

# Installation Guide

## Captis Metrum & Itron TD8



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## INTRODUCTION

The Captis cellular data logger has been developed to fill measurement requirements across a broad range of applications and remote locations.

The Captis Metrum has the following features:

- The device measures 90 x 75 x 50 mm and weighs less than 500g.
- Is designed to interface with existing mechanical water meter via a pulse pick up unit.
- It is battery operated and does not require an external power supply.
- It operates on LTE-M or NB-IoT cellular networks.
- The enclosure is IP68 rated.

## CAPTIS TECHNICAL INFORMATION

### CAPTIS METRUM DIMENSION

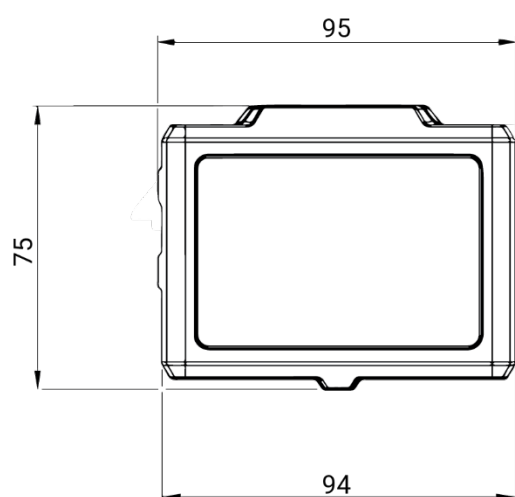


Figure 1 Captis dimensions front view

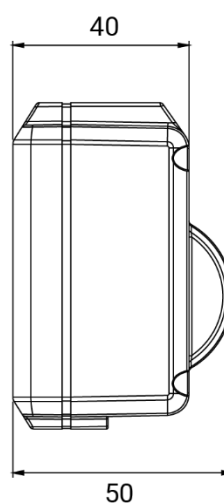


Figure 1 Captis dimensions side view

### CAPTIS METRUM

|                                  |   |
|----------------------------------|---|
| 1x Pulse Input                   | -0.3V to 3.5V<br>Passive Suitable for Reed SW + Open Collector +<br>Dry Contact |
| Maximum Pulse Frequency          | 10Hz  |
| Sensor Minimum Open Resistance   | 1.25MΩ  |
| Sensor Maximum Closed Resistance | 60kΩ  |
| Physical Size                    | 90mm x 75mm x 50mm  |
| Weight                           | Less than 500g  |
| IP Rating                        | IP68  |

## INSTALLATION

### BEFORE YOU BEGIN

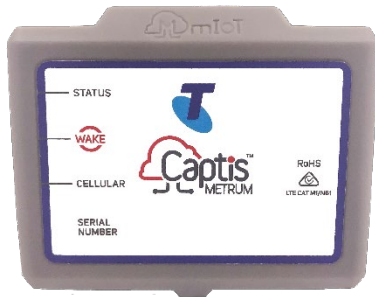
Before starting this installation, you will need the following items:

- The contents of the Captis box.
- The water meter that will be connected to the Captis
- A 3mm Allen key and small flat blade screwdriver
- An internet-connected device, such as a phone or tablet.

### WHAT IS IN THE CAPTIS BOX?

In the Captis box you will find:

- Captis data logger
- Attachment Band and screw



- Cable Cover



- Activation Magnet  
Used to wake up and reset the device.



Figure 3 Captis showing magnet being used to wake device

## INSTALLING THE CAPTIS

To successfully install the Captis you must perform the following steps. Each step is described in more detail in the following sections.

1. Mount the Captis Metrum to the Itron TD8 water meter
2. Test the wiring, sensor and cellular connection.
3. Complete the physical installation after testing.

## TERMINATING THE DEVICE

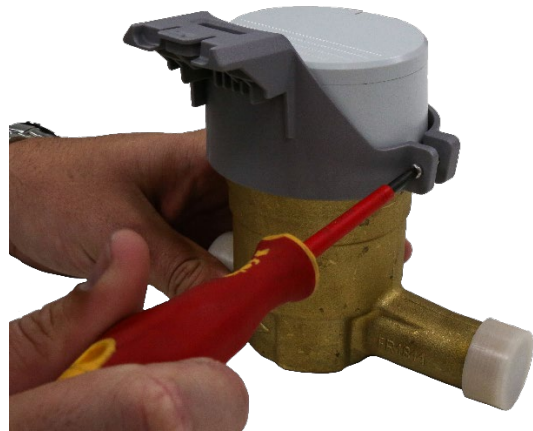
The Itron TD8 Cyble Sensor comes prewired to the Captis Metrum Device. The Cyble Sensor is connected using the below Cable Colours.

