

# Removing the BNC connector from a LICOR “sa” model light sensor

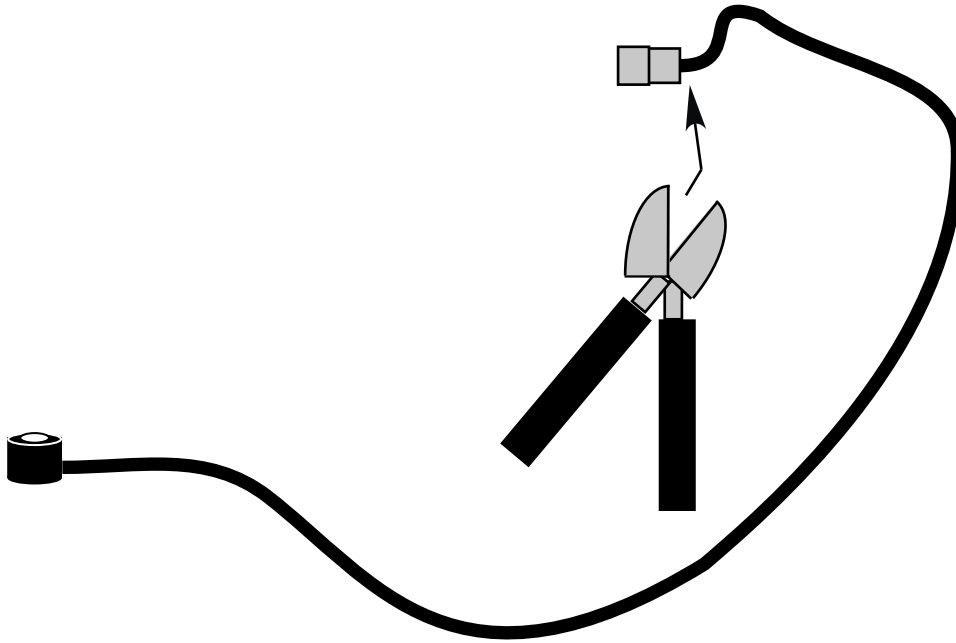
© EME Systems, 2001

## Items you will need:

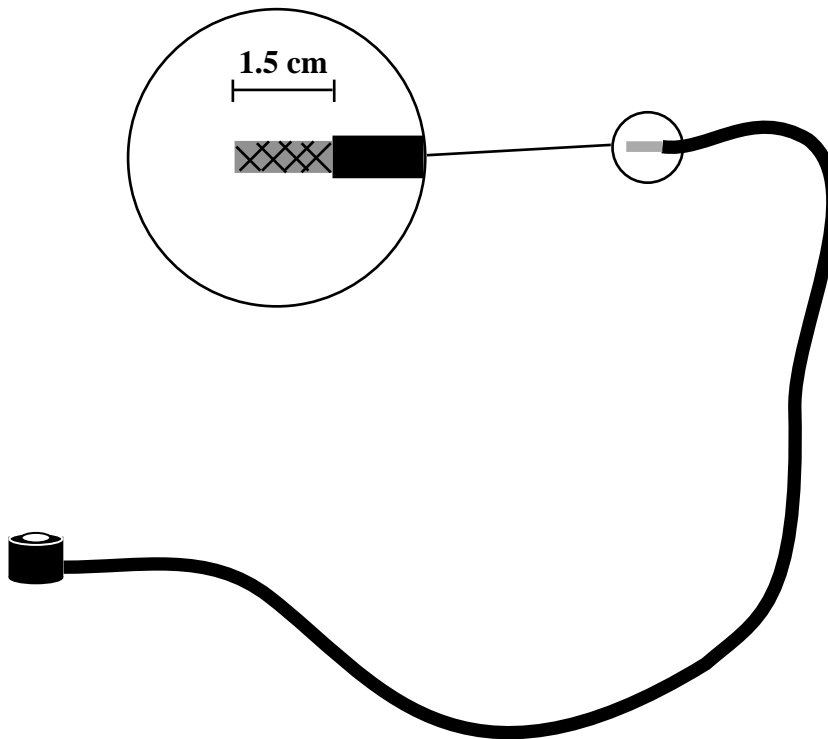
- wire cutters
- razor blade or “exacto” knife
- sharp tweezers/forceps
- 3/16 inch thermal shrink wrap tubing (can be found at most hardware stores)\*
- 1/8 inch thermal shrink wrap tubing (can be found at most hardware stores)\*
- if possible, a soldering iron and 0.025 inch diameter (or thereabouts) rosin-core solder

\* if thermal shrink wrap tubing cannot be found, then electrical tape will substitute

