

Tracking System for Live Seabed Power Cables



The new Powertrack subsea power cable tracker is being launched by Teledyne TSS at Ocean Business to close a gap in the offshore survey industry's inventory of marine detection technology. The company's research department has overcome the problem of tracking live power cables by developing a system that is capable of detecting the harmonics of AC tones in all AC and DC utility cables whether they are three or single phase and the same system can detect them regardless of whether they are carrying power or not.

Unlike pipelines, cables have a much smaller metallic profile which makes them considerably harder to detect. The TSS 350 can monitor a detectable tone that has been injected into the cable. However this is not an option if the cable is in use delivering

electrical power so Powertrack has been designed as an enhanced version of the TSS 350 that is able to operate over a wider range of frequencies.

Harmonics of Grid Frequency

The system has been developed so that it can cover the higher-order harmonics of the grid frequency. This frequency delivers increased capability for detecting the harmonics of AC tones in all powered and unpowered three-phase and single-phase AC and DC utility cables. This detection capability takes advantage of the inherent embedded power transmission characteristics of the installation. However, if power is not being carried at the time of the survey a tone of 30mA at 25Hz can be applied to the cable and the same ROV-mounted Powertrack system can detect it using the technical expertise of the TSS 350 upon which it is based. The complete Powertrack assembly weighs 17kg in air and is depth rated to 3,000m where it is capable of detecting a cable at a vertical range of up to 10m and within a total horizontal swath width, centred on the coil array, of 20m.