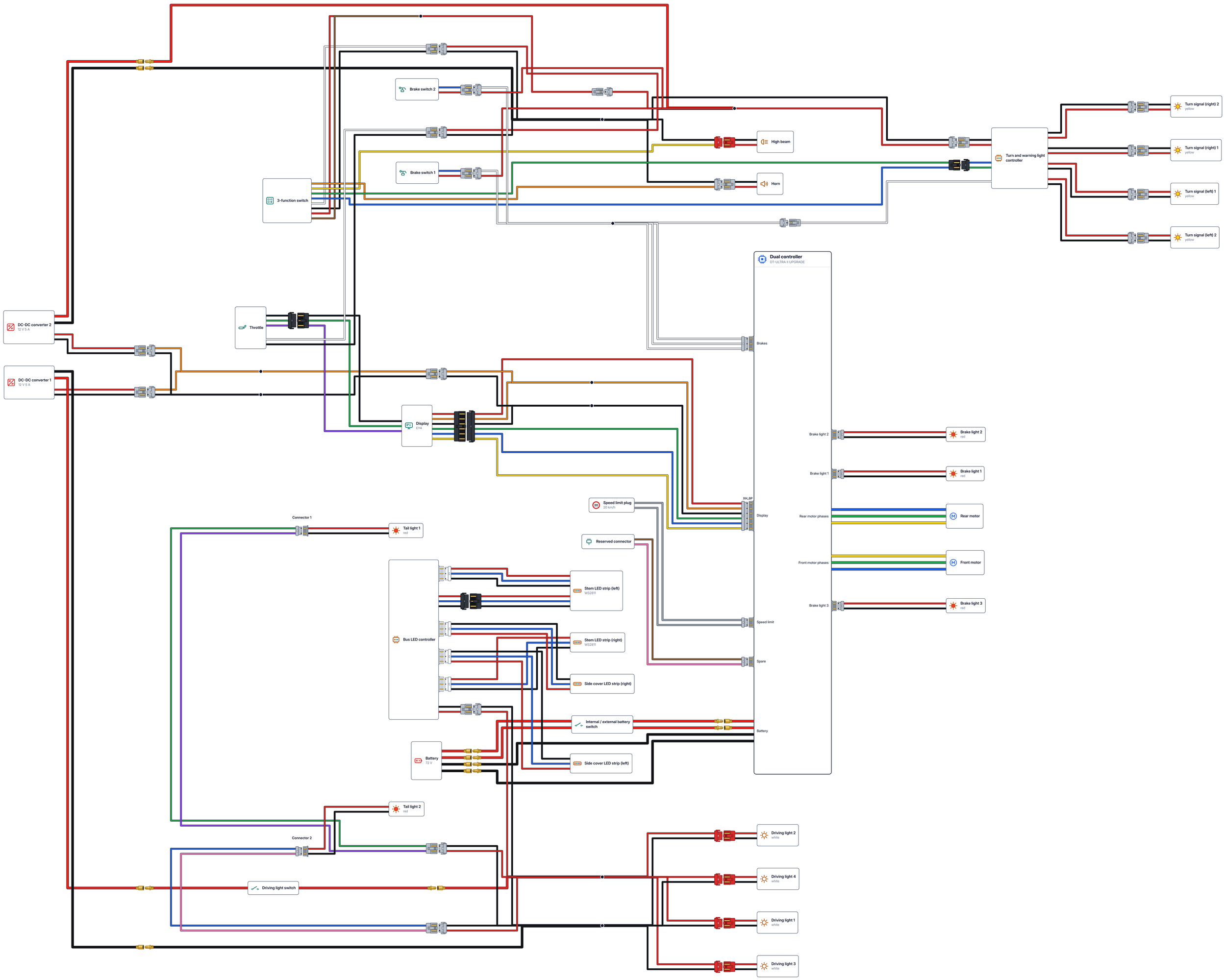
WIRING DIAGRAM

Dualtron Ultra 2 Up | 72 V

FOHZSHOP.FR



WIRE COLOURS

- Black BK
- Blue BU
- Brown BN
- 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
- JST SM plug
- Board header
- Splice: wires are joined at this point

