

1200 SERIES ACOUSTIC PINGER

The 1200 Series pingers are high specification pingers used for pig tracking and other subsea marking and location functions.

A 1200 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 there are concerns about condensation near the pig, the pinger can be configured with a pressure switch. The pinger can then be installed inside a 'wet' pipeline at atmospheric pressure, several weeks in advance and will only activate once the pipeline internal pressure reaches the pre-configured threshold.

The 1200 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. Higher power output units are capable of transmission over a few km.

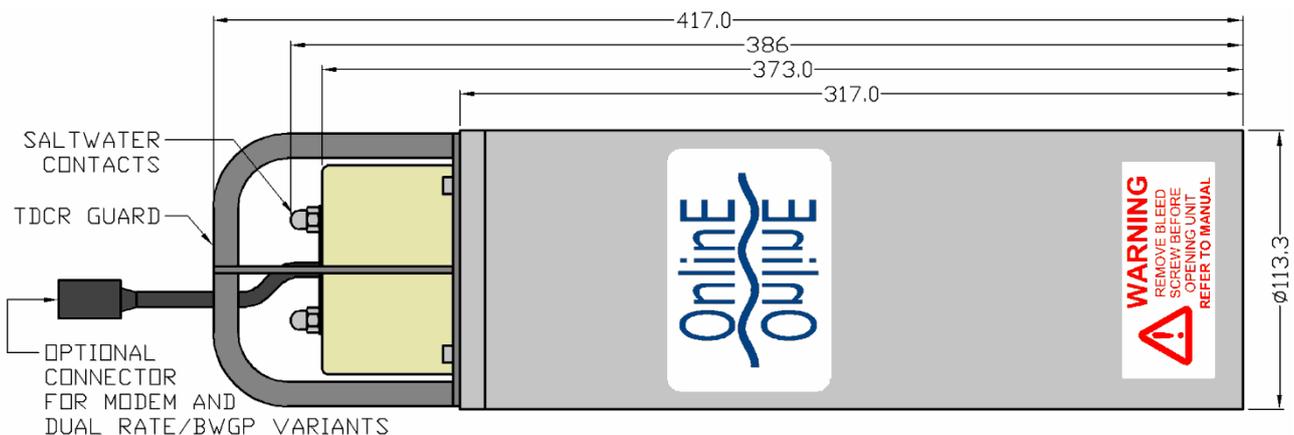


FIGURE 1: 1200 SERIES PINGER

The standard 1200 Series model can produce up to 20W of acoustic power at a single operating frequency in the range of 9-18 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

MEDIUM AND HIGH FREQUENCY OPTIONS: Medium frequency and high frequency options are available with frequencies in the range of 24-30 kHz and 30-40 kHz respectively (configured at time of manufacture).

HIGH POWER OPTION: High power configurations are available with an acoustic power output of 60W. This can provide an increase in range of between 10% and 25% dependent on the configured frequency.

PRESSURE SWITCH OPTION: 1200 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 1200 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: 1200 Series Pingers may be fitted with an MCIL6F connector that allows them to be interfaced with external equipment for use as long range, remote alarms. For example, a 1200 Series Pinger may be interfaced with a 4000SD to signal when a pig passes a strategic location or with a 6000SD to alert of a failed hydrotest.

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: 1200 Series Pingers may be fitted with an MCIL6F connector that allows them to be interfaced with external equipment for use as long range, robust, low data rate modems for remote monitoring applications. For example, a 1200 Series Pinger may be interfaced with an OEL 6000 subsea logger and used to transmit pressure readings every minute over several km.

STANDARD SPECIFICATIONS:

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|-----------------------------------|---|
| Battery Life at 5°C..... | 79 Days* |
| Battery Type..... | Custom 31.5V Alkaline Battery Pack, BATT-11200 |
| Acoustic Output Power | 20W ±3dB (60W Variant Available)* |
| Beam Pattern..... | Omni-directional ±3dB |
| Frequency | Configured during manufacture 9-18kHz (24-40kHz Option Available) |
| Pulse Length | 5ms* |
| Ping Rate..... | 1 Ping Every Second* |
| Operating Temperature Range | -2°C to +54°C (+28°F to +129°F) |
| External Pressure Rating | 3,000m (9,842ft) / 300bar (4531 Psi) |
| Weight in air | 11.5kg (25.3lbs) |
| Housing Material | 2205 DUPLEX STAINLESS STEEL |
| Endcap Material..... | 2205 DUPLEX STAINLESS STEEL |
| Bleedscrew Material | 316 STAINLESS STEEL |
| Transducer Material | PEEK / PU |
| O-Ring Material | NBR70 |

***ALTERNATIVE CONFIGURATIONS**

The battery life of a 1200 Series Pinger is dependent on the operating temperature, acoustic power, pulse length and ping rate. The acoustic power, pulse length and ping rate can all 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.



Date

