



# Ryder Towing Equipment Ltd

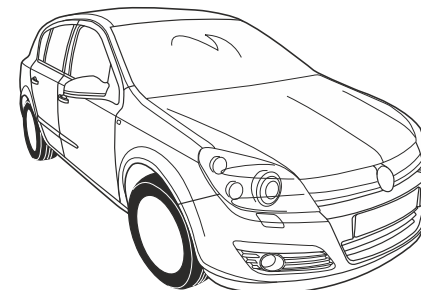
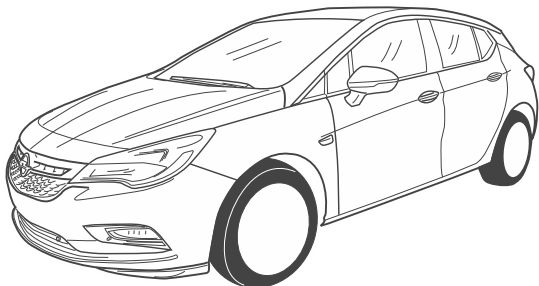
Vehicle-Specific Towing Electrical Kits

**TF2352GM**

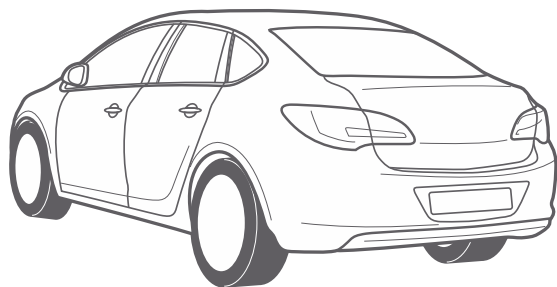
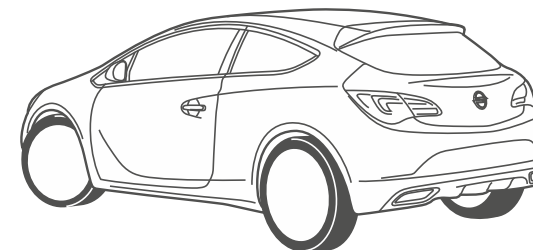
**Opel/Vauxhall Astra H Hatchback, Station Wagon, GTC 2005>2012**

**Opel/Vauxhall Astra J Hatchback, Station Wagon, GTC, Sedan 2009>2016**

**Opel/Vauxhall Astra K Hatchback, Sports Tourer 2015>**



Caravan Auxiliary (12S) function is built in  
Installation is simple and quick - no need to "take the vehicle apart".  
High-quality connections throughout are easy and uncomplicated



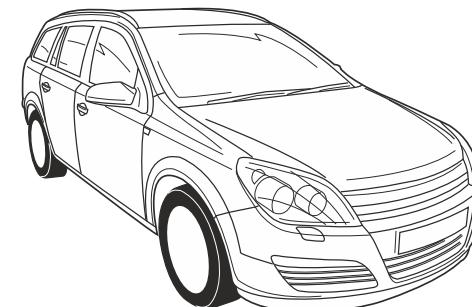
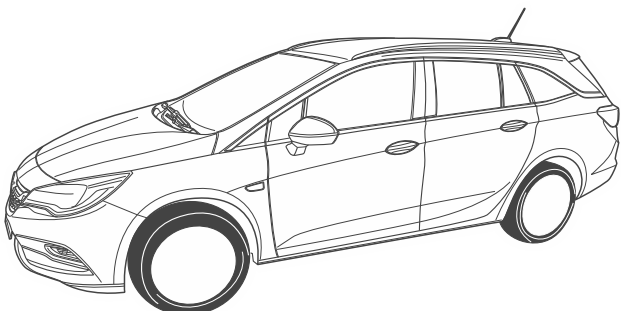
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Fully compatible with vehicle management systems to activate all vehicle safety features  
Type approved and built to OEM standards  
Instructions are easy to follow

