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IoT Technologies

Installation Guide
Captis V1.2

Before You Begin

Before starting this installation, you will need the following items:

- The contents of your Captis device box
- Flat blade screwdriver
- [ASST-C-05-W-A crimping tool](#)
- An internet-connected device, such as a phone or tablet

What's in your Captis V1.2 device box?

- Captis Device
  - Captis V1.2 Recharge or;
  - Captis V1.2 Multi or;
  - Captis V1.2 Pulse
- Activation magnet
- Amphenol Connector + Pins + Glands
  - Please note that 18 pins are provisioned with the Multi and Recharge

⚠ Handle With Care

Installation

To successfully install the Captis device you must perform the following steps:

1. Mount the device
2. Terminate the sensor
3. Test the sensor
4. Test connectivity
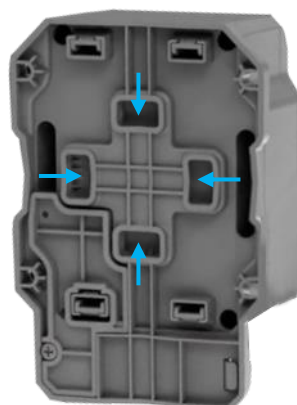
1.1   Mount the Device

Note: If the Captis is to be installed underground or inside a metal cabinet, an external LTE antenna must be used. Please ensure the configuration of your Captis V1.2 device is set to "Prefer External". This will ensure that the device attempts its network connection via the external antenna rather than the built-in internal antenna. The antenna lead must be routed to an open area where cell signal is less obstructed.

The Captis device may be mounted in a range of positions using either:

- Screw mounting tabs to a flat surface; or,
- Fasting to a pole/post with a hose clamp (<15mm thick) or cable ties
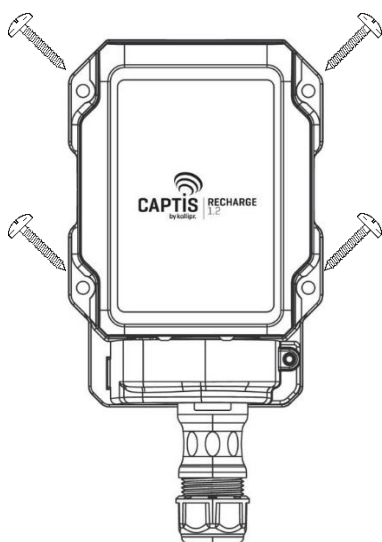
Screw Mount   **Cable Tie / Hose Clamp Mount**

Upon successfully mounting the device, care must be taken to ensure that there is no undue stress on the cable between the sensor and the device. If the sensor cable does become strained in the final location, please remove the device, and relocate closer to the sensor / measurement equipment.

1.2   Terminate the Sensor

Your Captis device is provided with a four-pin or eighteen-pin Amphenol plug that can be connected to desired sensors and/or measurement equipment.

Use the correct crimping tool (not included) to ensure that the pins are securely fastened to the end of the sensor cable and insert into the appropriate receptacles of the Amphenol plug.

For additional information, refer to the Captis Termination guide and each device's specific product data sheet, found on the Kallipr website.

A light tug on the cables will ensure that the pins are inserted and crimped correctly.

Use the table below to identify the connections between the Captis device and the sensor via the provided Amphenol plug.

Pulse Variant		X-Lock Amphenol (Front View)

PIN	Description
1	Digital Input 1 -
2	Digital Input 1 +
3	Digital Input 2 +
4	Digital Input 2 -

Multi / Recharge Variant		X-Lock Amphenol (Front View)

PIN	Description
1	Digital Input 2+
2	Digital Output 1+
3	Digital Input 2-
4	5VDC Output
5	Common Ground
6	Digital Output 1-
7	Digital Input 1+
8	Digital Input 1-
9	Common Ground
10	Analogue Ground
11	Reserved
12	1-Wire
13	Modbus A
14	Common Ground
15	Analogue 2, 4-20mA
16	12VDC Output
17	Modbus B
18	Analogue 1, 0-10VDC

Recharge Only (M8)		M8 Connector (Front View)

PIN	Description
1	Reserved
2	Reserved
3	Ground
4	DC+ (Supply Voltage)

Best Practice Considerations:

- Utilise the appropriate cable gland provided when terminating the sensor to preserve IP rating.

	Suitable Cable Size (Outside Diameter)	
Gland	Pulse	Multi / Recharge
Red	5-6mm	8-10mm
Yellow	6-8mm	10-12mm
Blue	8-10mm	12-14mm

- Do not remove pins from the Amphenol plug once terminated. Please contact Kallipr for further support

- Ensure there is no debris between the Amphenol plug and the Captis device prior to connecting.

1.3   Test the Sensor

When the sensor has been terminated into the provided Amphenol plug, it is recommended that the sensor itself is tested prior to connection with the Captis device. This can be achieved by:

1. Connecting the sensor to the desired output
2. Use a multimeter (not included) on the Amphenol plug to prove the sensor output. Note that some sensors may require power from the Captis and can only be tested once completely connected.

Once this step is complete, the plug may be fastened to the Captis device.

1.4   Test Connectivity

Use the magnet provided to 'wake' the Captis device by holding it over the   WAKE   symbol. The status light should flash, followed by a solid cellular light.

The device should then connect to the platform and upload data.

Prove that the sensor output is accurately recorded and uploaded by the Captis device.

Ensure that the device is tested in its final install location to confirm signal strength is greater than -96dB RSRP (Reference Signal Received Power).

If the device does not connect to your platform, please refer to the Captis Device Troubleshooting guide on the following page.

1.5 Captis Device Troubleshooting Guide

SYMPTOM	MEANING	WHAT TO DO
STATUS x20	Device is on/ awake.	Device is working as it should, leave device to collect data.
CELLULAR solid	Device connected to LTE network.	Device is working as it should, leave device to collect data.
STATUS no LED status	The device battery may be depleted, or a device fault may have occurred.	Use a different device and contact the supplier.
STATUS x2 long + x8 short	No cellular registration (connection to the network) is being achieved.	Check network provider coverage map to ensure the site is covered by the LTE-M or NBIoT cellular network. If the area is covered, and the device cannot connect, contact the supplier.
STATUS x2 long + x1 short	Device cellular module failed to boot.	Return the device to the supplier if the issue persists.
Sensor connection not working (not flashing the LED after LED flash turned on in Captis Configuration Toolset).	Connection wired incorrectly.	Confirm that the sensor is properly attached. Contact support if issue persists.
Sensor readings not uploading/appearing in Captis Cloud.	Sensor not triggering.	Ensure the sensor can be triggered by checking that the sensor is securely installed. Contact support if issue persists.
	No cellular signal	Check Status and Cellular LED. If flashing, complete troubleshooting for a flashing Cellular LED. Contact support if issue persists.

For further support, please contact your Kallipr distributor.
For any additional enquiries please contact the Kallipr Support Team at support@kallipr.com.