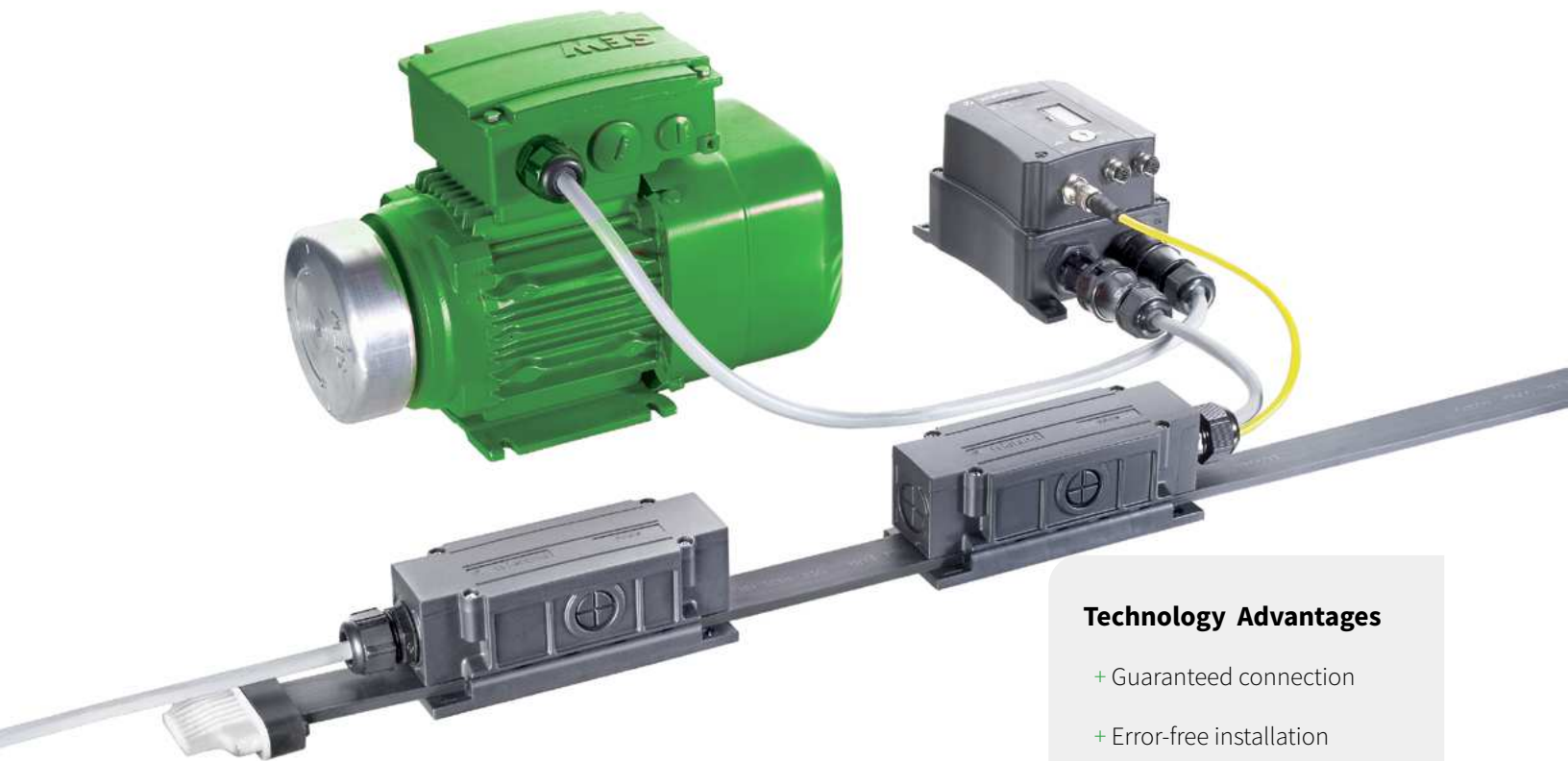


podis®

NEXT-GENERATION POWER BUS SYSTEM FOR MANUFACTURING

The benefits of copper displacement terminals in decentralized power distribution systems



The global market for decentralized power distribution systems is growing rapidly. The cost saving benefits afforded by reduced labor time during installation and commissioning versus traditional wiring practices is well established.

Decentralized systems require less cabling and are easier to maintain. Add to that an innovative connection technology that solves termination and long life reliability issues of standard Insulation Displacement connectors.

Wieland Electric's Copper Displacement termination technology provides lifetime reliability and a safe connection every time. This allows decentralized power bus systems to be even more competitive due to their flexibility and reliability.

This paper provides an overview on the Copper Displacement technology developed by Wieland Electric and other unique features of the podis® power bus system.

Technology Advantages

- + Guaranteed connection
- + Error-free installation
- + 70% faster commissioning
- + Reduced voltage drop
- + System sustainability
- + Flexibility to reconfigure and re-use parts
- + Optimal maintenance
- + Easy system expansion

PATENTED TERMINATION SYSTEM

When Wieland Electric introduced its power distribution system it classified it as a displacement connector solution, and introduced a new type of terminal for connecting to a 3-phase power conductor.

