

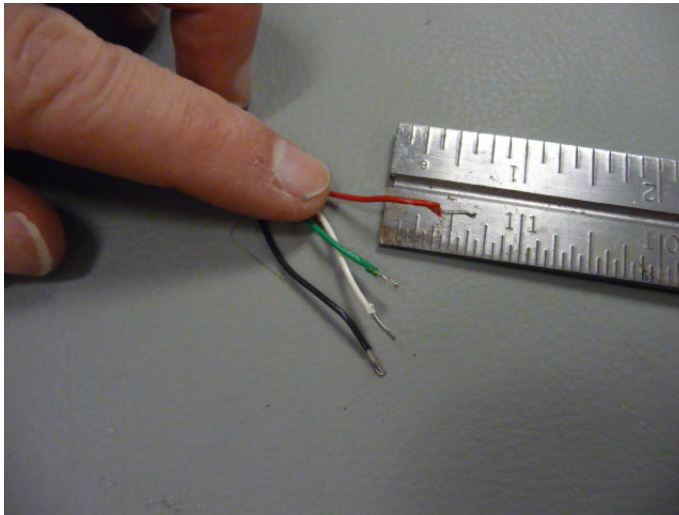
# Crimping 101

## SUMMARY

1. Figure out what wire goes where. There's a document : `/aer/doc/inst/umac/Umac description.doc` that identifies things like ground, voltage, signal and such for the various connectors on the back of the umac.
2. Identify the proper connector and the associated pins for your application.
3. If necessary, strip some sheathing off the individual wires making up a cable. Twist together the exposed strands of each individual wire in the cable, straighten, and trim to proper length
4. Insert wire into pin. Crimp exposed wire, then wire sheathing, testing that crimp is secure after each crimp
5. After all crimps for cable are done, insert pins into connector in proper orientation

### Step 3

If necessary, strip some sheathing off the individual wires making up a cable. Twist together the exposed strands of each individual wire in the cable, straighten, and trim to proper length (~1/4").



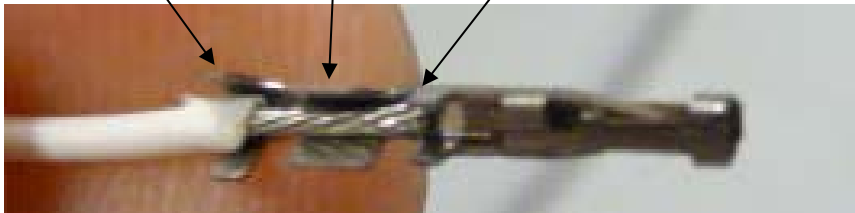
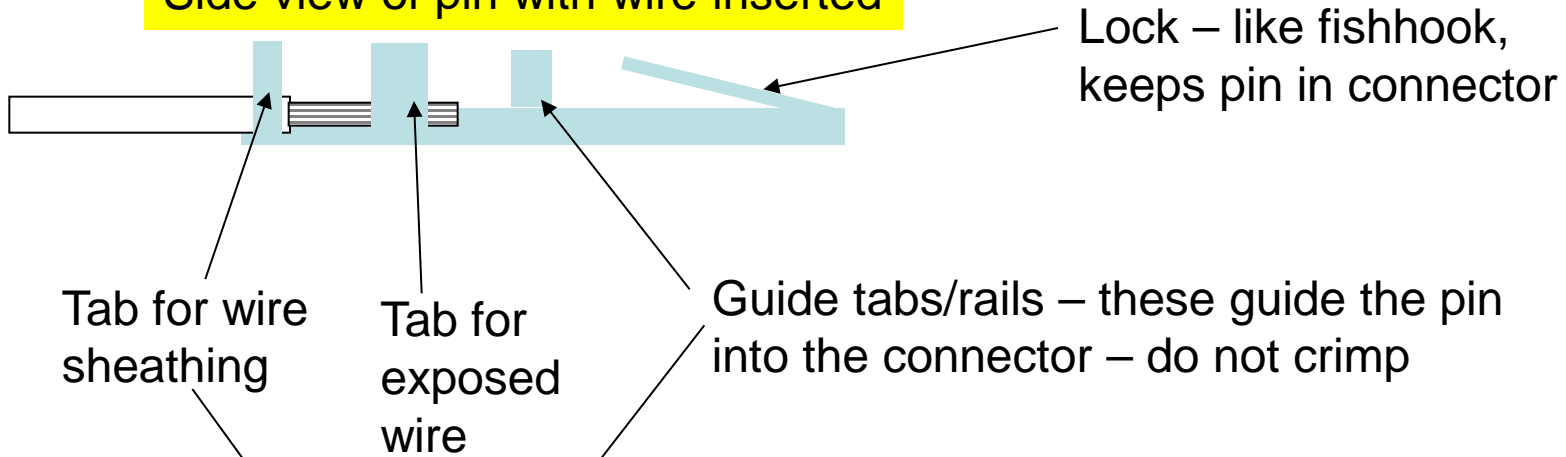
Here you see the 4 wires such as make up the cable for a vaisala sensor. Note that the exposed wire is straight (it's twisted though you can't see that in photo) and is about 1/4" long. The sheaths of the individual wires are 1.5-2" long.

