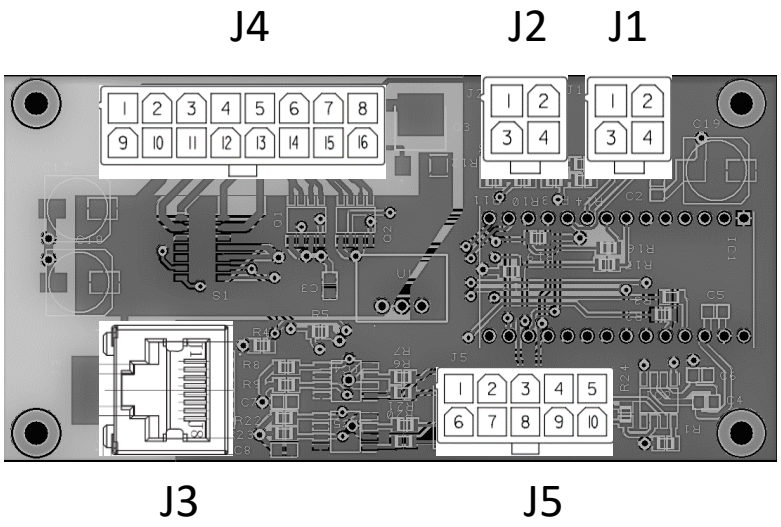
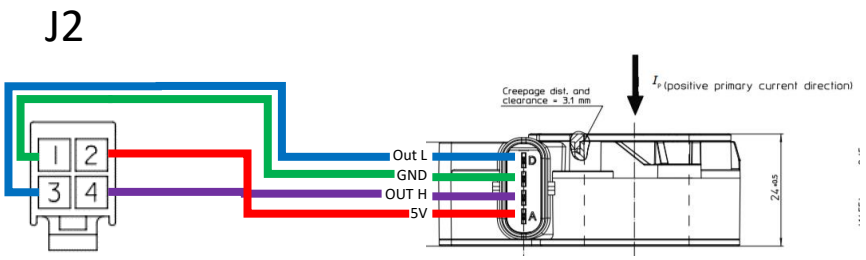
SIMP-BMS V2.1 – Wiring Basics

By T de Bree
18/08/18



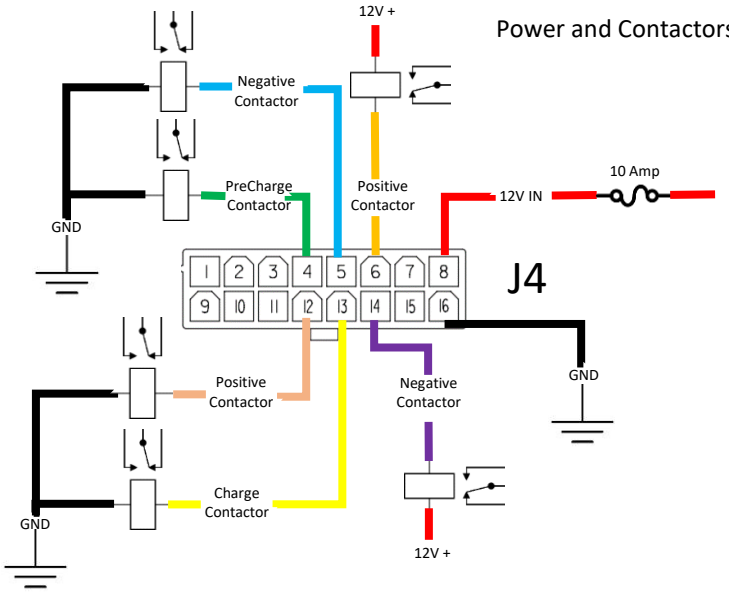
BMS Slaves : see pages below

Analogue Current Sensor

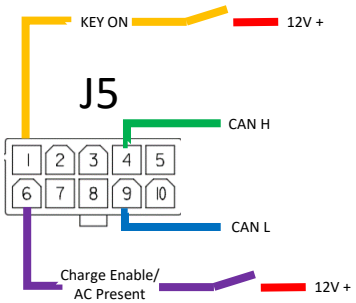


Example DHAB S/161

Power and Contactors



Input and Comms



KEY ON or CHARGE ENABLE, can be fed with 5-16V.
Need to be constant signal not a pulse

