

Mini Comms Hub Datasheet



The “Mini Comms Hub” or MCH allows complex communications between non-compatible CAN devices. It features twin Ethernet, 2 fully flexible CAN busses and real-time maths capability as well as 10 physical inputs and standalone logging as standard (with or without a Life Racing ECU).

The MCH device is available in two variants: MCH-T (Top side connector) and MCH-E (End side connector).

Processing:

- Powerful RISC CPU for advanced strategy execution
- Real time maths up to 8000 operators a second

Inputs:

- 6 user configurable general purpose analogue sensor inputs
- 4 dedicated digital switch inputs

Interfaces:

- Twin 100 MHz full duplex Ethernet for calibration, configuration and ECU streaming
- Twin CAN 2.0B interfaces with fully flexible CAN configuration
- RS232 serial interface

Memory:

- 1GB onboard logging memory either standalone or streaming from an LR ECU
- External USB connection for expanded logging capacity

Power Supply:

- 8V to 80V input voltage range with reverse polarity protection
- Regulated 5V sensor supply output

Physical:

- 1x Souriau '8STA' High Density 43 pin connector
- CNC machined, black anodised aluminium case
- Maximum dimensions including the connectors are:
 - MCH-T: 113 x 87.5 x 42.55 mm
 - MCH-E: *To follow*
- Total mass ~235 grams

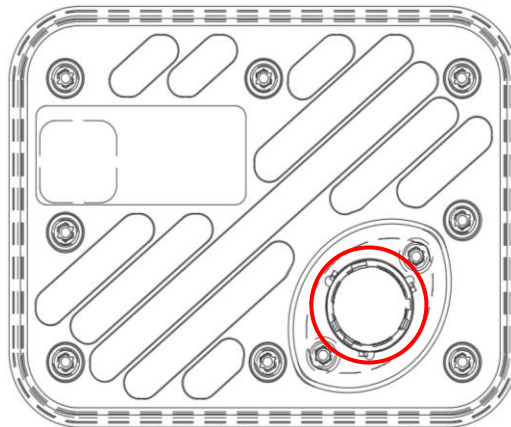
Ordering Information:

| Description | Part number |
|--|-------------|
| Mini Comms Hub – Top Connector (MCH-T) | ANC-A11 |
| Mini Comms Hub – End Connector (MCH-E) | ANC-A12 |
| MCH-T/E Connector Kit | CON-A21 |

Wiring Information:

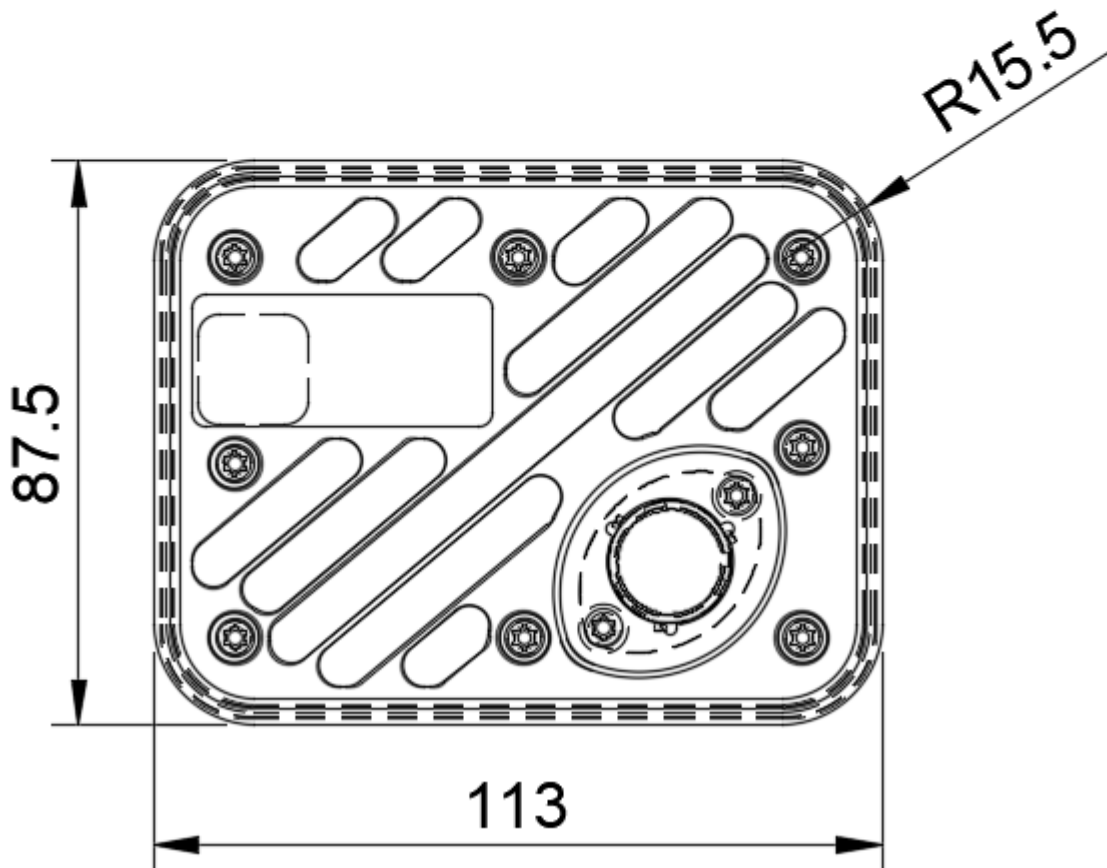
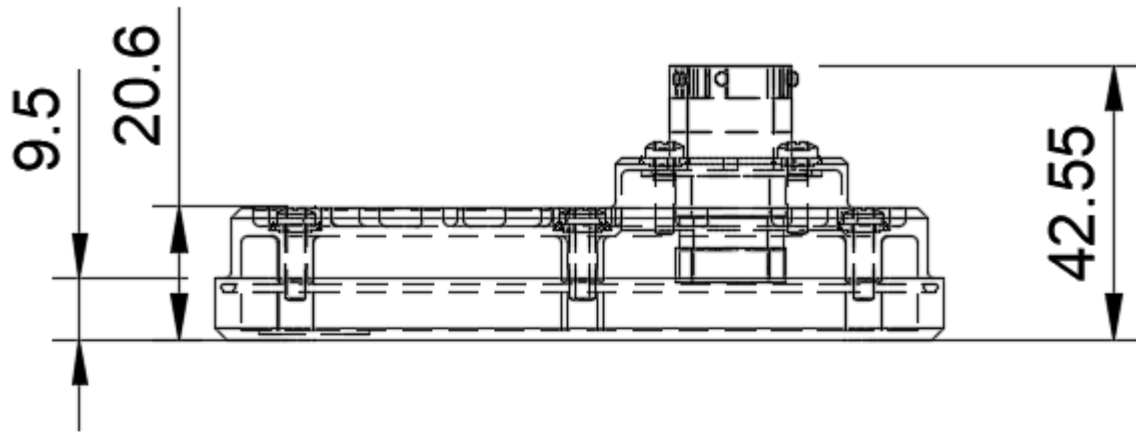
Connector 1

