

Amphenol LTW

SWAPPING CONNECTOR

New

**Best solution for
E-Mobility
Swappable Battery**

- Voltage: Power Pin: 600V;
Signal Pin: 30V
- Operating temperature:
up to -40°C ~ +125°C
- 5000 durability cycles
- Panel to panel connection
- Blind mating
- $\pm 1.5\text{mm}$ X and Y float

The swappable connector solutions offered in 2 power & 8 signal configurations. These connectors can carry a continuous current of 50A with 5,000 mating cycles and IP67 rated in mated and unmated conditions.



Plug
(Battery side connector)



Socket
(Vehicle side connector)

Unrivaled InterConnects for Harsh Environments

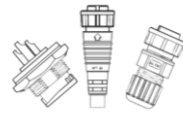
About ALTW

**3**

Production Sites
(Taiwan, China, Mexico)

**30+**

Market Applications

**90,000+**

Products

Since 1993, Amphenol LTW Technology “ALTW” lives and breathes to create, innovate, design and produce “***unrivaled interconnects for harsh environments***”. With over 300 worldwide patents, not only does ALTW offer the broadest and widest range of rugged interconnects in the industry but also customization with the mission of “Customer Satisfaction First”. Undoubtedly, ALTW is the leader in rugged interconnects, highly recognized for its uncompromising quality, short lead time, fast and tailored service and its very competitive pricing.

Regardless of the challenging environments that your products will be subject to; there is a very good chance that you will find what you are looking for with ALTW.

Unrivaled InterConnects for Harsh Environments

Swapping Connector

Plug		Socket	
Part Number	SPMD-10PMFC-QSD7001	Part Number	SPMD-10PFMC-QSD7001
Configuration	2 Power Pin / 8 Signal Pin	Configuration	2 Power Pin / 8 Signal Pin

General Specification:

- ✓ Operating Temperature: -40°C ~ 125°C
- ✓ Mating Style: Snap In
- ✓ Durability: 5000 cycles
- ✓ Operating Voltage: Power Pin: 600V; Signal Pin: 30V
- ✓ Nominal Current: Power Pin: 50A; Signal Pin: 5A
- ✓ Plug: IP67 (mated or unmated) / Socket IP67 (mated)
- ✓ Salt Spray: 48h
- ✓ Insulation Resistance: ≥200MΩ (500V DC)
- ✓ Withstanding Voltage: Power Pin 2200V AC; Signal Pin 500V AC
- ✓ Current Temperature Rise Test: 50A, Δt ≤ 55°C
- ✓ IEC 61984 (Pollution degree: 3; Overvoltage category: III)
- ✓ UL Material Certification



Application:

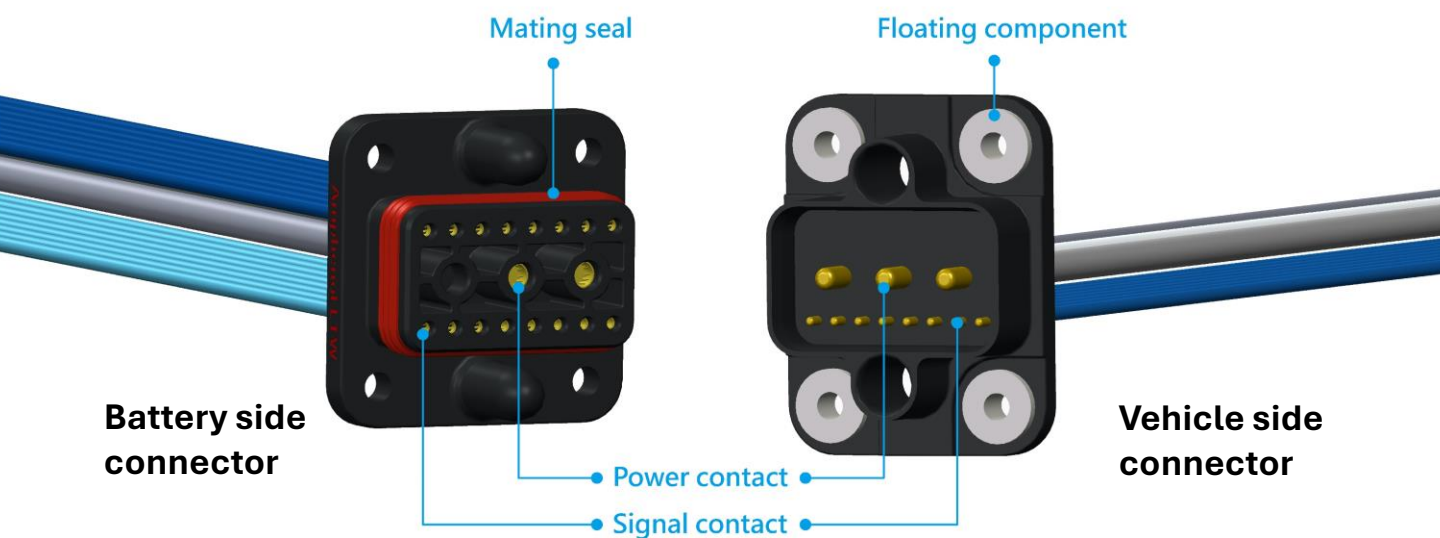


Battery side connector



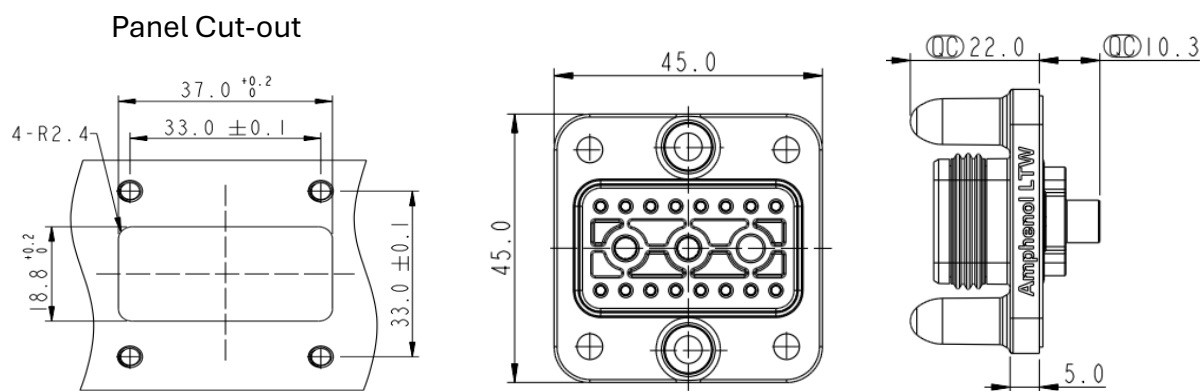
Vehicle side connector

Swapping Connector

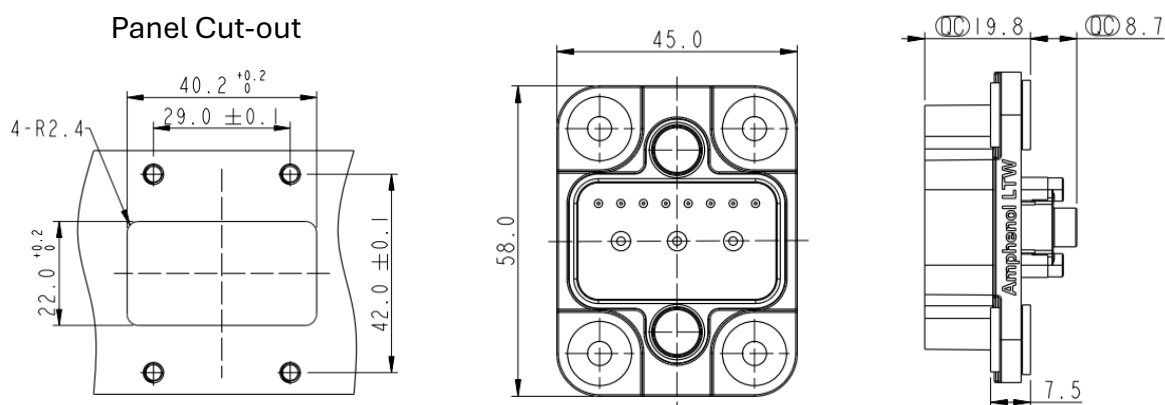


unit: mm

Battery side connector

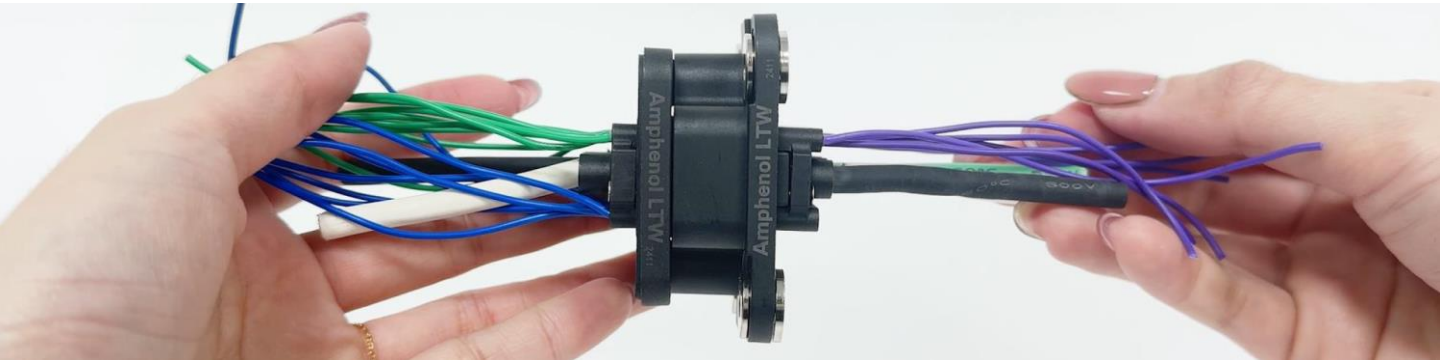


Vehicle side connector



Assembly Instructions

Select unshielded cables that fulfill the following requirements	<table><tr><th>Cable Spec.</th><th colspan="2">OD (mm)</th></tr><tr><td>6mm²</td><td colspan="2">≤4.9mm</td></tr><tr><td>0.5mm² or 0.75mm²</td><td colspan="2">≤2.3mm</td></tr></table>			Cable Spec.	OD (mm)		6mm ²	≤4.9mm		0.5mm ² or 0.75mm ²	≤2.3mm						
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Wire cutting	<table><tr><th>Cable Spec.</th><th>Socket</th><th>Plug</th></tr><tr><td>6mm²</td><td>(L+3mm) 2mm</td><td>(L+5mm) 2mm</td></tr><tr><td>0.5mm² or 0.75mm²</td><td>(L+1mm) 2mm</td><td>(L+1mm) 2mm</td></tr></table>			Cable Spec.	Socket	Plug	6mm ²	(L+3mm) 2mm	(L+5mm) 2mm	0.5mm ² or 0.75mm ²	(L+1mm) 2mm	(L+1mm) 2mm					
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Strip the cable jacket to the specified size	 <table><tr><td rowspan="2">A (mm)</td><td>8.5±0.5</td><td>Power terminals</td></tr><tr><td>6.5±0.5</td><td>Signal terminals</td></tr></table>			A (mm)	8.5±0.5	Power terminals	6.5±0.5	Signal terminals									
