EV3 Enclosure Connections

Documents plug requirements and connections for primary enclosures.

Discuss charger and HV configurations

Toblerone?

Cooling nodes require plug or wired straight to elements?

## Total Connector Count

Refer to PowerPoint document for visual guide of plug count and configurations.

Each count refers to a plug and socket mating pair.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Connector** | **Quantity and Configuration** | | | |
|  | **A** | **B** | **C** | **D** |
| Size 10 - 6 x size 20 contacts | 10 | 6 |  |  |
| Size 12 - 10 x size 20 contacts | 6 | 2 |  |  |
| Size 14 - 19 x size 20 contacts | 1 | 2 | 2 |  |
| Size 22 – ASHD 2x#4 3x#20 |  |  |  | 4 |

## Connector Configurations

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Configuration** | **A** | **B** | **C** | **D** |
| Keyway | N | A | N | N |
| Socket-Pin Arrangement | Pin-receptacle  Socket-plug | Pin-receptacle  Socket-plug | Socket-receptacle  Pin-plug | Pin-receptacle  Socket-plug |

# Main Trunk

Accumulator – HVD – REN - Dash

## ACCUMULATOR - HVD

Size 14 - 19 x size 20 contacts

19 Connections:

* 12\_V\_1
* GND\_1
* 12\_V\_2
* GND\_2
* 12\_V\_3
* GND\_3
* STARTER
* SHUTDOWN
* BMS\_OK
* PRECHARGE\_OK
* IMD\_OK
* CAN\_HIGH\_1
* CAN\_LOW\_1
* CAN\_HIGH\_2
* CAN\_LOW\_2
* BSPD\_CURRENT\_THRESHOLD
* BSPD\_ CURRENT\_~OCSC
* IMD\_GND\_FRNT
* IMD\_GND\_REAR

## HVD - REN

Size 14 - 19 x size 20 contacts

16 Connections:

* 12\_V\_1
* GND\_1
* 12\_V\_2
* GND\_2
* 12\_V\_3
* GND\_3
* SHUTDOWN
* CAN\_HIGH\_1
* CAN\_LOW\_1
* CAN\_HIGH\_2
* CAN\_LOW\_2
* BSPD\_ PRESSURE\_THRESHOLD
* BSPD\_ PRESSURE\_~OCSC
* IMD\_GND\_FRNT
* IMD\_GND\_REAR
* STARTER

## REN - DASH

Size 12 - 10 x size 20 contacts

10 Connections:

* 12 V
* GND
* SHUTDOWN
* CAN\_HIGH\_1
* CAN\_LOW\_1
* CAN\_HIGH\_2
* CAN\_LOW\_2
* BSPD\_ PRESSURE\_THRESHOLD
* BSPD\_ PRESSURE\_~OCSC
* IMD\_GND\_FRNT

# HVD Branches

## HVD – CONTROLLERS

Size 14 - 19 x size 20 contacts

18 Connections:

## Section 1:

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

## Section 2:

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

# REN Branches

## REN – TOBLERONE

Size 10 – 6 x size 20 contacts

Possibly Branch?

4 Connections:

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

## REN – SHORE

Size 10 – 6 x size 20 contacts

6 Connections:

* 12 V
* GND
* CAN\_HIGH
* CAN\_LOW
* SHORE\_SENSE\_1
* SHORE\_SENSE\_2

## REN – SENSORHUB (X2)

Size 10 – 6 x size 20 contacts

4 Connections:

* 12 V
* GND
* CAN\_HIGH
* CAN\_LOW

## REN – MoTeC

Size 10 – 6 x size 20 contacts

4 Connections:

* 12 V
* GND
* CAN\_HIGH
* CAN\_LOW

## REN – MOTORCOOL (X2)

Size 12 – 10 x size 20 contacts

8 Connections:

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

# Dashboard Branches

## DASH – PEDALBOX

Size 12 - 10 x size 20 contacts

10 Connections:

### Section 1

* CAN\_HIGH
* CAN\_LOW
* 12V
* GND
* BSPD\_ PRESSURE\_THRESHOLD
* BSPD\_ PRESSURE\_~OCSC
* SHUTDOWN\_IN\_BOTS
* SHUTDOWN\_OUT\_BOTS

### Section 2

* SHUTDOWN\_IN\_IS
* SHUTDOWN\_OUT\_IS

## DASH – SENSORHUB (X2)

Size 10 – 6 x size 20 contacts

4 Connections:

* 12 V
* GND
* CAN\_HIGH
* CAN\_LOW

## DASH – STEERINGWHEEL

Size 10 – 6 x size 20 contacts

4 Connections:

* 5 V
* GND
* CAN\_HIGH
* CAN\_LOW

# HV Connections

## ACCUMULATOR – HVD

Size 22 ASHD

## ACCUMULATOR - CHARGER

4x16 or 10x20 size contacts?

Size 12 - ? x size ? contacts

## HVD – CONTROLLER L

Size 22 ASHD

## HVD – CONTROLLER R

Size 22 ASHD