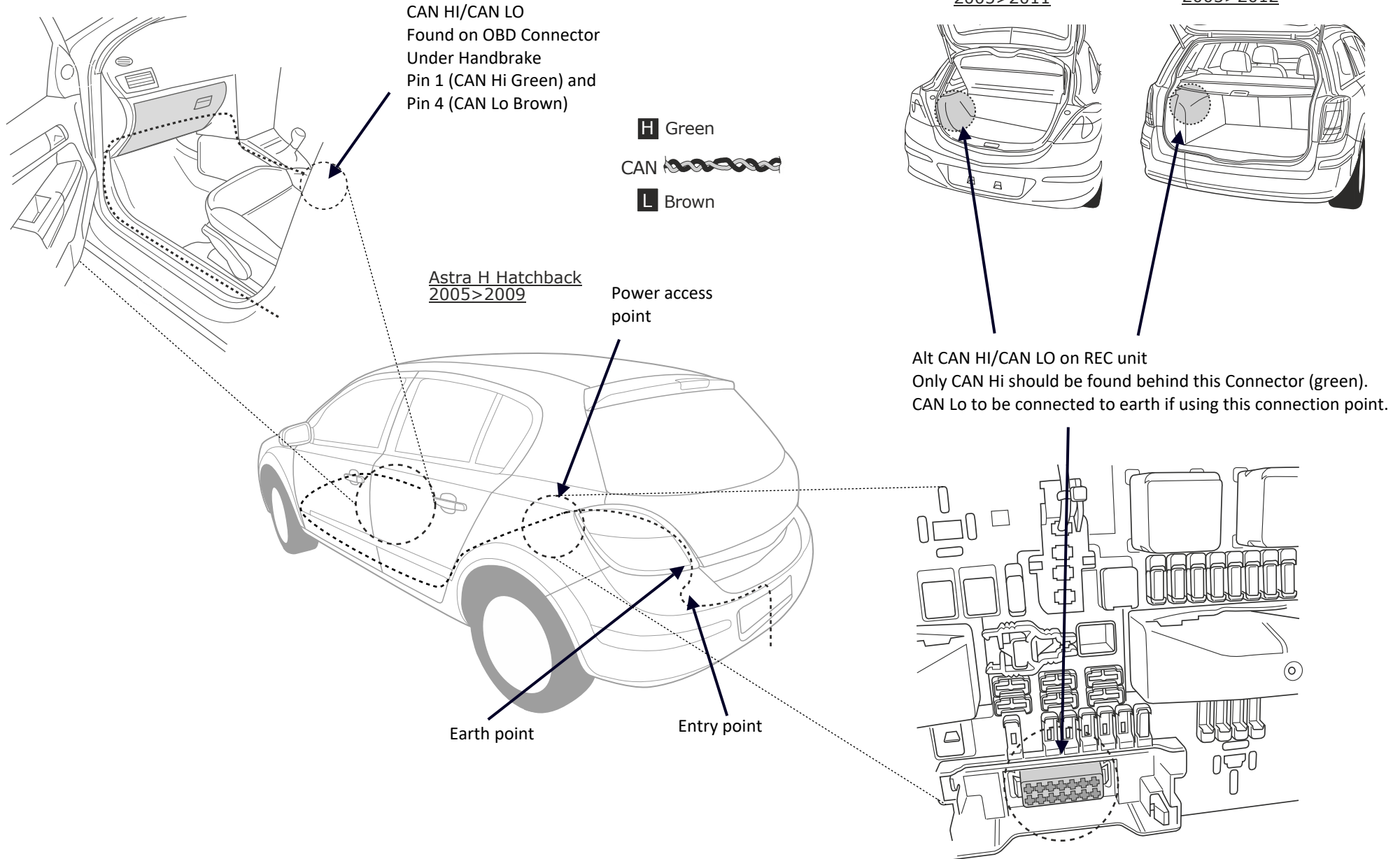
**Ryder Towing**

*Quality – Service – Innovation*



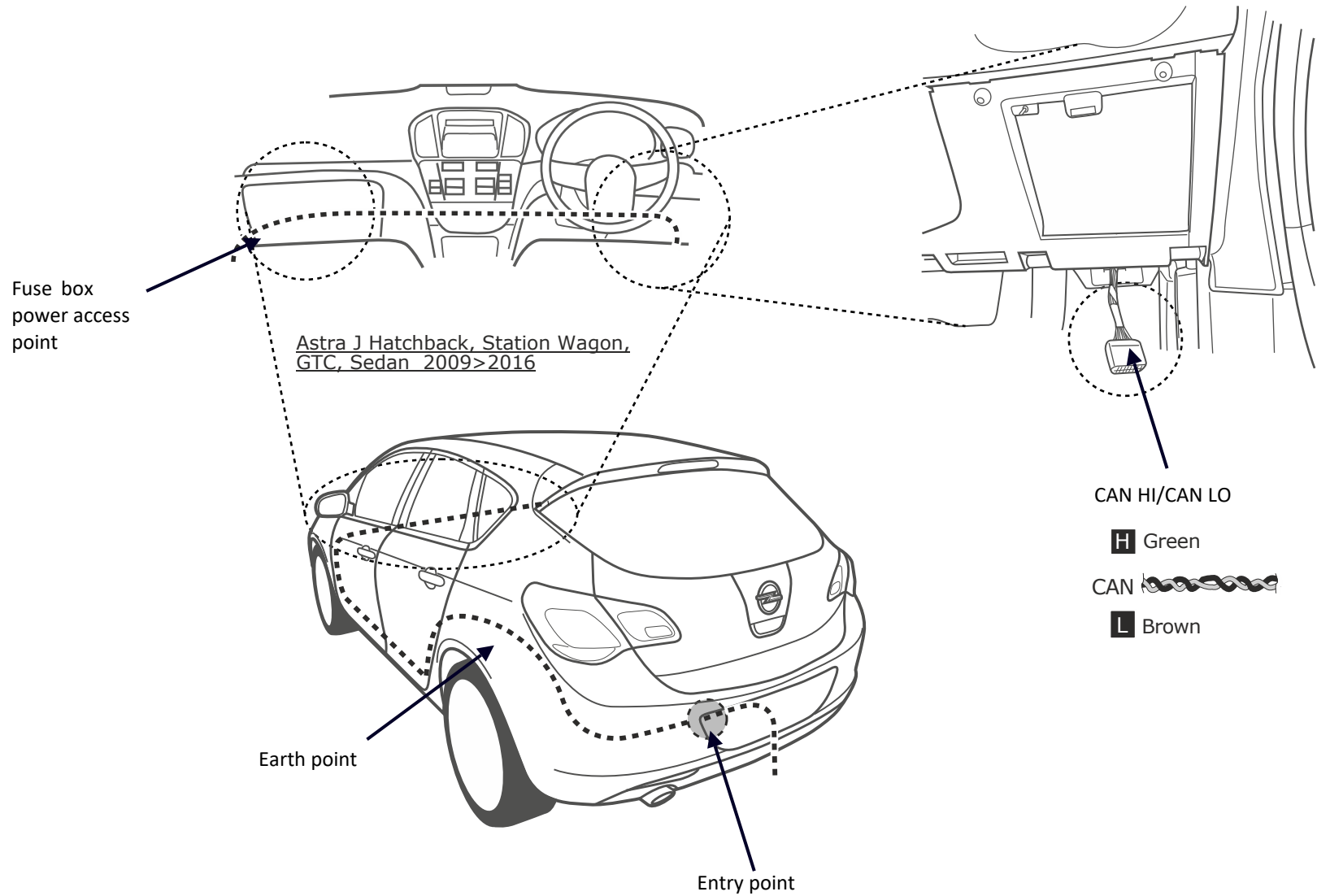
# TF2352GM

## Cable routing, CAN & power connections Vauxhall/Opel Astra H Hatchback, Station Wagon, GTC 2005>2012 +REC (Rear Electric Centre)



