

1.2 Features

- An installation-ready solution that provides rich wireless HART® data
- Works with any 2- or 4-wire HART devices
- Flexibility to meet your most demanding applications
- Wireless output with >99% data reliability delivers rich HART data, protected by industry leading security
- Gain access to additional HART information, such as diagnostics or multi-variable data
- Add wireless to almost any measurement point without affecting the approval of the sub-device
- IEC 62591 (*WirelessHART*®) capabilities extend the full benefits of Plantweb™ to previously inaccessible locations

1.3 Considerations

1.3.1 General

The THUM Adapter is connected to a HART sub-device. With simple HART configuration, the THUM transmits the HART information from the sub-device into the Wireless network.

1.3.2 Commissioning

The THUM Adapter can be commissioned before or after installation. It may be useful to bench commission the THUM Adapter before installation to ensure proper operation and to become familiar with the functionality. The instruments should be installed in accordance with intrinsically safe or non-incendive field wiring practices, when required. The THUM Adapter is powered when connected to a powered loop.

1.3.3 Mechanical

When choosing an installation location and position for the transmitter, take into account access to the device. For best performance, the antenna should be vertical and have some space between objects in a parallel metal plane such as a pipe or metal framework, as the pipes or framework may adversely affect the performance of the antenna.

1.3.4 Electrical

The THUM Adapter is connected into a powered 4–20 mA loop, powering itself by scavenging power. The THUM Adapter causes a voltage drop across the loop. The drop is linear from 2.25 volts at 3.5 mA to 1.2 volts at 25 mA, but does not effect the 4–20 mA signal on the loop. Under fault conditions, the maximum voltage drop is 2.5 volts.

1.3.5 Environmental

Verify that the operating environment of the transmitter is consistent with the appropriate hazardous locations certifications.

Temperature limits

Operating limit	Storage limit
-40 to 185 °F	-40 to 185 °F
-40 to 85 °C	-40 to 85 °C

1.3.6 Wireless considerations

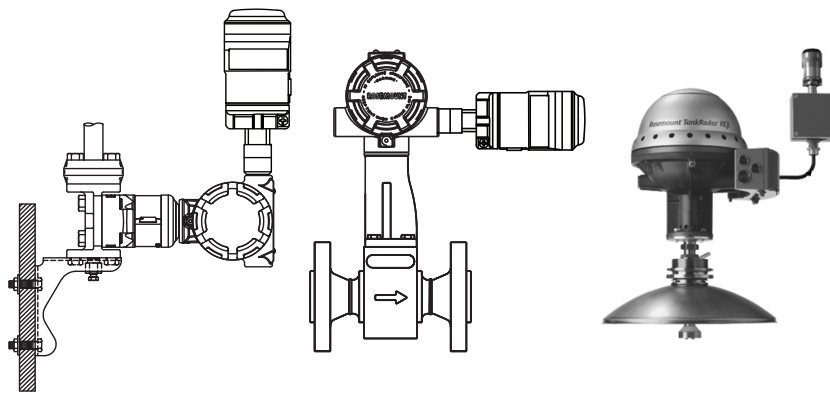
Power up sequence

Power should not be applied to any wireless device until the Gateway is installed and functioning properly. Wireless devices should also be powered up in order of proximity from the Gateway, beginning with the closest. This will result in a simpler and faster network installation. Enable active advertising on the Gateway to ensure that new devices join the network faster. For more information see the Emerson Wireless 1420 Gateway [Reference Manual](#).

THUM Adapter position

If possible, the THUM Adapter should be positioned vertically, either straight up or straight down, and it should be approximately 3 ft. (1 m) from any large structure, building, or conductive surface to allow for clear communication to other devices. If the THUM Adapter is mounted horizontally, wireless communication range may be decreased.

Figure 1-1. THUM Adapter Position



Conduit entry

When installing the THUM Adapter into the conduit entry of a wired device, use an approved thread sealant. Thread sealant provides a water tight seal. The thread sealant also provides a lubrication to ensure easy removal of the THUM Adapter.

M20 conduit adapter

When using the M20 Conduit Adapter on the THUM Adapter, use an approved thread sealant and tighten wrench tight to the THUM Adapter. When installing the M20 conduit adapter into a conduit tighten to 32.5 Nm/25 ft-lb. to ensure water tight seal.