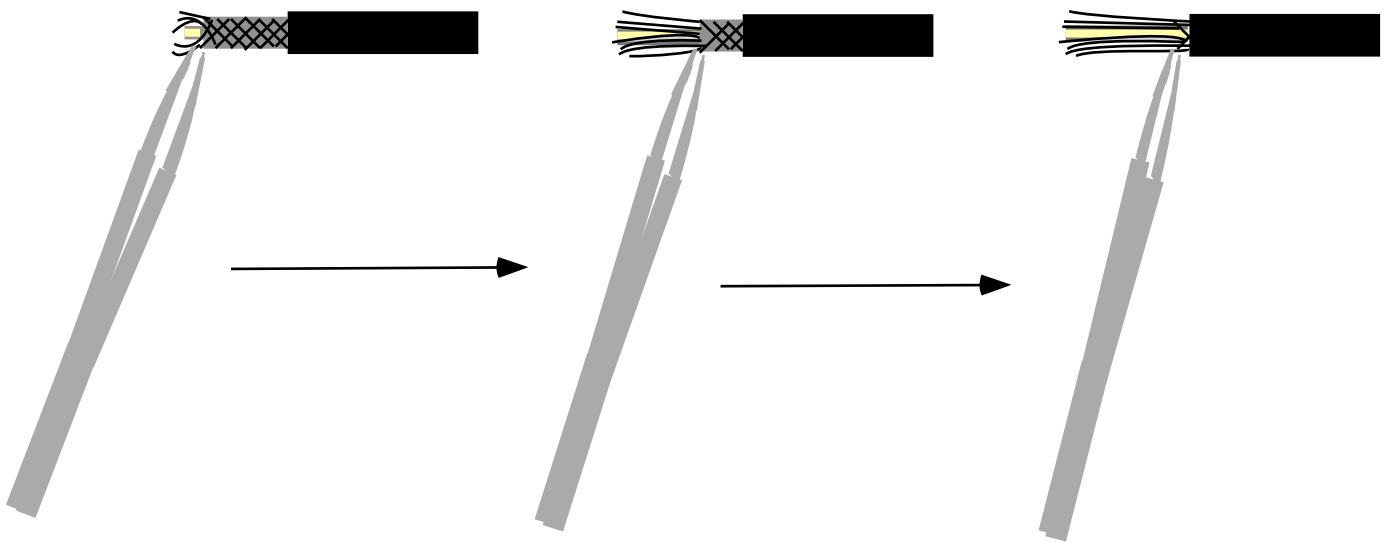
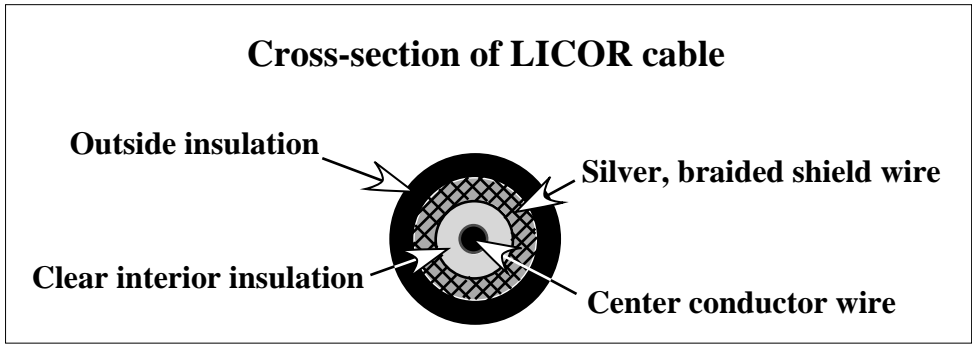
**Step 1) Cut off BNC connector at the base.**



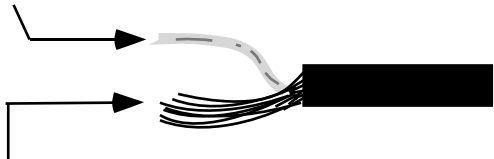
**Step 2) Using a razor blade or “exacto” knife, strip outside black insulation back 1.5 cm. This will reveal the braided silver shield wire. Be very careful not to nick the silver braiding when cutting off the insulation.**



Step 3) Using sharp tweezers/forceps, comb out the braiding of the silver shield to reveal insulated center conductor. Begin combing the braiding out of the silver shielding near the end and work your way back to the black exterior insulation (as shown below). Be sure not to nick the interior clear insulation while unbraiding the shield. When the silver shield is completely unbraided, pull the strands off to one side and twist them together.



**Center conductor in clear insulation**



**Unbraided silver shield**

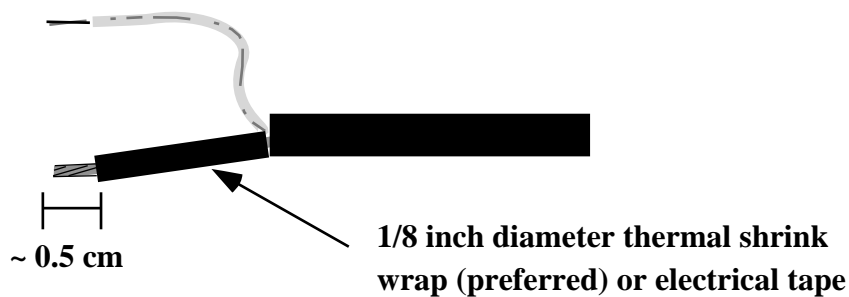
Separate the strands of the shield off to one side of the central conducting wire and twist them together.



