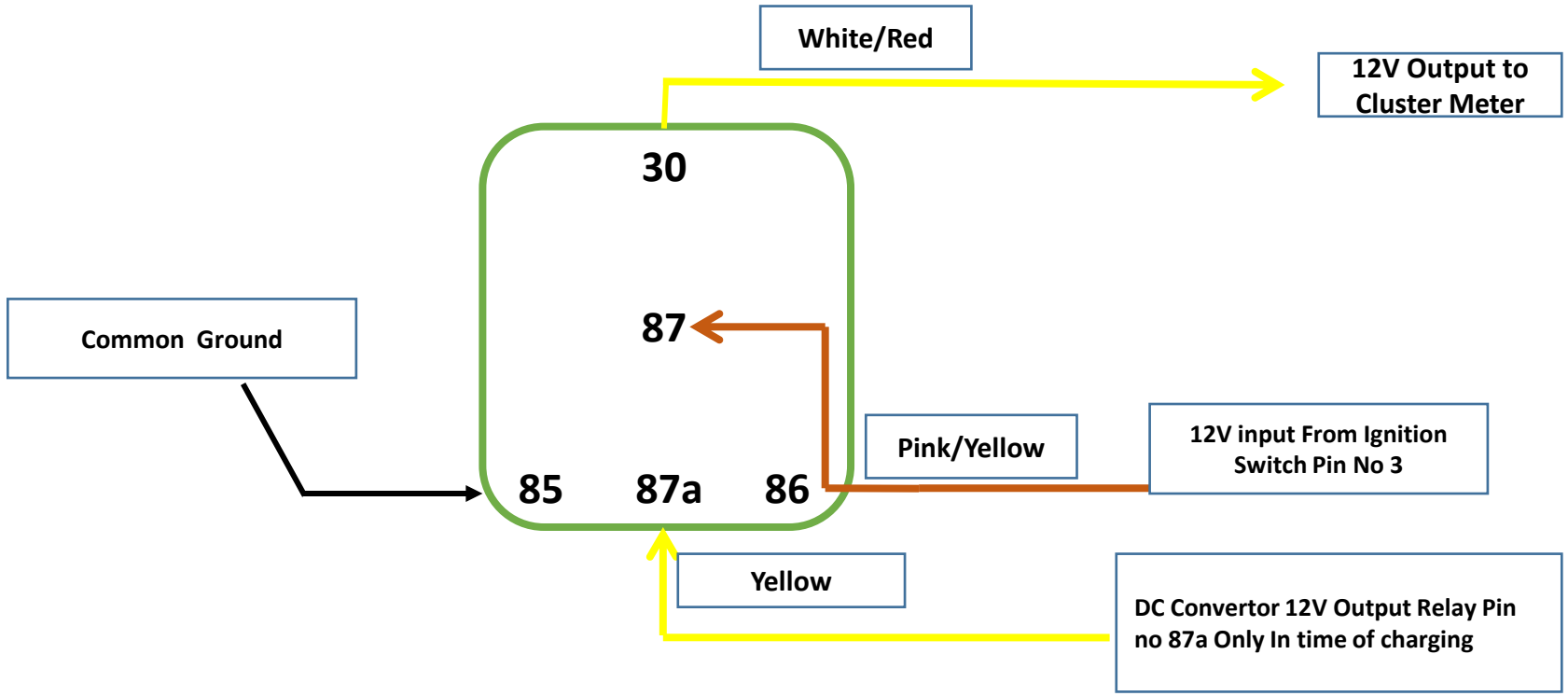
