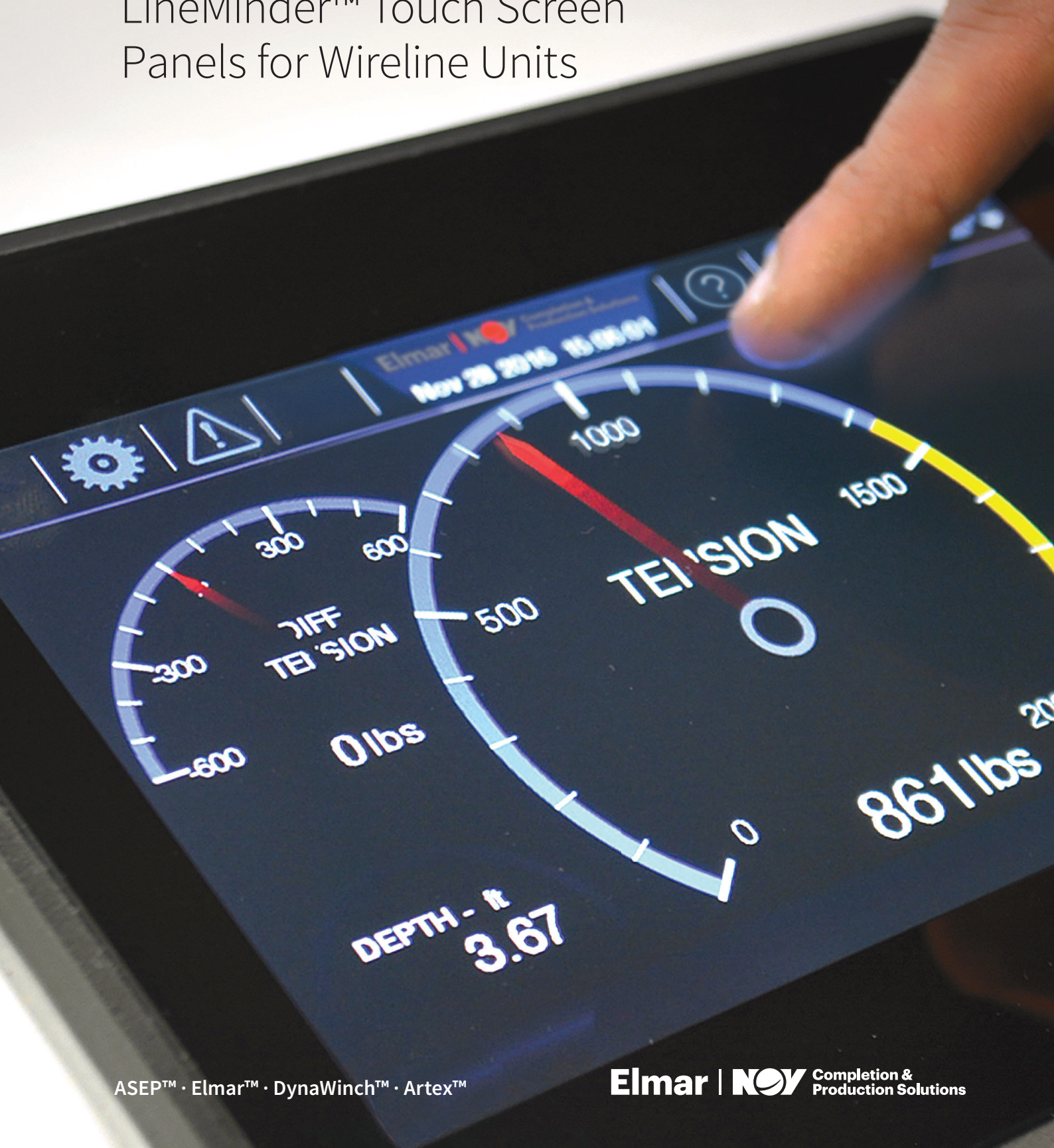


Automation Products



LineMinder™ Touch Screen
Panels for Wireline Units





Automation Products Touch Screen Panels for Wireline Units

Our LineMinder product range for hydraulic drive slickline or e-line logging winches is designed to enable safe and efficient operation, through simple to use and rugged displays and controls.

