

ALS1A001 LINE SAFETY SWITCH



The purpose of this panel is to provide a safe method to prevent the accidental application of power to the wireline and a convenient method to switch between different wireline cables.

The panel provides four basic functions.

1. Safety Lockout

When the key switch is in the center (“SAFE”) position, power cannot be applied to the wireline. If the key is removed, the switch is locked into the safe position.

This prevents accidentally applying power to the wireline. When an explosive device is attached to the wireline, the key should always be in the safe position and in possession of one of the crew members working outside the unit.

2. Line Select

This feature allows the recording system to be easily connected to two different wirelines.

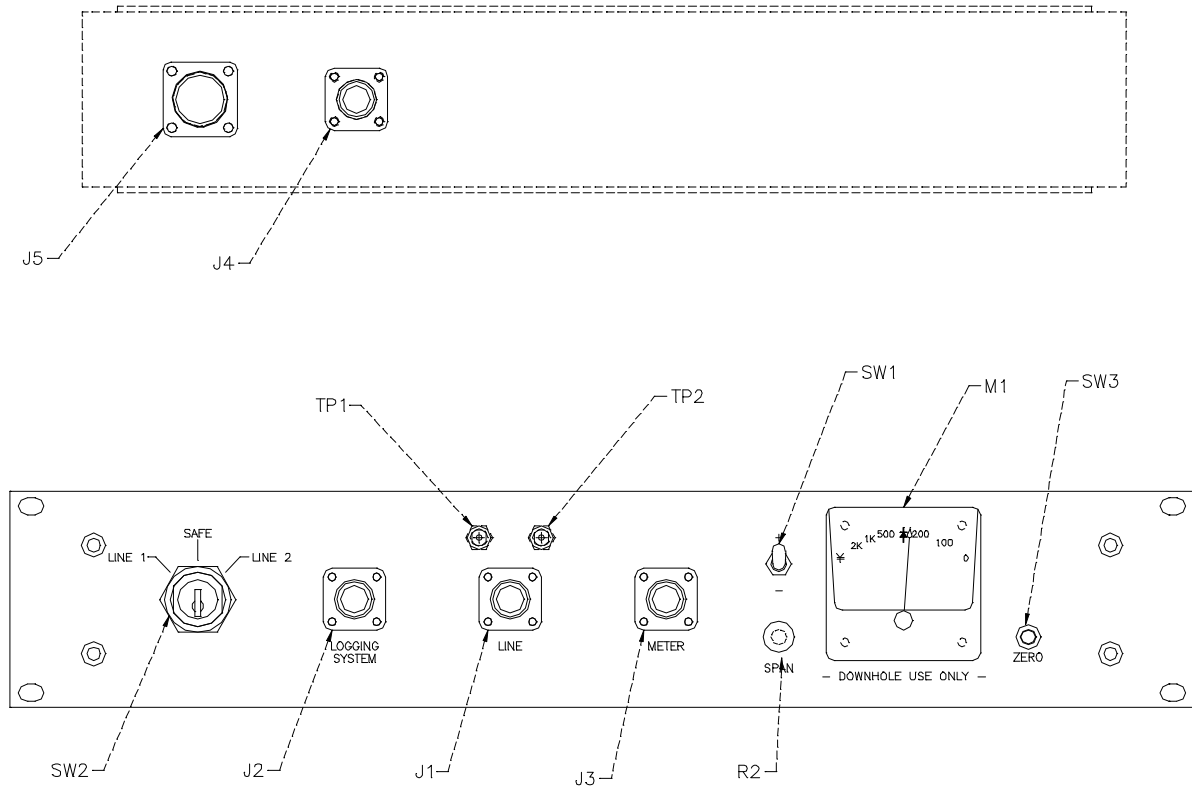
3. Cable Resistance / Diode Resistance Test

This feature provides a means to check the wireline for leakage or to check for the presence of diodes in a tool or sub connected to the wireline.

4. Cable Conductor Access

Jacks are provided on the front panel to provide easy access to the wireline. This makes it easy to test voltages or connect different equipment to the wireline.

Description of Features:



SW2: This switch selects between wireline 1 and wireline 2. When the key is in the center position, both wirelines are grounded through two 10K ohm resistors connected in parallel (5k ohms). When in LINE 1 position, wireline 1 is connected through the switch to the LINE connector J1. When in LINE 2 position, wireline 2 is connected through the switch to LINE connector J1. The key can only be removed when the switch is in the safe position.

J2: This connector is connected to J4 on the rear panel. This provides a path for power and signal from the Logging System. When connected to J1 through a jumper cable and the key switch SW2 is in either LINE 1 or LINE 2 position, the Logging System will be connected to the wireline.

J1: This connector is connected to the key switch (refer to SW2).

TP1 & TP2:

These test points provide a method to connect a test meter to the wireline or connect the wireline to another panel or service. When the key switch is in the SAFE position, these test points are isolated from the wireline.

J3: This connector provides a connection to meter M1. When J3 is connected to J1 with a jumper cable and the key switch SW2 is in either LINE 1 or LINE 2 position, the meter will be connected to the wireline. When the key switch is in the SAFE position, J1 is isolated from the wireline.

R2: This potentiometer adjusts the meter span. Press and hold the ZERO button then adjust this knob until the meter reads 0. If the meter cannot be set to 0, the batteries inside the panel may need to be replaced.

SW1: This switch sets the meter polarity when connected to the wireline. In the + position, positive voltage will be applied to the wireline conductor through J3 and J1 and negative voltage will be applied to armor. In the – position, negative voltage

will be applied to the wireline conductor through J3 and J1 and positive voltage will be applied to armor. This provides a means to test diodes. When the key switch is in the SAFE position, J1 is isolated from the wireline and no power is applied.

M1: This meter displays the result of the voltage test (see SW1). The meter displays the resultant reading on an ohmmeter scale. The diode symbol on the meter indicates where the needle should point when reading through a diode.

SW3: This push button switch connects the internal battery to the meter so the zero value can be set. Refer to R2.

J5 (rear panel):

This connector is connected directly to the wireline. Line 1 is connected to Pins A (conductor) and B (armor). Line 2 is connected to Pins C (conductor) and D (armor).

J4 (rear panel):

This connector is provided to connect to the cable going to the Logging System. It is also connected directly to the LOGGING SYSTEM jack on the front panel.