NOTES

1. The internal / external battery switch selects the battery feeding the controller. The external battery connection is not shown on the original diagram.
2. The original diagram shows neither a charge port nor a charger.
3. On the original, a frame groups the three brake lights and the two tail lights with the mention “these 5 groups of lights are at the rear of the controller”. The two tail lights are called red running lights there.
4. The four tail light wires running through the controller sleeve are marked pink, light blue, light purple and light green on the original, given here as pink, blue, purple and green.
5. On the original, the + (red wire) of each tail light ends on the black wire coming from DC-DC converter 1, and its – (black wire) on the red wire coming from the driving light switch: the drawn polarity is reversed.
6. The white wires of both brake switches and of the SC input of the turn and warning light controller meet at one point where the controller sleeve ends, then go to the three pins of the PH2.0_3P plug, marked “white ×3”.
7. Both brake switches carry the same “left / right” label on the original, which does not say which one is on the left.
8. The JS input of the turn and warning light controller is not connected. These pins have no wire: pin 2 of the L and R input plug, pin 1 of the SC wire plug and pin 1 of the plug where the red and brown switch wires meet.
9. The display also has three short wires, black, white and grey, connected to nothing on the original. The red and black wires of its cable to the controller are marked “thick red” and “thick black”.
10. The left pole strip has an input (12V, D, GND) and an output (U+, OUT, U−) that goes back to the bus LED controller. A small unlabelled dark grey box is drawn on this strip.
11. The 20 km/h speed limit plug is drawn mated: each half carries one grey wire on its pin 1, pins 2 are free.
12. The brown switch wire is drawn light orange over its first few millimetres.
13. The Chinese title of the controller speaks of a front motor controller, the English title of a two-in-one controller. Both motors are connected to it.

DOCUMENT

Based on the manufacturer diagram “Schéma électrique DUALTRON Ultra 2 up”.

Redrawn by FõhzShop on 1 November 2026.

Disconnect the battery before any work.

