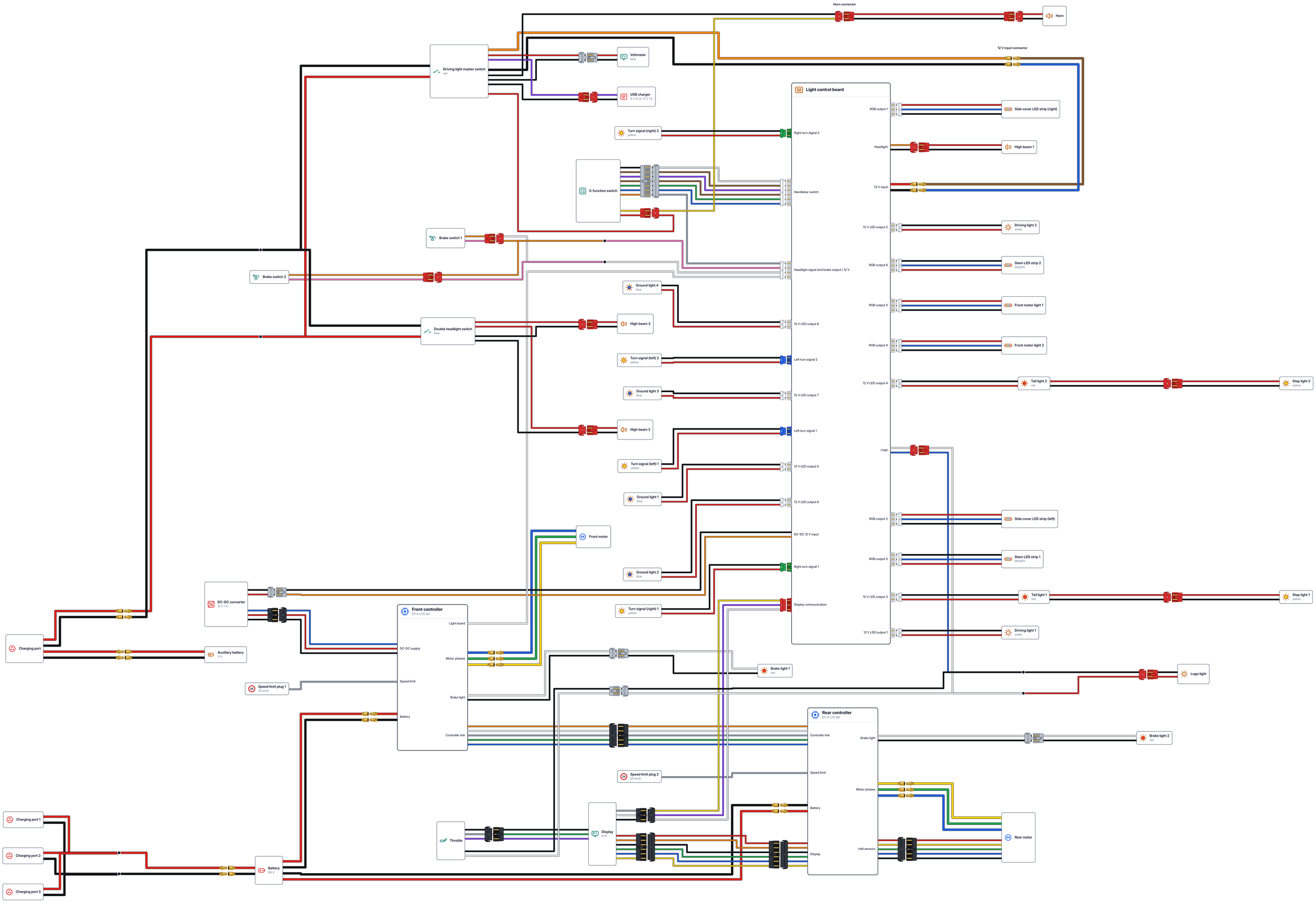
WIRING DIAGRAM

Dualtron X Limited | 84 V

FOHZSHOP.FR



WIRE COLOURS

- Black BK
- Blue BU
- Brown BN
- Clear TR
- Green GN
- Grey GY
- Orange OG
- Pink PK
- Red RD
- Violet VT
- White WH
- Yellow YE

CONNECTORS

Gold pins: male side. Dark sockets: female side.