The LineMinder Slickline provides depth, speed and tension, with a safety shutdown function on tension. The LineMinder Logging also features a fullscreen trend display and safety action functions triggered by differential tension limits. Optionally, the LineMinder Logging version can be extended with Serial or Ethernet Data forwarding and a Configurable Well Pressure display. These options require additional hardware. The LineMinder Winch Control offers all the features of the LineMinder Logging with the addition of constant speed control thus enabling smooth logging operations.

LineMinder products are state of the art, rugged, high brightness capacitive touch panel screens. They are available in either 7" or 10" versions for ATEX Zone 2 Areas (with USB connections for data export) or in 10" for safe area operations. The ATEX versions are rated for operation between -20°C (-4°F) to 50°C (122°F) and can be stored between -40°C (-40°F) to 60°C (140°F).



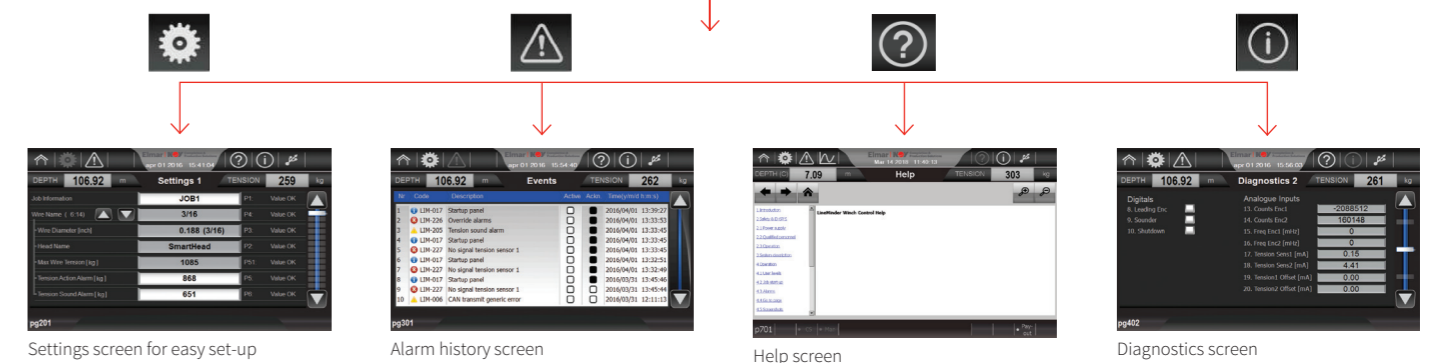
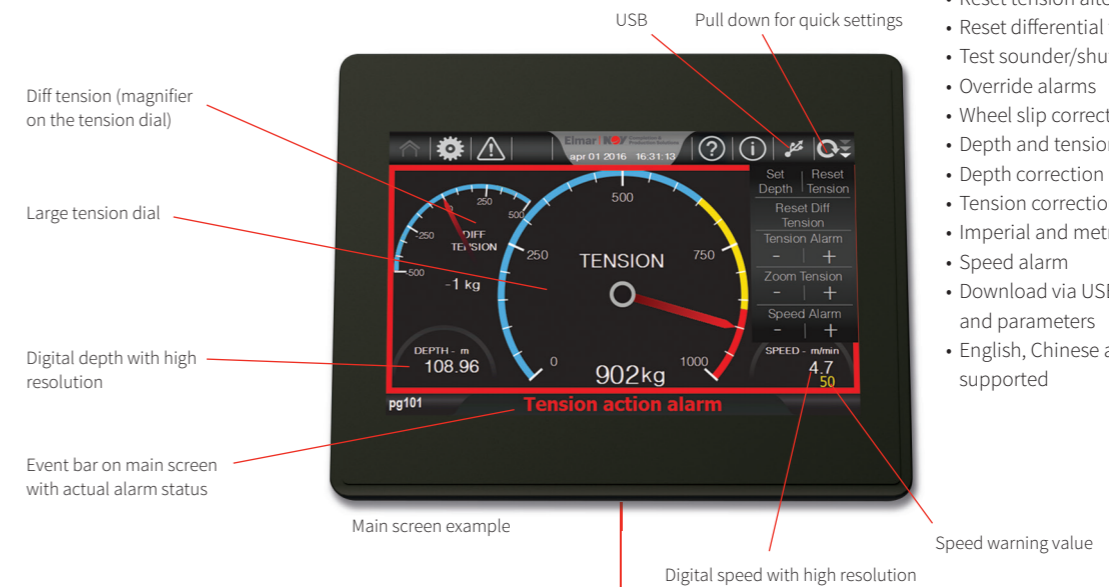
LineMinder Slickline