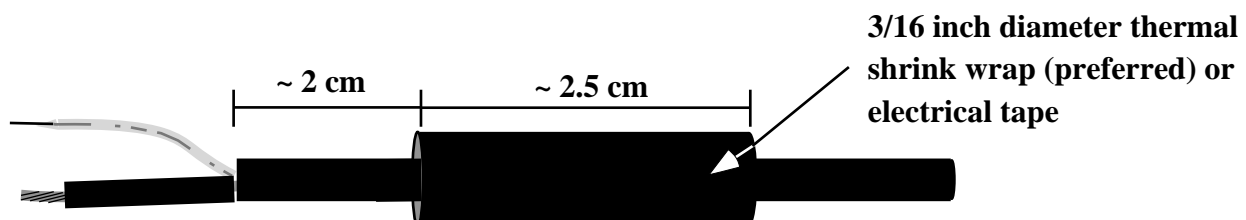
**Step 4) Strip the clear insulation back about 0.5 cm, exposing the center conducting wire. Be careful not to nick the center conducting wire.**



**Step 5) If possible, tin both the center conductor and the silver shield. Be sure that when tinning the silver shield, you don't melt the clear insulation around the center conductor wire. Next, insulate the shield with a piece of 1/8 inch diameter thermal shrink wrap. Heat the shrink wrap until it is snug around the shield wire. When heating the shrink wrap, be careful once again not to melt the clear insulation on the central conducting wire. If shrink wrap is not available, a piece of electrical tape will make do. Leave around 0.5 cm at the end of the shield uncovered so that it can make contact with the amplifier terminal.**



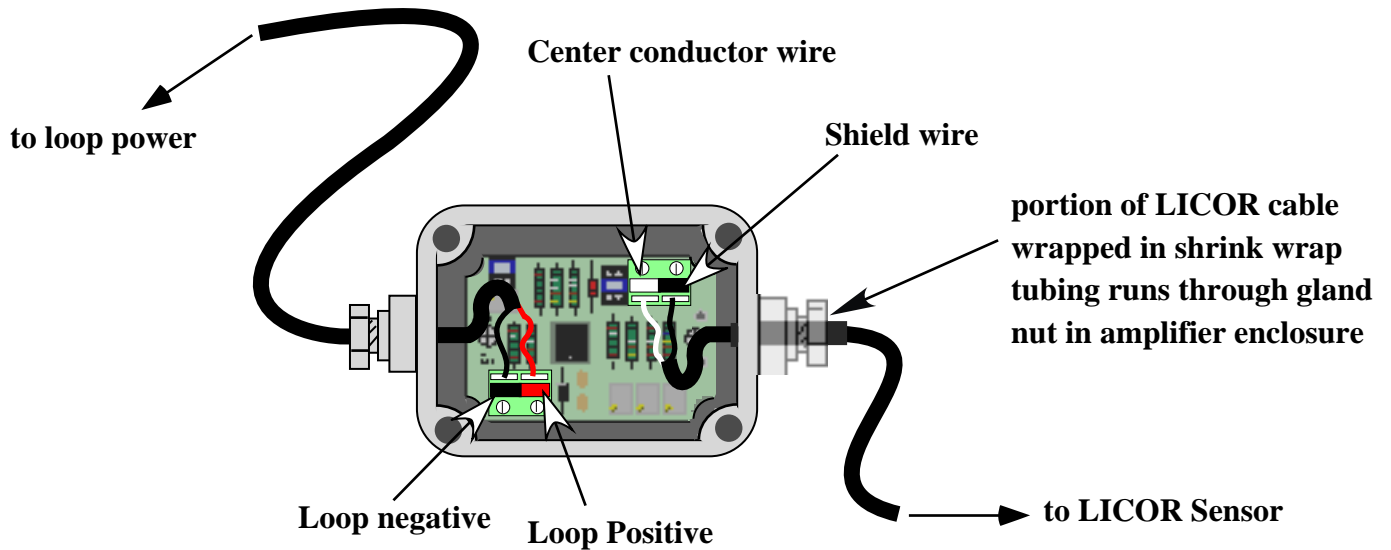
**Step 6) Place a 2.5 cm long piece of 3/16 inch diameter thermal shrink wrap around the outside black insulation 2 cm up from where the central conductor and shield extrude. Heat the shrink wrap until it is snug against the cable. Doing this will increase the diameter of the cable where it enters the gland nut on the amplifier and ensure that water will be kept out of the amplifier enclosure. If you don't have access to thermal shrink wrap, then wrap electrical tape around the cable.**



Step 7) Hook the LICOR sensor up to your amplifier. Be sure that there are no stray strands from the shield that may cause a short circuit.

---

a) UCLC (universal current loop converter)



b) UTA (universal transconductance amplifier)

