



EC Contacts Data V1.1

Technical Data Sheet

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Contents

1. Introduction:	3
2. Reference Data (per EC contact specifications):	4
2.1 EC5 Contacts:	4
2.2 EC8 Contacts:	5
3. LunaDrives High Current Test-Rig:	6
4. EC Contact Test Specimens:	6
4.1 Contact and Cable Only Specimens:	6
5. EC Contact High Current Test Results:	7
5.1 EC5 Temperature vs Time vs Current – WITHOUT BODIES:	7
5.2 EC8 Temperature vs Time vs Current – WITHOUT BODIES:	7
6. Disclaimer & Licensing:	8

1. Introduction:

EC connectors feature gold plated contacts with nylon bodies and are supplied for experimental & prototyping purposes. They are used in an array of applications from Remote Control (RC) vehicles to Remote Power.

We selected these contacts for use in our LunaPlugs Experimental connectors for their wide availability and their ability to maintain:

- High power density
- Low contact resistance
- Robustness (when soldered properly)

Whilst undergoing repeated assembly disassembly cycles.

Drawbacks of these connectors include:

- Large variance between manufacturers.
- Varying design philosophies (eg front or rear loaded).
- No Certifications.



EC5:

- Ø5mm Bucket
- 50A
- 1kg.F/Contact



EC8:

- Ø8mm Bucket
- 100A
- 1.5kg.F/contact

LunaDrives determined the best supplier for these contacts, selected for their 1) Low contact resistance 2) High Quality & 3) Feature design philosophy. Please see the LunaPlugs Approved materials guide on the [LunaDrives](https://lunadrives.com) website for where to purchase.

EC Contacts Data TDS

2. Reference Data (per EC contact specifications):

Notes:

- LunaDrives test data is based on in-house evaluation at 24 VDC.
- Supplier ratings are provided for reference and may vary with conditions.
- All figures are indicative only and depend on print quality, wiring, ambient temperature, and materials.
- For design purposes, LunaDrives recommends treating EC8 as a 100 A class connector, and EC5 as a 50 A class connector (E1.0 experimental).

2.1 EC5 Contacts:

EC5 Contacts		
	LunaDrives Test Data	Supplier Rating / Data
Current Capacity	50 A continuous @ 24 VDC (10AWG)	Up to 200 A (conditions vary)
	100 A bursts ≤10s @ 24 VDC (10AWG)	
Voltage Capacity	Tested at 24 VDC	Rated up to 600 V
Temperature Range	—	–30 °C to +120 °C
Materials	User Selected UL94-V0	Housing: PA66 (blue)
	—	Pins: Silver-plated brass
Dimensions	See LunaPlugs Product Specifications.	25 mm (L) × 19 mm (W)
	—	Pin Ø6.2 mm
Durability	—	~500 mating cycles typical

EC Contacts Data TDS

2.2 EC8 Contacts:

EC8 Contacts		
	LunaDrives Test Data	Supplier Rating / Data
Current Capacity	100A continuous @ 24 VDC (6AWG)	Rated 100 A continuous (6AWG)
	200A bursts ≤10s @ 24 VDC (6AWG)	200 A instantaneous
Voltage Capacity	Tested at 24 VDC	Rated up to 500 VDC
Temperature Range	—	–20 °C to +120 °C
Materials	User Selected UL94-V0	Housing: PA6, UL94-V0
	—	Contacts: copper alloy, gold-plated Cu, Au 1 µm
Dimensions	See LunaPlugs Product Specifications.	29 mm (L) × 25mm (W)
	—	Pin Ø8.15 mm
Durability	—	200–500 cycles

Extra Supplier Data – only available for EC8:

Contact Resistance	—	≤ 0.40 mΩ
Insulation Resistance	—	≥ 2000 MΩ
Temperature Rise	—	≤ 60 °C at 100 A (4 h, 6 AWG)