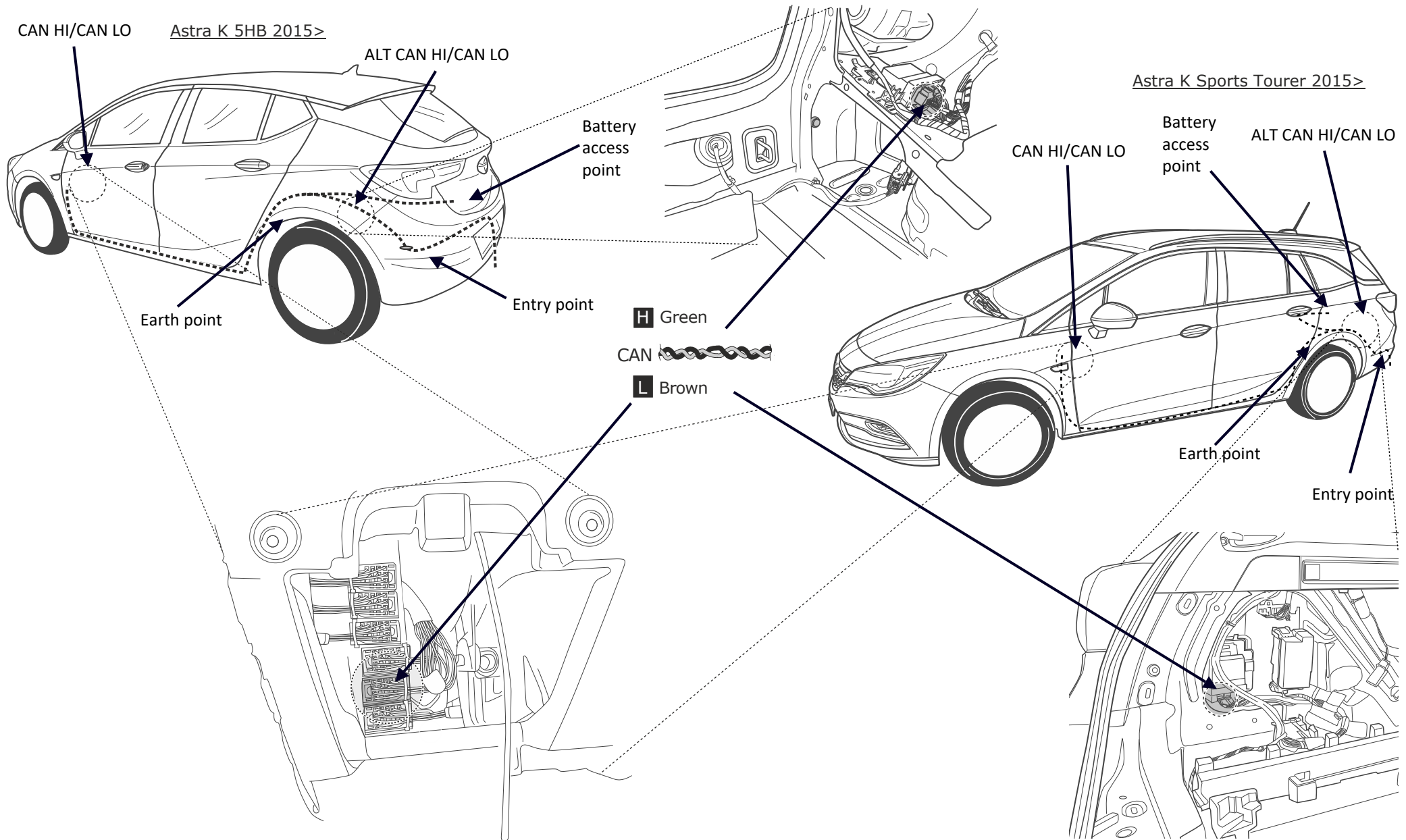
# TF2352GM

## Cable routing, CAN & power connections Vauxhall/Opel Astra J Hatchback, Station Wagon, GTC, Sedan 2009>2016



# TF2352GM

## Cable routing, CAN & power connections Vauxhall/Opel Astra K Hatchback, Sports Tourer 2015>

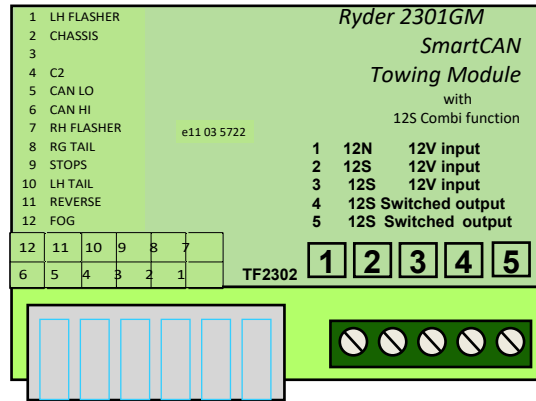


# TF2352GM

## Power and Caravan Auxiliary Detailed Connections

### Module loom detail

1	LH FLASHER	YELLOW	Socket yellow 1
2	CHASSIS	WHITE	Ring terminal to chassis
3			
4	C2	PINK	Buzzer
5	CAN LO	BLACK	Twisted pair to CAN
6	CAN HI	RED	
7	RH FLASHER	GREEN	Socket green 4
8	RH TAIL	BROWN	Socket brown 5
9	STOPS	RED	Socket red 6
10	LH TAIL	BLACK	Socket black 7
11	REVERSE	YELLOW/WHITE	13-pin 8 or 12S 1
12	FOG	BLUE	Socket Blue 2