| Colour                 | Description               |
|------------------------|---------------------------|
| Metrum Pulse – (Black) | Itron TD8 Pulse Detection |
| Metrum Pulse + (White) | Itron TD8 Pulse Detection |

## MOUNTING THE CAPTIS

The Captis Metrum is designed to seamlessly integrate with Itron's TD8 water meter, and can be installed following these steps:

1. Pass the supplied mounting band around the TD8 and secure with the supplied screw and a 3mm Allen Key.



2. Carefully install the Cyble Sensor - attached to the Metrum Device - on the top of the Itron TD8 meter as shown.



3. Clip the Metrum housing onto the Band.



*Continued over the next page ...*

4. Place the supplied Cable cover over the pickup and Metrum cable entry and clip into the attachment band to secure



5. Screw the Cyble Sensor to the Itron TD8 water meter using the white plastic screw enclosed, and cover with the accompanying blue cap.



## CHECKING SENSOR & CELLULAR CONNECTIONS

Before leaving the installation site, you must check that the connection between the device and the sensor is functional and that there is adequate cellular signal for the Captis to work as required.

1. Activate your sensor to create some measurements. How you do this will depend on the sensor.
2. Wake up the Captis using the magnet. If the device has been installed correctly and is able to connect to a cellular signal, then it will then transmit the recorded data to the cloud platform.
3. Check that the data has successfully transmitted to the cloud platform in the correct format, and that no alarms have been recorded.

If the data has been submitted correctly, the registration and installation are a success. If the data does not appear, see Next Step: 'Troubleshooting'.

### CHECKING THE CELLULAR CONNECTION OF AN ENCLOSED DEVICE

If you are installing your Captis device in an enclosed space (i.e. a pit or cabinet) then you must check the connectivity of the device in the environment in which it will ordinarily operation.

For example, if you are installing a Captis device inside a metal cabinet, then you must test that the device is able to connect to the cellular network when the cabinet is closed.

**Note:** It is insufficient to test connectivity with the cabinet open.

Follow the below steps to check that the Captis device can connect to the cellular network in its final, enclosed installation location.

1. Wake the Captis device and ensure that it is installed in its final, enclosed environment.
2. You will have 10 seconds to encase the device before it attempts to connect to the network.
3. Wait 5 minutes and then check that the device has connected to the cloud platform.
4. If the device appears in the platform, then the device can achieve enough connectivity and has successfully connected in its final installation location.



## TROUBLESHOOTING

| Symptom  | Meaning   | What to do  |
|--|---|---|
| Status LED flashing 20 times   | Device is on/ awake   | Device is working as it should, leave device to collect data  |
| Cellular LED solid   | Device connected to LTE network   | Device is working as it should, leave device to collect data  |
| Status LED won't turn on after using the magnet  | The device battery may be depleted, or a device fault may have occurred | Use a different device and contact the supplier   |
| Status LED flashing in sequence: 2 long 1 short  | No cellular registration (connection to the network) is being achieved. | Check with the Telstra coverage map to ensure the site is covered by the LTE-M or NBIoT cellular network.<br>If the area is covered, and the device cannot connect, contact the supplier. |
| Status LED flashing in sequence: 2 long 8 short  | Captis 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.<br>Contact support if issue persists  |
| Sensor readings not uploading to/ appearing in Cumulocity  | Sensor not triggering   | Ensure the sensor can be triggered by checking that the sensor is securely installed.<br>Contact support if issue persists  |
|  | No cellular signal  | Check Status and Cellular LED.<br>If flashing, complete troubleshooting for a flashing Cellular LED.<br>Contact support if issue persists   |

## MAINTENANCE & SAFETY

### MAINTENANCE

The Captis device does not require any maintenance once installed. The Captis uses a non-rechargeable Lithium ION battery, and there are no user serviceable parts inside the device.

If you encounter any issues with the device during its standard operation, contact your support team.

### ELECTROMAGNETIC RADIATION – HUMAN EXPOSURE



***Warning: This device has a Maximum Permissible Exposure (MPE) radius of 20cm.***

It is the installer's and end customer's responsibility to ensure that no person has any body parts within 20cm of the device or antenna while device is transmitting. Device is transmitting when the 'Cellular' LED is lit.

### BATTERY HANDLING & DISPOSAL

This Captis devices uses a Lithium ION Battery.

The Captis device should not be tampered with, drilled directly into for mounting purposes, otherwise opened, or crushed. If necessary, the Captis device should only be disposed or destroyed of in a safe and environmentally compliant manner.

Visit the Australian Battery Recycling Initiative (ABRI): <https://batteryrecycling.org.au/recycle-batteries/why/find-a-recycler/> for more information on lithium battery disposal in your state and across Australia.

**Note: There are no user serviceable parts inside the Captis device.**

Opening the Captis device will void the device warranty, and could cause significant damage to the device.