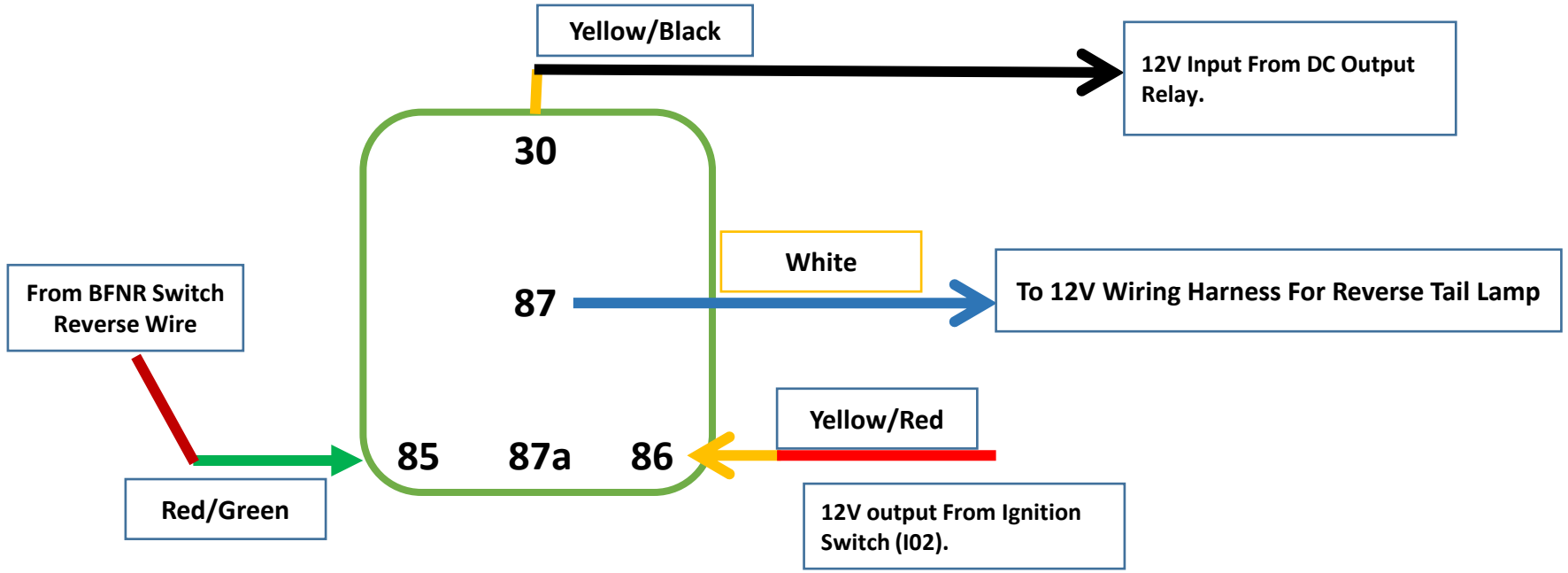
Cluster Relay



