

WHITEPAPER

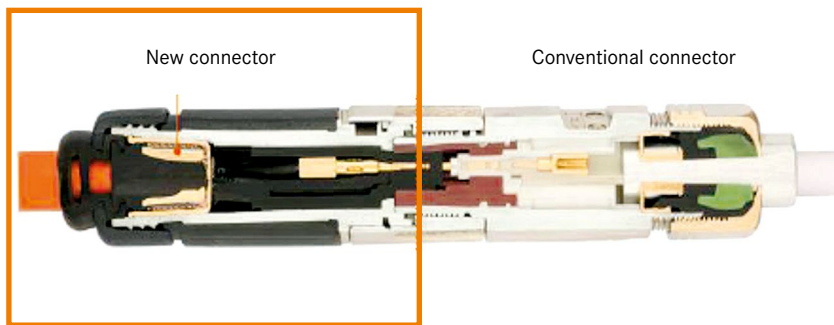
ÖLFLEX® CONNECT SERVO
SERVO SYSTEMS MADE BY LAPP



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What do you need to focus on when choosing a servo assembly? On high quality, of course. You should also make sure the cable's properties are a good fit for the application. So different variants are required – many of which can be found in the ÖLFLEX® CONNECT SERVO range.

Manufacturers of servo systems love to hype up their products. They refer to various kinds of 'market solution', provide 'guarantees for the system' or promise that your servo controller, motors and preassembled cables are 'designed or optimised to work together'. If you look closer, weaknesses are revealed – especially in the cabling. Servo system suppliers will usually only offer a couple of assemblies: one solution for static and another for dynamic use. There are, however, pitfalls to the latter. The cable recommended for dynamic applications is then used for all applications involving motion. Whether the acceleration or speed is high or low will not be taken into consideration. This can range from 0.1 m/s (woodworking or handling goods) to 10 m/s (pick-and-place machines or wire bonding processes).



In **ÖLFLEX® CONNECT** SERVO Servo Systems made by LAPP, the cable's shielding is crimped between two metallic shells. The shells cover the entire housing, thus guaranteeing 360° EMC screening.

This is not ideal. On the one hand, a cable may not be able to cope with a specific application. For instance, if it needs to keep up with high travelling distances and millions of accelerations. Or it may be overdesigned – a lower-cost alternative may be able to do the same thing. For these reasons, LAPP provides numerous variants tailored specifically to the application. They stand the test of time and are not overdesigned or costly. LAPP is also the only company to make preassembled servo cables with a connector with 360° shielding and excellent electromagnetic compatibility.

These harnessings from the **ÖLFLEX® CONNECT** SERVO portfolio are globally available with very short lead times – an important bonus for the customer. To achieve this, LAPP has expanded its production network to the USA and Asia. LAPP also has a presence in many countries and works with experts with knowledge of the products and applications – so they can advise customers on tricky problems. In so doing, the user can be sure that they always get the optimum and best-value solution.



INFO

SERVO CONFIGURATOR

Simply select the application and cable length to find the right servo assembly in seconds.