- Bullet connectors
- Board header
- JST SM plug
- Splice: wires are joined at this point

NOTES

1. On the original, twenty wires run through one 20-wire main harness: the 6 display wires to the rear controller, the 3 display communication wires, the 7 wires of the 5-function switch, the 2 brake switch wires and the 2 wires of the light board 12 V input.
2. The wires of this harness are named on the original with shades the colour code does not tell apart: light brown and brown, light purple and purple, light blue and dark blue, light green, light yellow. They are marked with their base colour. In the switch cable, the pin numbers tell the light brown (pin 6) from the brown (pin 1).
3. Both brake switches are wired in parallel between the pink wire and the white wire reaching pins 1 and 2 of the light board headlight signal and brake output / 12 V connector. The original does not say which of the two carries 12 V, nor the function of pin 3, whose white wire goes to the front controller.
4. Both brake switches carry the same "left / right" label on the original, which does not say which one is on the left.
5. Both pole strips carry the same "right / left" label on the original, which does not say which one is on the right.
6. On the original, the turn lights are named turn and warning lights.
7. Each tail light has two pairs of wires: one comes from the light board, the other feeds a step light through a red plug.
8. Each 25 km/h speed limit plug has a single grey wire, on pin 1. Pin 2 has no wire.
9. Only the rear motor has a Hall sensor cable on the original. The front motor is drawn with its three phases only.
10. Two of the eight RGB connectors of the light board, the third and fourth from the left, are not connected to anything on the original.
11. On the original, a few wires change colour without a plug: the DC-DC converter OUT+ wire turns from red to orange before its plug, the + of the brake lights and of the USB charger is red over a short length before the white or purple wire, and the light brown wire of the switch is drawn grey on its last length before the main harness.

DOCUMENT

Based on the manufacturer diagram "Schéma électrique DUALTRON X limited".

Redrawn by FOHZShop on 31 October 2026.

Disconnect the battery before any work.

CONNECTOR PINOUT

Connector	To	Wire
Front controller Motor phases	**Front motor** Connectors: Bullet connectors	Blue · Motor phase Green · Motor phase Yellow · Motor phase
Front controller Controller link	**Rear controller** Controller link Connectors: JST SM plug	Orange White Grey Green Blue
Front controller DC-DC supply	**DC-DC converter** Input Connectors: JST SM plug	Blue · VCC Red · IN+ Black · IN−
Rear controller Motor phases	**Rear motor** Connectors: Bullet connectors	Yellow · Motor phase Green · Motor phase Blue · Motor phase
Rear controller Hall sensors	**Rear motor** Hall sensors Connectors: JST SM plug	Red Yellow Green Blue Black
Light control board Headlight signal and brake output / 12 V	**Front controller** Light board Connectors: Board header	3 · White
Light control board Headlight	**High beam 1** Connectors: JST SM plug	Orange, then red after the connector · LED + Black · LED −
Light control board Logo	**Splice** Connectors: JST SM plug	White Blue
Light control board Left turn signal 1	**Turn signal (left) 1** Connectors: Board header	Black · LED − Red · LED +
Light control board Left turn signal 2	**Turn signal (left) 2** Connectors: Board header	Black · LED − Red · LED +
Light control board Right turn signal 1	**Turn signal (right) 1** Connectors: Board header	Black · LED − Red · LED +
Light control board Right turn signal 2	**Turn signal (right) 2** Connectors: Board header	Black · LED − Red · LED +
Light control board 12 V LED output 1	**Driving light 1** Connectors: Board header	Black · LED − Red · LED +
Light control board 12 V LED output 2	**Driving light 2** Connectors: Board header	Black · LED − Red · LED +
Light control board 12 V LED output 3	**Tail light 1** Input Connectors: Board header	Black · LED − Red · LED +
Light control board 12 V LED output 4	**Tail light 2** Input Connectors: Board header	Black · LED − Red · LED +
Light control board 12 V LED output 5	**Ground light 1** Connectors: Board header	Black · LED − Red · LED +

Connector	To	Wire
Light control board 12 V LED output 6	**Ground light 2** Connectors: Board header	Black · LED − Red · LED +
Light control board 12 V LED output 7	**Ground light 3** Connectors: Board header	Black · LED − Red · LED +
Light control board 12 V LED output 8	**Ground light 4** Connectors: Board header	Black · LED − Red · LED +
Light control board RGB output 1	**Side cover LED strip (right)** Connectors: Board header	Red · LED + Blue · LED data Black · LED −
Light control board RGB output 2	**Side cover LED strip (left)** Connectors: Board header	Red · LED + Blue · LED data Black · LED −
Light control board RGB output 3	**Front motor light 1** Connectors: Board header	Red · +12 V Blue · LED data Black · Ground
Light control board RGB output 4	**Front motor light 2** Connectors: Board header	Red · +12 V Blue · LED data Black · Ground
Light control board RGB output 5	**Stem LED strip 1** Connectors: Board header	Black · Ground Blue · LED data Red · +12 V
Light control board RGB output 6	**Stem LED strip 2** Connectors: Board header	Black · Ground Blue · LED data Red · +12 V
Battery Output	**Front controller** Battery Connectors: Bullet connectors	Red · Battery + Black · Battery −
Battery Output	**Rear controller** Battery Connectors: Bullet connectors	Black · Battery − Red · Battery +
Charging port 1	**Splice**	1 · Red · Charge + 3 · Black · Charge −
Charging port 2	**Splice**	1 · Red · Charge + 3 · Black · Charge −
Charging port 3	**Splice**	1 · Red · Charge + 3 · Black · Charge −
Splice	**Battery** Charge Connectors: Bullet connectors	Red · Charge + Black · Charge −
Speed limit plug 1	**Front controller** Speed limit	1 · Grey
Speed limit plug 2	**Rear controller** Speed limit	1 · Grey

