

## Installation Tool Kits

Installation tool kits are available to assist in machining mounting ports for applications where PCB® mounting adaptors are not used. The kits provide the tooling necessary for precision machining mounting ports for applicable sensors. Refer to specific installation drawings, listed by model number, found at [www.pcb.com](http://www.pcb.com), for a detailed description of flush versus recess sensor installation.



Sensor Series	Installation Tool Kit
Series 111, 112, 113	040A10 English, 040A11 Metric
Series 105	040A33 English, 040A34 Metric
Series 108, 109, 118, 119, 165	040A20 English, 040A21 Metric

## Mounting Adaptors

### What are mounting adaptors?

Mounting adaptors are precision machined to accept PCB probe style pressure sensors to provide a convenient sensor installation method.

### Why use mounting adaptors?

When space permits mounting adapters reduce the need for precision machining required for the probe style connectors in locations where precision machining is impossible, impractical or simply inconvenient, the adapter can be mounted with a few simple steps. The sensor can be electrically isolated in many adapters to minimize interference from ground loop noise involved with operation on electrical machinery. Special adapter materials, sensor coatings, and insulating seals can be factory installed to isolate the sensor from noise.

Water-cooled adapters provide for sensor installation in high temperature applications for dynamic measurements on heat exchangers or other high temperature applications. Water-cooled adapters allow ICP® and charge output pressure sensors to operate in applications with temperatures well above the operating range of the sensor by providing a stable localized lower temp environment. For example, an ICP® sensor, rated to +275°F (+135°C) will remain below +150°F (+65°C) when operating with a Model 064B water-cooled adapter on a +1000°F (+535°C) exhaust manifold.

Most mounting adaptors are made of high-strength 17-4 PH stainless steel. Care should be exercised to observe maximum pressure when using adaptors made of lesser-strength materials.

In sensor applications involving exposure to flash temperatures, an ablative diaphragm coating is beneficial. To captivate the ablative, the sensor may be slightly recessed in an adaptor, and the recess filled with ablative coating such as the PCB® 'CA' option.

A variety of popular adaptors are summarized in the following tables. Many standard and special adaptors can be supplied to fit specific mounting ports, or material requirements so please visit [www.pcb.com](http://www.pcb.com) or contact a PCB® Application Engineer to discuss your unique needs.

## FAQ

**Q:** What is the proper mounting torque?

**A:** Proper mounting torque is provided on the installation drawing shipped with each sensor.

## Pressure Sensor Mounting Adaptors

		Benefits	Limitations
Sensor		<p>Series 111, 112, 113 probe-style sensor, with supplied 5/16-24 or M7x0.75 thread, may be directly mounted using the floating clamp nut. Used when there is limited space available to install a sensor or a flush diaphragm mount is desired.</p>	<p>Requires precision machining tools and dimensions.</p>
	<p><b>Straight Threads</b></p>  <p><b>061A01</b> 3/8-24 or <b>061A10</b> M10x1.0 install in common mounting ports. Both made from 17-4 PH stainless steel</p>	<p>Simplified installation by drilling and tapping standard size mounting port. Eliminates precision machining required for probe-style sensors.</p> <p>Adapts Series 111, 112, 113 to thin-walled applications.</p>	<p>Limited to thin-wall or thick, counter bored walls to install. Requires more area to prepare mounting port than a probe-style sensor alone.</p>
Adaptor Type	<p><b>Electrical Isolation</b></p>  <p><b>061A59</b> 3/8-24 thread</p>	<p>Electrically isolates the sensor from ground. Series 111, 112, and 113.</p>	<p>Limits use to lower pressure applications of &lt;500 psi (&lt;3450 kPa), and temperatures <math>\leq +225</math> °F (+107 °C).</p>
	<p><b>NPT Tapered Threads</b></p>  <p><b>062A01</b> 1/8" NPT thread, made from 17-4 PH stainless steel</p>	<p>Thread conveniently adapts Series 111, 112, 113 to common hydraulic, pneumatic, and process mounting ports.</p>	<p>Since the tapered pipe thread seals on the thread itself, it is more difficult to achieve a flush mount of the sensor diaphragm. Requires more area to prepare mounting port than a probe-style sensor alone.</p>
	<p><b>Water-cooled Adaptors</b></p>  <p><b>064B01</b> recessed mount isolates the sensor from the environment.</p> <p><b>064B02</b> flush mount for better high frequency response.</p> <p>Both models feature 1/2-20 mounting thread and are made from 17-4 PH stainless steel.</p>	<p>Adapts Series 111, 112, 113 to high temperature environments.</p>	<p>Requires a larger mounting area.</p> <p>Recessed sensor results in reduced frequency capabilities.</p> <p>Flush sensor means the diaphragm is susceptible to flash thermal effects.</p>

## Pressure Sensor Mounting Adaptors

		Benefits	Limitations
Sensor		Models 106B, 116B and 116B03 probe-style sensors, with supplied 1/2-20 or M14x1.25 thread may be directly mounted using the floating clamp nut. Used when there is limited space available to install a sensor or a flush diaphragm mount is desired.	Requires precision machining tools and dimensions.
	<p><b>Straight Threads</b></p>  <p><b>061A60</b> 3/14-16 installs in common mounting ports. Made from 17-4 PH stainless steel</p>	<p>Simplified installation by drilling and tapping standard size mounting port. Eliminates precision machining required for probe-style sensors.</p> <p>Adapts Models 106B, 116B, 116B03 to thin-walled applications.</p>	Limited to thin-wall or thick, counter bored walls to install. Requires more area to prepare mounting port than a probe-style sensor alone.
Adaptor Type	<p><b>Electrical Isolation</b></p>  <p><b>061A61</b> 3/14-16 thread</p>	Electrically isolates the sensor from ground. Series 106 & 116.	Limits use to lower pressure applications of <500 psi (<3450 kPa), and temperatures $\leq +225$ °F (+107 °C).
	<p><b>NPT Tapered Threads</b></p>  <p><b>062A06</b> 1/2 in NPT thread, made from 17-4 PH stainless steel</p>	<p>1/2 in NPT thread conveniently adapts Models 106B, 116B and 116B03 to common hydraulic, pneumatic, and process mounting ports.</p> <p>For Models 106B50, 106B51, &amp; 106B52 use adaptor Model 062A07.</p>	Since the tapered pipe thread seals on the thread itself, it is difficult to achieve a flush mount of the sensor diaphragm. Requires more area to prepare mounting port than a probe-style sensor alone.
	<p><b>Water-cooled Adaptors</b></p>  <p><b>064B06</b> recessed mount isolates the sensor from environment. 1/2-20 thread, made from 17-4 PH stainless steel.</p>	Adapts Models 106B, 116B and 116B03 to high temperature environments.	<p>Requires a larger mounting area.</p> <p>Recessed sensor results in reduced frequency capabilities.</p>

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