3. LunaDrives High Current Test-Rig:

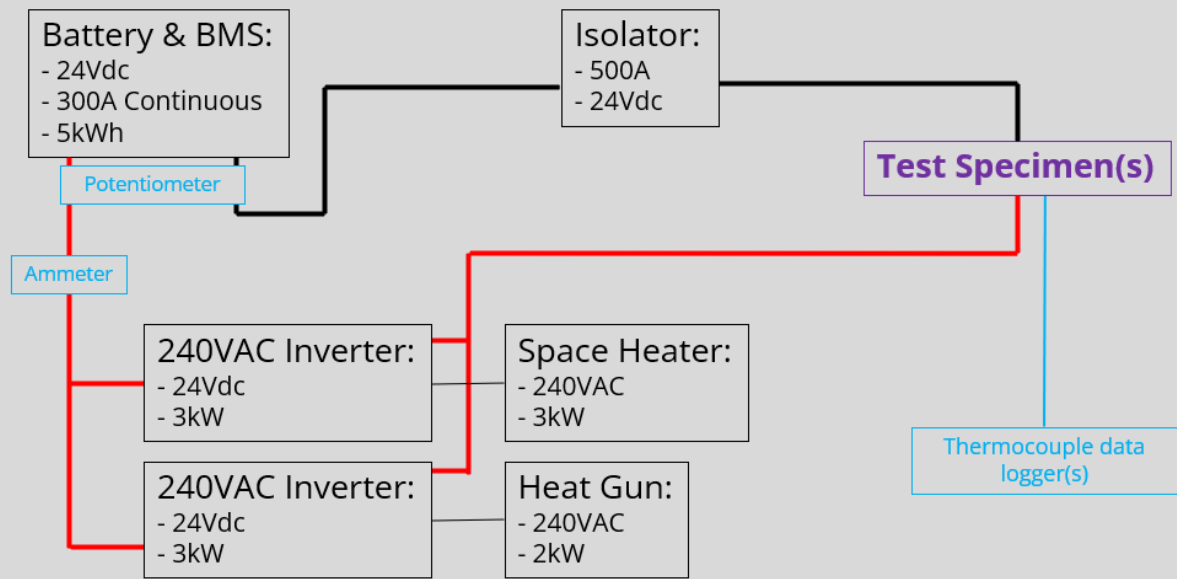


Figure 1 – LunaDrives High Current Test Rig V1.0 Schematic

This rig provides us with the facility to accurately and repeatably test high-power transmission components in several ways, from 0-240A (6kW at 24V).

This rig has no external calibration certification therefore results should be viewed as “indicative” only.

4. EC Contact Test Specimens:

4.1 Contact and Cable Only Specimens:

- Contacts and cables, soldered with 0.5m total length.
- 2x thermocouples taped to:
 - i. Female contact external diameter
 - ii. 100mm along the cable from the male contact back face.

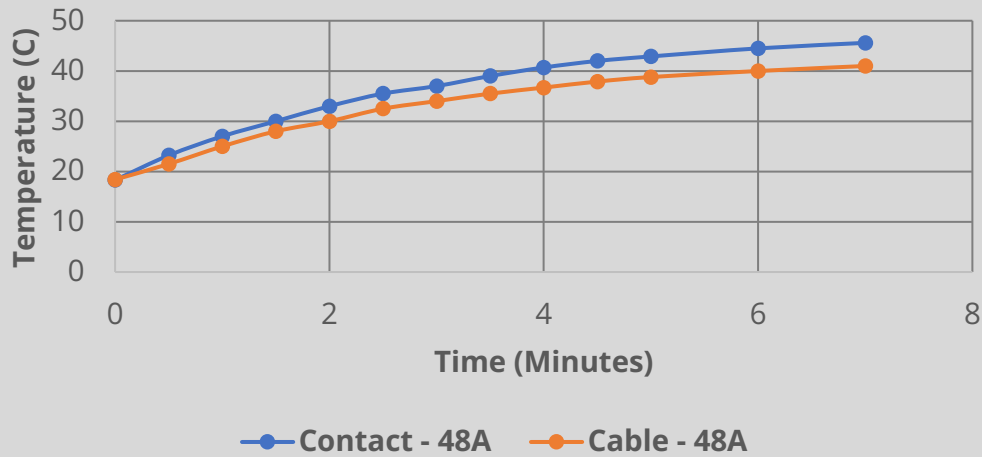
EC Contacts Data TDS

5. EC Contact High Current Test Results:

5.1 EC5 Temperature vs Time vs Current – WITHOUT BODIES:

The following chart indicates typical thermal responses of EC5 contacts, soldered to 0.5m 10awg cable, without bodies, @ 24V & 21C ambient temperature.

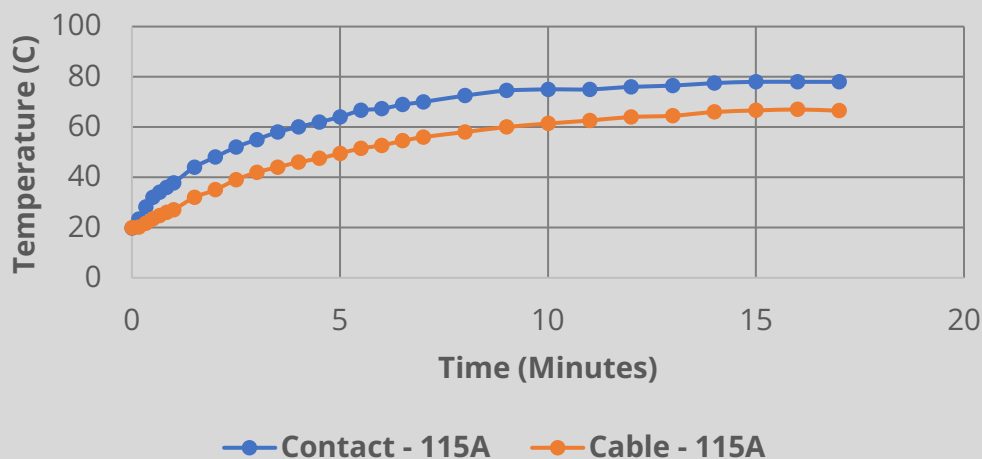
EC5 - 10awg - 48A - WITHOUT BODIES



5.2 EC8 Temperature vs Time vs Current – WITHOUT BODIES:

The following chart indicates typical thermal responses of EC8 contacts, soldered to 0.5m 6awg cable, without bodies, @ 24V & 21C ambient temperature.

EC8 - 6awg - 115A - WITHOUT BODIES



6. **Disclaimer & Licensing:**

LunaPlugs® E-series connectors are experimental-level products. They are suitable for prototyping, testing, and licensed commercial use under controlled conditions. All performance data is indicative & based on:

- Supplier contact specifications (reference values)
- LunaDrives in-house test results at 24 VDC

Performance depends on materials, print quality, wiring, ambient conditions, and assembly practices. All values are indicative, for design guidance only, and are not certified ratings.

Important Safety Notes:

- Do not connect or disconnect under load.
- Use only with appropriate wire gauges and fusing.
- Always validate connectors in your own application before use.

Licensing

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