Mating connector: 8STA6-12-43PN

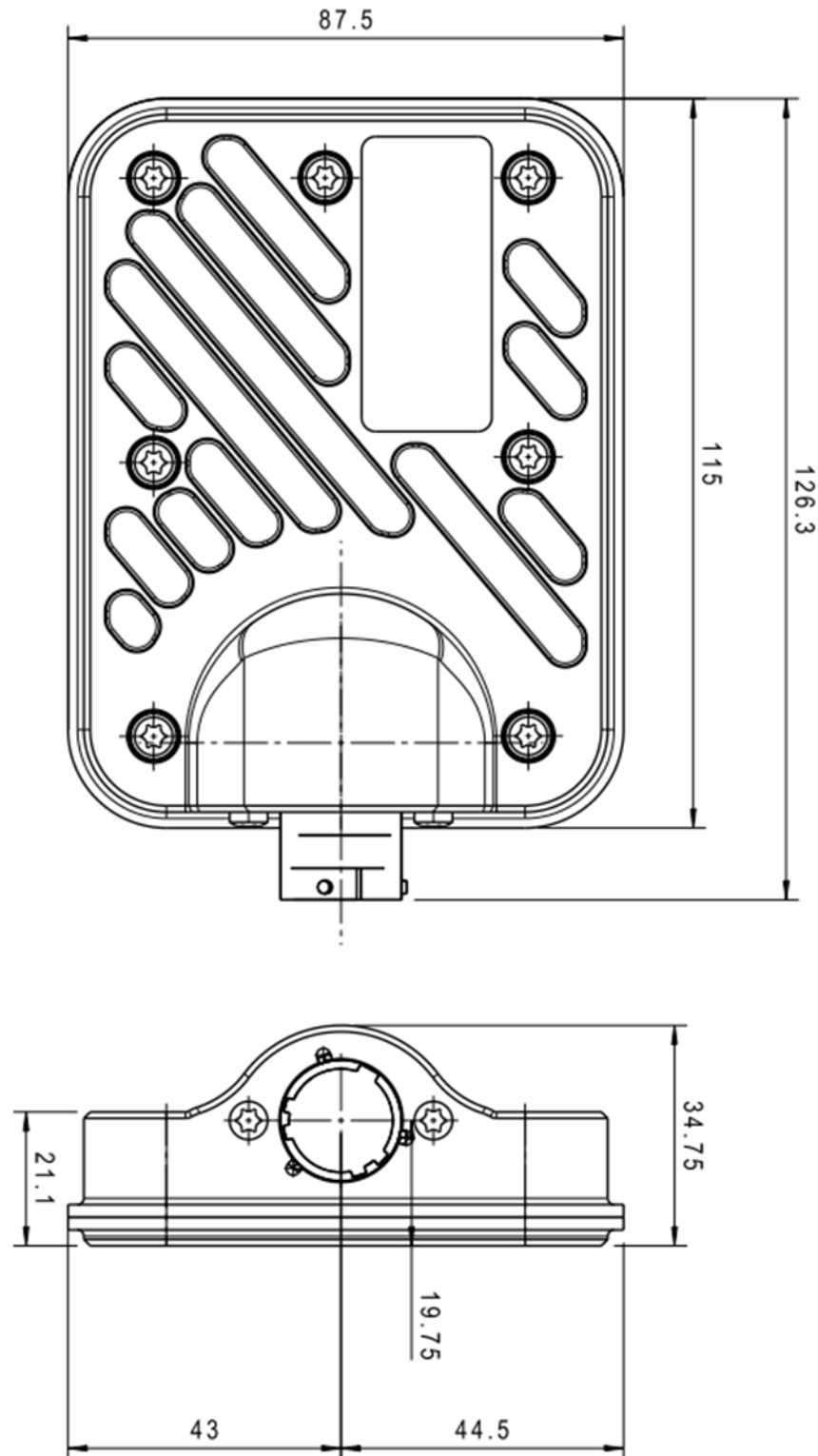


| Pin | Gauge | Signal Name | Signal Notes |
|-----|--------|-------------------|--|
| 1 | 26 AWG | MCHL +12V | Positive power supply |
| 2 | 26 AWG | MCHL GND | Negative power supply |
| 3 | 26 AWG | CAN #01 HI | CAN Communication Port |
| 4 | 26 AWG | CAN #01 LO | CAN Communication Port |
| 5 | 26 AWG | CAN #02 HI | CAN Communication Port |
| 6 | 26 AWG | CAN #02 LO | CAN Communication Port |
| 7 | 26 AWG | ETHERNET1 TX- | Ethernet Communication Port |
| 8 | 26 AWG | ETHERNET1 TX+ | Ethernet Communication Port |
| 9 | 26 AWG | ETHERNET1 RX- | Ethernet Communication Port |
| 10 | 26 AWG | ETHERNET1 RX+ | Ethernet Communication Port |
| 11 | 26 AWG | ETHERNET2 TX- | Ethernet Communication Port |
| 12 | 26 AWG | ETHERNET2 TX+ | Ethernet Communication Port |
| 13 | 26 AWG | ETHERNET2 RX- | Ethernet Communication Port |
| 14 | 26 AWG | ETHERNET2 RX+ | Ethernet Communication Port |
| 15 | 26 AWG | RS232 RX | RS232 receive |
| 16 | 26 AWG | RS232 TX | RS232 transmit |
| 17 | 26 AWG | 5V OUT | Regulated 5V sensor supply |
| 18 | 26 AWG | ANA GND | Protected sensor ground |
| 19 | 26 AWG | INPUT #01 (5V/TH) | Analogue input 0-5V, 3K software pullup to 5V |
| 20 | 26 AWG | INPUT #02 (5V/TH) | Analogue input 0-5V, 3K software pullup to 5V |
| 21 | 26 AWG | INPUT #03 (5V/TH) | Analogue input 0-5V, 3K software pullup to 5V |
