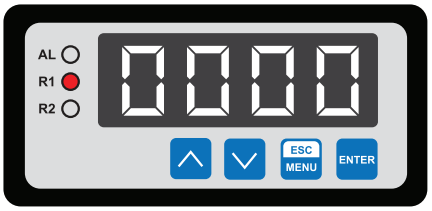
TANK LEVEL INDICATOR

Code: 18736

This simple, yet highly effective Tank Level Indicator provides an extremely accurate and informative indication of water level within a tank. The controller is coupled to a Hydrostatic Pressure Transducer, which provides a 4-20mA signal to the Process Meter. The Process Meter displays the level in very clear LED numerals



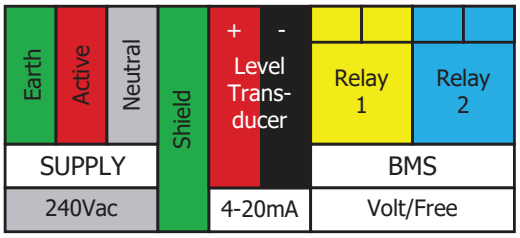
Features

- Hydrostatic Pressure Transducer rating: 0-4m
- Process Meter has 2 relay outputs
- Display can be configured to read:

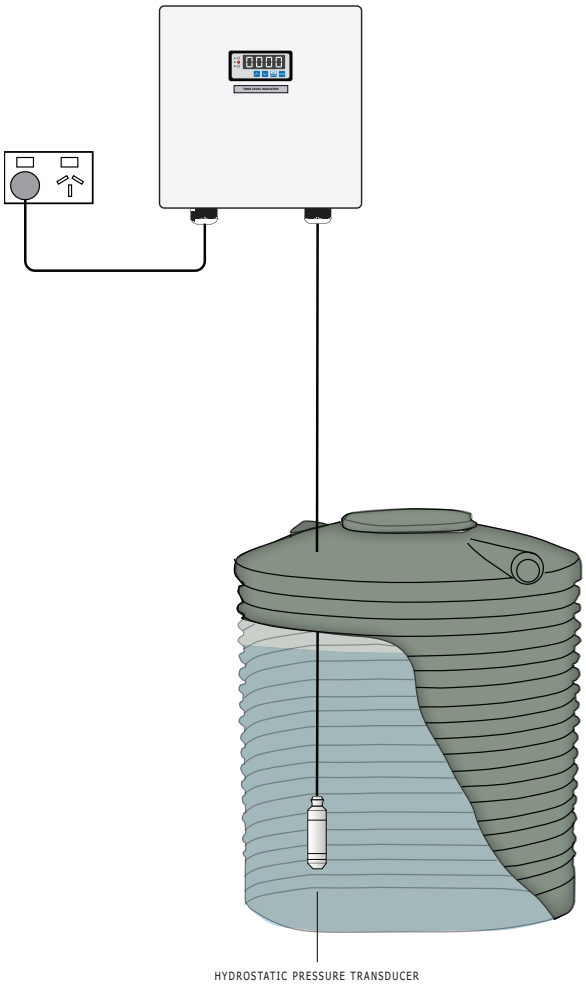
  m/mm (depth), percentage (full) or litres (capacity)

  Optional: Sewage/Waste water Transducer available

Connection Details



Schematic



HYDROSTATIC LEVEL TRANSDUCER

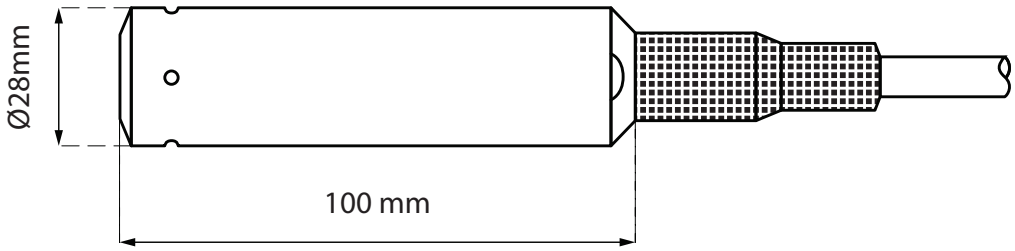
Functional Overview

This unit is designed to be used for potable/raw/rain water applications. (Not recommended for waste water. The unit is suited to 4-20mA applications where precise level readings are required.