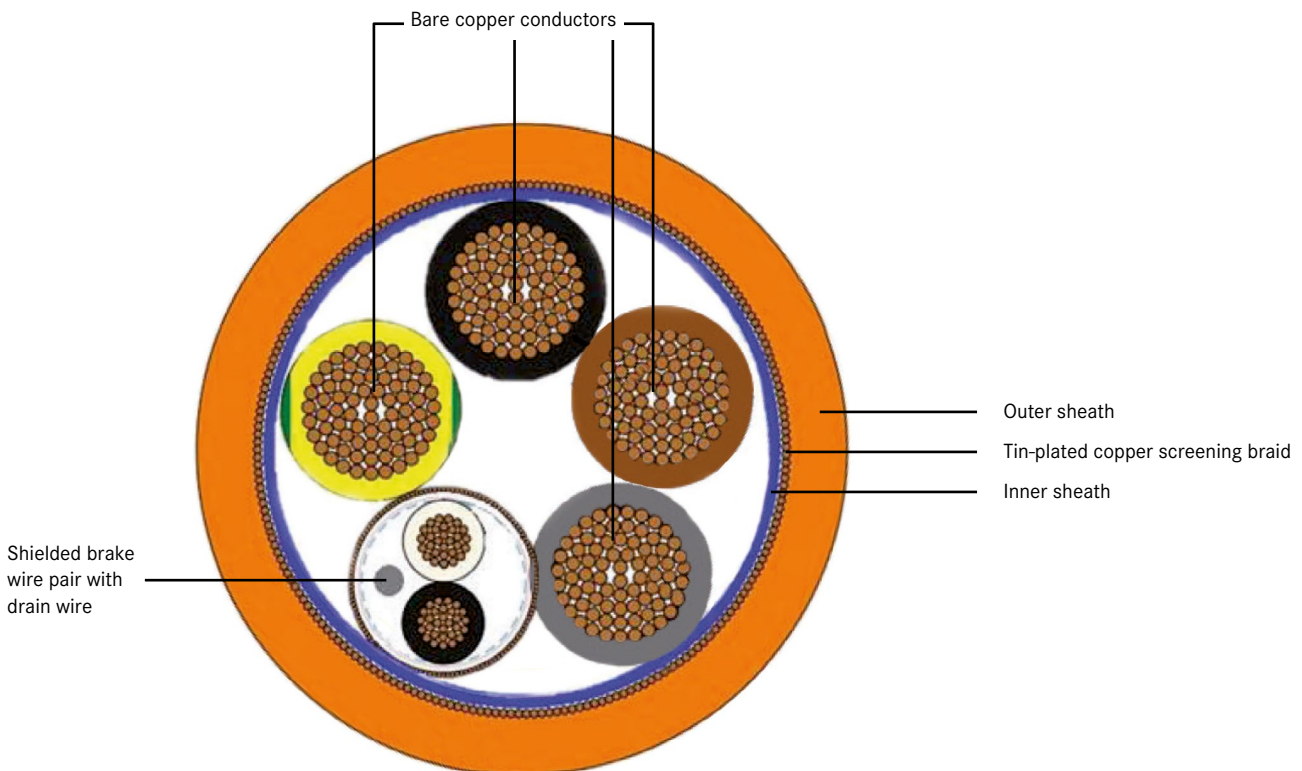
www.lapp.com/en/de/e/031041

SELECTION CRITERIA FOR SERVO ASSEMBLIES

Two factors determine the mechanical suitability of preassembled cables: firstly, their ability to withstand motion; secondly, the material on the outer sheath of the cable and the conductor design. The cable also needs to have certain electrical properties, especially where electromagnetic compatibility is concerned.

– Outer sheath material

PVC is the standard material for cable insulation in static applications. It is low-cost and also able to insulate the conductor. However, PVC is not suitable for highly dynamic applications with high speeds and accelerations – PUR is the preferred material here. It is very hard-wearing and abrasion-proof. This is important as PUR cables often come into contact with other, sometimes harder, materials such as TPE or polyamide that are used together in energy chains. Costs also play a part in making choices. Depending on the number of cores, one single PUR cable can cost up to three times more than a PVC cable. This is overkill when it comes to slow motion with less stress – a PVC cable is perfectly adequate here.



– Conductor design

The conductor design is vital in determining whether a cable can withstand constant bending. The type of motion (bending or torsion) and the conductor design (twisting, fineness of the wire) have an impact on the number of bending cycles that the cable can withstand.

– Electrical properties

As the revs of new servo actuators increase, so too does the risk of electromagnetic interferences, which can penetrate the servo cable externally or spread to other electrical systems from this cable. The preassembled cables must take this into account, namely with the thickest possible screening braid that is correctly earthed and, above all, a full 360° connection to the connector housings at both ends of the assembly. In addition to the cable, the connector must be carefully selected so that the entire system is guaranteed the best possible EMC protection.

All **ÖLFLEX® CONNECT** servo assemblies with circular connector size 1 are fitted with our newly designed V4.0 connector. It is tamper-proof and cannot be opened by unauthorised persons. It is insulated with plastic coating, suitable for a temperature range of -20 to 90°C and waterproof and dustproof in accordance with the IP67 rating.



LINKS



Find our more
about our
Servo products

www.lapp.com/en/de/e/000321

Servo portfolio by LAPP

- Cable cross-sections up to 4 mm² available at any time
- Over 400 different servo assemblies available
- More cable cross sections and servo types available on request

Your benefits

- Made in Europe
- 100 % tested
- Assembly traceability through batch coding
- Years of component manufacturing expertise at LAPP
- Global reach with localized expertise and support
- Customized solutions available upon request
- Customized printing



BROCHURE



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customised connectivity
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