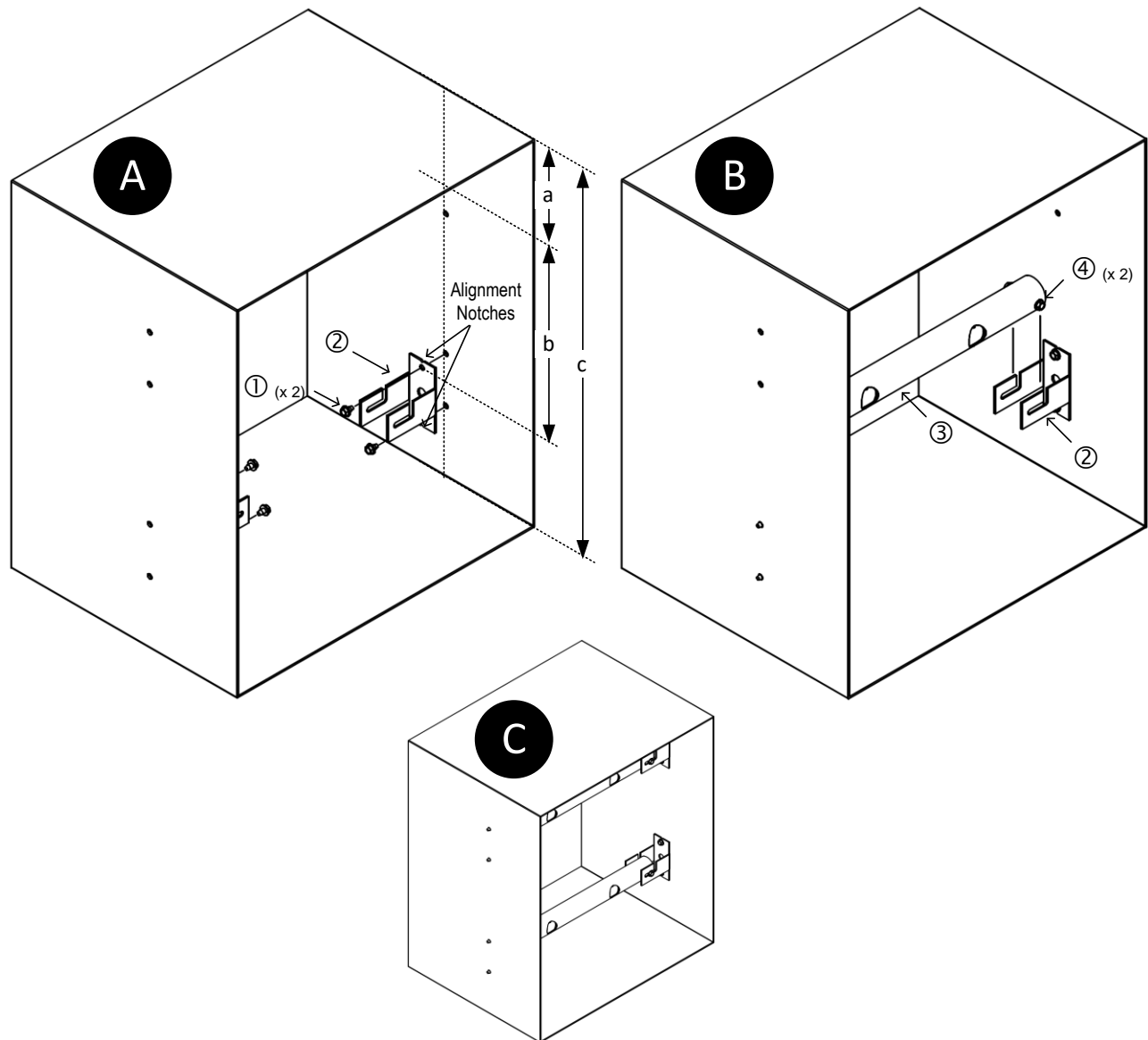


O&M MANUAL

Appendix B-1: -P Probe Installation (Internal Mounting - Rectangular Ducts)



Step 1. Select a location in the duct or plenum opening that meets or exceeds EBTRON's recommended placement guidelines.



If the location does not meet or exceed placement guidelines the installed accuracy may be compromised and field adjustment may be necessary.

Step 2. Probes are ordered and labeled *Probe Length x Adjacent Side Length*. Probes are installed on the *Adjacent Side* dimension, 'c', of the duct. Verify that the duct size matches the size ordered.