The LineMinder Slickline provides depth, speed and tension, with a safety shutdown function on tension.

The product has been designed for use in harsh environments and outdoor applications. Robust glass touch screen with anti-reflective (AR) glass surface treatment providing superior performance.

Slickline Software Features

- Tension sound and action alarm
- Depth surface sound and action alarm
- Total depth sound and action alarm
- Automatic recording of depth, speed, tension and differential tension
- Set depth after confirmation
- Reset tension after confirmation
- Reset differential tension
- Test sounder/shutdown output
- Override alarms
- Wheel slip correction
- Depth and tension deviation alarms
- Depth correction by shim factor
- Tension correction by 10-step calibration
- Imperial and metric display selection
- Speed alarm
- Download via USB: recordings, events and parameters
- English, Chinese and Russian language supported



Settings screen for easy set-up

Alarm history screen

Help screen

Diagnostics screen

Configurations

Description	Size	Hazardous Area Classification		Connections		Options	
		Rigsafe	ATEX Zone 2	Measuring Head	USB	Data Forwarding	Well Pressures
LineMinder Slickline Panelmount	10"	✓	✓	✓	✓	•	•

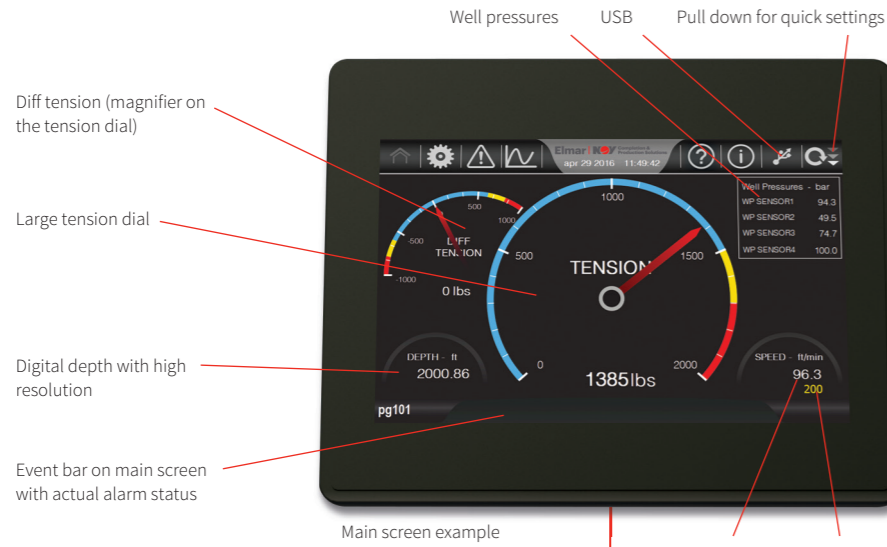
✓ = included feature ○ = option ● = unavailable

LineMinder Logging



The LineMinder Logging provides depth, speed and tension, with a safety shutdown function on tension, and features a fullscreen trend display. Optionally, the LineMinder Logging version can be extended with Serial or Ethernet Data forwarding and a Configurable Well Pressure display. These options require additional hardware.

