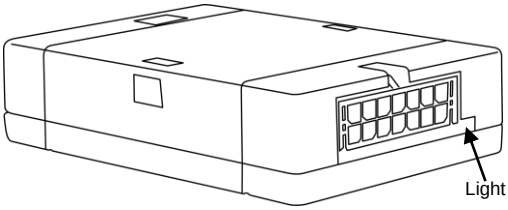

LS-60-A
Installation & Operation Guide

1 Wire Connections

Wire Colour	Vehicle Connection
Black	Power Supply Negative (0V)
Red	Power Supply Positive +12/24Vdc, fused and non permanent
Green	Speed Pulse Input (e. g. tachograph pin no. B8, 4 pulses per meter distance)
Pink	Control of Programming & Reading Modes
Purple	Switch Power Output ***Warning:*** Switch output maximum current is **1.2A**. Use a relay if higher current from switch output for connected devices is required.

2 Normal Operation

Switch Power Output ON state
When the vehicle speed is below the speed threshold setting, the Switch Power Output will be activated and indicated by the GREEN light.

Switch Power Output OFF state
When the vehicle speed exceeds the current threshold setting, the Switch Power Output will be deactivated and indicated by the RED light.

3 Displaying or Programming the Speed Threshold

Note: Please read the below instructions before amending the speed threshold.

3.1 Speed Threshold Table

Number of Light Flashes	Selected Speed Threshold	
	mph	kph
1	0.6	1
2	6	10
3	10	16
4	12	19
5 (default factory setting)	14	23
6	16	26
7	18	29
8	20	32
9	30	48
10	60	97

Note 1: Speed based on four pulses per meter distance.
Note 2: On some Volvo trucks the speed setting may need to be set at half the required speed e.g. if number 4 is required set to number 2.

3.2 Sequence for Displaying or Programming

1. Power up the unit while vehicle is stationary (no speed pulse present).
2. **Hold** the pink wire to ground (0V, i. e. to black wire).
3. Immediately release the PINK wire from ground after 3 RED/GREEN light flash cycles (within 2secs).
4. There are then two modes available:
   - 4.1. Enter *Display Mode* - Used to view current stored speed threshold setting:
     - (1) After a **single** GREEN light flash, immediately touch the PINK wire to ground (within 2secs).
     - (2) The GREEN light will start to flash. Count the GREEN light flashes and refer to the table above for the set speed threshold.
     - (3) The GREEN light will flash fast for 5 times to confirm the end of the *Display Mode*.
     - (4) A constant GREEN light confirms *Normal Operation* has resumed.
   - 4.2. Enter *Program Mode* - Used to change speed threshold setting:
     - (1) After a **double** GREEN light flash, immediately touch the PINK wire to ground (within 2secs).
     - (2) The GREEN light will start to flash up to 10 times. Immediately touch the PINK wire to ground once the count has reached the required number corresponding to the desired speed threshold, see above table.
     - (3) The GREEN light will flash fast for 5 times to confirm the end of the Program Mode.
     - (4) A constant GREEN light confirms *Normal Operation* has resumed.
     - (5) It is recommended to check if the selected speed setting is correct via the *Display Mode*.

3.3 Further Notes on *Display* or *Program* Mode

1. If an input signal (speed pulse) is detected on the GREEN wire (Speed Pulse Input) the sequence for Displaying or Programming **cannot** be entered. The vehicle must be stationary.
2. If the correct sequence is not followed for *Display* or *Program Mode* the RED light will flash 5 times to indicate an error and *Normal Operation* will resume with previous setting.
3. After entering either the *Display* or *Program Modes*, the PINK wire must be disconnected from ground for at least 1sec before the next sequence can be started again.

4 Specifications

Speed range	0 to 60mph / 100kph
Speed pulse calibration (see also speed Threshold table)	Based on 4 pulses per meter distance
Max. switched power output current	1.2A
Operating voltage range	10Vdc to 32Vdc
Input current	Typ. <0.03A (Switch Power Output off) Max. <1.8A (Switch Power Output on state)
Polarity	Negative ground
Operating temperature range	-40°C to +85°C
Dimensions (without connector)	64mm x 44mm x 16mm
Weight (including connector tail)	approx. 35g
Vehicle mounting	Housing with opening lugs for fixing e.g. with a cable tie
Plug with cable tail, cable length	300mm +/- 20mm

Approvals: CE, ECE Regulation No. 10 Revision 5 (“E-marking”), FCC

FC **Brigade Electronics LS-60 / LS-XXXX**

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Any change or modifications not expressly approved by the responsible party responsible for compliance could void the user’s authority to operate the equipment.

Specifications subject to change. Sous réserve de modifications techniques. Änderungen der technischen Daten vorbehalten. Specifiche soggette a variazioni. Las especificaciones están sujetas a cambios. Wijzigingen in specificaties voorbehouden. As especificações estão sujeitas a alterações. Спецификация может изменяться.