

## PowerTube Connector Series

### Modular, scalable and immensely powerful

Designing for an electrified future requires laying the right foundations now. In the industrial and commercial transportation market, this means vital components of a vehicle must withstand years of service in the elements without failing, and so must the systems that connect them together. That's exactly where TE Connectivity's (TE) new PowerTube connectors can enable your hybrid and electric vehicle designs.

### FEATURES & BENEFITS

#### Modular and Scalable

- Up to 3 pins in one header connector and large cable range
- Cube-shaped bus bar enables multiple screw orientations for easier tool access
- Both 180° and 90° headers use the same size interface on the aggregate
- Unshielded (48V) and shielded (high voltage) systems can be serviced with the same connector system

#### Reduced Total Applied Cost

- Modularity reduces inventory cost
- Circular connector design enables simplified routing
- Decreases complexity of assembly and reduced number of components
- Single connector design enables improved serviceability in the field

#### High Performance in Every Environment

- IP6K9K protection and ISO 16750-3 profile vibration performance
- CPA and HVIL for each pin
- Circular 360° shielding provides excellent EMI protection

Reliability and performance go hand in hand, and it's no exception for high power applications in hybrid and electric industrial and commercial vehicles. Whether it's an e-motor, inverter or battery pack, the vehicle is not whole without these subsystems. However they are designed, they must operate safely and reliably for a long time regardless of external conditions, and so must any connectivity provided to them. The PowerTube connector series is the right choice for high power applications in all hybrid and electric industrial and commercial vehicles.

Built for handling large electrical loads (up to 500 A continuous current, depending on wire size and temperature, and 1000 V), TE's PowerTube connector series can handle multiple wire sizes, between 35 mm<sup>2</sup> to 150 mm<sup>2</sup>. Manufactured with scalability and modularity in mind, the PowerTube header is available in either 180° or 90° orientation, as well as up to 3 positions per connector.

Along with its modularity, a refined circular design greatly simplifies cable routing and connector assembly, thus helping lower total applied cost. The PowerTube connector is an excellent choice for providing reliable, safe connectivity, thanks to IP6K9K dust and water ingress protection, Connector Position Assurance (CPA), a robust design to withstand engine-level vibration, and High Voltage Interlock Loop (HVIL) safety feature in each pin.

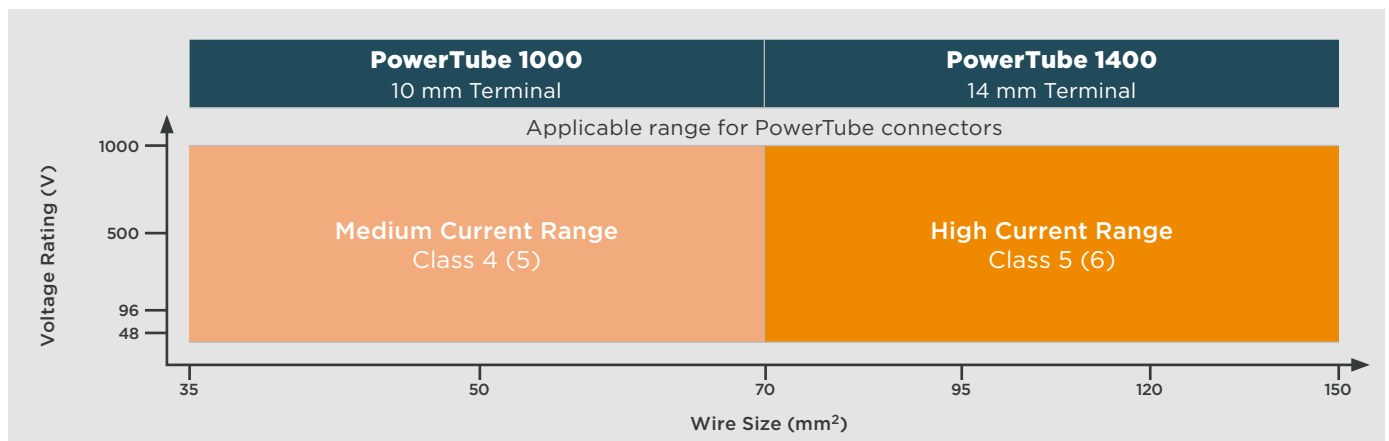
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### PRODUCT SPECIFICATIONS

Description	PowerTube 1000 (HVP-HD 1000)	PowerTube 1400 (HVP-HD 1400)
Voltage level	Up to 1000 V	
Dielectric strength	4000 VDC, 5500 m altitude	
Current level	300 A for connector system (depending on wire size and system temperature)	500 A for connector system (depending on wire size and system temperature)
Terminal size	10 mm round pin	14 mm round pin
Wire size	35 mm <sup>2</sup> , 50 mm <sup>2</sup> , 70 mm <sup>2</sup>	70 mm <sup>2</sup> , 95 mm <sup>2</sup> , 120 mm <sup>2</sup> , 150 mm <sup>2</sup>
Shielding*	360° shielding (shield current up to 30% of main current)	
Vibration	ISO 16750-3 profile 7 and profile 9	
Pin count	1/2/3 pin on header side, 1 pin on connector side	
Orientation	180° and 90°	
Sealing	IP67, IP6K9K, IPX8	
Safety	HVIL for each pin, IPXXB, IPXXD	
Coding	12 color-codings	
Corrosion resistance	VDA 233-102 salt spray test	
Others	CPA, tool and finger access	

\* Unshielded options also available



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