If the probe length ordered is incorrect, the sensors will not be located in the proper location, thus affecting the installed accuracy. Contact EBTRON customer service for more information.



If the actual size of the duct is not equal to the size ordered, the AREA parameter must be changed in the transmitter to display the proper airflow rate in CFM [l/s].



Do not cut the probe! Cutting the probe will void warranty.

REFER TO FIGURE “A” WHEN COMPLETING STEPS 3 TO 14 (unless otherwise noted).

Step 3. Vertically mounted probes subject to water condensation or accumulation (typically supply air and outdoor air intakes) should be mounted so that the cable side of the probe is at the top of the duct.

Step 4. Draw a line on the inside of the duct side chosen as the “cable out” side of the probe that is perpendicular to the edge of the duct and the direction of airflow.



Use a carpenter’s square or similar tool to ensure the probes are in the same plane and perpendicular to airflow.

Step 5. Mark a center-point on the line drawn in Step 4 where each probe is located using the spacing guidelines indicated in Table 1. If more than two probes are provided, continue spacing additional probes at the “b” interval from the previous probe.

TABLE 1 - PROBE PLACEMENT		
Number of Probes	a	b
1	c/2	
2	c/4	c/2
3	c/6	c/3
4	c/8	c/4



If the probes were ordered for a duct with internal insulation, use the internal dimension of the duct for ‘c’ to calculate ‘a’ and ‘b’.

Step 6. Loosen the two probe mounting screws ([④] in figure “B”) on the cable side of the probe tube ([③] in figure “B”) by turning each screw one full turn counter-clockwise.



The cable is intentionally not shown in the diagram.



Do not remove the probe mounting screws ([④] in figure “B”)!

Step 7. Remove the internal mounting bracket [②] from the probe tube ([③] in figure “B”).

Step 8. Use the internal mounting bracket [②] as a template to locate the position for the two internal mounting bracket screws [①]. Position the cable side internal mounting bracket [①] on the duct so that the center-point marked in Step 5 is in the center of the center-hole of the cable side internal mounting bracket [②]. Position the internal mounting bracket [②] so that the center-line notches of the bracket are aligned with the line drawn in Step 4. Mark the location of the two internal mounting bracket screws [①] that secure each insertion mounting bracket [②]. Repeat this step for each additional probe center-point, if more than one probe is provided.

Step 9. On the opposite side of the duct, mark a line perpendicular to the edge of the duct and the direction of airflow directly across from the line marked in Step 4.

Step 10. Mark a center-point on the line drawn in Step 9 directly across from each center-point marked in Step 5.

Step 11. Repeat step 8 for each center-point marked on the opposite side of the duct.

- Step 12. Remove the remaining internal mounting brackets [2] on both sides of each probe as described in Steps 6 and 7.
- Step 13. Drill appropriately sized pilot holes for each internal mounting bracket screw location (screws not provided) marked in Steps 8 and 11.
- Step 14. Secure each internal mounting bracket [2] on both sides of the duct. The notch in the bracket should be pointed in the same direction (up, down, right or left) for each bracket.



It is recommended that horizontally mounted brackets are installed with the notch pointing upwards as indicated in figure "B".

REFER TO FIGURE "B" WHEN COMPLETING STEPS 15 to 19.

Step 15. Follow steps 16 to 19 for each probe.



Probes are labeled Probe X of Y, where Y is the total number of probes provided for a location. It is recommended (not required) that probes are installed sequentially by probe number top to bottom, left to right or vice versa.

- Step 16. Insert the probe mounting screws [4] of the terminal side of the probe tube [3] into the terminal side internal bracket [2] slot with the airflow directional arrow pointing in the direction of airflow (it is ok if the arrow is upside down).
- Step 17. Slide the probe mounting screws [4] in the slot of the terminal side internal bracket until the probe mounting screws [4] of the cable side of the probe are aligned with the cable side internal bracket [2] slot.
- Step 18. Insert the probe mounting screws [4] of the cable side of the probe tube [3] into the cable side internal bracket [2] slot.
- Step 19. Position the probe tube [3] such that the probe is approximately equidistant from the duct wall on each side of the duct and tighten all four of the probe mounting screws [4].
- Step 20. Route the probe cable(s) outside the duct and properly seal the wire penetration(s) with suitable material.



Probe cables are FEP jacketed, plenum rated CMP/CL2P, UL/cUL listed, -67 to 302 °F [-55 to 150 °C] and UV tolerant.

Step 21. Probe installation is complete! Figure "C" shows a completed two probe installation.