CONNECTOR PINOUT

Connector	To	Wire
Dual controller Front motor phases	**Front motor**	Yellow · Motor phase Green · Motor phase Blue · Motor phase
Dual controller Rear motor phases	**Rear motor**	Blue · Motor phase Green · Motor phase Yellow · Motor phase
Dual controller Spare	**Reserved connector** Connectors: Board header	1 → 2 · Brown 2 → 1 · Pink
Battery Output	**Internal / external battery switch** Input Connectors: Bullet connectors	Red · Battery + Red · Battery +
Battery Output	**Dual controller** Battery Connectors: Bullet connectors	Black · Battery – Black · Battery –
Internal / external battery switch Output	**Dual controller** Battery Connectors: Bullet connectors	Red · Battery + Red · Battery +
Display Controller	**Splice 1** Connectors: JST SM plug	6 · Red 5 · Orange 4 · Black 3 · Green 2 · Blue 1 · Yellow
Throttle	**Display** Throttle Connectors: JST SM plug	1 · Black 2 · Green 3 · Violet
Throttle 12 V input	**Splice 4** Connectors: JST SM plug	2 · White, then red after the connector 1 · Black
Splice 1	**Dual controller** Display Connectors: Board header XH_6P	→ 6 · Red → 5 · Orange → 4 · Black → 3 · Green → 2 · Blue → 1 · Yellow
Splice 1	**Splice 2** Connectors: JST SM plug	2 · Orange 1 · Black
Splice 2	**DC-DC converter 1** Input Connectors: JST SM plug	2 · Orange, then red after the connector · IN+ 1 · Black · IN–
Splice 2	**DC-DC converter 2** Input Connectors: JST SM plug	2 · Orange, then red after the connector · IN+ 1 · Black · IN–
DC-DC converter 1 Output	**Driving light switch** Input Connectors: Bullet connectors	Red · +12 V
DC-DC converter 1 Output	**Splice 3** Connectors: Bullet connectors	Black · Ground
DC-DC converter 2 Output	**Splice 4** Connectors: Bullet connectors	Red · +12 V Black · Ground
Driving light switch Output	**Splice 3** Connectors: Bullet connectors	Red
Splice 5	**Splice 4** Connectors: JST SM plug	2 · Red
Splice 6	**Dual controller** Brakes Connectors: Board header PH2.0_3P	→ 3 · White → 2 · White → 1 · White
3-function switch	**Splice 4** Connectors: JST SM plug	2 · White, then red after the connector 1 · Black
3-function switch	**Splice 5**	Red Brown
3-function switch	**Turn and warning light controller** Turn signals Connectors: JST SM plug	→ 3 · Green, then blue after the connector · L → 1 · Blue, then green after the connector · R
High beam	**3-function switch** Connectors: JST SM plug	2 · Red, then yellow after the connector · LED +
High beam	**Splice 4** Connectors: JST SM plug	1 · Black · LED –
Horn	**3-function switch** Connectors: JST SM plug	2 · Red, then orange after the connector · Horn
Horn	**Splice 4** Connectors: JST SM plug	1 · Black · Ground
Brake switch 1	**Splice 6** Connectors: JST SM plug	2 · Blue, then white after the connector
Brake switch 1	**Splice 4** Connectors: JST SM plug	1 · Red
Brake switch 2	**Splice 6** Connectors: JST SM plug	2 · Blue, then white after the connector
Brake switch 2	**Splice 4** Connectors: JST SM plug	1 · Red
Speed limit plug	**Dual controller** Speed limit Connectors: Board header	→ 2 · Grey → 1 · Grey
Turn and warning light controller Power	**Splice 4** Connectors: JST SM plug	1 · Black · Supply – 2 · Red · Supply +
Turn and warning light controller SC	**Splice 6** Connectors: JST SM plug	2 · White
Turn and warning light controller LR	**Turn signal (left) 1** Connectors: JST SM plug	Red · LED + Black · LED –
Turn and warning light controller LF	**Turn signal (left) 2** Connectors: JST SM plug	Red · LED + Black · LED –
Turn and warning light controller RR	**Turn signal (right) 1** Connectors: JST SM plug	Black · LED – Red · LED +
Turn and warning light controller RF	**Turn signal (right) 2** Connectors: JST SM plug	Black · LED – Red · LED +
Bus LED controller Power	**Splice 3** Connectors: JST SM plug	1 · Black 2 · Red
Bus LED controller RGB output 1	**Stem LED strip (left)** Input Connectors: Board header	Red · +12 V Blue · LED data Black · Ground
Bus LED controller RGB output 2	**Stem LED strip (right)** Connectors: Board header	Red · +12 V Blue · LED data Black · Ground
Bus LED controller RGB output 3	**Side cover LED strip (right)** Connectors: Board header	Black · LED – Blue · LED data Red · LED +
Bus LED controller RGB output 4	**Side cover LED strip (left)** Connectors: Board header	Black · LED – Blue · LED data Red · LED +
Stem LED strip (left) Output	**Bus LED controller** Input Connectors: JST SM plug	→ 1 · Red · LED + → 2 · Blue · LED data → 3 · Black · LED –
Driving light 1	**Splice 3** Connectors: JST SM plug	2 · Red 1 · Black
Driving light 2	**Splice 3** Connectors: JST SM plug	2 · Red 1 · Black
Driving light 3	**Splice 3** Connectors: JST SM plug	2 · Red 1 · Black
Driving light 4	**Splice 3** Connectors: JST SM plug	2 · Red 1 · Black
Brake light 1	**Dual controller** Brake light 1 Connectors: Board header	→ 1 · Red · LED + → 2 · Black · LED –
Brake light 2	**Dual controller** Brake light 2 Connectors: Board header	→ 1 · Red · LED + → 2 · Black · LED –
Brake light 3	**Dual controller** Brake light 3 Connectors: Board header	→ 1 · Red · LED + → 2 · Black · LED –
Tail light 1	**Connector 1**	→ 1 · Red · LED + → 2 · Black · LED –
Tail light 2	**Connector 2**	→ 1 · Red · LED + → 2 · Black · LED –
Connector 1	**Splice 3** Connectors: JST SM plug	1 · Green, then black after the connector 2 · Violet, then red after the connector
Connector 2	**Splice 3** Connectors: JST SM plug	1 · Blue, then black after the connector 2 · Pink, then red after the connector