

# Non-Intrusive Pig Signaller Devices

Introduced to complement our Intrusive Hi-T Pigalert models, we also offer a range of innovative Non-Intrusive Pig Signallers for both permanent and portable installations.

The Hi-T Magalert and Hi-T Ultralert are robust non-intrusive pig signaller devices that use "magnetic" and "ultrasonic" detection principles respectively to detect, signal and log the passage of pigs at critical points along a pipeline. The Hi-T Magalert and Hi-T Ultralert devices can be used for both offshore and onshore installations.

The Hi-T Magalert and Hi-T Ultralert are ATEX compliant and are housed inside fully certified aluminium or stainless steel explosion proof housing suitable for use in Zone 1, Zone 2, Group IIA, IIB and H2 Areas.

The Hi-T Magalert and Hi-T Ultralert devices can log up to 100 events with time and date. All logged events can be viewed on a 70mm (2.7") high visibility display incorporated in the main housing. Prior to clearing the history of logged events it is also possible to connect the device to a PC and download all stored data.

Pig passages can also be signalled as they occur with ultra-bright LEDs which are incorporated into the main housing and are visible from up to 100m

## Detection Principle

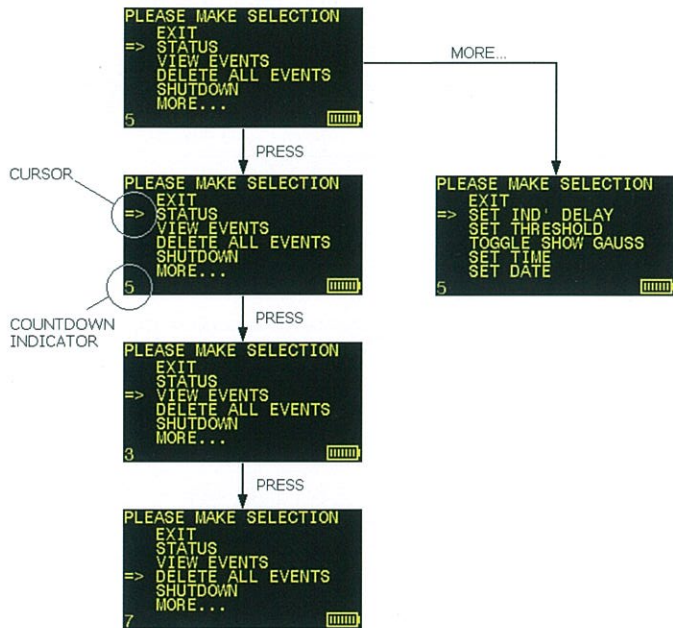
Hi-T Magalert incorporates a magnetic sensor which detects changes in the magnetic field (Gauss level). Consequently, the Hi-T Magalert pig signaller device must be used in conjunction with pigs fitted with rare earth magnets (neodymium iron boron) around the pig body. Pig detection speed ranges from 0.1 to more than 10 m/s.

Hi-T Ultralert uses a "passive" ultrasound sensor which listens to the acoustic activity from the outside wall of the pipeline. Sound propagates along the pipeline due in part to activity within the pipeline (fluid or gas flow and pig activity) and also from various external sources (pumps, valves and maintenance activity). These sounds are analysed using DSP techniques by the Hi-T Ultralert to determine their nature and if they fit the "acoustic signature" of a pig passing, in which case an event would be signalled.



## USER-FRIENDLY DISPLAY MENU / OPERATOR INTERFACE

All Hi-T Magalert and Hi-T Ultralert sensor functions are very easily accessed using a single external control switch on top of the main housing. Combined with the high visibility display menu this allows operators to quickly cycle through the menu options to review logged events and set-up sensor parameters.



## UNIQUE MODULAR DESIGN

The Hi-T Magalert and Hi-T Ultralert are modular devices that can be very easily adapted to suit a wide variety of installations and interface options. The standard units incorporate an internal battery pack and can be operated completely independently. Alternatively, a 24V DC external power supply can be connected via the single M20 x 1.5 Exd Cable Gland.

## REMOTE SENSOR

The Hi-T Magalert can be supplied with a sensor mounted remotely from the main housing on a cable. This option is used on buried pipelines, or for any other applications where the main housing is required to be mounted remotely from the pipeline. The Hi-T Ultralert is supplied with a sensor mounted remotely from the main housing as standard.

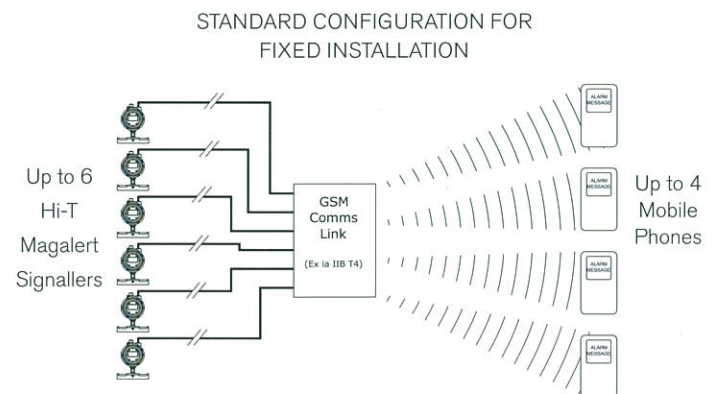
## INTERFACE OPTIONS

The magnetic sensor can be detached from the main housing using an extension cable to allow the Hi-T Magalert and Hi-T Ultralert to be used on buried pipelines, or in areas where there is limited access.

For remote monitoring, both the Hi-T Magalert and Ultralert devices can provide DPDT Relay and MODBUS outputs using a suitable cable via an Exd barrier gland from the single M20 entry.

## OPTIONAL GSM ALARM INTERFACE

An optional GSM Alarm Interface allows the Hi-T Magalert and Hi-T Ultralert sensor to send a "Pig Detected" message to a maximum of 4 mobile phones. This optional feature allows more freedom for pipeline operators and avoids the requirement and associated costs for having operators mobilised on site.



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