- 1 12N 12V input** The fused input for the road lights (15 amps)
- 2 12S 12V input** One of two connected inputs for the caravan auxiliary function
- 3 12S 12V input** Second of two connected inputs for the caravan auxiliary function. Use this for the unswitched caravan output
- 4 12S Switched Output** Two switched outputs for the caravan fridge.
- 5 12S Switched output** Having two outputs reduces voltage drop

The caravan auxiliary supply is controlled by the CAN system, using the engine revs. This means its function is not impaired if the vehicle has "Smart" charging.

USE ONE OR TWO POWER TAPS TO TAKE POWER FROM THE FUSEBOX



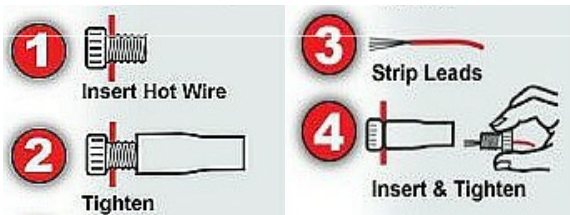
USE ONE POWER TAP FOR A (12N) INSTALLATION (OR 13-PIN)

USE TWO FOR A DOUBLE (12N+12S) INSTALLATION (TWIN 7 OR 13-PIN)

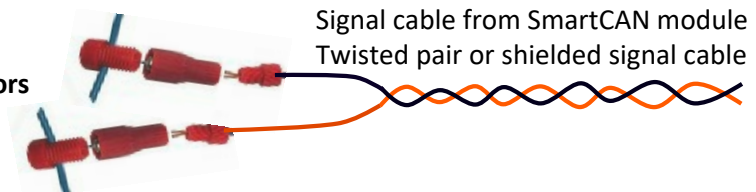
FUSE THE 12N CONNECTION 15 AMPS AND THE 12S CONNECTION 20 AMPS

### Use Posi-Taps to make the connections to CAN HI and CAN LO

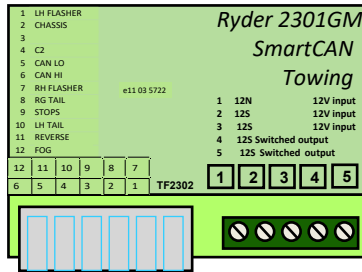
#### How Posi-Taps connect.



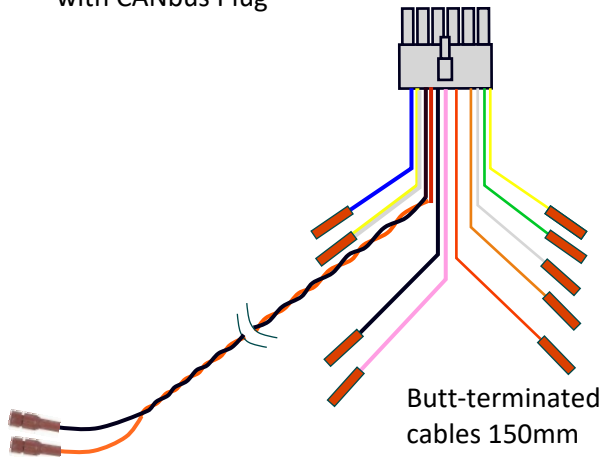
#### PosiTap connectors



TF2301GM  
SmartCAN  
module



SmartCAN loom  
with CANbus Plug



5m twisted pair with  
red Posi-Taps

Power and CAN Cables	
12N	5 metres 1mm <sup>2</sup> single cable
12S	5 metres 2.5mm <sup>2</sup> twin cable
CAN	5 metres shielded signal cable

