

Z21A Installation Instructions



This 12N universal towbar electric kit is intended for use on vehicles with insufficient fuse capacity and could also be fitted to vehicles with rear light check systems or those utilising CAN bus or multiplex rear light operating systems.

If you are not sure about the suitability of this electrical kit for your vehicle please consult an auto electrician or specialist towbar fitting centre.

Contents

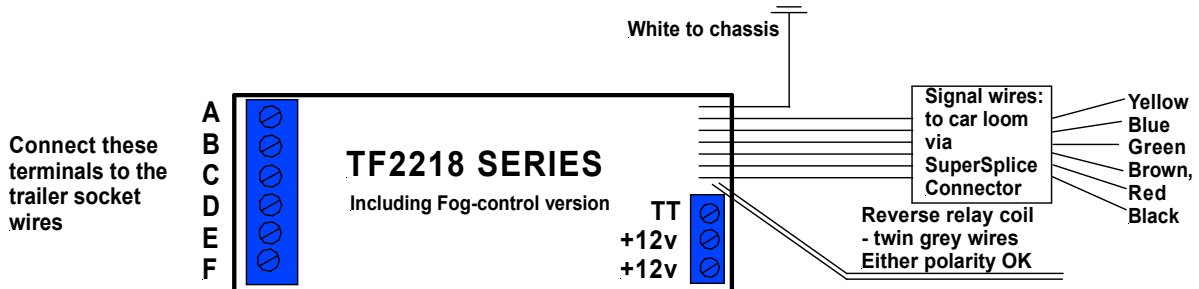
1	12N pre-wired socket & seal with 2 metres of seven core cable
1	Ultra Smart Seven way bypass relay TF2218
1	Super Splice Receptor and shield
6	Red insulation displacement connectors
1	Self tapping screw
2	Blue crimp ring connector
1	Yellow crimp split ring connector
1	12mm rubber grommet
1	Set of socket screws, nuts and washers
1	5 metre black power cable
1	15 Amp fuse and in-line fuse holder
2	Cable ties

Directions

1. Mount the pre-wired 7 pin socket and seal to the electrical plate (not supplied) using the three fasteners supplied.
2. Identify which side of the vehicle the lighting loom is on, if the loom is on both sides make your connections on the right (driver's side) and run separate wires (not supplied) to the left of the vehicle for turn signal and left side light functions.
3. Locate and utilise an existing grommet in the rear panel or boot floor on the preferred side of the vehicle or, if a grommet is not available, carefully drill a 12mm diameter hole in the rear panel of the vehicle at a suitable entry point for the cable, treat the hole with a rust inhibitor and insert the grommet provided.
4. Attach the electric plate with socket to the towbar and route the cable to the grommet, insert the cable into the vehicle through the grommet and seal if necessary to prevent water and fume ingress, then secure the cable to the towbar with the cable ties provided.
5. Locate and identify the cable in the vehicle loom that corresponds to the desired light function required and connect to the designated slot (see additional information) in the super splice receptor using the multi splice installation tool, Z25 (not supplied), and the table below, once all the wires are in place slide the shield over the loom splice contacts.
6. Connect the white, earth wires and one of the grey wires (if +12V reverse light switch, see table) to the vehicle body using the blue ring connector and self tapping screw provided.
7. Locate a suitable permanent +12 Volt power supply capable of at least a 15 Amp load, ideally the battery or +30 relay plate, some vehicles have a dedicated towbar power supply point, consult your handbook.
8. Connect the in-line fuse holder, without fuse, to the power supply cable with about 10cm at one end; connect the short end of the cable to the designated supply point.
9. Route the supply cable to the Ultra Smart Relay, take care not to kink or crush the cable also avoid sharp edges, moving parts and heat sources. Connect the cable to one of the +12 terminals on the relay.
10. Plug the Ultra Smart Relay into the super splice receptor, check all connections are good and secure.
11. Connect a test board or trailer light board to the 12N socket and insert the 15 Amp fuse into the fuse holder, the relay will now perform a self test routine and beep to confirm the test is complete.
12. Test all trailer light functions; ensure all lights can be operated effectively under full load. The Ultra Smart Relay will beep in time with the turn signals; should a trailer turn signal fail the beeping will cease and so inform the driver of trailer turn signal failure.

Additional information

Z21A Connection Table			
Pin	7 core wire		Vehicle Function Wire
		Ultra Smart Bypass Relay	Super Splice Receptor
1.	Yellow	Screw terminal A	Position 1
2.	Blue	Screw terminal F	Position 2
3.	White	Connect to the vehicle earth	
4.	Green	Screw terminal B	Position 4
5.	Brown	Screw terminal E	Position 5
6.	Red	Screw terminal D	Position 6
7.	Black	Screw terminal E	Position 7
1.	Yellow (12S)	Screw terminal C	One grey wire
Other connections		Connect to	location
3 metre power cable		+12 Volt permanent power supply (min.15Amp)	Battery, +30 relay plate or similar
Remaining grey wire		If a positively switched reverse light connect to earth or if negatively switched, to spare +12	
Additional tell tale		An LED or additional buzzer can be connected between the –TT terminal and the spare +12	



Connecting the Super Splice Receptor to the car loom

Only try to insert one wire at a time into the Super Splice Receptor.

Each wire requires a force of approximately 16lbs to press it home.

Make sure the tool pushes all the wires fully home into their appropriate slots.

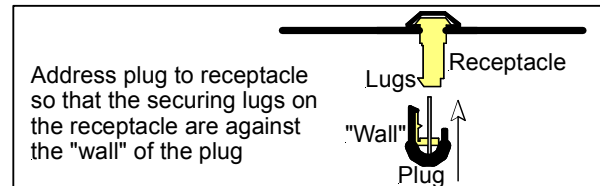
It is advisable not to leave the top space (1) until the last when you are inserting the wires because, with the other wires in place and the slight flexing that occurs as the tool is operated, the travel of the plunger is restricted and the top wire is unlikely to push fully home.

Recommended order of insertion

It is best to insert the first two or three wires into the lowest spaces (7, 6, 5) then fill the higher spaces in the order 1,2 4. This will facilitate the full insertion of all the wires.

Plugging the relay to the receptacle on the car loom

Once the receptacle has been fitted to the car loom, and all the power, earth and 7-core cable connections have been made to the relay, it is a simple matter to plug the two assemblies together. The sketch above shows how the plug and receptacle should be brought together.



Single filament stop and tail type vehicles

Certain vehicles utilise a single filament lamp for both stop and tail light functions. These vehicles have only one wire for both functions, connect this wire to position 6 in the super splice connector and leave position 5 and 7 empty, the relay will differentiate between stop and tail light signals from the vehicle and operate the trailer lights accordingly.

Further information

If you require more information about towing electrics it is available on our website in the Quality and Standards FAQ section.