The product has been designed for use in harsh environments and outdoor applications. Robust glass touch screen with anti-reflective (AR) glass surface treatment providing superior performance.

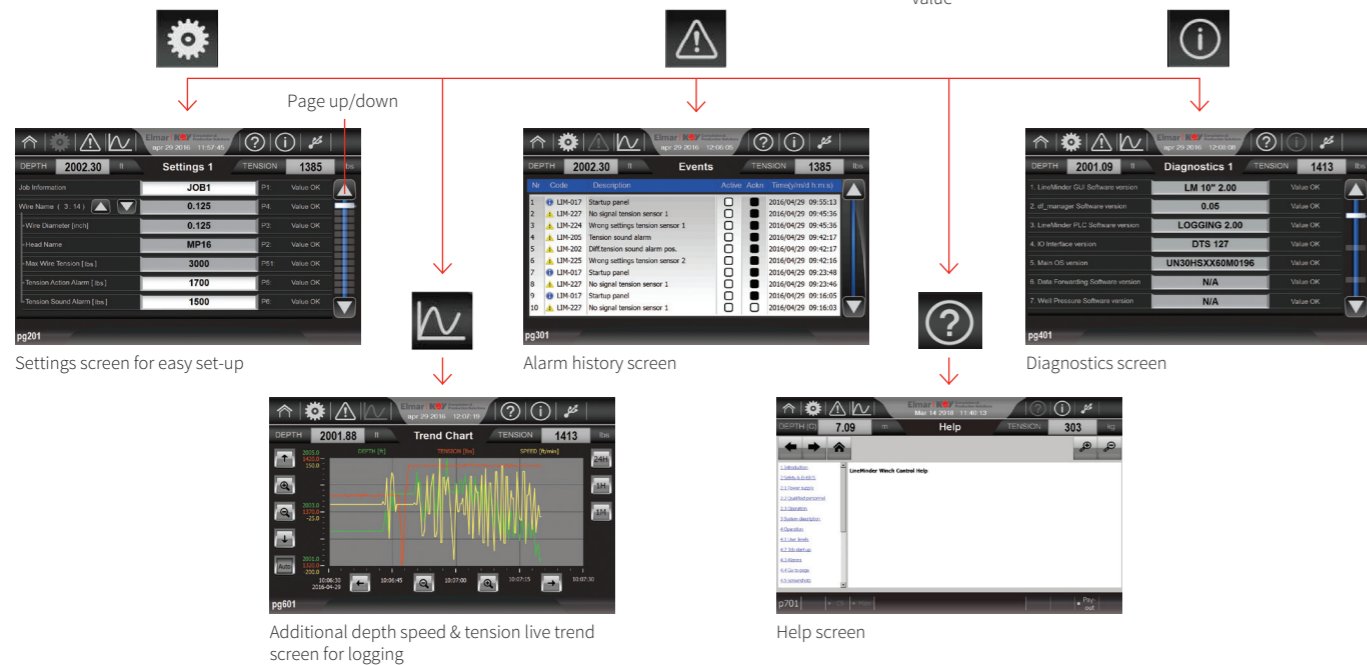


Slickline Software Features

- Tension sound and action alarm
- Depth surface sound and action alarm
- Total depth sound and action alarm
- Automatic recording of depth, speed, tension and differential tension
- Set depth after confirmation
- Reset tension after confirmation
- Reset differential tension
- Test sounder/shutdown output
- Override alarms
- Wheel slip correction
- Depth and tension deviation alarms
- Depth correction by shim factor
- Tension correction by 10-step calibration
- Imperial and metric display selection
- Speed alarm
- Download via USB: recordings, events and parameters
- English, Chinese and Russian language supported

Logging Software Features

- Trend chart displaying up to 3 curves from depth, speed, tension or well pressures
- Well pressure monitoring
- Data forwarding capability
- Diff tension sound and/or action alarm



Configurations

Description	Size	Hazardous Area Classification		Connections		Options (requires additional hardware)	
		Rigsafe	ATEX Zone 2	Measuring Head	USB	Data Forwarding	Well Pressures
LineMinder Logging Panelmount	10"	✓	✓	✓	✓	○	○

