AiM User Manual

TC Hub connection and configuration for AiM loggers

Release 1.02

1

Introduction

TC Hub is an external expansion module that allows to increase the number of thermocouples you can connect to an AiM logger reducing moreover the number of requested wiring. Its part number is: **X08TCHUBBM**.

TC Hub has four temperature inputs labelled "TEMP1", "TEMP2", "TEMP 3" and "TEMP 4". It communicates with AiM logger using AiM CAN network and supports **K type thermocouples** only.

More TC Hub can be connected to create a network. AiM network can support up to 16 expansion modules like GPS Module, Channel Expansion, TC Hub etc.

If the network includes SmartyCam an additional power source for the network is needed and this can be provided by a 2 or 4 ways Data Hub; this last one needs an external power cable whose part number is: **V02557020**. LCU One CAN can work as additional power supply to the network.
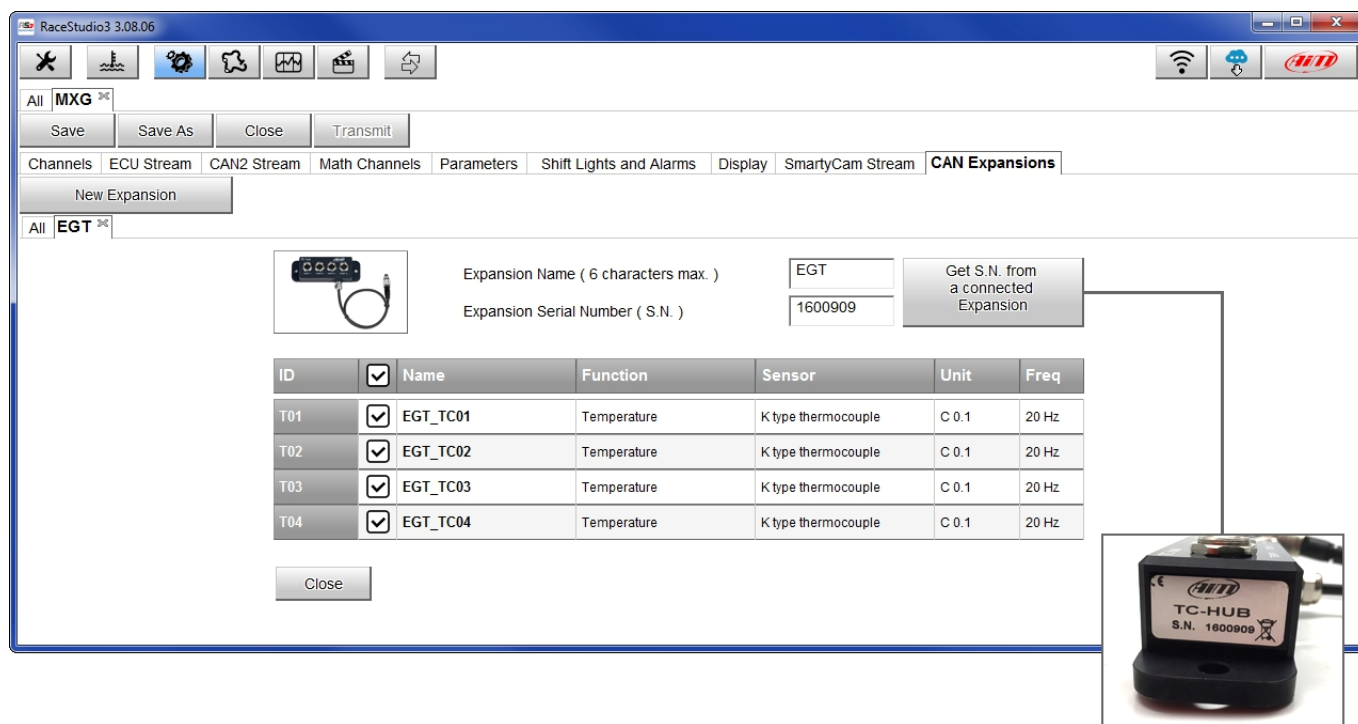
AiM recommends to install TC Hub far from heat sources and from electromagnetic interference sources.

2
Configuration

Before start using TC Hub you need to load it in the configuration of AiM logger it is connected to and then set it up.