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Insert the cable conductor into the terminal crimping barrel and rivet it	The tensile strength after riveting shall not be less than the following values:  <table><tr><th>Cable Spec</th><th>Pulling Force (N)</th></tr><tr><td>6mm²</td><td>780</td></tr><tr><td>0.75mm²</td><td>80</td></tr><tr><td>0.5mm²</td><td>70</td></tr></table> <table><tr><th>Terminal Type</th><th>OD (mm) after crimping</th></tr><tr><td>Power</td><td>≤4.6mm</td></tr><tr><td>Signal</td><td>≤2.1mm</td></tr></table>			Cable Spec	Pulling Force (N)	6mm ²	780	0.75mm ²	80	0.5mm ²	70	Terminal Type	OD (mm) after crimping	Power	≤4.6mm	Signal	≤2.1mm
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Assembling the connectors	 Video  Click and watch the video																
Electrical test	• Continuity test: 100% • Insulation resistance: ≥200MΩ (500V DC) • Withstand voltage: Power-Power, Power-Signal: 2200VAC 1min, Leakage Current ≤5mA Signal-Signal: 500VAC 1min, leakage current ≤5mA																
Recommended tightening torque	<table><tr><th>Screw</th><th>Torque (N.m)</th><th>Material</th><th>Remark</th></tr><tr><td>ST2.2</td><td>0.16-0.2</td><td>Plastic</td><td>For panel assembly</td></tr><tr><td rowspan="2">M4</td><td>0.8-1.0</td><td>Aluminum / Iron</td><td rowspan="2">For back cover assembly</td></tr><tr><td>0.8-1.2</td><td>Steel</td></tr></table>			Screw	Torque (N.m)	Material	Remark	ST2.2	0.16-0.2	Plastic	For panel assembly	M4	0.8-1.0	Aluminum / Iron	For back cover assembly	0.8-1.2	Steel
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Contact Us

Luc Kan | Sales & Marketing | luc@ltw-tech.com

Customer Service | sales@ltw-tech.com

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