| 22 | 26 AWG | INPUT #04 (5V/TH) | Analogue input 0-5V, 3K software pullup to 5V |
| 23 | 26 AWG | INPUT #05 (5V) | Analogue input 0-5V |
| 24 | 26 AWG | INPUT #06 (5V) | Analogue input 0-5V |
| 25 | 26 AWG | SWITCH INPUT #01 | All switch inputs feature a 10k pullup to 3.3V |
| 26 | 26 AWG | SWITCH INPUT #02 | All switch inputs feature a 10k pullup to 3.3V |
| 27 | 26 AWG | SWITCH INPUT #03 | All switch inputs feature a 10k pullup to 3.3V |
| 28 | 26 AWG | SWITCH INPUT #04 | All switch inputs feature a 10k pullup to 3.3V |
| 29 | 26 AWG | USB D+ | External USB Connection Port |
| 30 | 26 AWG | USB D- | External USB Connection Port |
| 31 | 26 AWG | USB GND | External USB Connection Port |
| 32 | 26 AWG | USB VCC | External USB Connection Port |
| 33 | 26 AWG | USB SCREEN GND | External USB Connection Port |
| 34 | 26 AWG | USB SCREEN GND | External USB Connection Port |
| 35 | 26 AWG | USB SCREEN GND | External USB Connection Port |
| 36 | 26 AWG | DO NOT CONNECT | DO NOT CONNECT |
| 37 | 26 AWG | DO NOT CONNECT | DO NOT CONNECT |
| 38 | 26 AWG | DO NOT CONNECT | DO NOT CONNECT |
| 39 | 26 AWG | DO NOT CONNECT | DO NOT CONNECT |
| 40 | 26 AWG | DO NOT CONNECT | DO NOT CONNECT |
| 41 | 26 AWG | DO NOT CONNECT | DO NOT CONNECT |
| 42 | 26 AWG | DO NOT CONNECT | DO NOT CONNECT |
| 43 | 26 AWG | DO NOT CONNECT | DO NOT CONNECT |

MCH-T Dimensions:



MCH-E Dimensions:



Warranty and Servicing:

- 1-year limited warranty when used within supplied specification.