To load TC Hub in AiM logger configuration:

- run Race Studio 3
- double click on the configuration "Channel Expansion" is to be added to or create a new one
- select "CAN Expansions" layer
- if that configuration has no loaded expansions "Expansions" panel shows up and you can select "TC Hub"; if the configuration already features one or more expansions pres "New expansion" and select "TC Hub "
- fill in the expansion name – 6 characters max; the name you fill in is by default added to the four channels name
- press "Get S.N. from a connected expansion" or fill in the serial number you find on the device side as shown here below and press "OK"

To set up TC Hub:
- click on one of the cell you want to configure
- channel configuration panel shows up; configure:
  - channel name
  - sampling frequency
  - measure unit
  - display precision

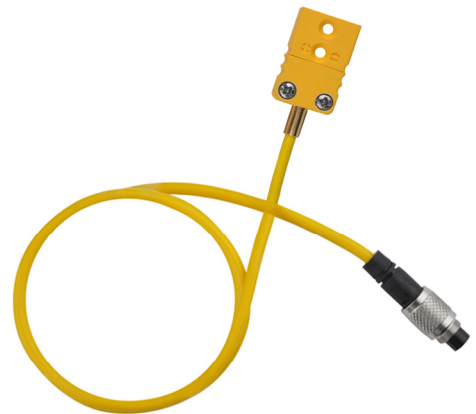TC Hub four channels are enabled by default.

3
Connection of the thermocouples

AiM thermocouples are all cabled with a male Mignon connector while TC Hub features a metallic Binder; this is why you need an extension cable. Available extension cables are from 100 to 300 cm but custom length are also available. The most used is shown here below:

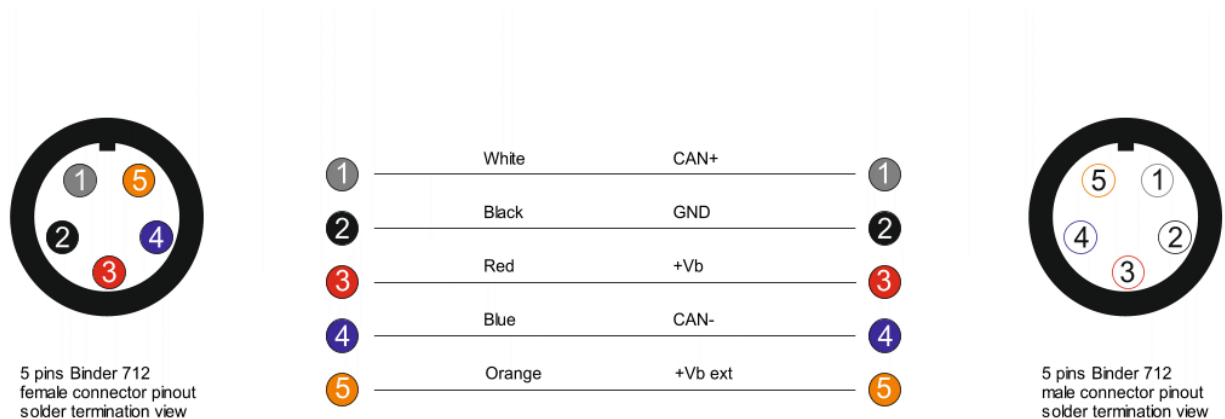- **V03CCB15M**: 150 cm [59.05 inches]

3.1
Connection of TC Hub to AiM logger

To connect TC Hub to AiM loggers a CAN extension cable is needed. Available extension cables are ranging from 50 to 350 cm. Ready to ship cables part numbers are:

- **V02552700**: 100 cm [39.37 inches]
- **V02552710**: 150 cm [59.05 inches]
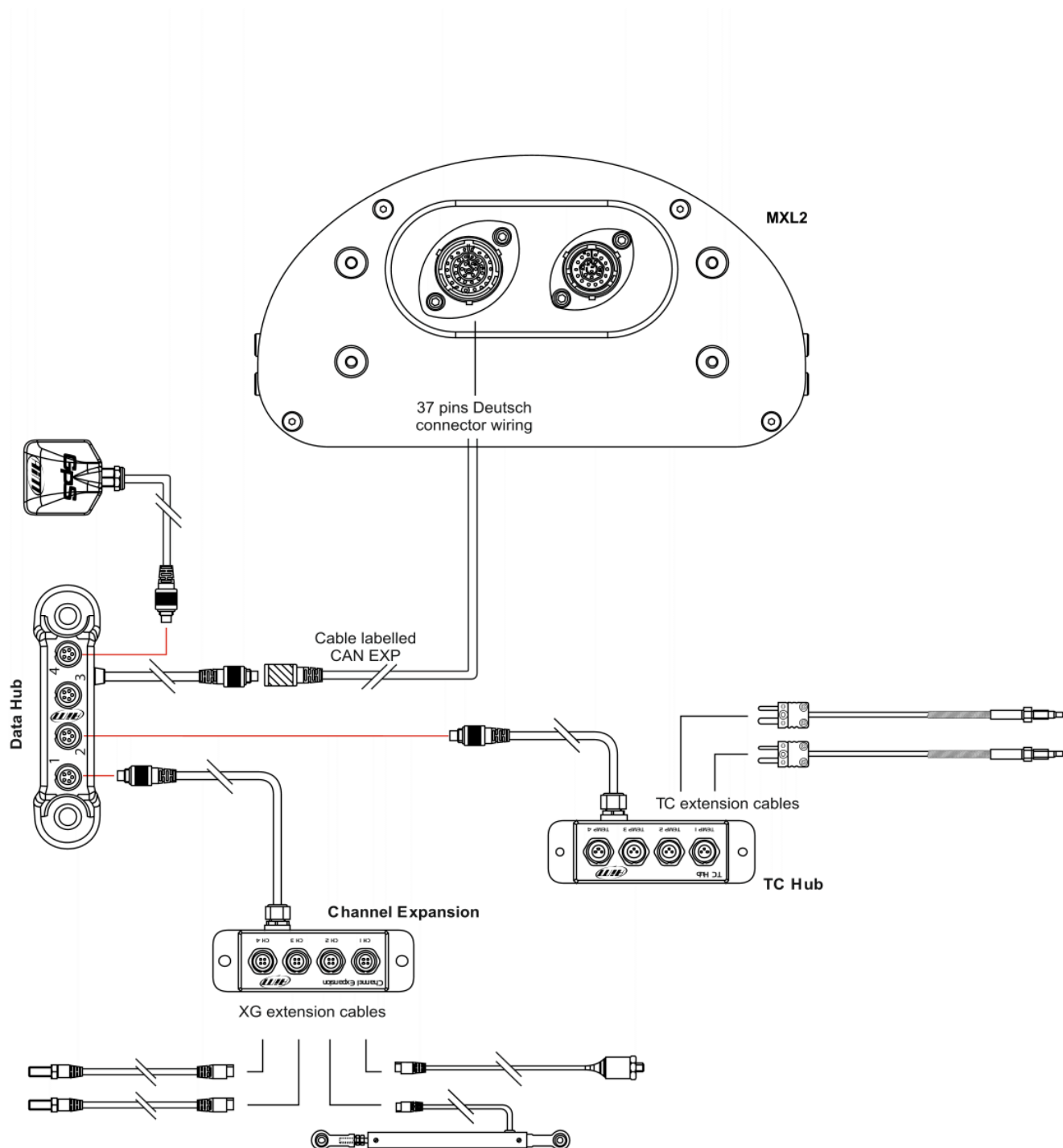- **V02552720**: 200 cm [78.74 inches]

The image below shows the CAN extension constructive scheme.

1	White	CAN+	1
2	Black	GND	2
3	Red	+Vb	3
4	Blue	CAN-	4
5	Orange	+Vb ext	5

5 pins Binder 712
female connector pinout
solder termination view

5 pins Binder 712
male connector pinout
solder termination view

To connect TC Hub to AiM loggers use:

- connector labelled "EXP" of EVO4
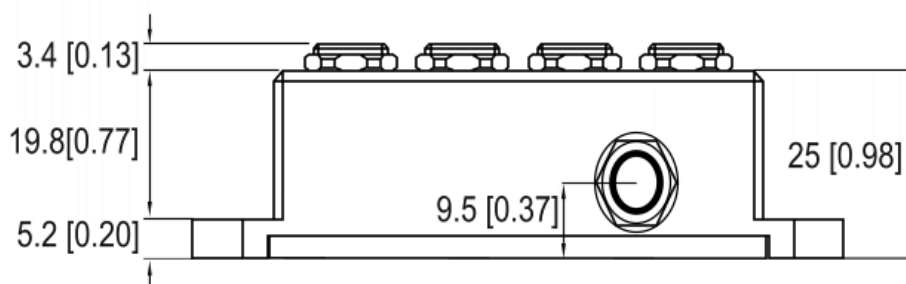- cable labelled "CAN EXP" of 37 pins Deutsch connector wiring of AiM logger.
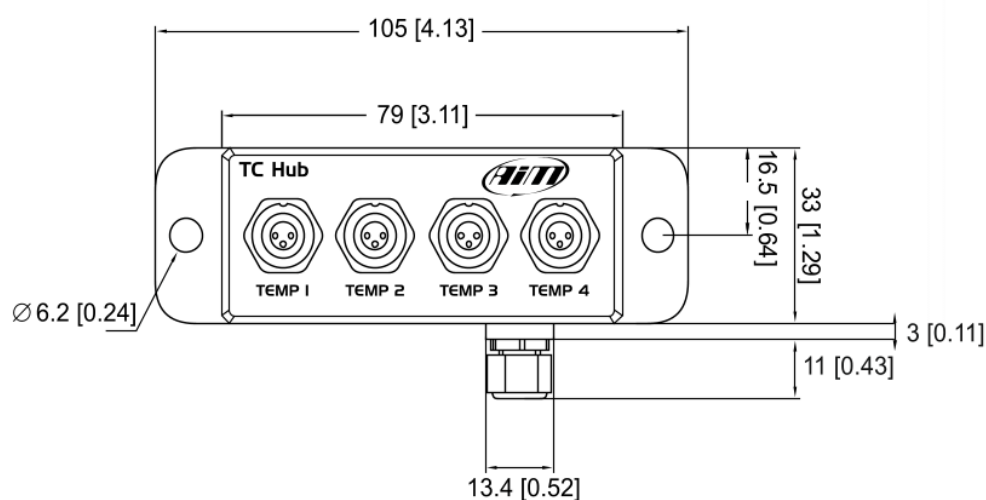
The image below shows an example of AiM network featuring an AiM logger and different external expansion modules with the related sensors.
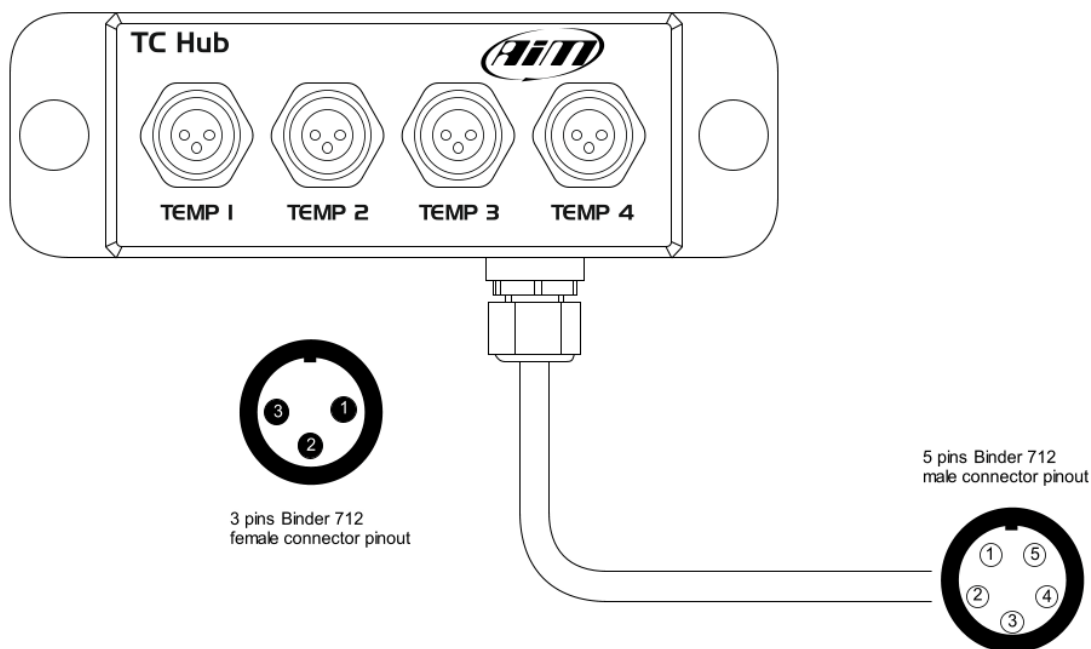
4
Dimensions, pinout and technical characteristics

TC Hub is sold with a 150mm (5.90 inches) cable. Images below shows TC Hub dimensions in mm [inches].

Here below is shown TC Hub pinout.

3 pins Binder 712
female connector pinout

5 pins Binder 712
male connector pinout

3 pins Binder 712 female connector pinout (TEMP 1, TEMP 2, TEMP 3, TEMP 4)		5 pins Binder 712 male connector pinout	
Pin	**Function**	**Pin**	**Function**
1	Thermocouple input	1	CAN+
2	GND	2	GND
3	Not connected	3	+VB
		4	CAN-
		5	+Vbext

TC Hub is waterproof **IP65**.
TC Hub cable length is 150 cm (5.90 inches).