## TF2352GM

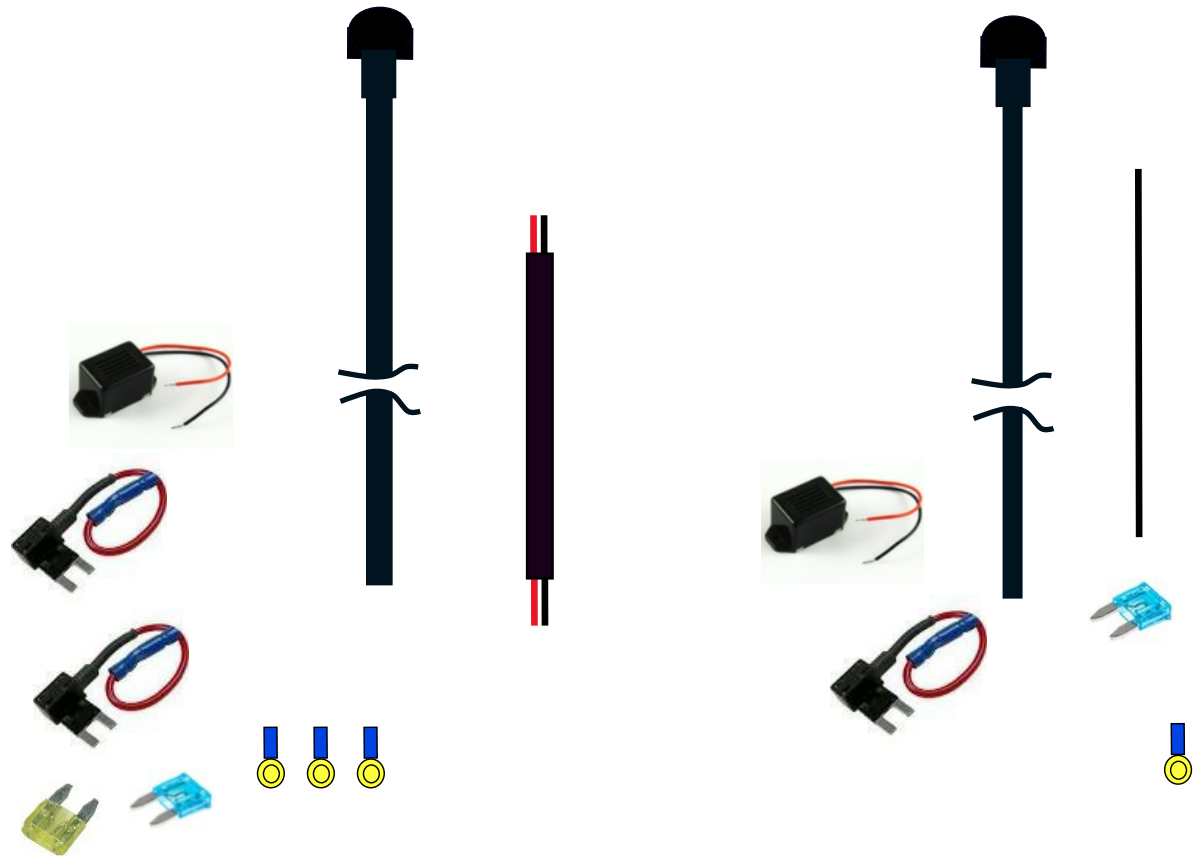
### Kit Components

#### 13-pin kit

- 1 x 13-pin socket assembly, 2 metres
- 1 x Mini buzzer
- 1 x 15 amp mini fuse
- 1 x Twin 35s Aux power cable, 5m
- 2 x PowerTap Mini
- 1 x 20 amp mini fuse
- 3 x ring terminals

#### 7-pin kit

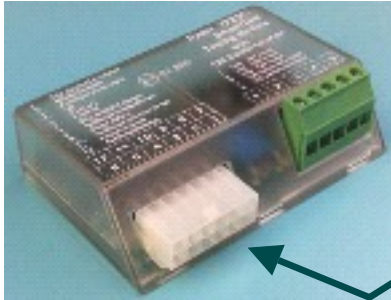
- 1 x 7-pin socket assembly, 2 metres
- 1 x Mini buzzer
- 1 x Black single 35s Aux power cable 5m
- 1 x PowerTap Mini
- 1 x 15 amp mini fuse
- 1 ring terminal