Note: definitely don't want more than 1/4" for the small pins that go with 8 pin umac connector. (You may need slightly more exposed wire for larger pins. In general less exposed wire is better as extra wire can block the mating pin from entering connector.)

## Step 4a

Insert wire into pin.

Side view of pin with wire inserted

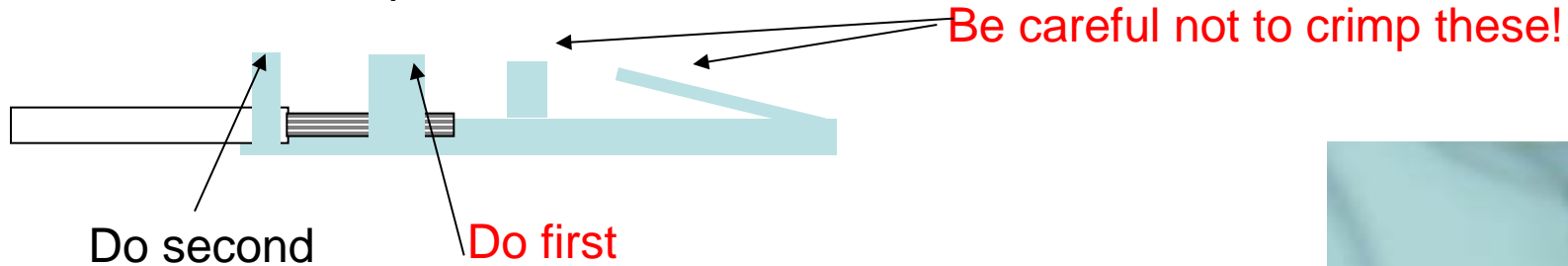


Top view of pin with wire inserted

During crimping, be careful to not crimp guide tab/rail or lock

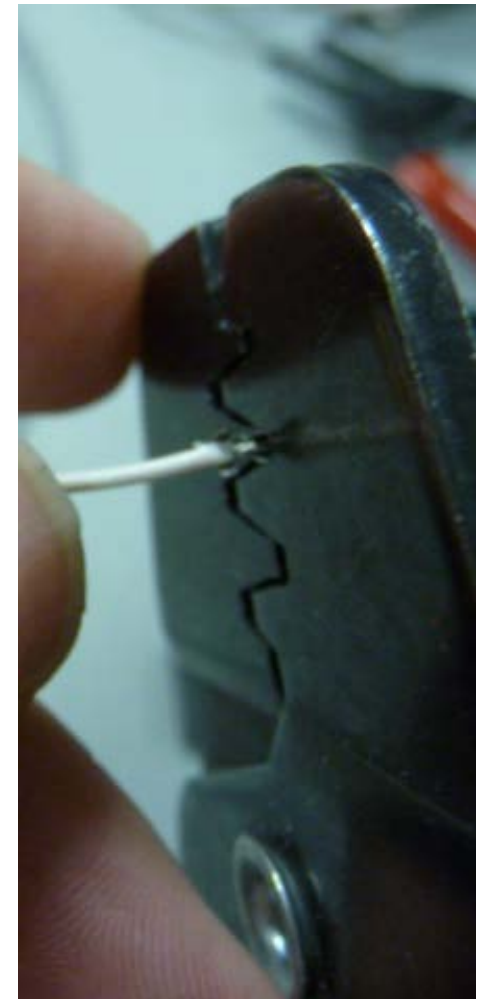
## Step 4b

Crimp exposed wire, then wire sheathing, testing that crimp is secure after each crimp



For this particular wire/pin situation, 1.8mm worked for the exposed wire crimp, while 2.0 mm worked for the wire sheathing crimp.

It may help to slightly manually pre-bend the sheathing tab around the wire sheath to be sure the tab goes the way you want it too.



## Step 5

After all crimps for cable are done, insert pins into connector in proper orientation. Verify the crimps are good before inserting in connector – unless you have a pin puller!

- The pin has tabs/rails which guide it into the connector and a lock which locks it in place.
- The pin needs to be pushed into the connector far enough so that the lock catches and the pin/wire assembly cannot be pulled back out.
- Pin should fit into connector easily, with minimal force

