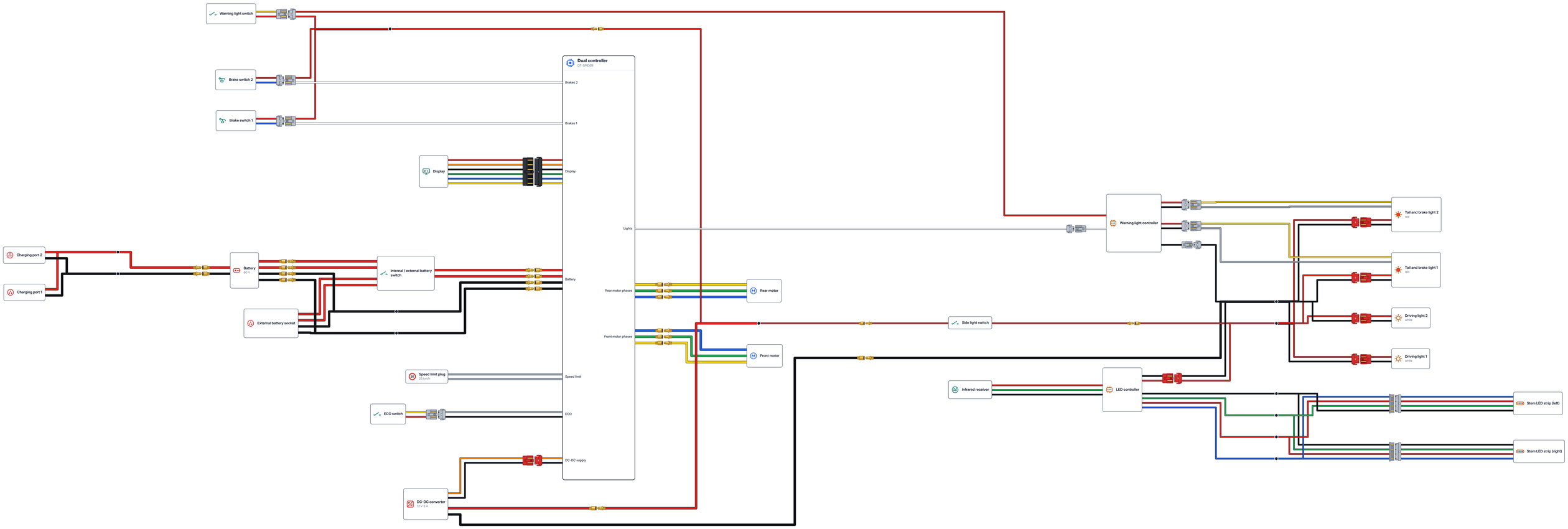
WIRING DIAGRAM

Dualtron Spider | 60 V

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WIRE COLOURS

- Black BK
- Blue BU
- Green GN
- Grey GY
- Orange OG
- Red RD
- 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. The internal / external battery switch connects the controller + either to the 60 V battery ("Built-in battery" position) or to the 4-hole external battery socket ("External battery" position). Pins 3 and 4 of that socket are permanently joined to the two black battery wires.
2. On the original, the wire marked 12V running from the LED controller to both pole strips is black. The other three wires are marked G, R and B.
3. The warning light controller inputs are only marked SC and JS on the original. SC takes the white wire from the controller, JS the warning light switch.
4. Each red tail light has two pairs of wires. The first is joined to the other lights, fed through the side light switch. The second goes to the warning light controller, LF and LR outputs.
5. On the original, the label of tail light 1 ends with a question mark: "Red tail light / brake light?".
6. Both brake switches carry the same "left / right" label on the original, which does not say which one is on the left.
7. The original diagram shows no throttle.

DOCUMENT

Based on the manufacturer diagram "Schéma électrique DUALTRON Spider" dated 25 March 2022.

Redrawn by FohzShop on 5 November 2026.

Disconnect the battery before any work.