The standard Insulation Displacement Connector (IDC) used by most decentralized power distribution systems have a blade termination that cuts through the insulation and the copper core.

Once this type of termination has been made, it cannot be removed. Doing so would reduce the rating of the power conductor since the copper core are cut. Attempting to remove such a termination would require the replacement of the entire power cable run, making any

system changes costly and time consuming.

Evolving away from typical applications, Wieland adopted a different approach that involved designing a single piece terminal that pierces the insulation material and then terminates with the copper cores of the conductor.

This patented design avoids damaging the copper cores of the power conductor by simply pushing the conductors aside, in effect, forming them around the terminal (see Fig. 1). As a result, the cores are not damaged during this process while ensuring the rating of the conductor is not reduced.

This process offers the benefit of allowing any tap off to be removed and

moved. This offers the designer and operator of any system great flexibility for future modifications.

Now, decentralized systems are a fast, nimble and viable choice for a variety of new applications such as manufacturing or conveyor systems (see Fig. 2 and 5).



Fig. 1 Cross-section view of the Copper Displacement terminal making contact

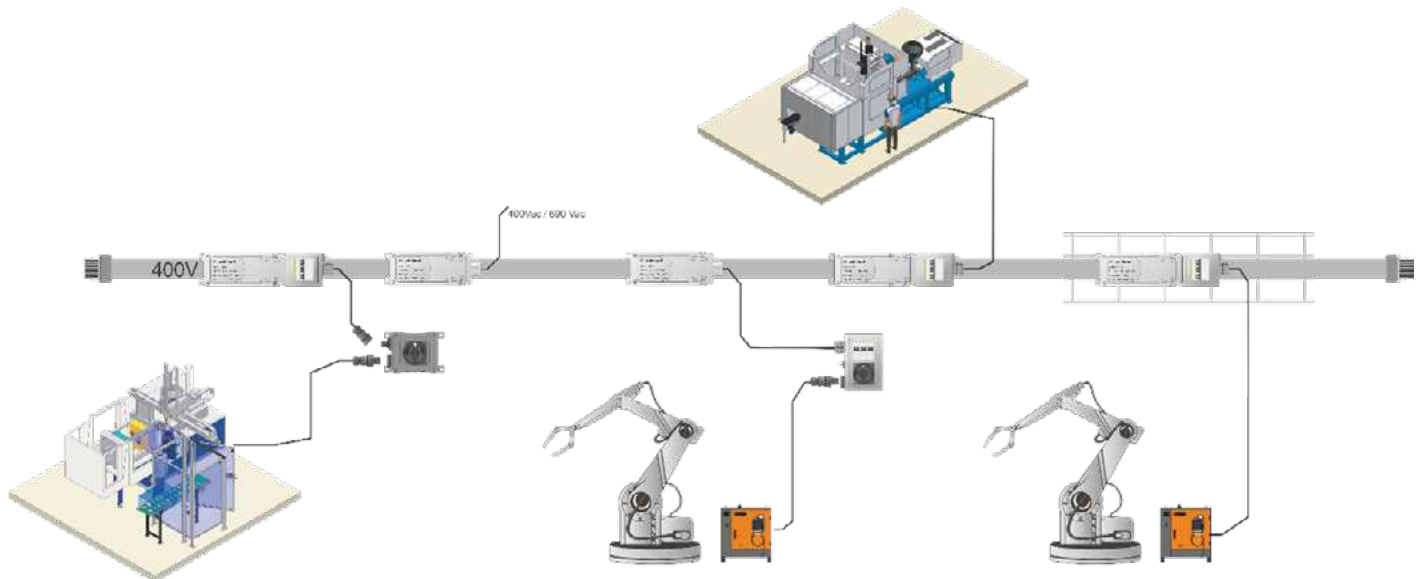


Fig. 2 Typical manufacturing process application of a decentralized power distribution system via tray cable

UL APPROVED

The design of the terminal and the design of the tap off module offer additional benefits for the UL compliance of your installation. The terminal construction is such, that when used with a torque driver the termination can be considered guaranteed, which avoids the need for further inspection and

commissioning compared to traditional methods.

The latest generation of tap off modules also offer a collar that allows for visual inspection. This ensures full compliance with UL installation standards. Lifetime testing and UL product approval

certification prove that this technology is maintenance free for the life duration of the product.

For additional details and support in understanding this connection system and installation approval please contact Wieland Electric.