No CAN termination resistor present on SIMP-BMS

CAN H and L shared with J3

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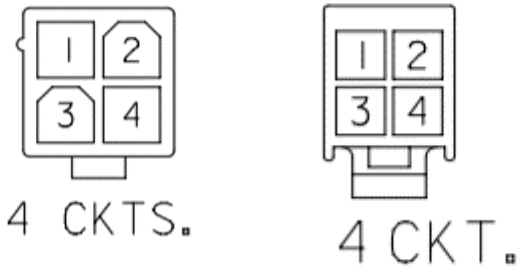
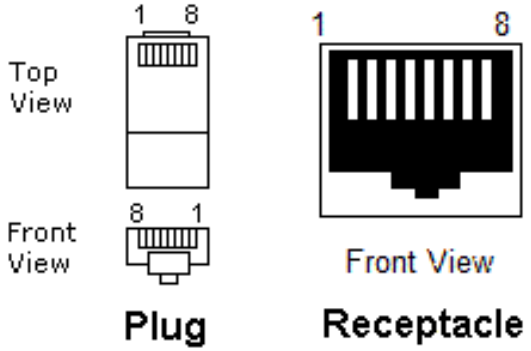
Connector 1	Tesla BMS
Supplier	Molex
Family	Mini fit 4 way
Part no	39-28-x04x
Harness Part	39-01-x04x

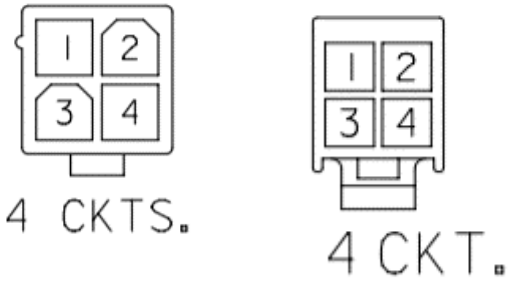
Pin	Function
1	GND
2	5V
3	RXbms
4	TXbms





Connector 2	Current Sensor
Supplier	Molex
Family	Mini fit 4 way
Part no	39-28-x04x
Harness Part	39-01-x04x

Pin	Function
1	GND
2	5V
3	Current 1
4	Current 2



Connector 3	Comms
Supplier	-
Family	RJ45
Part no	-
Harness Part	-

Pin	Function
1	GND
2	12V
3	
4	12V
5	GND
6	
7	CanH
8	CanL

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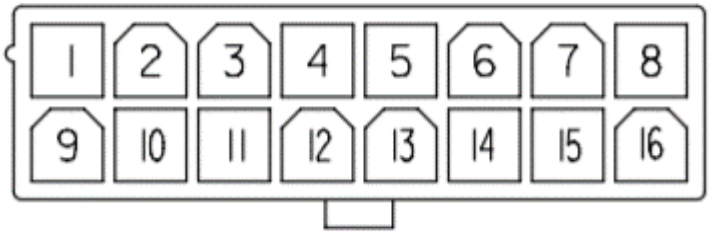

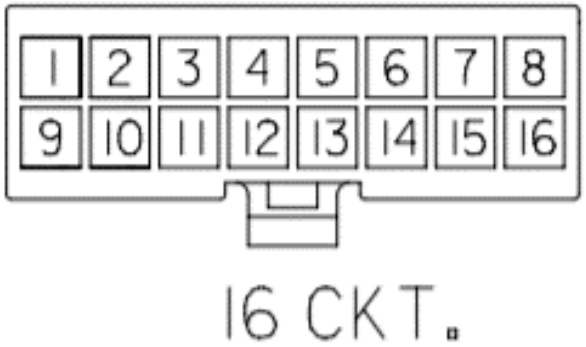

Connector 4	IO
Supplier	Molex
Family	Mini fit 10 way
Part no	39-28-x16x
Harness Part	39-01-x16x