Cluster Relay

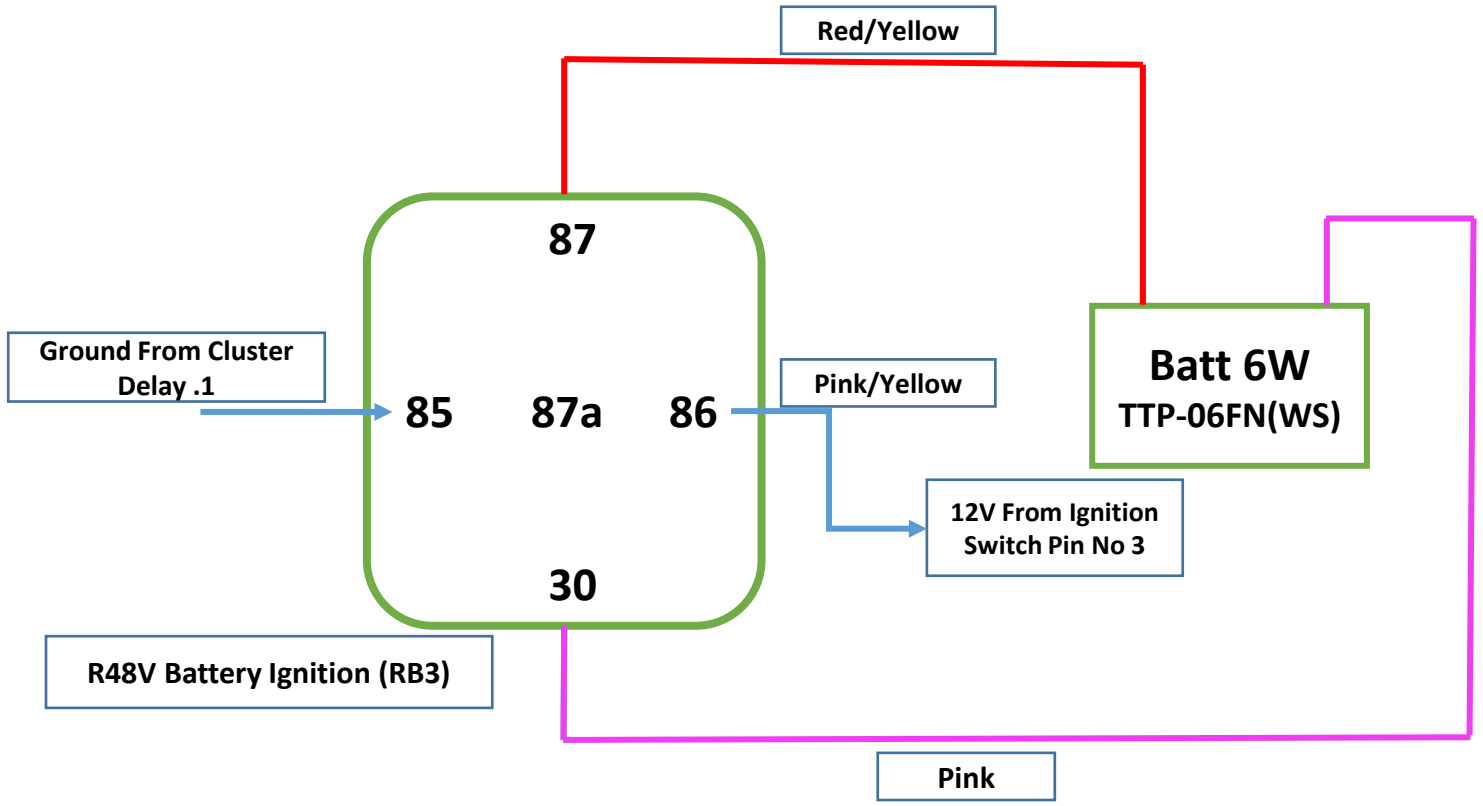
Note:- 12V 5 Pin Micro Relay Base

Reverse Relay



