

AES LineSpi

OBDII data line monitor and breakout box

The AES LineSpi is a 'pass through' breakout box for the OBDII DLC (diagnostic link connector). The AES LineSpi offers easy access to the OBDII DLC for safe probing and testing without the fear of accidental shorting of the wrong pins and without the need to be a contortionist.

BENEFITS

- Eliminate the need to probe at the DLC.
- Access each of the 16 DLC pins while scan tool communicates with vehicle.
- LEDs to quickly indicate DLC power or ground problems.
- LineSpi mimics the DLC connector layout for quick reference.
- Use the BOB as an extension cord for your scan tool.
- Quick, safe and convenient access to chassis ground and power through the DLC connector.



FEATURES

- Uses safety banana sockets that accept all types of 4mm banana plugs including those with safety sheaths.
- Socket layout mimics DLC connector.
- LEDs to indicate activity:
 - Yellow LED's light up to show communication with scan tool and protocol identification.
 - Green LED's on grounds (Pin 4 and 5) light up when ground is good.
 - Red LED on power lights up when there is power.
- 4-ft extension cable with DLC adapter connects to vehicle.
- Pin 16 input protected with 1.2 amp polyfuse.

USER MANUAL

The user manual can be found in the enclosed CD. The CD should autorun. If it does not use Windows Explorer to find the **INDEX.HTM** in the root directory of the CD.

LATEST INFORMATION

To view the latest information of this manual please visit: www.aeswave.com/linespi/manual

CAUTIONS / DISCLAIMERS

This tool is designed for use by automotive professionals. Since neither the manufacturer nor the reseller can control the application of or installation of this product, their obligation shall be to replace this product if defective and shall not be liable for any injury, loss, or damage arising from the installation or application of this product. User assumes all risk in using this product and is therefore cautioned in selecting the product suitable to the intended use. No other warranty expressed or implied is given unless required by the state in which the product is purchased.

This tool provides easy access to the vehicle data bus lines. Improper use of this tool may result in damage to the vehicle data communication system and associated circuits and systems.

If you are not sure about what you are doing - don't!

- Do not install or remove LineSpi from DLC when vehicle is operational.
- Do not install or remove test equipment from LineSpi when vehicle is operational.
- Do not switch LineSpi from LED mode to high impedance mode while vehicle is operational.
- Do not jumper pins together without understanding the circuit.
- Do not use the tool to power up a load device exceeding 1 amp.
- Do not place the tool in a spot that may interfere with foot pedal controls.
- Do not place a jumper between the power pin 16 and ground pins 4, 5.
- Do not modify or attempt repairs of product or use when damaged.
- Do not use product for any unintended use.
- DO not place product in airbag opening pathway.

LineSpi 'Diagnostic Mode' and 'Activity Mode'

The LineSpi has two operational modes: Activity Mode and Diagnostic Mode. The operational modes allow the circuit of the LineSpi to be engaged or disengaged. When the circuitry is engaged the yellow LEDs will flash as changes take place on the corresponding data line. The flashing LEDs offer a visual indication of the activity on that line.

When switching to diagnostic mode the circuit to the yellow LEDs is electronically disengaged and the yellow LEDs will no longer flash.

Activity Mode - Smart breakout box

- Switch LED is off
- Yellow LED circuit is engaged.
 - Yellow LEDs will flash when data is present on the corresponding line.



Diagnostic Mode - Basic breakout box

- Switch LED is on
- Yellow LED circuit is disengaged.
 - Yellow LEDs will not flash when data is present on the corresponding line.

When to use the Diagnostic Mode

Use diagnostic mode anytime you are performing the following tests:

- Resistance testing on the datalines.
- Diagnosing power or ground issues.
- Using a logic probe to find opens and shorts.
- Anytime you want to eliminate as many variables as possible from your testing.

When you don't need to use the Diagnostic Mode

You can leave the LineSpi in Activity Mode when:

- Lab scoping datalines
- Jumping datalines
- Normal scan tool operation

Recommended Test Procedures

Always repair ground and power problems first! The power supply system is the foundation for the operation of the vehicle system and the LineSpi. Also, since the LineSpi electronically disengages the circuitry for the Yellow LEDs it is important to have the LineSpi powered up so it can provide that function. Without power there will be approximately 4.5 mOhms between any data line and ground.

Diagnosing power and ground problems

The read and green LED offer a basic insight into the integrity of the power and ground system.

For proper testing of power and grounds:

- Do not connect your scan tool. Many scan tools tie pin 4 and 5 together.
- Set the LinSpi to **Diagnostic Mode**

Red LED Pin 16	Green LED Pin 4	Green LED Pin 5	
On	Off	On	Open in Pin 4 wiring
On	On	Off	Open in Pin 5 wiring
Off	Off	Off	Power
Dim	Dim	Dim	If the LEDs are dim all the times or goes dim when a scan tool is connected look for high resistance in the power supply (pin 16) wiring.
Dim	Off	Off	Both grounds are open and there is feedback from a dataline.
Flash	On, dim or off	On, dim or off	Ensure LineSpi is in diagnostic mode. Check pin 16 wiring for open circuit.

Questions, Concerns and Repairs

Please call AES for any issues, concerns or to get an RMA for a repair.

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