

# PSM25 Assembly Instructions

1. Reminders and/or Warnings
  - a. Soldering irons, soldered joints, and traces are HOT and cool slowly. Don't touch them...
  - b. Cut wires and component leads can be sharp, and can puncture or scratch – be careful.
  - c. Rosin smoke from soldering can be toxic, avoid inhaling or contact with it.
  - d. Lead-based solder can be harmful especially to kids – avoid contact and use caution.
2. Prepare your assembly area.
  - a. Tools
    - i. Soldering Iron (A temperature-controlled soldering iron is highly recommended)
    - ii. Rosin core solder (Kester #44 0.032")
    - iii. Wire Cutters (small, see photo)
    - iv. Needle-nose pliers (not shown)
    - v. Crimper
    - vi. Ruler
    - vii. Ohmmeter or Multimeter
    - viii. Vise, or alligator board holder
    - ix. Ruler
  - b. Eye protection is strongly recommended.
  - c. Get the board top and bottom diagrams out so you can see where the components go.
  - d. Get the schematic diagram out for reference.


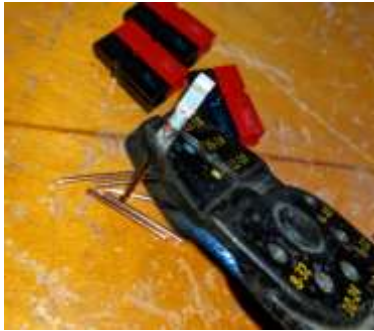






Reference information can always be found online at [www.K9JEB.com](http://www.K9JEB.com) Refer to the pictures below of the PSM25 board and finished kit. Verify you have all of the parts before beginning, let me know if I forgot something, it happens...

1. Install and solder fuse holders for F1 and F2.
2. Install and solder in R1, R2. Clip all component leads on the bottom of the board after soldering.
3. Install J4, or J5, and J7 if external ground connection is needed. Note that there is only a small distance between the J4 connector and R1 – make sure they don't touch...
4. Install C1 and C2
5. Install Q1 – put the leads into the holes, and bend so that the tab hole aligns with the hole in the board. Install the screw from the bottom of the board, and secure Q1 with nut on top tab and tighten BEFORE SOLDERING transistor legs, this way it will be aligned correctly.



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- Cut #14 copper into 6 - 7/8" lengths. I use a roll of tape... 
- Crimp each connector contact pin onto each copper wire piece, then solder. I solder from the bottom of the pin, so that the solder wicks up inside the connector. 
- When all of the pieces are cool, use pliers to insert each pin into its connector housing. It will stop with a click. 
- Bend each wire about 1/4" from the connector 90° down 
- Align J1 so that the hole in the connector lines up with the hole in the board (I stick a tie wrap through to align) and solder in place. 
- Solder in Q2.
- Solder in J2 and J3 same as with J1 above.
- Ty-wrap all connectors to the board so they are attached firmly. 
- IMPORTANT: Visually inspect all board solder joints... make sure there are no solder bridges on the top or bottom of the board. If there are – take care of these before hooking up power.
- Use the M3x5 FH screw in the lower left corner of the board, it should be able to fit under the tab of J5 (if installed).
- Screw any M3 screw into each of the 4 corners of the box, and remove each. The holes are printed "threaded" but it's not really threaded well enough to take the nylon threads of the standoffs. The standoffs will bind and likely break off unless a metal screw is used in the box before attempting to put in the standoffs.
- Screw in each of the 3 standoffs to secure the board in the box.
- Install F1 and F2
- I recommend testing as per instructions below before putting the remaining box together.
- Slide the lid tab in the lower left corner into the slot in the box, beware that there may be some plastic filing needed to make sure the tab goes in... the tolerances are only 0.2mm when I print it. Carefully file the tab with a nail file or small file if needed, but don't break it off...
- Use the 3 10mm screws through the lid holes, down into the standoffs to hold the lid on the box. Snug-only - Do not over-tighten.

## Testing

- BEFORE hooking up that expensive radio or device... Please test it to make sure it's all good!
- Connect input power to J1, through a fused connector with a low value fuse like 2A or 3A, just to make sure there are no direct shorts.
- Use the trigger input to trigger the switch - +5V or higher on the positive trigger, or ground the negative trigger. Either of these will switch the device on.
- Use a low-current device like an LED panel, or a PC-5 with a DVM, and make sure the switch works with the low-current device. Then test with the radio or other high-current device.