MEASURING CABLE REPLACEMENT INSTRUCTIONS FOR PT8000 SERIES

For Models

PT8101, PT8150, PT8420, PT8510

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MEASURING CABLE REPLACEMENT

1. Remove the four socket head cap screws that attach the sensor cover to the housing/endcover assembly and set aside.
2. Remove the sensor cover, being careful not to pull on the wires, and set aside.
3. Loosen the socket head cap screw in the sensor mounting plate
4. Pry the mounting plate (including the rotational sensor) out of the housing and set aside. Try to keep the o-ring in place around the mounting plate for ease of re-installation later.
5. Remove the 4 small phillips head screws holding the endplate in the housing and set aside.
6. Remove the endplate and set aside.
7. Rotate the spring arbor slightly in the counter-clockwise direction, by hand, to determine whether there is spring torque. If cable has broken and the spool has unwound, releasing all spring torque, skip to step 12, otherwise continue with step 8.
8. Extend the measurement cable enough that it can be cut with wire cutters.
9. Keep the spring arbor/spool from turning. This is best done by holding the spring arbor with your fingers and holding the housing with the same hand.
10. Cut the measurement cable with a pair of wire cutters.
11. Slowly release all spring tension by letting the housing slowly turn while keeping a hold on the spring arbor.
12. There are two allen wrench screws, offset 90 degrees that lock the spool on the main shaft. You should be able to see them with the endplate removed. Rotate the spool so that an allen wrench can be inserted in the access hole in the bottom of the housing and loosen the lock screw.
13. Remove the allen wrench and rotate the spool so the other lock screw can be accessed and loosen the other lock screw.
14. Slide the spool out of the housing. It may be stubborn and you may have to pound the shaft down through the spool to loosen it. This will open a space between the spring and spring arbor. The spring still has tension and may shoot out of the housing. Be cautious when performing this step. Once you get the spool and shaft loose, the spool should slide the rest of the way. If the arbor moved, push the spring arbor back in against the spring.
15. Rotate the spring arbor with fingers to ensure spring is engaged. Make sure the arbor is rotated counter-clockwise. Noticeable cable tension should build.
16. Carefully release spring tension by allowing the arbor to spin until all tension is gone.
17. Attach spring winding tool to transducer housing. Make sure “T” fits between the pegs on the spring arbor.

18. Using the spring winding tool, wind the spring (one full revolution) as per the table below:

Range:	**Spring winds:**
2 inches	15
5	15
10	15
15	20
20	20
25	20
30	25
40	25
50	25
60	30

19. Insert the replacement measurement cable down through the cable guide and through the angled hole in the spool.
20. Place a crimp over the end of the cable (inside the spool) with as little excess cable showing as possible.
21. Squeeze the crimp with a crimp tool or a pair of pliers to secure it on the cable.
22. While keeping slack out of the measurement cable, replace the spool over the main shaft and into the housing. Push it in as far as it can go.
23. Re-tighten the spool lock screws.
24. Attach the end of the cable to an external post to keep tension on the cable.
25. Carefully release the spring winding tool and set aside.
26. Allow the cable to wind onto the spool by slowly moving the housing towards the post.
27. Release the cable end from the post
28. Extend and retract the cable a few times to check for smooth movement of the cable.
29. Replace the endplate.
30. Replace the 4 small phillips head screws holding the endplate in the housing.
31. If unit has a potentiometer, check potentiometer for damage. If cable has been free-released or broken, the potentiometer may be broken. Turn the potentiometer shaft all the way in both directions. The shaft should rotate smoothly with no resistance until it suddenly stops. If rough spots, resistance, or "soft" stops are felt, the potentiometer is damaged and must be replaced. Contact Celesco for new potentiometers and replace if necessary.
32. On the sensor mounting bracket, position the locking nut on the edge such that a flat side of the nut is parallel with the edge of the sensor bracket. Do not tighten.
33. Replace the o-ring and install the bracket and seat it snugly in the housing. Make sure the legs of the clutch spring are in between the wider set of posts on the spring arbor. Make sure the o-ring is seated correctly.
34. If your transducer is a PT8150 skip to step 38.
35. Connect a 10 VDC power supply to the potentiometer terminals so +10VDC is connected to CCW and –10VDC is connected to CW.

36. Connect a voltage meter to potentiometer terminals so positive lead is connected to S and negative lead is connected to CW.
37. Rotate entire potentiometer/mounting bracket assembly so output is between 0.04 and 0.1 VDC.
38. Tighten socket head cap screw to lock sensor bracket in place
39. Replace sensor cover, making sure o-ring seats properly.
40. Replace the 4 socket head cap screws that attach the sensor cover to the housing.