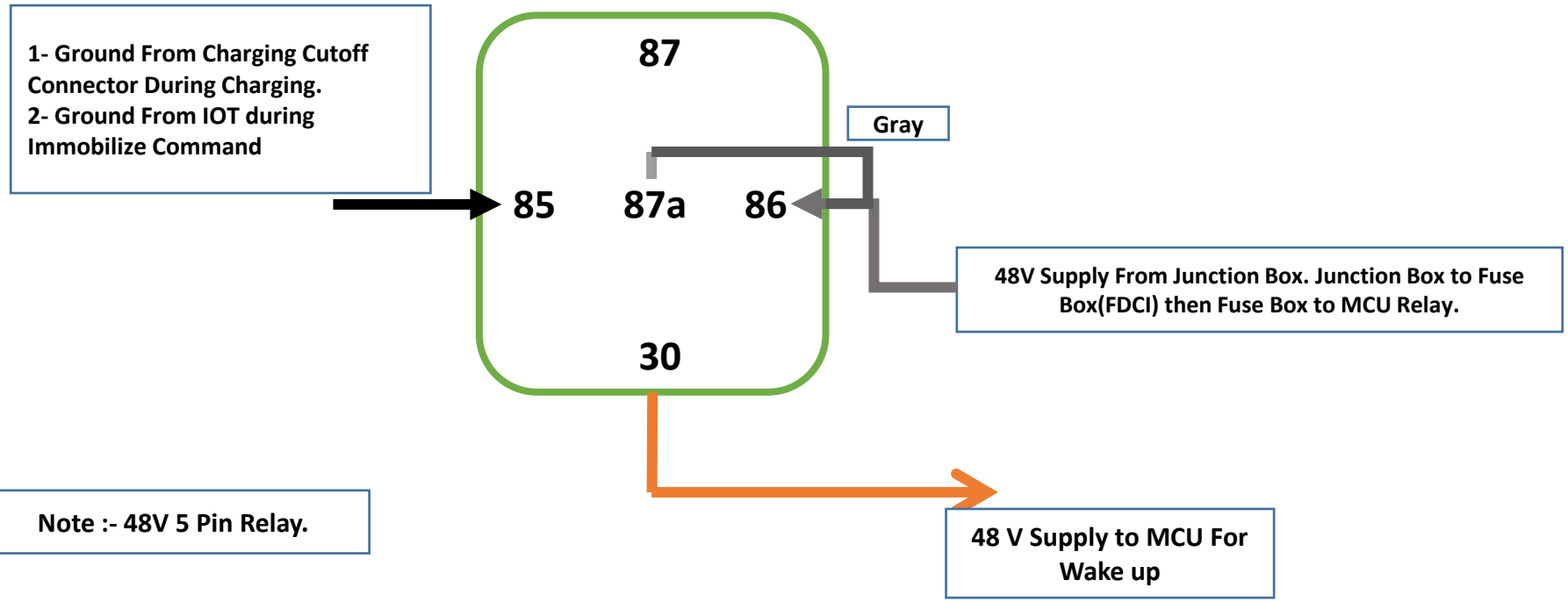
Note:- 12V 4 Pin Micro Relay Base

48 V Battery Ignition Circuit



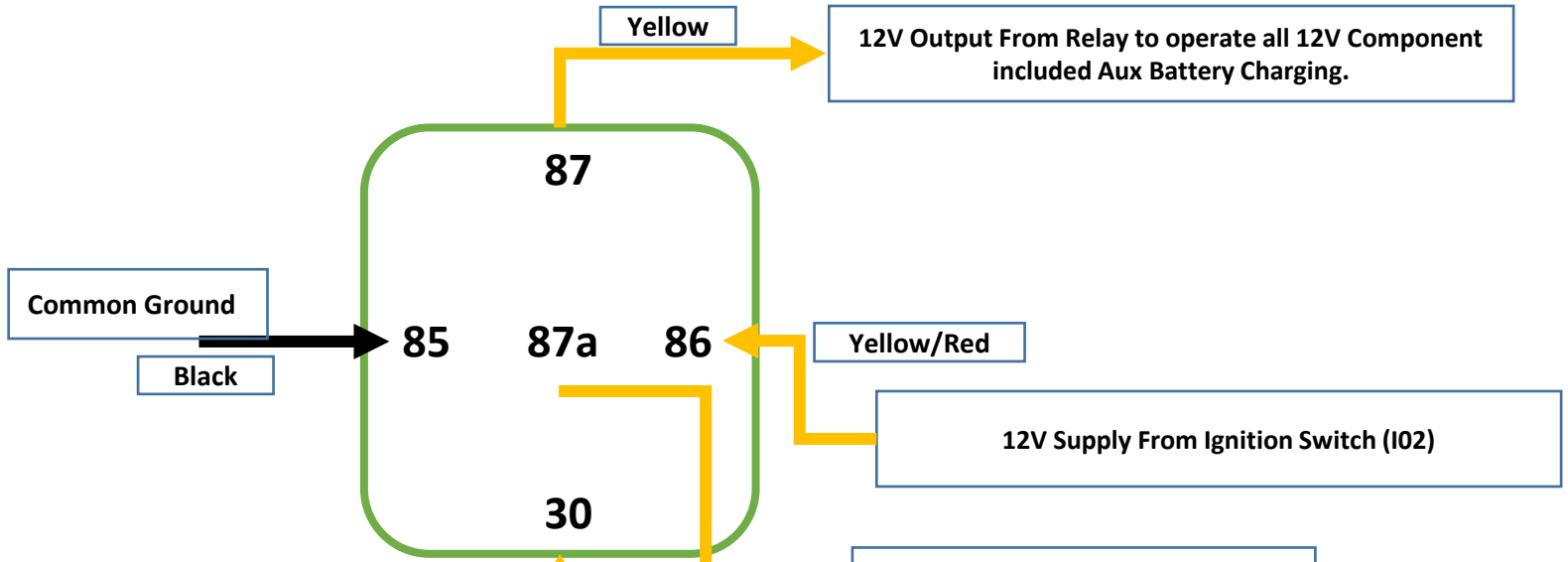
