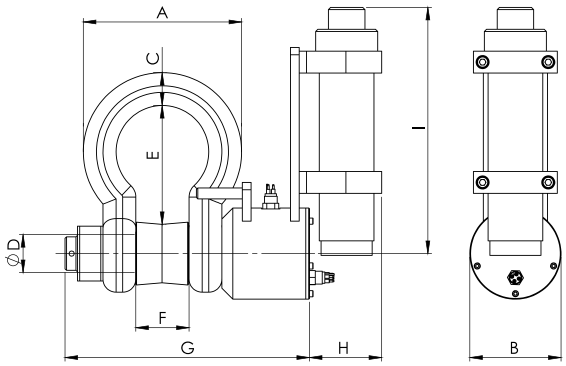
Acoustic Load Shackle
ALS-2.0

The Acoustic Load Shackle is designed for subsea operations where load monitoring is required, either for short term operations lowering an item to the seabed or for longer periods monitoring dynamic loads.

The Acoustic Shackle assembly comprises a Crosby lifting shackle with a modified pin. The standard pin is replaced by a Load Cell machined from stainless steel. On the side of the Load Cell there is a mounting bracket to hold an acoustic beacon, which is clamped in place using stainless steel brackets. The shackle is provided with a bobbin which can be machined to bespoke dimensions.

The load on the shackle is measured by strain gauges connected to a digital amplifier which is housed within the head of the shackle pin and pressure tested to 200bar. The amplifier connects via subsea cable connectors to the acoustic beacon which in turn transmits signals to the surface PAM unit at user selectable sample rates.

Dimensional Data



Features:

- 1500m operating depth
- Spread spectrum acoustic beacon
- Robust design

Applications:

- Subsea Moorings
- Cable laying operations
- Grapnel runs

Load Capacity Tonnes	Part Number	A	B	C	ØD	E	F	G	H	I	Proof Test (% Load Capacity)	Accuracy (%)
25	0001 – 1250	225	125	44.5	50	162	73	335	100	340	150	1.0
55	0001 – 1251	327	125	66.5	70	246	105	420	100	340	150	1.0
85	0001 – 1252	365	125	76	82	308	127	460	100	340	150	1.0
120	0001 – 1253	416	125	89	95	347	150	518	100	340	150	1.0
200	0001 – 1254	530	140	120	125	450	180	605	100	340	150	1.0
300	0001 – 1255	565	150	130	150	534	205	655	100	340	150	1.0

Specification

Loadcell WWL	25t to 250t
Operating Depth	1500m
Beacon Battery:	14.8V Rechargeable 8 Cell 5.4Ah Lithium Ion
Self-Discharge:	<5% per month at 20˚C / <10% per month at 30˚C / <20% per month at 40˚C
Estimated Battery Life:	72,000 samples or 2 months (whichever is sooner)
Operating Temperature:	Charging: 0˚C to +45˚C / Discharging: -20˚C to +60˚C
Storage Temperature:	-20˚C to + 30˚C for 1 year / -20˚C to + 45˚C for 3 months
Loadcell Material:	17-4PH H1150+1150 Stainless Steel
Calibration:	Supplied with calibration, proof load and test certificates to traceable to UKCA BS EN ISO 7500-1 2018