
MultiLog

Winch Recorder

Introduction

MultiLog is a digital recorder designed for monitoring the performance of cable laying winches. It is fully configurable and can be fitted to most types of winch. A unique feature is its ability to monitor pulling tension either by load cell or by monitoring hydraulic pressure in the capstan drive.



The Recorder is a complete stand-alone unit, operated via a keypad and liquid crystal display and requires only a standard 12-volt engine battery for operation. It is fitted with a thermal printer and can be connected to a Personal Computer (PC) for downloading recorded data. It is easy to operate and has been designed to prevent damage to expensive cables by halting winching when a selected pulling tension is reached.

Features

- Simple operation using display and keypad
- Configurable for different winch types and sizes
- Inbuilt thermal printer for hard copy of data
- Storage of multiple recording sessions
- Facility for connection to a PC
- Compact, robust and easy to install
- Real time clock calendar for timing and dating

Uses

MultiLog has two main functions. The first is to produce a permanent record that can be used as evidence for correct installation of a cable run. The second is to prevent the winch from overloading the cable. This is particularly important when laying expensive fibre optic cables.

Configuration

The Recorder is configured to match the type of winch it is connected to. This is normally done at the factory, but may be performed by the operator, allowing a single Recorder to operate with different winches. A configuration file is simply downloaded to the MultiLog from a PC.

MultiLog uses a rotary encoder for measuring the length of rope pulled. A transducer (for monitoring hydraulic fluid pressure) or a load cell is used to determine cable tension. When the system is configured to monitor hydraulic pressure, certain equation constants are used to define the relationship between hydraulic pressure, in Bars, and the line pull in kg. This is often a complex non-linear relationship and requires calibration using a special test rig at the factory. The system counts pulses from a rotary encoder and these too have to be converted into equivalent units of length.

Operation

To start a recording, one simply enters a number to identify the cable, sets the overload factor and finally selects the 'start recording' function. Recording continues until there is an overload or when the 'stop recording' function is selected. Details of the last run can then be reprinted. Computer downloads are achieved using a special cable and software.

If the winch overloads, a 12-volt output operates a cut-off solenoid. Recording can be restarted when the overload has been cleared.

Computer Connection

The Recorder is configured and recordings downloaded from it using a Windows® based application program called 'WinWinch'. A copy is supplied with each MultiLog unit issued.

Specifications

Pull Speed: Max 25 revs/sec at 128 pulses per rev

Cable Tension: Any 0-5volt load cell or transducer

Mode: Based on time or on length of cable pulled

Keypad: 12-key keypad

Display: Standard 2-line 16 column liquid crystal

Travel: Greater than 50,000 revs at 128 pulses per rev

Printer: 32 columns, 13 lines per second

Communication: Serial port for connection to PC

Weight: 1.7 kg

Size: 220 x 105 x 145mm, excluding antivibration mounts