✓ = included feature ○ = option ● = unavailable

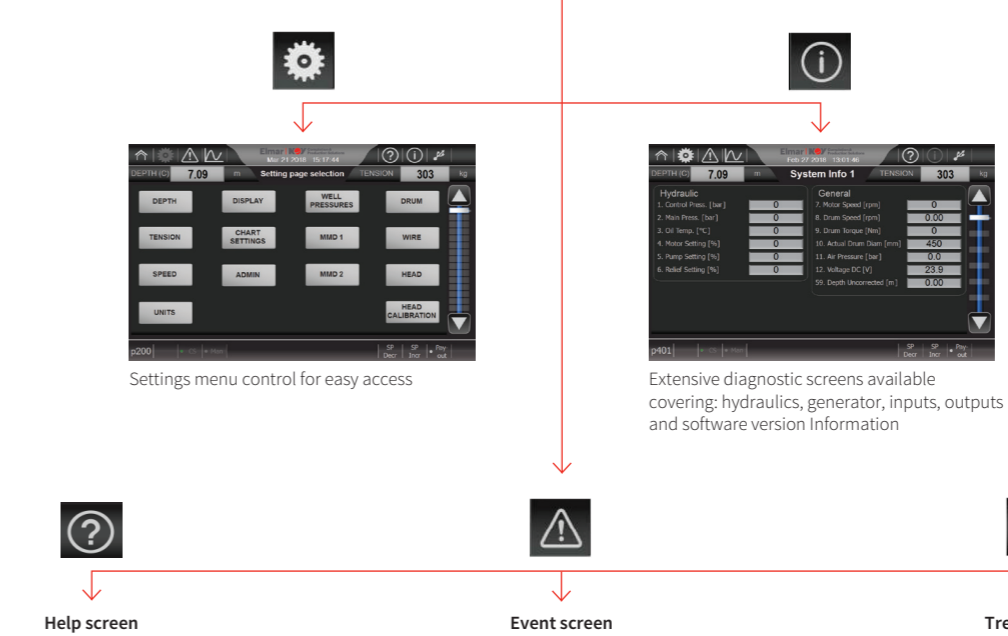


LineMinder Winch Control

The LineMinder Winch Control provides, besides all features of the LineMinder logging, Constant Speed Control, Speed Limitation, Pay Out function and Joystick Control with sensitivity adjustment. Like the LineMinder Logging it can be optionally extended with Data forwarding and a Configurable Well Pressure display. These options require additional hardware.

The product has been designed for use in harsh environments and outdoor applications. Robust glass touch screen with anti-reflective (AR) glass surface treatment providing superior performance.

Note: The LineMinder Winch Control requires PLC controlled Elmar Winch unit.



Configurations

Description	Size	Hazardous Area Classification		Connections		Options (requires additional hardware)	
		Rigsafe	ATEX Zone 2	Measuring Head	USB	Data Forwarding	Well Pressures
LineMinder Winch Control	10"	●	✓	✓	✓	○	○

✓ = included feature ○ = option ● = unavailable

Slickline Software Features

- Tension sound and action alarm
- Depth surface sound and action alarm
- Total depth sound and action alarm
- Automatic recording of depth, speed, tension and differential tension
- Set depth after confirmation
- Reset tension after confirmation
- Reset differential tension
- Test sounder/shutdown output
- Wheel slip correction
- Depth and tension deviation alarms
- Depth correction by shim factor
- Tension correction by 10-step calibration
- Imperial and metric display selection
- Speed alarm
- Download via USB: recordings, events and parameters
- English, Chinese and Russian language supported

Logging Software Features

- Trend chart displaying up to 3 curves from depth, speed, tension or well pressures
- Well pressure monitoring
- Data forwarding capability
- Diff tension sound and/or action alarm

Winch Control Software Features

- Magnetic Mark Detection depth correction
- Constant speed control
- Speed limitation
- Joystick control mode with sensitivity adjustment
- Pay out function