Note:- 12V 4 Pin Micro Relay Base

Virya Gen 2 MCU RELAY



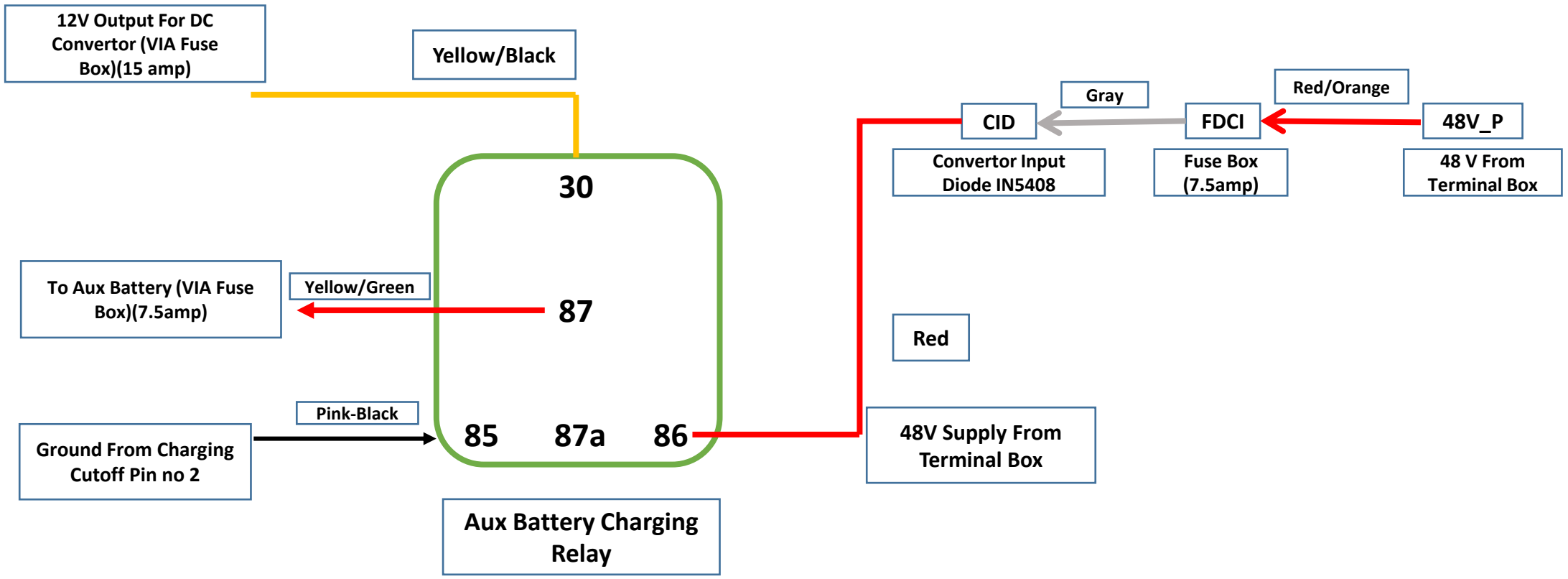
Note :- 48V 5 Pin Relay.

