portable light source
- The indicator readily fits in the fill pit on a built-in mount
- If the optional indicator is installed in the console area, the console operator need not go outside to read the tank contents and consequently leave the console unattended
- The system is suitable for all tank shapes and capabilities. Typically up to 2.8 m diameter (for a horizontal bullet). S-type linearisation available
- The system supports optional remote monitoring and interrogation

**Typical Applications**

Systems have been installed at various autogas and industrial sites throughout Australia including those of the major distributors - Mobil, BP, Shell, Woolworths, Boral, Kleenheat, Unigas and Elgas. Systems have also been exported to Taiwan, China, Paraguay, India and the Pacific Islands.

**Typical Installations**

1. The Bintech BI-1030 indicator is typically installed in the fill box associated with the underground LPG tank.
2. The Bintech 2000 series sensors are fitted in the turret of the underground LPG tank using the 8 hole flange.
3. The LPG installation can be monitored from the operator’s console with the Bintech 1240 indicator.
**Configuration 1**

**Item 1**
Bintech level sensor available in the standard lengths of 1.4 m, 2.5 m and 2.89 m with other lengths up to 3.0 m available to order. The sensor is fitted with a head mounted transmitter which linearises the tank contents and outputs a conditioned 4 to 20 mA signal to other equipment. The 2.5 m sensors are available ex stock from Bintech store, Melbourne.

**Item 2**
Bintech field mounted indicator: BI-1030
- LCD: 3.5 digit 14 mm LCD, back lit
- Power supply: 240 Vac
- Output: 18 Vdc conditioned / regulated
- Housing: MooreBH2MGA
- Material: Cast Aluminium
- Cover: Flat glass
- Mounting: 2x10 mm holes 76 mm centres

**Configuration 2**

**Item 1**
Bintech level sensor as Item 1 above

**Item 2**
Field mount indicator as Item 2 above

**Item 3**
Bintech 1240 panel meter: BI-1240
- LCD: 3.5 digit 13 mm LCD
- Power supply: Loop Powered
- Input: 4 to 20 mA
- Housing: PVC Internal protected location
Configuration 3

**Item 1**
Bintech level sensor as Item 1 in Configuration 1

**Item 2**
Field mount indicator as Item 2 in Configuration 1, except loop powered.

**Item 3**
Bintech 1240 panel meter as Item 3 in Configuration 2, except 240V or 110Vac power supply

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Configuration 4

**Item 1**
Bintech level sensor as Item 1 in Configuration 1

**Item 2**
Field mount indicator as Item 2 in Configuration 1, (either 240 Vac or loop powered)

**Item 3**
Telemetry system comprising:
- Power supply: 240 Vac
- Input: 4 to 20 mA
- A to D Converter
- Transceiver: GSM M20 or CDMA module
- Housing: Weatherproof or GP enclosure
- Host Software: Win95/98 minimum

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