Features

- Pressure Range: 0-0.4bar (0-4m)
- Small body diameter - 28mm
- Excellent repeatability and long term stability
- Excellent anti-interference ability
- Application: depth or level measurement in raw, rain, potable and ground water applications

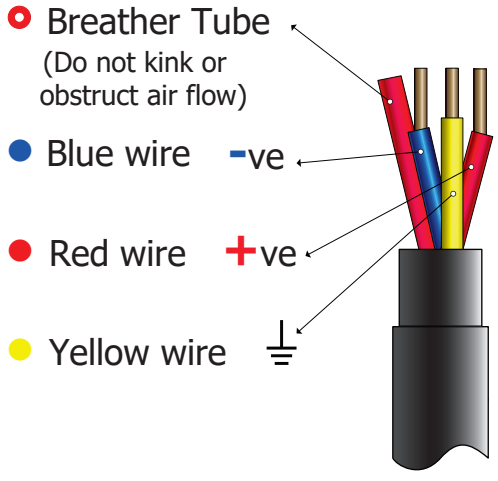
Dimensions



Specifications

Pressure Range:	0-0.4bar (0-4m)(0-40kPa)
Overload Pressure:	1.5 times full scale
Accuracy:	±1.0% F.S
Supply Voltage:	12-30Vdc Loop powered
Output Signals:	4-20mA Analog
Response Time:	10ms
Temperature Ranges:	Compensated Temperature: 0°C - 50°C Media: -10°C - 70°C Environment: -30°C - 85°C Storage: -40°C - 125°C
Temperature Compensation:	0.02%F.S./°C
Electrical Connection:	3 wires, Breather Tube
Protection Classification:	IP68
Housing Material:	316 Stainless Steel
Operating Life:	>1x10⁸ Pressure Cycles
Cable Details:	Length: 24m Diameter: Ø7.5mm OD Material: PUR Polyurethane

Connection Detail



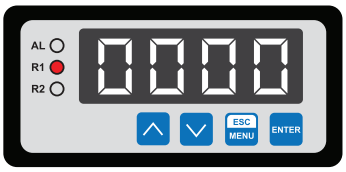
TANK LEVEL INDICATOR

Code: 18736

Setting Up Tank Display in mm

1. First calculate the maximum range of the transducer in mm.
2. Second calculate transducer height from the bottom of the tank (mm). Recommended approx 100mm.
3. Use the following formula to calculate the 'Hi C' value.

Hi C = Transducer Range (mm) + Transducer height from bottom (mm)



Example: **Hi C = 4000 (mm) + 100 (mm)**
= 4100 mm

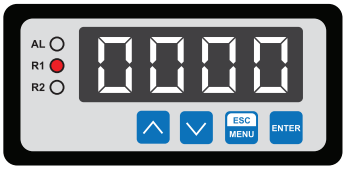
4. Press and hold the button [ESC MENU], until the screen is reading **'rEl 1'**
5. Push the button [V] until the screen is showing **'input',** Press the [ENTER] button
6. Press [V] button until the screen is reading **'Hi C'**. Press the [ENTER] button
7. Enter in calculated value. Use the [^] and [V] buttons to change the number that is flashing.

   To go to the next digit, press the [ENTER] button.
8. Once you have successfully entered the new value, press and hold the [ENTER] button until **"Set?"** appears on the screen. Press [ENTER] again.
9. Press [ESC MENU] until it returns to the main reading screen.
10. Further adjustment may be required if exact measurements are not used

Setting Up Tank Display in %

1. First calculate the Height of the tank at full (mm) where 100% will be displayed.
2. Second calculate transducer height from the bottom of the tank (mm). Recommended approx 100mm.
3. Use the following formula to calculate the 'Hi C' value.

$$\text{Hi C} = \frac{\text{Transducer Range (mm)}}{(\text{Tank full (mm)} - \text{Transducer height (mm)})} \times 100$$



Example:

$$\text{Hi C} = \frac{4000\ (\text{mm})}{(1100\ (\text{mm}) - 100\ (\text{mm}))} \times 100$$

$$= 4 \times 100$$
$$= 400\%$$

4. Press and hold [ESC MENU] the button, until the screen is reading **'rEl 1'**
5. Push the button [V] until the screen is showing **'input',** Press the [ENTER] button
6. Press [V] button until the screen is reading **'Hi C'**. Press the [ENTER] button
7. Enter in calculated value. Use the [^] and [V] buttons to change the number that is flashing.