Connector	To	Wire
DC-DC converter Output	**Light control board** DC-DC 12 V input Connectors: JST SM plug	Black · Ground Red, then orange after the connector · +12 V
Display Controller	**Rear controller** Display Connectors: JST SM plug / JST SM plug	Red Orange Black Green Blue Yellow
Display Light board	**Light control board** Display communication Connectors: JST SM plug / Board header	3 → 1 · Grey, then yellow after the connector 2 → 2 · White, then violet after the connector 1 → 3 · Black, then clear after the connector
Throttle	**Display** Throttle Connectors: JST SM plug	1 · Black 2 · Grey, then green after the connector 3 · Violet
5-function switch	**Light control board** Handlebar switch Connectors: JST SM plug / Board header	4 → 6 · Black, then clear after the connector 6 → 5 · Brown 7 → 4 · Violet 1 → 3 · Brown 3 → 2 · Green 2 → 1 · Blue
5-function switch	**Light control board** Headlight signal and brake output / 12 V Connectors: JST SM plug / Board header	5 → 4 · Orange, then grey after the connector · Headlight control
Brake switch 1	**Splice** Connectors: JST SM plug	Orange, then white after the connector Pink, then orange after the connector
Brake switch 2	**Splice** Connectors: JST SM plug	Orange Pink
Splice	**Light control board** Headlight signal and brake output / 12 V Connectors: Board header	→ 1 · Pink → 2 · White
Auxiliary battery	**Charging port** Connectors: Bullet connectors	→ 1 · Red · Charge + → 2 · Black · Charge −
Charging port	**Splice** Connectors: Bullet connectors	1 · Red 2 · Black
Splice	**Driving light master switch** Input	Red
Splice	**Driving light master switch** Indicator −	Black
Splice	**Double headlight switch** Input	Red
Splice	**Double headlight switch** Indicator −	Black
Driving light master switch Output	**12 V input connector** Input	Orange

Connector	To	Wire
Driving light master switch Indicator −	**12 V input connector** Input	Black
Driving light master switch Output	**Voltmeter** Connectors: JST SM plug	Red · Supply +
Driving light master switch Indicator −	**Voltmeter** Connectors: JST SM plug	Black · Supply −
Driving light master switch Output	**USB charger** Connectors: JST SM plug	Violet · Supply +
Driving light master switch Indicator −	**USB charger** Connectors: JST SM plug	Black · Supply −
Driving light master switch Input	**5-function switch** Horn Connectors: JST SM plug	Red
Double headlight switch Output	**High beam 2** Connectors: JST SM plug	Red · LED +
Double headlight switch Indicator −	**High beam 2** Connectors: JST SM plug	Black · LED −
Double headlight switch Output	**High beam 3** Connectors: JST SM plug	Red · LED +
Double headlight switch Indicator −	**High beam 3** Connectors: JST SM plug	Black · LED −
12 V input connector Output	**Light control board** 12 V input Connectors: Bullet connectors	Brown, then red after the connector Blue, then black after the connector
Horn	**Horn connector** Connectors: JST SM plug	Red · Horn Black · Supply −
Horn connector	**5-function switch** Horn Connectors: JST SM plug	Yellow · Horn
Horn connector	**Driving light master switch** Indicator −	Black · Supply −
Splice	**Throttle** Logo Connectors: JST SM plug	Black White
Splice	**Logo light** Connectors: JST SM plug	Black Red
Tail light 1 Output	**Step light 1** Connectors: JST SM plug	Red · LED + Black · LED −
Tail light 2 Output	**Step light 2** Connectors: JST SM plug	Red · LED + Black · LED −
Brake light 1	**Front controller** Brake light Connectors: JST SM plug	White · LED + Black · LED −
Brake light 2	**Rear controller** Brake light Connectors: JST SM plug	White · LED + Black · LED −