Well Pressures

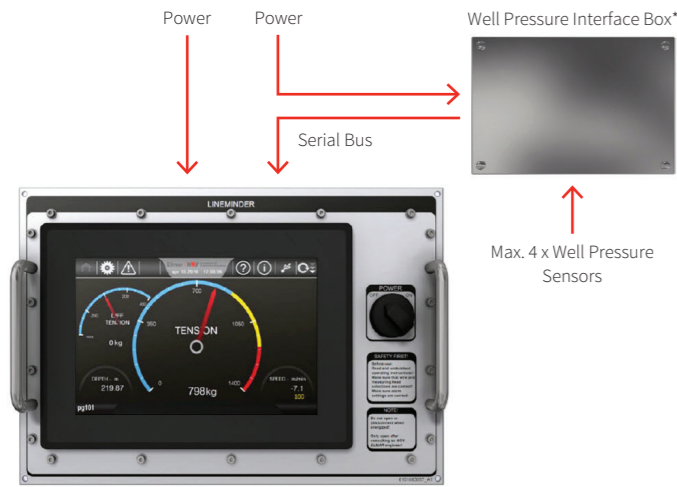
The LineMinder Logging system is able to display well pressures where suitable sensors are connected. These signals are input into the system through the well pressure interface box*, which is connected to the LineMinder Logging system through a serial bus. The box is available in Rigsafe and ATEX Zone 2 versions.

Through the Well Pressures Interface Box up to four well pressures can be displayed on the LineMinder Logging main screen (not available with the LineMinder Slickline).

Well Pressure signals, with a maximum of three, can be displayed on the Trend Display of the LineMinder Logging, giving the operator direct visible feedback on the main job parameters.

The pressures are recorded together with Depth Speed and Tension signals which makes job analysis and reporting easy.

Each Well pressure can be assigned with a specific name. This name is used as reference in each of the display locations: Main Screen, Recording files and Trend chart.



LineMinder Logging System

Configurations

Description	Hazardous Area Classification		Dimensions			Weight
	Rigsafe	Zone 2	(L) 17.60cm, 6.92in	(W) 15.00cm, 5.90in	(H) 23.60cm, 9.29in	
Well Pressures						
LineMinder Well Pressure Box ATEX	●	✓	(L) 17.60cm, 6.92in	(W) 15.00cm, 5.90in	(H) 23.60cm, 9.29in	2kg, 4.41lbs
LineMinder Well Pressure Box Rigsafe	✓	●	(L) 30.00cm, 11.81in	(W) 15.00cm, 5.90in	(H) 15.00cm, 5.90in	2kg, 4.41lbs
Data Forwarding						
LineMinder Data Forwarding Box ATEX	*	✓	(L) 17.40cm, 6.85in	(W) 14.00cm, 5.51in	(H) 17.40cm, 6.85in	4.3kg, 9.48lbs

* The Rig Safe data forwarding system is installed in the client's dashboard or electrical cabinet, or can be supplied in an optional electrical box. ✓ = included feature ● = unavailable

Data Forwarding

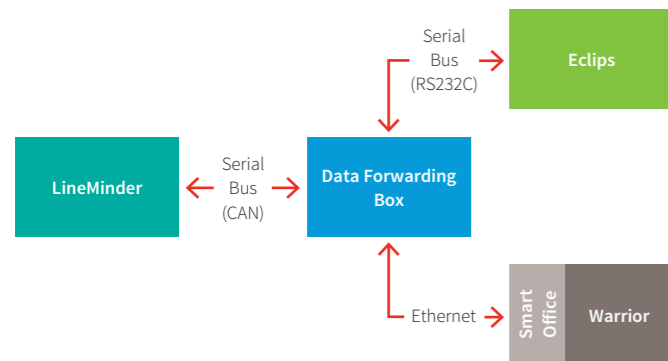
The LineMinder data forwarding box is required to interface with logging systems. Eclipse and Warrior systems are supported as standard; please contact us for details of other systems.

