

Advanced Shielding Technology

Designed by PHOENIX CONTACT

**The new dimension of shielding
for assembled M8 and M12
circular connectors**



CBF210018

Change of D-coded cable assemblies to Advanced shielding technology

Advanced Shielding Technology from Phoenix Contact is the innovative shielding concept for sensor/actuator cabling. The large-area, material-bonding 360° shield connection is unique on the market and optimizes the current design of M8 and M12 connectors.

With Advanced Shielding Technology you are investing in reliable data, signal, and power transmission for the factory automation of the future.

The next slides show you the change of the current design of D-coded cable assemblies and describe the advantages of the unique Advanced Shielding Technology.

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Size of the connector heads

current design			
<p>Technical drawing of the current design connector head (left view). Dimensions: outer diameter $\varnothing 14,8$, inner diameter $\varnothing 12$, end diameter $\varnothing 15$, length of main body 31,5, and total length 47,3.</p>	<p>Technical drawing of the current design connector head (right view). Dimensions: outer diameter $\varnothing 14,8$, inner diameter $\varnothing 12$, end diameter $\varnothing 15$, length of main body 31,5, and total length 44,5.</p>	<p>Technical drawing of the current design connector head (angled view). Dimensions: outer diameter $\varnothing 14,8$, length of main body 31,3, distance from end to start of main body 28,8, and end diameter $\varnothing 12$.</p>	<p>Technical drawing of the current design connector head (angled view). Dimensions: outer diameter $\varnothing 14,8$, length of main body 28, distance from end to start of main body 28,8, and end diameter $\varnothing 12$.</p>
new AST design			
<p>Technical drawing of the new AST design connector head (left view). Dimensions: outer diameter $\varnothing 15$, inner diameter $\varnothing 13$, length of main body 31,5, and total length 47,7.</p>	<p>Technical drawing of the new AST design connector head (right view). Dimensions: outer diameter $\varnothing 15$, inner diameter $\varnothing 13$, length of main body 31,5, and total length 45,4.</p>	<p>Technical drawing of the new AST design connector head (angled view). Dimensions: outer diameter $\varnothing 15$, length of main body 34, distance from end to start of main body 30, distance from end to start of angled section 27, angled section diameter $\varnothing 13$, and angle 98°.</p>	<p>Technical drawing of the new AST design connector head (angled view). Dimensions: outer diameter $\varnothing 15$, length of main body 31,7, distance from end to start of angled section 27,7, angled section diameter $\varnothing 13$, and angle 98°.</p>

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Change of D-coded cable assemblies to Advanced shielding technology

Speedcon to Standard M12 thread



Current design



New design

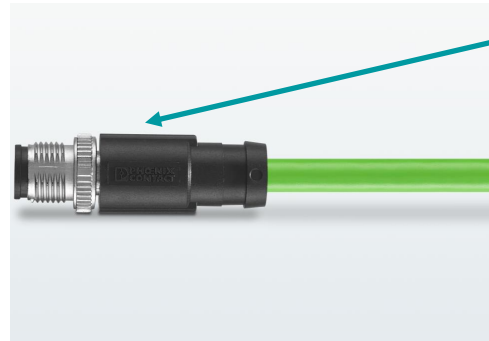
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CE and WEEE mark



Current design



New design



Additional to the brand logo of Phoenix Contact, the grip body gets the CE mark and the WEEE logo to be compliant with the European regulations.

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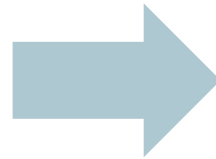
Change of D-coded cable assemblies to Advanced shielding technology

Article description from Speedcon to Standard M12

In case of the change from Speedcon to Standard M12 knurl, the article description has to be changed.

Example:

NBC-MSD/ 5,0-93E/MSD SCO



NBC-M12MSD/ 5,0-93E/M12MSD

The new descriptions of each articles are included in the attached excel sheet.

