Linewise System©

Description

The Linewise System is a basic acquisition system comprised of hardware and software that records and displays simple process measurements. Examples of these include: depth, line tension, pressure, temperature, and flow. It can measure four analog voltages, four frequency inputs, and depth counter input. The Linewise System can interface with the Lee Specialties DRS Panel, the Magnetic Mark Detector System, and the Winch Shutdown Control System in this catalogue.

Hardware

- Laptop computer (existing or DataCan supplied)
- USB interface with four frequency inputs and four analog inputs

Applications

- Weight Indicator (wireline tension: hydraulic, inline, s-link)
- CCL Meter (shooting CCL)
- Pressure Indicator (wellhead pressure for casing and tubing)
- Depth Panel
- Linewise Report (data gathering)
- Pressure Testing
- Flow Testing
Features

- Simultaneously records and displays wireline depth, speed, tension, and wellhead pressure
- Ideal for any wireline operation
- Easy to install
- Four digital and four analog inputs
- Analog inputs of 0-5V, 4-20mA, 0-10V
- Automatically records all data
- Incorporates existing measurement equipment
- Works with most manufacturers’ measuring heads
- Flexible configuration for wireline use, pressure testing, or other operations

Part Number:
Complete System (hardware and software): AE304UU0002
Linewise Accessories

Magnetic Mark Detector

- Recognizes magnetic marks applied to open hole wireline
- Sensor mounted to measuring head
- Processing module is connected to a Linewise frequency input
- Linewise software displays magnetic mark depth that can be used to correlate depth

Part Number: AE950UU0007

Winch Shutdown Control

- Shuts down winch when depth or tension exceeds preset limits
- Integrated monitoring through Linewise system

Part Number: PE170UU0044
Linewise Software

Description

The Linewise Software package is a set of applications that allows the operator to display various surface process measurements while carrying out wireline operations on slickline or electric line. The software will record this information, providing the operator with the option of graphing the data. Examples of commonly recorded process measurements include: wireline depth, speed, line tension, and wellhead pressure.

The Linewise Software is designed and developed by our Wireline Industry experts in consultation with our customers. The Linewise Software package includes:

- Depth Panel
- Weight Indicator
- Pressure Indicator
- CCL Meter
- Linewise Logger
- Linewise Report
- Flow Meter
- Temperature
- Line Thickness
Depth Panel

Features

- Displays line depth and speed, well schematic, and tool string motion
- Primary and secondary depths are displayed in feet (ft) or meters (m)
- Line speed can be displayed in meters per minute (m/min), feet per min (ft/min), or feet per hour (ft/hr)
- Secondary depth can be configured to use a secondary (redundant) encoder if desired
- A well schematic can be configured to represent the tool string and its position relative to items within the well
- Tool string representation can be set to the correct length and shown moving up or down a wellbore
- User-defined alarms can be enabled to indicate when present depth and/or speed values have been surpassed

Weight Indicator

Features

- Monitors line tension
- Displays current, maximum, and differential tensions
- Collects data from an inline tension device or an electric/hydraulic loadcell
- Primary and sub gauges can be customized to display the desired resolution
- Units of measurement can be displayed in pounds force (lbf), Newtons (N), decaNewtons (daN), or kiloNewtons (kN)
- Alarms can be set to warn the operator when preset line tension has been surpassed
- Customized gauge fonts and logo image
Linewise Report

Features

- Represents data in a graphical format for depth, tension, pressure, flow, and temperature
- Any of the available inputs from the Linewise system can be plotted versus time
- Exports data to a text file for use with other applications
- Real-time graphing
- Custom titles, comments, and company logo
- Graph auto-scaling
- Graph displays time in elapsed or real time
- Easy to install
- Automatically records all data to a computer hard drive
- User configured software
- Winch actions are recorded and can be charted

Pressure Test 3 inch High line
ABC Company

Lease #: 1-2-3-4
Date: Monday, February 24, 2003
Calibrated On: Aug/06/2002
Recorded By: Operator
Witnessed By: Consultant
The operator may include more information about the test here.
Pressure Indicator

Features

- Monitors and displays wellhead pressure or pressure test data
- Displays current, maximum, and differential pressures
- Primary and sub gauges can be customized to display desired resolutions
- Units of measurement can be displayed in pounds per square inch (psi), kiloPascal (kPa), or MegaPascal (MPa)
- Alarms can be set to warn the operator when preset pressure has been surpassed
- Compatible with analog or quartz pressure transducers
- Customized gauge fonts and logo image

Flow Meter

Features

- Monitors and displays flow rate and volume
- Volume and time units can be changed
Temperature

Features

- Monitors and displays surface temperature in °C and °F

Line Thickness

Features

- Monitors and displays wireline diameter in millimeters or inches
- Designed to work with Lee Specialties Universal Measuring Head

CCL Meter

Features

- Responds when a shooting casing collar locator (CCL) passes a collar in a well
- Needle deflects in positive and negative directions
- User adjustable gain (increase/decrease needle deflection)