

Announcement of the development of the "FG Series" connector for high-current batteries.



FG series connectors for high-current batteries. Left side of photo: receptacle, right side: plug.

KEL Corporation (Headquarters: Tama City, Tokyo) has developed the "FG Series" of high-current battery connectors for connecting batteries to the main unit of equipment that handles high currents.

<Product overview>

- The signal terminals have two contact points, and the power terminals have eight contact points, ensuring high contact reliability.

The power terminals are designed to handle 40A to 50A per contact.

The planned number of contacts is 2 for power supply and 6 for signal terminals.

It is equipped with a guide mechanism that allows for $\pm 3.5\text{mm}$ in the X direction and $\pm 2.8\text{mm}$ in the Y direction.

- The screw-fastening portion of the plug-side connector is movable, allowing for a maximum tolerance of $\pm 0.7\text{mm}$ in the XY direction.



<Product specifications>

[Plug-side connector]

-Insulator materials: 9T nylon glass-filled reinforced UL94V-0 material, black

- Contact material : Copper alloy

-contact plating: Nickel plated base coat

Power contacts (contact area) are gold-plated, (soldering area) is tin-plated.

Signal contacts (contact parts) are gold-plated, (tail section) is tin-plated.

-rivet / washer material: Stainless steel

[receptacle-side connector]

-Insulator materials: PBT glass-filled reinforced, UL94V-0 material, black.

- Contact material : Copper alloy

-contact plating: Nickel plated base coat

Power contacts (contact area) are gold-plated, (soldering area) is gold-plated

Signal contacts (contact area) are gold-plated, (crimping area) is Nickel-plated.

[Performance]

-current rating: Power contact 50A/1PIN (AWG#6)

40A/1PIN (AWG#8)

Signal contact 3.0A/1PIN (AWG#18/20)

-contact resistance: Power contacts 3mΩ max.

Signal contacts 10mΩ max.

-dielectric withstand voltage: Power contact AC 2,000V, 1 minute

Signal contact AC 1,000V, 1 minute

insulation resistance: DC 500V, 1,000MΩ or more

- Insertion/extraction durability: 500 times

-operating temperature: -55°C to +105°C

- Compatible cable: Power contact AWG #6/8

Signal contacts AWG#18/20

<Application>

• Industrial equipment market: UPS, lighting equipment, agricultural machinery, construction machinery, drones, etc.

* Because this is a product under development, the specifications, shape, and series name are subject to change without notice.