   To go to the next digit, press the [ENTER] button.
8. Once you have successfully entered the new value, press and hold the [ENTER] button until **"Set?"** appears on the screen. Press [ENTER] again.
9. Press [ESC MENU] until it returns to the main reading screen.
10. Further adjustment may be required if exact measurements are not used

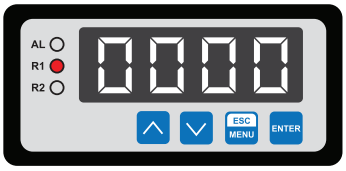
TANK LEVEL INDICATOR

Code: 18736

Setting Up Tank Display in Kilo Litres.

1.First calculate the height of the tank (mm) and volume (kl).
2. Second calculate transducer height from the bottom of the tank (mm). Recommended approx 100mm.
3. Use the following formula to calculate the 'Hi C' value.

$$\text{Hi C} = \frac{\text{Transducer Range (mm)}}{(\text{Tank full (mm) - Transducer height (mm)})} \times \text{Volume (kl)}$$



Example:

$$\text{Hi C} = \frac{4000 \text{ (mm)}}{(1100 \text{ (mm)} - 100 \text{ (mm)})} \times 40$$

$= 4 \times 40$

$= 160$ kl

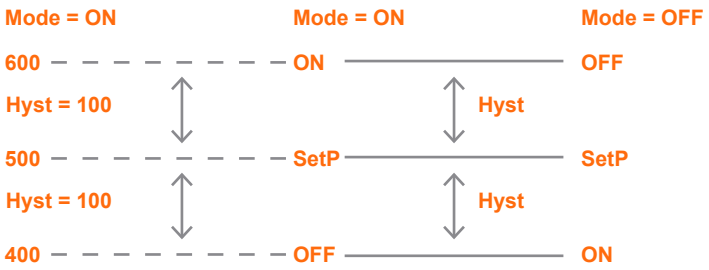
4. Press and hold the button ESC MENU , until the screen is reading **'rEl 1'**
5. Push the button ▽ until the screen is showing **'input',** Press the ENTER button
6. Press ▽ button until the screen is reading **'Hi C'**. Press the ENTER button
7. Enter in calculated value. Use the △ and ▽ buttons to change the number that is flashing. To go to the next digit, press the ENTER button.
8. Once you have successfully entered the new value, press and hold the ENTER button until **"Set?"** appears on the screen. Press ENTER again.
9. Press ESC MENU until it returns to the main reading screen.
10. Further adjustment may be required if exact measurements are not used

Setting relay outputs

1. Work out switch on and switch off values.
2. Work out whether the relay will switch on when increasing (ON) or decreasing (OFF) level.
3. Use the following example to work out the setpoint, hysteresis and mode.

Mode: ON (Increasing), OFF (Decreasing)
SetP: = Middle point between on and off **Hyst: =** Value from middle point to on or off

Example: **ON @ 600, OFF @ 400 SetP**



Note: Increasing is for pump down or high level, decreasing is for tank fill or low level.

4. Press and hold the button ESC MENU , until the screen is reading **'rEl 1'**
5. Press △ or ▽ until the required relay **'rEl 1'** and **'rEl 2'** is displayed then press ENTER .
6. Press △ or ▽ until **'SetP'** is displayed and press ENTER .
7. Enter in calculated value. Use the △ and ▽ buttons to change the number that is flashing. To go to the next digit, press the ENTER button.
8. Once you have successfully entered the new value, press and hold the ENTER button until **"Set?"** appears on the screen. Press ENTER again.
9. Go to step 6 and complete settings for **Mode** and **Hyst**.
10. Press ESC MENU until it returns to the main reading screen.