

Step 1: Check Contents of Box

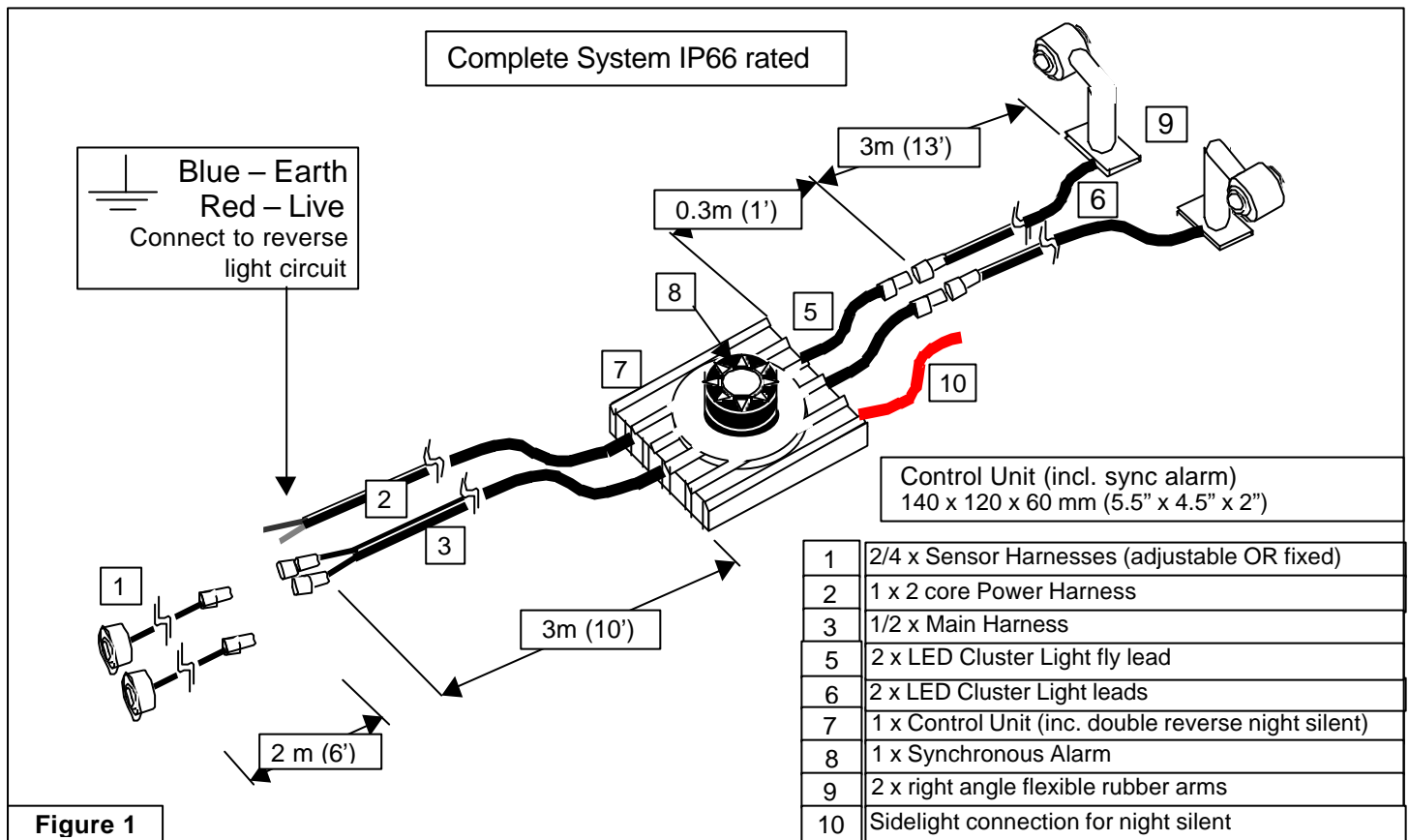


Figure 1

Step 2: Tools Required

- Philips 75mm x no. 1 screwdriver
- Steel Measuring Tape
- Masking Tape & Pencil
- Power Drill
- Drill Bit & Ø27mm Arbor
- Scissors / Knife
- Voltmeter or Circuit tester
- Solder iron and solder

Step 3: Test before Installing

- Determine a suitable place to tap into the reverse light circuit at the rear of the vehicle (to power BackMinder) such as the junction box.
- The Control Unit is IP66 rated and should be located on the underside of the floor towards the rear of the vehicle near the junction box.
- Turn the ignition on and select reverse gear.
- Use a voltmeter / circuit tester to identify the reversing light live and earth.
- Connect the other cable harnesses into BackMinder as shown in Figure 1 taking care to ensure the connectors mate correctly.
- Connect the reverse light live to the red wire of the power cable and the reverse light earth to the blue wire of the power cable by soldering.

Step 4: Determine Sensor Locations

- Determine the centre of the vehicle using a measuring tape. Roughly mark with masking tape and mark centreline with a pencil. Then subdivide each half of the vehicle width again using the same technique such that the vehicle width is now divided into four. See Figure 2.
- The sensors should be located on a vertical plane on the bumper/body OR on the uprights leading to the under run bar at a distance half way between the centre line of the vehicle and the side of the vehicle. To avoid ground reflection it is recommended that the sensors are located at least 0.7 m above the ground. If required sensor brackets are available.
- Equally, if the under run bar is indented and not flush with the rear of the vehicle then consideration should be given to potential reflection from the underside of the truck above the sensors.
- N.B. Additional equipment at the rear of the vehicle such lifts can affect the performance of BackMinder and influence the decision on locating the sensors. If in doubt contact Autosonics LTD.

