

## Extension for subsea CAN cable

Teledyne Oil & Gas has introduced its active flying lead family. It comprises fault-tolerant, high-speed, and optical fiber solutions.



The active flying lead overcomes the 40-m limitation (Photo: Teledyne Oil & Gas)

The company located in Florida (USA) has added the CAN communication protocol to its Active Flying Lead product family. The subsea oil and gas industry has standardized to "fault tolerant" CAN communications for sensors and other subsea controls. This variation has a limited transmission distance for single node or sensor systems of only 40 m. Teledyne has recently qualified three new configurations that extends the range of the CAN communication to up to 5000 m.

The Active Flying Lead product line is characterized by integrating specialized electronics into qualified highly reliable atmospheric housings located directly within a subsea cable, or flying lead. The ability to run CAN Bus signals longer than before allows for greater flexibility in the placement of sensors in an oil field or subsea observatory. The alternative is to locate a control pod near the desired sensor placement, or by modifying the sensor location, even though an alternative location may have been more effective.

The ECFL-FT "fault-tolerant" version repeats the CAN signal. The CAN repeater can double the original working distance with only one housing. For example, if 40 m was original step-out length, then with the repeater, the CAN jumper could provide transmission up to 80 m. The ECFL-HS "high-speed" variant converts the "fault-tolerant" signal (ISO 11898-3) into a "high speed" signal (ISO 11898-2) and after 300 m back to "fault-tolerant" one. This version requires two housings to convert the signal and convert it back. This allows for a total distance of up to 380 m. The EOFCL-C fiber-optical option comprises two converters allowing distances of up to 5 km.

[hz](#)