

Getting connected - "Bringing order to chaos"

In the business of charging or drawing power from the battery, making the right, secure and safe 'connection' is important. However, with so many different connectors in use in powersports, it's not as straightforward as it needs to be ...

TecMate saw this problem coming and down the years has planned its platform connectivity carefully and developed a range of premium cables and adapters that can connect most of the different connection systems together - "bringing order to the chaos".

Says **Martin Human**, CEO/CTO of TecMate: "We can't prescribe to OEMs what connector they should use - they all have their own and generally differing



O-01 premium quick-connect permanent battery lead for powersport batteries, with weather protected connection system and cable.

reasons for the choices they make. So, our job is to make life easier for dealers and riders by making adapters that cover most of the options and requirements needed, so riders can hook up to the vehicle's battery, be it to charge or draw power."

OptiMate battery chargers utilise the **industry**



O-19 Ø12 mm DIN power socket adapter.

standard 2-pin SAE connection system - "and we have made sure that the OptiMate SAE connector fits all other SAE 2-pin connectors".

OptiMate's 'O' SAE is a little **better than standard**, it's designed to accept in-line or end cap seals that protect the SAE connection against ingress of dirt and water.

"Often overlooked and misunderstood, **cable temperature rating** is important too," says Martin. "OptiMate is now standardising on SPT-2W



O-20 SAE front mount panel connector.

- the 'W' signifying a -40°C/°F rating and the SPT-2 signifying thicker insulation of 1.1 mm (0.045").

"OptiMate's **waterproof fused battery leads** are a popular choice for OEMs and dealers alike. Fitment of a good battery lead makes it easy for the rider to connect a battery charger when storing their vehicle. Ring sizes from M6 (1/4") to the **innovative dual ring** (M6-M8/1/4" - 5/16") system allow for connection to any powersport battery, including larger batteries used on Side-by-Sides, with bulk quantities 4, 20 or 120 available."

OptiMate offers a range of SAE-to-SAE **extenders** from 180 cm (6 ft) up to 460 cm (15 ft), with an even longer 762 cm (25 ft) extender coming during 2022. OptiMate's range of SAE-to-SAE **panel mount**



O-30 tankbag connector.

sockets include the unique front mount O-20 socket with rubber expander system, designed for when it is difficult to reach behind and tighten that nut. Mounting and connecting is from the front - simply drill the 25 mm (1") hole, make the connection, push the socket into the hole and then tighten the nut on the front, and the rubber expander jams it in position. The conventional O-40 socket line fits an 18 mm (0.7") hole. Short (15 cm/6") and long versions (100 cm/40") are available for both.

Rounding out the panel mount options is the O-30 tank or pannier bag 12V **power-pass through**, a low profile panel mount system that fits the crosshair entry on most tank bags.

"The ISO/DIN 4165 Ø12 mm connector - used extensively on BMW, Ducati and Triumph motorcycles - creates a vibration-resistant connection ideal for motorcycle and even marine use. OptiMate's red BIKE 'DIN' connectors are a perfect fit with **two fully encapsulated plug styles** on offer - in-line (with cable exiting at 180°) and low



O-77 Euro 5 adapter.

O-39 adapter for heated apparel.

profile with cable exiting at 90°. The O-09, O-19 and O-29 adapts from 'DIN' to SAE, whereas the O-39 adapter adapts from 'DIN' to DC2.5."

The DC2.5 connector is an axial 5.5 x 2.5 mm DC **socket and plug system** "used by many heated gear and apparel companies, with a few also using the smaller 5.5 mm x 2.1 mm system. OptiMate's DC2.5 and DC2.1 adapters include the 100 cm O-21 battery lead made with 1.32mm² (16AWG) cable designed to pass up to 13 amp of current.

"The most common 12V outlet used in the powersports industry is the 21-22 mm diameter 'AUTO' J563/SAE563 connector," says Martin.

"OptiMate offers **fused SAE to AUTO adapters**, the O-02 that can also adapt to DIN/Ø12 mm socket, and a standard O-12 adapter." Coming during 2022 is the O-22 plug with an **adjustable perimeter expander system** that will keep the plug firmly in the socket during 'hard' hi-vibration riding.

"And then there are the **diagnostic connectors** - found on different motorcycles - that also have a 12V power feed from the battery.

"OptiMate offers a fused O-47 adapter for Ducati motorcycles and the O-57 for MV Agusta, as well as the latest Euro 5 connector that is meant to reduce the number of different diagnostic connectors on European motorcycles to one - OptiMate's O-77 - that has been tested and approved by Ducati."

Martin says there are yet more adapters due for release by OptiMate during 2022, and that this reflects on the complexities caused by the way that power use on motorcycles is evolving.

These will include the **high current EC5 range**, utilising the same connector as used by the majority of lithium jump starters, a magnetic connection system that utilises the **Magcode connector** that is popular in motorsport, and a line of 'DIN' sockets delivered with handle and panel-mount hardware.

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