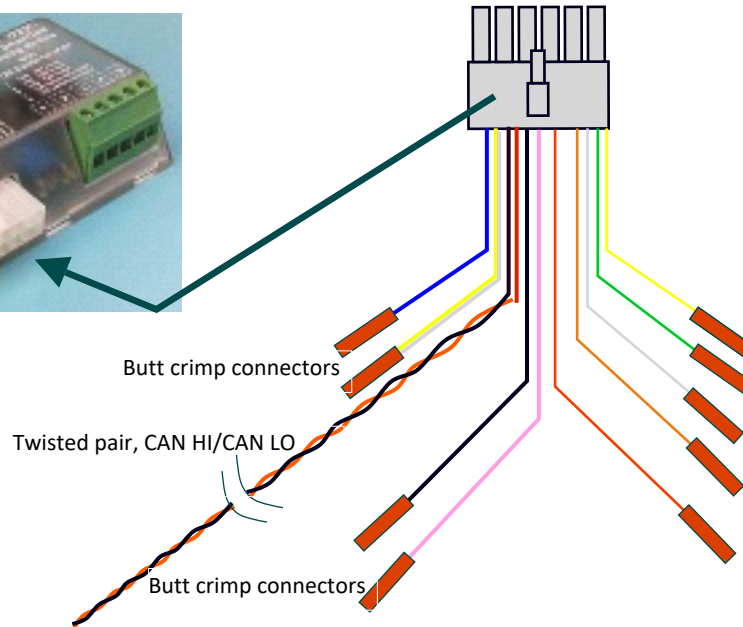
# TF2352GM

## CANbus Connections

TF2301 CANbus module



12-pin plug and loom

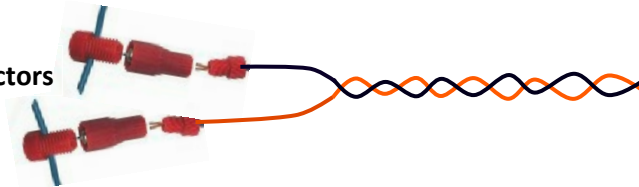


Module loom detail

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12	FOG	BLUE	Socket Blue 2

### Connections to CAN HI and CAN LO

PosiTap connectors



CAN HI: Green CAN LO: Brown.

Or

At OBDII, Pin 1 (HI) and Pin 4 (LO) (Dependent on model).

