EV3 Enclosure Connections

Documents plug requirements and connections for primary enclosures

IMD front sense connection, accumulator to dash

Rear of car sense, REN

Combining cooling and vehicle power into 3 instead of 4 lines

# Connector Summary

## Pedalbox

## Dash

* 1 x Size 12 - 10 x size 20 contacts
* 1 x Size 14 - 19 x size 20 contacts
* 3 x Size 10 – 6 x size 20 contacts

## RCH

* 1 x Size 12 - 10 x size 20 contacts
* 5 x Size 10 – 6 x size 20 contacts
* 1 x Size 14 - 19 x size 20 contacts

## Toblerone

* 1 x Size 10 – 6 x size 20 contacts

## HVD

* 3 x Size 14 - 19 x size 20 contacts

## Accumulator

* 1 x Size 14 - 19 x size 20 contacts

## Other

* Firewall Bulkhead?

T.1.8.4 Details  
a. Firewalls composed of multiple panels must be sealed at the joints  
b. Grommets must be used to seal any pass through for wiring, cables, etc  
c. Any seals or adhesives used with the firewall must be rated for the application  
environment

## Total Connector Count

|  |  |
| --- | --- |
| **Connector** | **Amount** |
| Size 10 – 6 x size 20 contacts | 9 |
| Size 12 - 10 x size 20 contacts | 2 |
| Size 14 - 19 x size 20 contacts | 6 |

# Loom Connections

A List of each node to node connection and the required plug on each enclosure(s)

## DASH – RCH

RCH: Size 12 - 10 x size 20 contacts

DASH: Size 12 - 10 x size 20 contacts

9 Connections:

* 12 V
* GND
* SHUTDOWN
* BSPD\_OK
* CAN\_HIGH
* CAN\_LOW
* BSPD\_CURRENT
* BSPD\_REFERENCE
* IMD\_GND\_FRNT

## DASH – PEDALBOX

DASH: Size 14 - 19 x size 20 contacts

9 Connections:

* CAN\_HIGH
* CAN\_LOW
* 12V
* GND
* BSPD\_CURRENT
* BSPD\_REFERENCE
* BSPD\_OK
* SHUTDOWN\_IN\_BOTS
* SHUTDOWN\_OUT\_BOTS
* SHUTDOWN\_IN\_IS
* SHUTDOWN\_OUT\_IS

## DASH – SENSORHUB (X2)

DASH: Size 10 – 6 x size 20 contacts

4 Connections:

* Power
* GND
* CAN\_HIGH
* CAN\_LOW

## DASH – STEERINGWHEEL

DASH: Size 10 – 6 x size 20 contacts

4 Connections:

* Power
* GND
* CAN\_HIGH
* CAN\_LOW

## RCH – TOBLERONE

RCH: Size 10 – 6 x size 20 contacts

TOBLERONE: Size 10 – 6 x size 20 contacts

4 Connections:

* TSAL+
* TSAL-
* SHUTDOWN\_IN
* SHUTDOWN\_OUT

## RCH – SENSORHUB (X2)

RCH: Size 10 – 6 x size 20 contacts

4 Connections:

* Power
* GND
* CAN\_HIGH
* CAN\_LOW

## RCH – MOTORCOOL (X2)

RCH: Size 12 – 10 x size 20 contacts

8 Connections:

* Pump+
* Pump-
* Fan+
* Fan-
* Thermocouple +1
* Thermocouple -1
* Thermocouple +2
* Thermocouple -2

## RCH – HVD

RCH: Size 14 - 19 x size 20 contacts

HVD: Size 14 - 19 x size 20 contacts

17 Connections:

* 12 V
* GND
* STARTER
* SHUTDOWN
* BSPD\_OK
* CAN\_HIGH
* CAN\_LOW
* BSPD\_CURRENT
* BSPD\_REFERENCE
* COOL\_PWR1
* COOL\_PWR2
* COOL\_PWR3
* COOL\_GND1
* COOL\_GND2
* COOL\_GND3
* IMD\_GND\_FRNT
* IMD\_GND\_REAR

## HVD – CONTROLLERS

HVD: Size 14 - 19 x size 20 contacts

18 Connections:

* 12V\_LEFT
* GND\_LEFT
* CAN\_HIGH\_LEFT
* CAN\_LOW\_LEFT
* RFE\_LEFT
* RUN\_LEFT
* AGND\_LEFT
* RTR\_IN\_LEFT
* RTR\_OUT\_LEFT
* 12V\_RIGHT
* GND\_RIGHT
* CAN\_HIGH\_RIGHT
* CAN\_LOW\_RIGHT
* RFE\_RIGHT
* RUN\_RIGHT
* AGND\_RIGHT
* RTR\_IN\_RIGHT
* RTR\_OUT\_RIGHT

## HVD – ACCUMULATOR

HVD: Size 14 - 19 x size 20 contacts

ACCUMULATOR: Size 14 - 19 x size 20 contacts

19 Connections:

* 12 V
* GND
* STARTER
* SHUTDOWN
* BMS\_OK
* PRECHARGE\_OK
* IMD\_OK
* CAN\_HIGH
* CAN\_LOW
* BSPD\_CURRENT
* BSPD\_REFERENCE
* COOL\_PWR1
* COOL\_PWR2
* COOL\_PWR3
* COOL\_GND1
* COOL\_GND2
* COOL\_GND3
* IMD\_GND\_FRNT
* IMD\_GND\_REAR