DC Output Relay (RDC_Output)



Note :- 12V 5 Pin Relay.

Relay Aux Battery Charging



Note :- 48V 5 Pin Relay.

Fuse Box Belongings & Uses

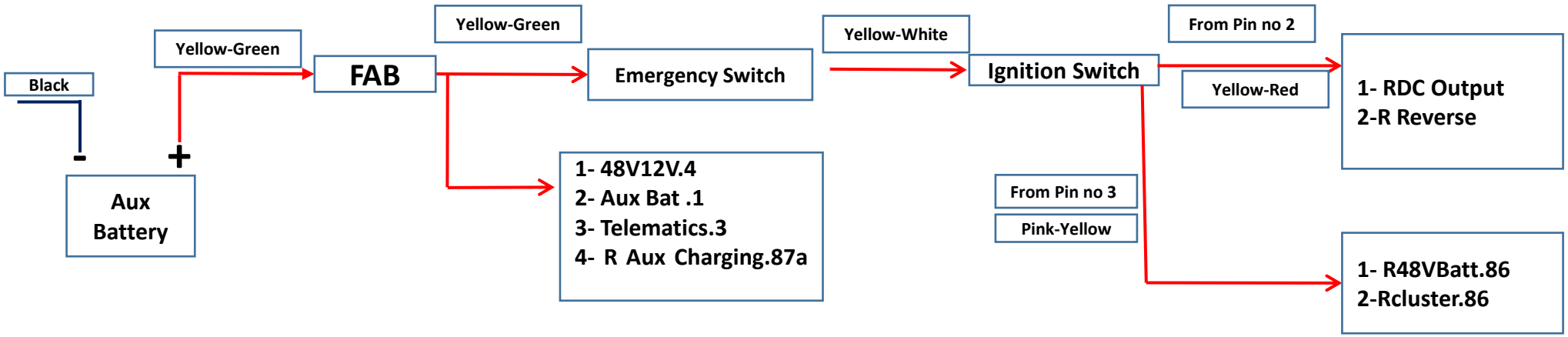
1- F12V – Fuse Box For DC Convertor Output (12V). Fuse Using 15 amp as per Max Load on DC output

2- FAB – Fuse Box For Aux Battery Protection. Fuse used 7.5amp Which is Sufficient for Aux Battery.

3- FDCI – Fuse Box For DC Convertor Input. Fuse used 7.5amp,

4- FFP – 12V Aux Connector near Batt 6W Connector. Fuse Used 1 amp Max For Protection.

Vehicle Ignition Circuit



Note:-

1- In This Wiring Harness Architecture Aux Battery is Main Source For Battery Ignition & MCU Ignition. If Aux Battery is Discharge in Vehicle that Condition Vehicle is not Getting ON.

2- BFNR Switch Working on Ground. So, there is no Supply on BFNR Switch only Ground in Mode Switch.

3- Aux Battery output have 1 Fuse box include 7.5-amp Fuse. So Power is going From Aux Battery positive to Fuse Box than Fuse Box to Emergency switch input Pin no 1, then Emergency switch output Pin no 2 to ignition switch Input pin no 1.

Mode Switch Connection

1- BFNR Switch Pin No 1 – Ground Output to MCU For Forward Mode. (Orange-Green)
2-BFNR Switch Pin No 2 - Common Ground Input to BFNR Switch. (Black)
3- BFNR Switch Pin No 3 – Ground Output to MCU & Reverse Relay For Reverse Mode. (Red-Green)
4- BFNR Switch Pin No 4 – Ground Output to MCU For Boost Mode. (Gray – Black)

Diode Uses

1- CID – Convertor Input Diode Connected in DC Convertor Input 48V line. For Single direction Current Flow.
2- ADC- Using For Aux Battery Charging Through DC Convertor Output(12V) Diode Max Rating Amp.