CONNECTOR PINOUT

Connector	To	Wire
Dual controller Front motor phases	**Front motor** Connectors: Bullet connectors	Blue · Motor phase Green · Motor phase Yellow · Motor phase
Dual controller Rear motor phases	**Rear motor** Connectors: Bullet connectors	Yellow · Motor phase Green · Motor phase Blue · Motor phase
Dual controller DC-DC supply	**DC-DC converter** Input Connectors: JST SM plug	2 · Orange · IN+ 1 · Black · IN−
Battery Output	**Internal / external battery switch** Input 1 Connectors: Bullet connectors	Red · Battery + Red · Battery +
Battery Output	**Splice** Connectors: Bullet connectors	Black · Battery − Black · Battery −
Charging port 1	**Splice**	1 · Red · Charge + 3 · Black · Charge −
Charging port 2	**Splice**	1 · Red · Charge + 3 · Black · Charge −
Splice	**Battery** Charge Connectors: Bullet connectors	Red · Charge + Black · Charge −

Connector	To	Wire
External battery socket	**Internal / external battery switch** Input 2	1 · Red · Battery + 2 · Red · Battery +
External battery socket	**Splice**	4 · Black · Battery − 3 · Black · Battery −
Internal / external battery switch Output	**Dual controller** Battery Connectors: Bullet connectors	Red · Battery + Red · Battery +
Splice	**Dual controller** Battery Connectors: Bullet connectors	Black · Battery − Black · Battery −
Display	**Dual controller** Display Connectors: JST SM plug	Red Orange Black Green Blue Yellow
Brake switch 1	**Dual controller** Brakes 1 Connectors: JST SM plug	Blue, then white after the connector
Brake switch 1	**Splice** Connectors: JST SM plug	Red

Connector	To	Wire
Brake switch 2	**Dual controller** Brakes 2 Connectors: JST SM plug	Blue, then white after the connector
Brake switch 2	**Splice** Connectors: JST SM plug	Red
Speed limit plug	**Dual controller** Speed limit	Grey Grey
ECO switch	**Dual controller** ECO Connectors: JST SM plug	Yellow, then grey after the connector Red, then black after the connector
DC-DC converter Output	**Splice** Connectors: Bullet connectors	Red · +12 V
DC-DC converter Output	**Splice** Connectors: Bullet connectors	Black · Ground
Splice	**Side light switch** Connectors: Bullet connectors	Red
Splice	**Splice** Connectors: Bullet connectors	Red
Splice	**Side light switch** Connectors: Bullet connectors	Red

Connector	To	Wire
Warning light switch	**Splice** Connectors: JST SM plug	Red
Warning light switch	**Warning light controller** JS Connectors: JST SM plug	Yellow, then red after the connector
Warning light controller LR	**Tail and brake light 1** Input 2 Connectors: JST SM plug	Red, then yellow after the connector · LED + Black, then grey after the connector · LED −
Warning light controller LF	**Tail and brake light 2** Input 2 Connectors: JST SM plug	Red, then yellow after the connector · LED + Black, then grey after the connector · LED −
Warning light controller GND	**Splice** Connectors: JST SM plug	Black · Ground
Warning light controller SC	**Dual controller** Lights Connectors: JST SM plug	White
LED controller Power	**Splice** Connectors: JST SM plug	1 · Black · Ground 2 · Red · +12 V

Connector	To	Wire
LED controller RGB output	**Splice**	Black · +12 V Green · Green LED Red · Red LED Blue · Blue LED
Infrared receiver	**LED controller** Sensor	Red Green Black
Splice	**Stem LED strip (right)** Connectors: Board header	Black · +12 V Green · Green LED Red · Red LED Blue · Blue LED
Splice	**Stem LED strip (left)** Connectors: Board header	Blue · Blue LED Red · Red LED Green · Green LED Black · +12 V
Driving light 1	**Splice** Connectors: JST SM plug	2 · Red · LED + 1 · Black · Ground
Driving light 2	**Splice** Connectors: JST SM plug	2 · Red · LED + 1 · Black · Ground
Tail and brake light 1 Input 1	**Splice** Connectors: JST SM plug	2 · Red · LED + 1 · Black · Ground
Tail and brake light 2 Input 1	**Splice** Connectors: JST SM plug	2 · Red · LED + 1 · Black · Ground