# Socket assemblies

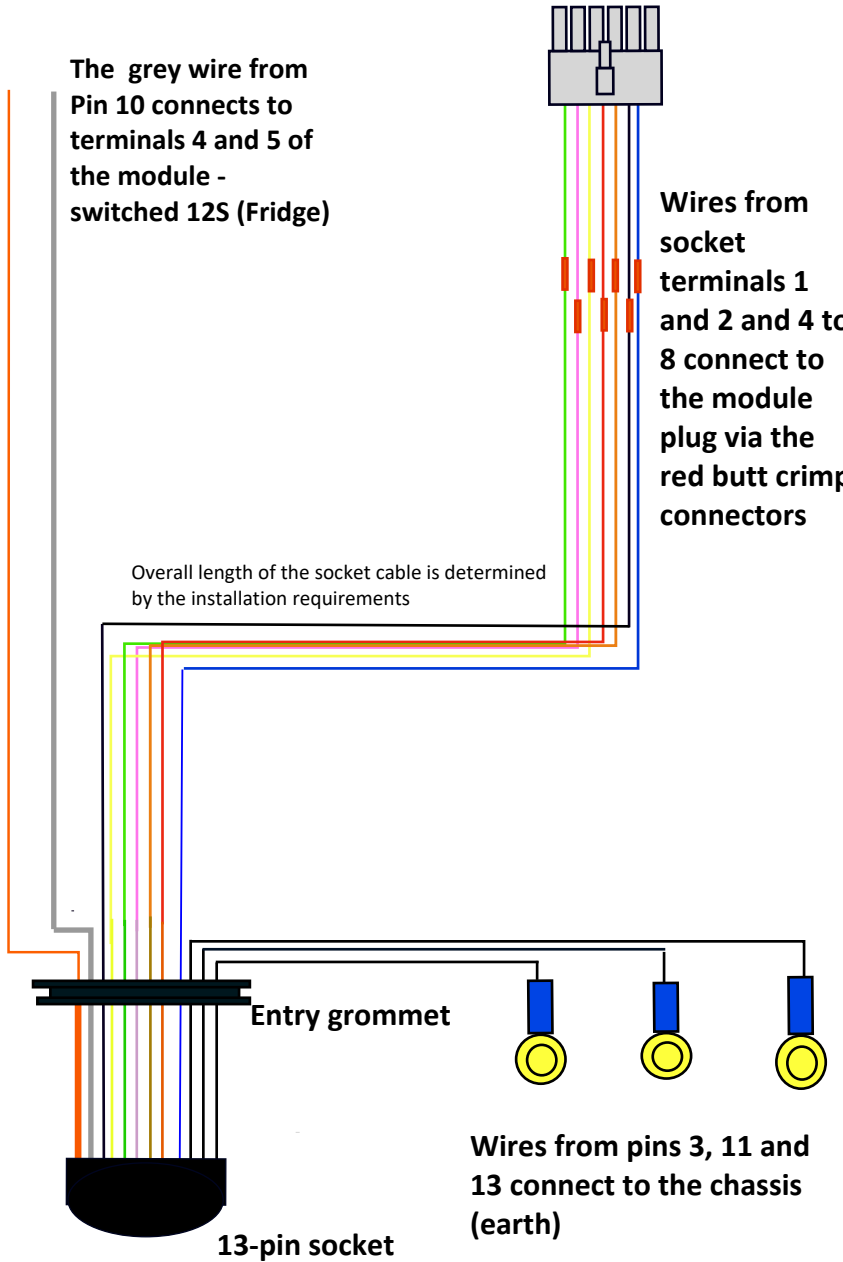
## 13-pin socket

The orange wire from Pin 9 connects to terminal 3 of the module - unswitched 12S (Interior lights/battery charging)

The grey wire from Pin 10 connects to terminals 4 and 5 of the module - switched 12S (Fridge)

Wires from socket terminals 1 and 2 and 4 to 8 connect to the module plug via the red butt crimp connectors

Overall length of the socket cable is determined by the installation requirements

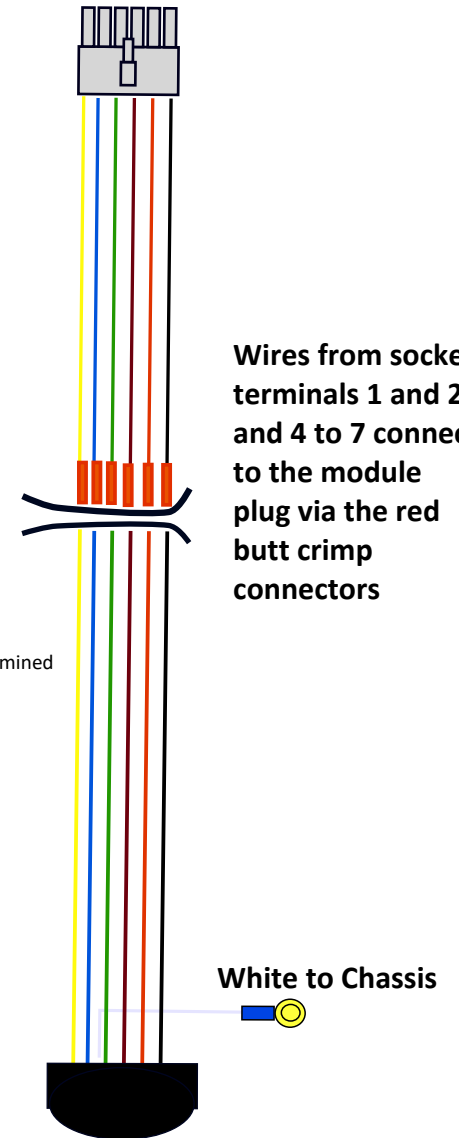


13-pin socket

## 7-pin socket

Wires from socket terminals 1 and 2 and 4 to 7 connect to the module plug via the red butt crimp connectors

Overall length of the socket cable is determined by the installation requirements



7-pin socket



## Testing and Coding

With the engine both running and at rest, test all functions

Recoding adds C2 on dash; PDC; FCO

or use pink wire from module and a buzzer for C2

(Coding is only required if CAN based C2, Bulb failure monitoring and Trailer present functions are needed.)

(TF2301 SmartCAN unit will provide basic trailer light output, and switched power output without coding)

***Ryder Towing***

*Quality – Service – Innovation*

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