Pin	Function	Switching	Type	V2 Normal usage	ESS Mode
1	5V Out	-	Supply	-	-
2	GND	-	Ground	-	-
3	GND	-	Ground	-	-
4	Out 2	High	Output	Precharge Cont	*Cooling Demand**
5	Out 4	High	Output	Negative Cont	*Heating Demand**
6	Out 6	Low	Output	Positive Cont	Charge Enable
7	Out 7	Low	Output	-	Negative Cont
8	12V IN	-	Power	Fused 12V IN	Fused 12V IN
9	12V	-	Supply	-	-
10	12V	-	Supply	-	-
11	12V	-	Supply	-	-
12	Out 1	High	Output	Positive Cont	Discharge Enable
13	Out 3	High	Output	Charge Cont	Charge Enable
14	Out 5	Low	Output	Negative Cont	Discharge Enable
15	Out 8	Low	Output	Gauge Out	Gauge Out
16	GND	-	Ground		

Function	Pin	Pin	Function
12V IN	8	16	GND
Out 7	7	15	Out 8
Out 6	6	14	Out 5
Out 4	5	13	Out 3
Out 2	4	12	Out 1
GND	3	11	12V
GND	2	10	12V
5V	1	9	12V

*to be implemented

SIMP-BMS V2.1 – Wiring Basics

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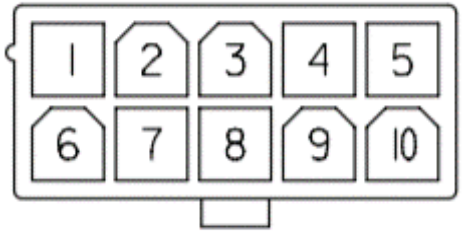

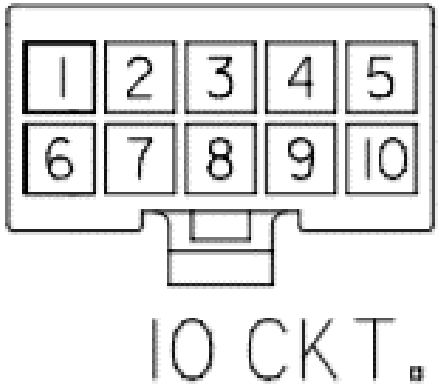

Connector 5	Comms
Supplier	Molex
Family	Mini fit 8 way
Part no	39-28-x10x
Harness Part	39-01-x10x

Pin	Function	Switching	Type	V2 Normal usage	ESS Mode
1	In 1	High	Input	Key on	Storage Mode
2	In 2	High	Input	AC present	-
3	Txspare	-	Comms	-	-
4	CanH	-	Comms	Can	Can
5	5V Out	-	Supply	-	-
6	In 3	High	Input	-	-
7	In 4	High	Input	-	-
8	Rxspare	-	Comms	-	-
9	CanL	-	Comms	Can	Can
10	GND	-	Ground		

Function	Pin	Pin	Function
In 3	6	1	In 1
In 4	7	2	In 2
Rxspare	8	3	Txspare
CanL	9	4	CanH
GND	10	5	5V

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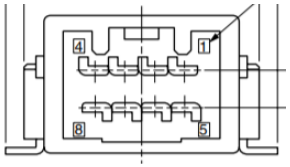
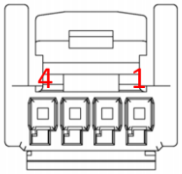
Can Bus Devices