Eclips (Serial):

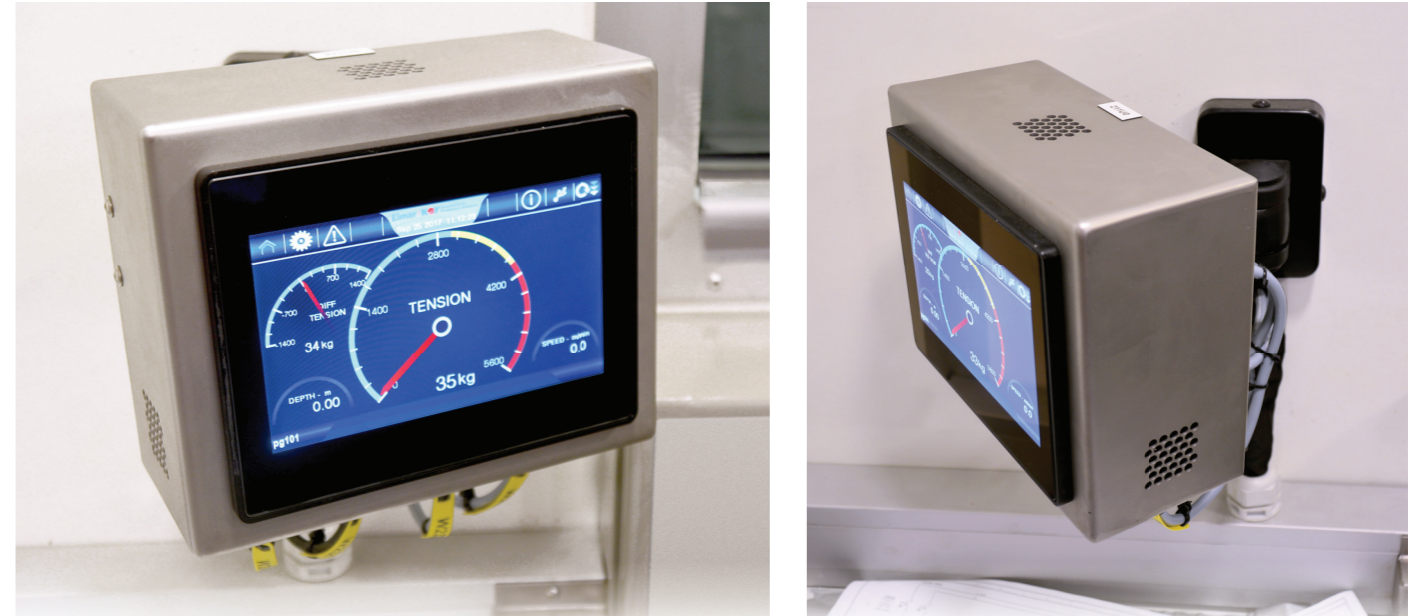
When using the Eclips system, the Data Forwarding Box receives depth, speed and tension data from the Eclips system via serial communication. The Eclips data is displayed on the LineMinder. Commands (e.g. set depth) given on LineMinder will be send trough the Data Forwarding Box to the Eclips system. The physical connection type is serial RS-232 with full handshake

Warrior (Ethernet):

When using the Warrior system the Data Forwarding Box send depth, speed and tension data to the Warrior system via Ethernet. Commands (e.g. set depth) given by the Warrior system, are processed by the LineMinder system. On the Warrior system, SmartOffice needs to be installed. This program is responsible for the Ethernet communication with the Warrior system.



The LineMinder Backup has been designed for use as a secondary back-up display for measuring head signals. The screen has the same touch and feel as a LineMinder Slickline, but the alarms and shutdown are suppressed.



Configurations

Description	Size	Hazardous Area Classification		Connections		Options	
		Rigsafe	ATEX Zone 2	Measuring Head	USB	Data Forwarding	Well Pressures
LineMinder Backup Wallmount	7"	✓	●	✓	●	●	●

✓ = included feature ● = unavailable

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