

# 800 SERIES ACOUSTIC PINGER

The 800 Series pingers are high specification pingers used for pig tracking and other subsea marking and location functions.

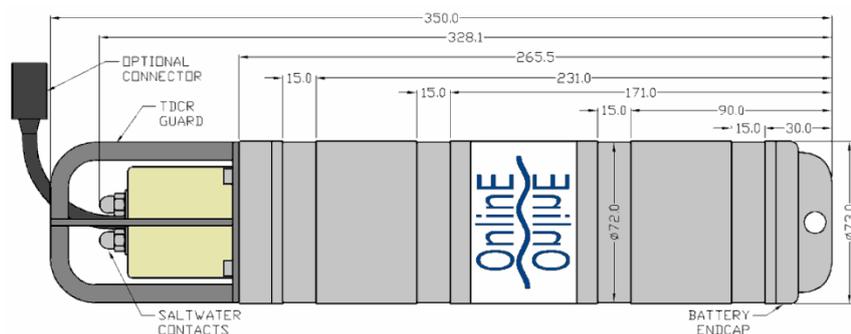
An 800 Series pinger may be fitted to a pig for use in offshore, fluid filled pipelines. The acoustic signal generated by the pinger is exceptionally powerful and stable, allowing the approximate pig or asset location to be established from the surface using an acoustic receiver and hydrophone (e.g. OEL 2001). The exact location can then be determined using a directional receiver such as the diver operated OEL PR1, 2405 or ROV mounted OEL 2001RS/2402RS/2401 system.

The acoustic pingers are usually configured to activate when the *saltwater contacts* are exposed to any conducting fluid e.g. salt water or MEG. This permits the loading of the pingers many months in advance; safe in the knowledge that the pinger will only activate once the line becomes flooded ready for launch.

Where there is a risk that a line may become wet through water ingress or concerns about condensation near the pinger then the pinger can be configured with a pressure switch and then installed inside a 'wet' pipeline at atmospheric pressure, several weeks before it is required to activate. The Pinger would only activate once the pipeline internal pressure reached the threshold value.

The 800 Series pingers are highly configurable and their performance and functionality can be tailored to meet specific customer requirements. For example, if two pingers are required to operate in close proximity to one another, different frequencies and/or ping rates can be configured during manufacture to allow for easy differentiation between their transmissions.

The 800 Series Pingers are capable of sending acoustic transmissions over several km, although the effective range is dependent upon the specific configuration, mounting arrangement, and environmental conditions.



The standard 800 Series model can produce up to 20W of acoustic power and has a single operating frequency in the range of 24-30 kHz (configured at time of manufacture). In addition to the standard model, a number of alternative configurations are available that offer additional functionality and/or performance:

## OPTIONS

**LOW AND HIGH FREQUENCY OPTIONS:** Low frequency and high frequency options are available with frequencies in the range of 9-18 kHz and 30-40 kHz respectively (configured at time of manufacture). The low frequency configurations incorporate a larger Ø85mm transducer and do not include a

transducer guard, reducing the overall length of the unit to 334.1mm. The housing dimensions remain the same for all configurations.

**PRESSURE SWITCH OPTION:** 800 Series Pingers can be configured with a mechanical pressure switch that can be used to activate the pinger once the external pressure exceeds a set threshold value (typically 3 to 5 bar). For example, a 800 Series Pinger configured with a pressure switch could be installed inside a 'wet' pipeline at atmospheric pressure, several weeks before it is required to activate. The Pinger would only activate once the pipeline internal pressure reached the threshold value.

**DUAL RATE:** 800 Series Pingers with this option incorporate an external connector cable that allows them to be interfaced with an external piece of equipment such as an OEL Smart Gauge Plate for confirming the integrity of a subsea pipeline or as an alarm on an ROV should all ROV power be lost.

**GRID™:** This version has a connector to link to an OEL Smart Gauge plate and permits a coded signal to transmit the time of an event as a series of acoustic pulses. This allows the location where the event occurred to be determined by reference to pumped volume data without having to recover the pinger first.

**MODEM OPTION:** 800 Series Pingers with the modem option incorporate an external connector cable that allows them to be interfaced with an external piece of equipment and used as a long range, simple, robust, low data rate modem for remote monitoring applications. For example, an 800 Series Pinger with the modem option may be interfaced with OEL's 6000 subsea logger and used to transmit pressure readings every 2 minutes over long range.

**DELAYED START:** In order to conserve battery life, the unit can be configured to only start pinging after a set time and date.

#### STANDARD SPECIFICATIONS:

|                                  |   |
|----------------------------------|---|
| Battery Life at +5°C.....        | 30 Days*  |
| Battery Type .....               | 24V DC, 16 x Alkaline AA Cells                                      |
| Acoustic Output Power .....      | 20W ±3dB*   |
| Beam Pattern .....               | Omni-directional ±3dB   |
| Frequency.....                   | Configured during manufacture 24-40 kHz (9-18 kHz Option Available) |
| Pulse Length .....               | 5ms*  |
| Ping Rate.....                   | 1 Ping Every 3 Seconds*   |
| Operating Temperature Range..... | -2°C to +54°C (+28°F to +129°F)                                     |
| External Pressure Rating.....    | 4,500m (14,764ft)/450bar (6526Psi)                                  |
| Weight in Air .....              | 4.1kg (9lbs)  |
| Housing Material.....            | 2205 DUPLEX STAINLESS STEEL   |
| Endcap Material.....             | 316 STAINLESS STEEL   |
| Transducer Material .....        | PEEK / PU   |
| O-Ring Material .....            | NBR70   |

#### \*ALTERNATIVE CONFIGURATIONS

The battery life of a 600 Series Pinger is dependent on the operating temperature, acoustic power, ping rate, pulse length and the number and type of C Cells. The acoustic power, pulse length and ping rate can be configured by OEL at the time of manufacture to match the customer's desired performance and battery life. Please contact OEL to discuss specific project requirements.