VCU & MCU Connection

MCU_VCU:- Pin no and Function

1 & 2 - From Ignition (48V) Operated (Orange- White)
3- MCU FW Updating (Blue-Brown)
4- MCU FW Updating (Blue-Black)
5- Forward Mode (Orange-Green)
6- Boost Mode (Gray-Black)
7 – Reverse Mode (Red-Green)
8 – Throttle & Brake Pot 5V Supply (Red- White)
9- Throttle Signal (Green-White)
10- Brake Pot Signal (Green-Black)
11- Can High (Yellow)
12- Can Low (Green)
13- Encoder Pin No 6 (5V Supply) (Gray)
14- Encoder Pin No 5 (12V Supply) (White)
15- Encoder Pin No 4 (Sin Cos) (Green)
16- Encoder Pin No 3 (Sin Cos) (Yellow)
17- Encoder Pin No 2 (Encoder Ground) (Brown)
23- Encoder Pin No 1 (Encoder Shielding)(Black)

Relay Working

1- Relay Aux Battery Charging – 48V Relay For DC Convertor. 48 V Coming on this Relay Via CID & FDCI at Pin no 86. Then Loop to Pin no 30. Ground is Coming From Charging Cutoff Pin no 2. Pin no 30 have output supply From DC Convertor output Via Fuse Box. Pin no 87 is Connected to Aux Battery. In Time of Vehicle Charging, relay is getting on Once Relay is getting on after that DC Convertor 12V Supply goes to Aux Battery, For Aux Battery Charging.

2- RDCO – 12V Operated Relay. Relay Pin 86 have 12 Supply after ignition switch pin no 2. Pin no 85 is connected to Cluster relay pin no 2. Pin no 30 have 12v Supply from DC Convertor Output. Pin no 87a is connected to Cluster relay at pin no 87a. Pin no 87 is connected to 12V Component and Aux Battery Charging Diode.

3- RReverse-12V Operated Relay For Reverse light Activation. 12V Coming From ignition Switch(Pin no 2) at Pin no 86 of Relay. Ground Coming From BFNR Switch Pin no 4 through diode and Connected in 85 No in Relay. 12V Coming in Pin no 30 from DC Output relay Pin no 87.Once relay coil turn on 12 V Supply going to 48V12V connector at pin no 3 and reverse light glow.

4- R48VBatt- 12V Operated ,48V Battery Ignition Relay. Batt6W Pin no 1 & 3 Connected to Relay respectively Pin no 87 & 30. Ground For Pin no 85 Coming From Cluster Delay Pin no 1. 12V Coming From Ignition Switch(From Pin no 3) to 48V Batt relay at Pin no 86. When relay goes on that time Battery ignition wire got Short and battery is getting ON.

5- MCU Relay – 48V Operated Relay For MCU Ignition.
48V Supply coming at pin no 87a From Terminal Box through Fuse Box. Pin no 87a and 86 are looped. 48V going From pin no 30 is To MCU at Pin no 1 & 2 through Fuse Box.
Pin no 85 at relay – Connected to Telematics Pin no 4 (For Power Train Immobilization)
Pin no 85 at Relay – Connected to Charging Cutoff at Pin no 2 (For Power Train Cutoff While Charging Main Battery)

6- Cluster Relay – 12V Operated Relay For Cluster. 2 Different Function Work on this Relay .

(I) – In Case of Vehicle Ignition On- When we turn on Ignition that time 12V Comes from pin no 3 to Pin no 86 at relay From ignition Switch . Pin no 86 & 87 is short so 12V Jumps from Pin no 86 to Pin no 87. Also pin no 85 is connected to common Ground. After Receiving 12V From Ignition Switch 12V goes to Cluster through Pin no 30.

(II) - In Case Of Vehicle Charging. 12V Comes in Pin no 87a From DC Convertor output relay pin no 87a. Than 12V jumps to Pin no 30. And cluster gets On.