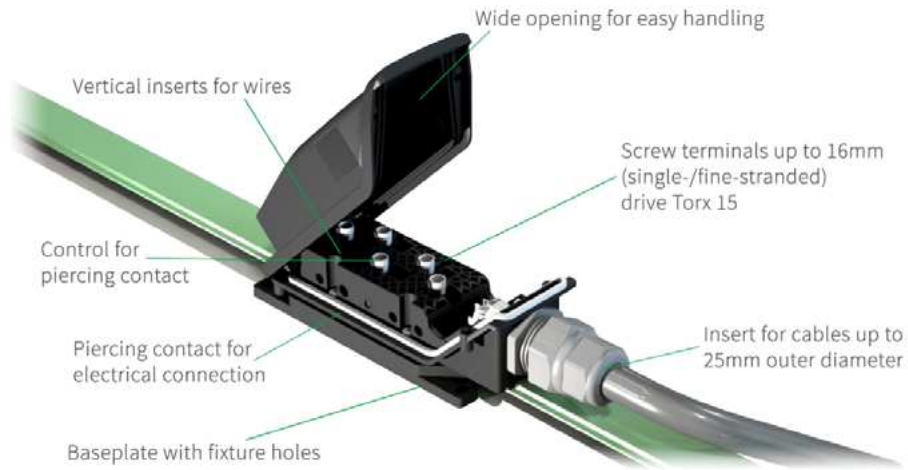


Fig. 3 Tap-off module anatomy



Fig. 3 Podis® cable cross-section

To assist with setup, the flat cable is keyed and cannot be installed backwards (see Fig. 4).

In addition, the individual termination points are molded into the tap off modules (see Fig. 4) with an end stop that prevents over-torquing.

Together with the keyed cable, this approach guarantees field installations are done correctly and reliably the first time. Time is saved by avoiding installation mistakes or time-consuming testing. Assembly errors are almost immediately found, especially on larger, scaled-up projects.

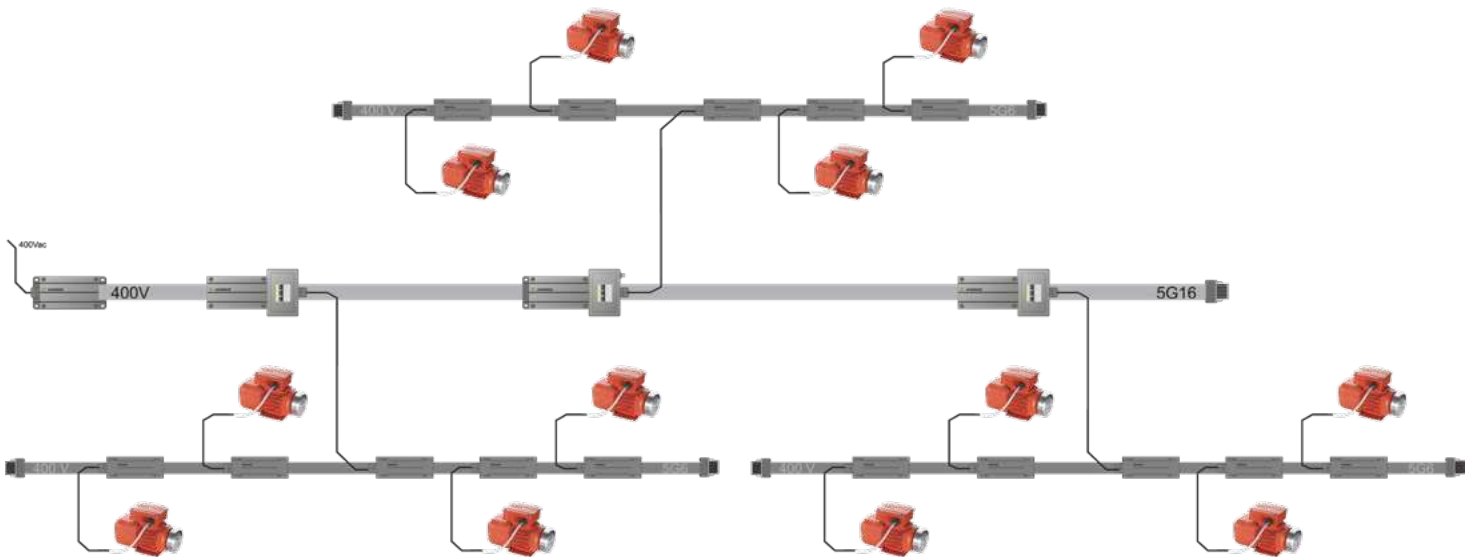


Fig. 5 Typical extended system architecture using the podis® power bus.

MODULAR CABLE SYSTEM

Assemblies and fittings for industrial control, signal and power distribution

The unique design of the cable and tap-off modules delivers class-leading installation savings. These saving can be further maximized by using modules with pluggable connectors (i.e. Plug & Play).

When used in conjunction with pre-assembled cables that are specifically produced and tested in the Wieland Electric ISO9001, UL98A approved production facility; no further on-site testing or commissioning is required.



SUMMARY

Podis® from Wieland offers up to 70% saving on installation and commissioning time, a major consideration on total costs. The more complex the project, the greater the savings. Perhaps most importantly, podis® offers one of the safest termination and most reliable methods for connecting to a power conductor on the market.

APPENDIX

System Approval UL2875, UL1277



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