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Autosonics LTD reserve the right to change product specifications at any time.

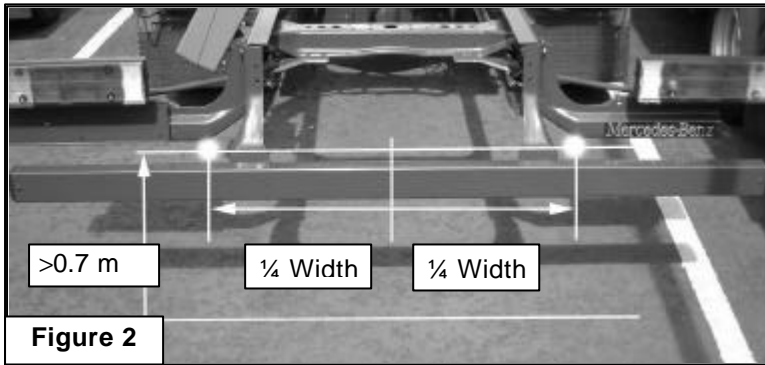


Figure 2

Step 5: Install Sensors

- Drill two $\varnothing 27\text{mm}$ holes at 90° to surface at determined locations.
- Ensure that the sensor eyeballs are positioned in the centre of the housing. See Figure 4.
- Route the sensor cables through the drilled holes and push the sensor housing into the drilled holes. Ensure that the ARROW on housing face is located at 12 O'clock.

Step 6: Locate The LED Clusters

- Decide on a location for the LED clusters (flexible arms) under the vehicle body such that the mounting point does not protrude but the LED cluster does protrude from the vehicle width such that they are visible in the tractor rear view mirrors. See Figure 3. **For legislative purposes, they must be located within 1 metre of the rear of the vehicle.**
- Drill 4 x $\varnothing 6\text{mm}$ holes inline with the holes in the bracket base at the chosen location and an additional $\varnothing 15\text{mm}$ hole at the centre to feed the cable.
- Secure the flexible arm base using 4 x M5 nuts and bolts.
- Feed the LED cluster harness to the control unit.

- N.B. White reflector to the front, red reflector to the rear.
- Secure Control Unit to the underside of the floor. The chosen location should be within reach of the LED cluster flexible arms and the sensors/main harness.

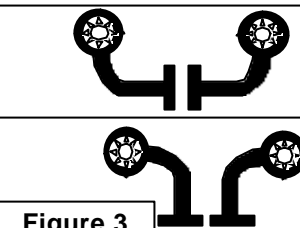


Figure 3

N.B. The flexi arms should be located so the lens is at the top to prevent a build up of water ingress.

Step 7: Routing & Connecting Cable System

- Route the Power Lead to location determined in Step 3. The red wire fly lead also needs to be connected to the positive of the reverse light circuit. An additional cable to the sidelights can be connected for night silent. Route the Main Harness from the control unit towards the back, securing where necessary with cable ties. The Sensor harnesses can then be connected to the Main Harness. Ensure that the pins in the round connectors mate correctly. Otherwise the BackMinder LED cluster flexi arms will display a constant red light. Connect the Power Lead and the red wire into the reverse light circuit.

Step 8: Check Detection Coverage

- Turn on ignition, engage reverse gear but do not start engine. The sounder will pulse as a reverse alarm, whenever reverse gear is engaged and continue until disengaged:
- TEST 1: Lightly touch the eyeball of each sensor. A faint vibration should be felt on each one. If not but the start up warble operates, then repeat Step 7
- TEST 2: Stand 3m (10ft) behind the vehicle inline with the quarter light. Walk towards the vehicle. The LED should change as follows: 3m (10ft) to 1.8m (6ft). Red LED slow pulse. (Not everything will be detected in this zone). 1.8m (6ft) to 0.6m (2ft). Red LED increasing pulse intensity. 0.9m (3ft) and less. Red LED Constant tone. Repeat for the other sensor and then check coverage between the sensors.

Step 9: Adjusting the Sensors

- Autosonics LTD has a patent on their sensor housing design. It enables the angle to be adjusted so that the system can be set up to your needs.
- A spring washer holds the sensor eyeball to the determined angle.
- Press the sensor eyeball with the thumb taking care not to scratch the surface of the sensor. This pushes it back a little clear of the front of the housing enabling the sensor to pivot in the housing.
- Eradicating unwanted ground reflection and avoiding the sensors reflecting off steps and tow bars can be achieved this way.
- N.B. For standardised fleet fits the sensors can be supplied fixed.

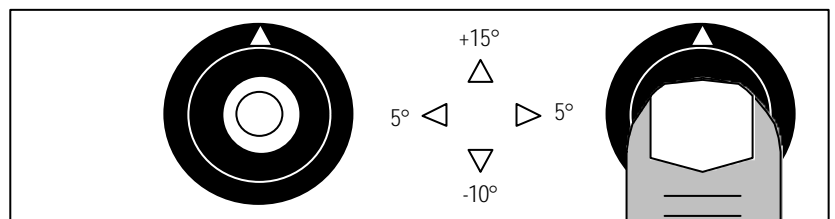


Figure 4

Press Eyeball Centre with thumb to adjust