Outlander CMU conncetor	
Supplier	JST
Part No	08CPT-B-2A



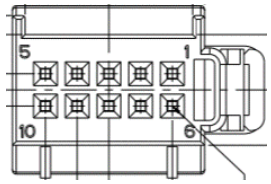
Function	Outlander Slave		SimpBMS	
	Connector	Pin	Connector	Pin
GND	X1	6	X4	2
12V	X1	4	X4	9
CAN L	X1	1	X5	9
CAN H	X1	5	X5	4

CAB 300	
Supplier	TE
Part No	1473672-1



Function	CAB 300		SimpBMS	
	Connector	Pin	Connector	Pin
GND	X1	3	X4	2
12V	X1	4	X4	9
CAN L	X1	1	X5	9
CAN H	X1	2	X5	4

VW Slave conncetor	
Supplier	TE
Part No	1-1670990-1



Function	VW Slave		SimpBMS	
	Connector	Pin	Connector	Pin
GND	X1	1	X4	2
12V	X1	5	X4	9
CAN H	X1	6	X5	9
CAN L	X1	7	X5	4
Enable	X1	3	X4	9

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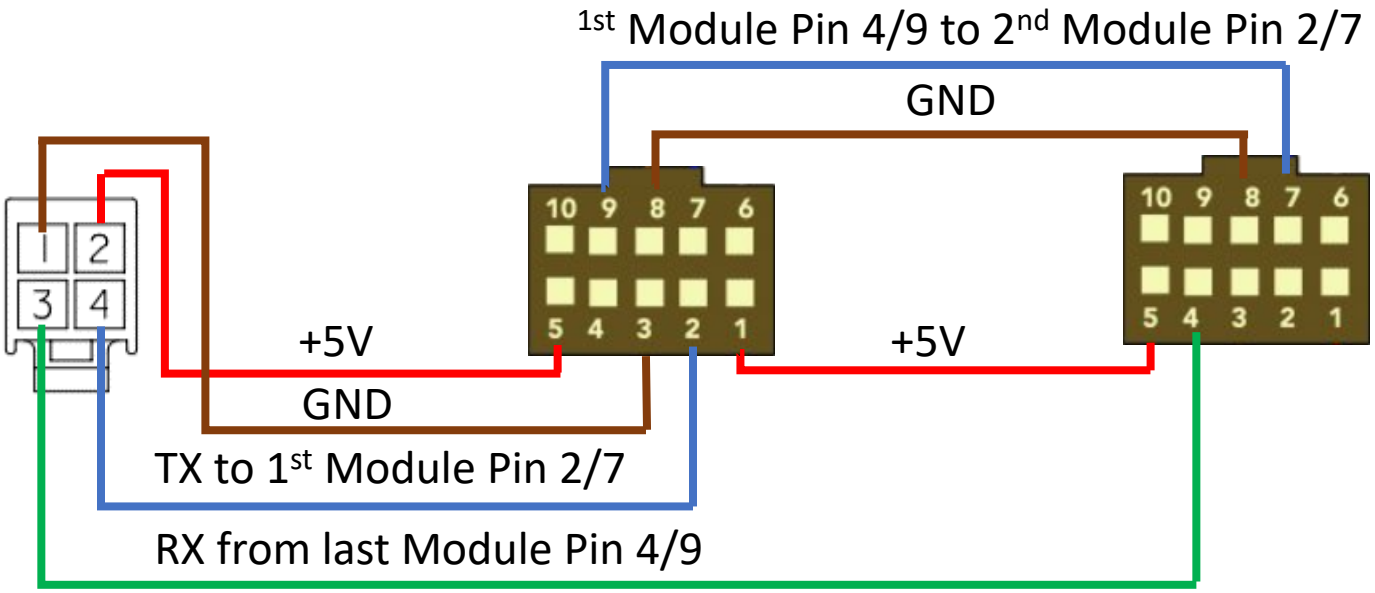
Tesla Slaves



Connector 1	Tesla BMS
Supplier	Molex
Family	Mini fit 4 way
Part no	39-28-x04x
Harness Part	39-01-x04x

Pin	Function
1	GND
2	5V
3	RXbms
4	TXbms