How it all started

Current shielding concept

Cut cable



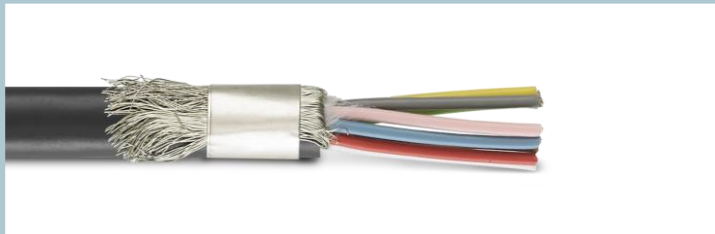
Brush shield



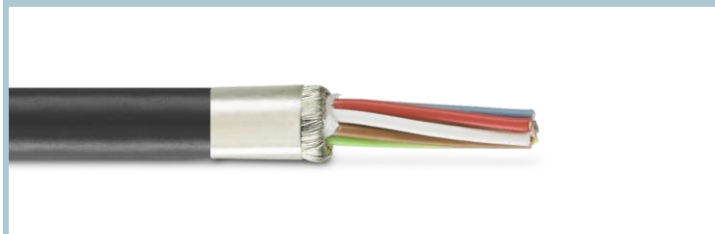
Push it over the cable jacket



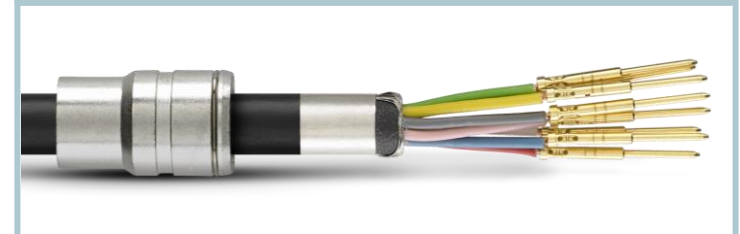
Paste a foil on the cable



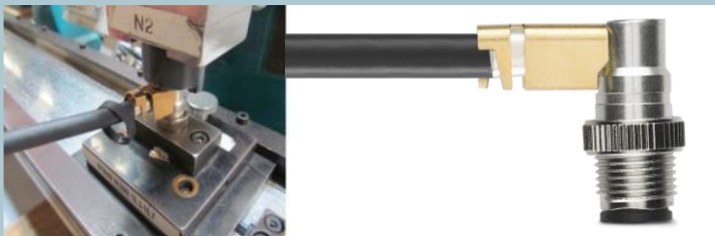
Cut the shield



Fit the shield sleeve on the cable



Prepare hand press

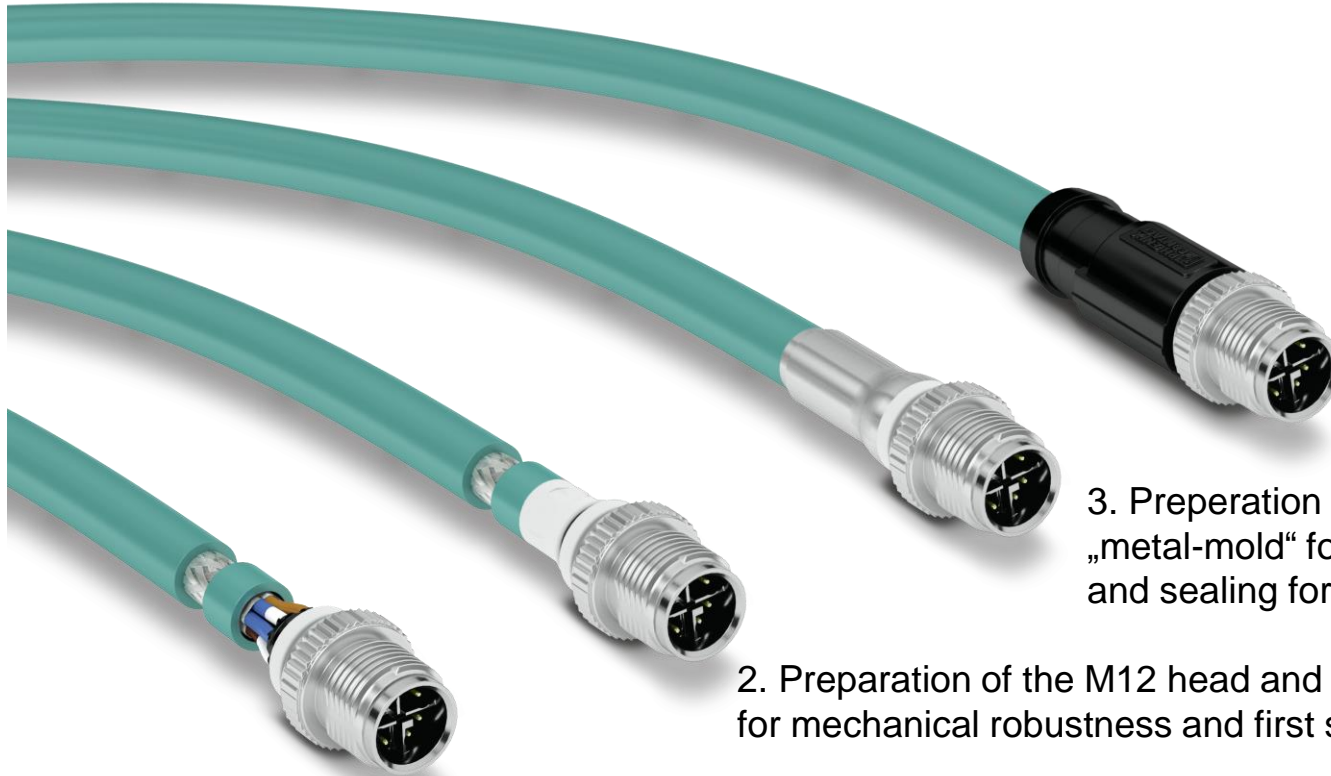


Crimp the lid



Presentation of the new shielding concept

Realization



1. Assembling of the M12 head with standard crimp contacts

2. Preparation of the M12 head and wires with the special „pre-mold“ for mechanical robustness and first sealing for IP protection

3. Preparation of the M12 head and cables with the special „metal-mold“ for 360° shielding connection, mechanical robustness and sealing for IP protection

4. Preparation of the M12 handle body with standard overmolding

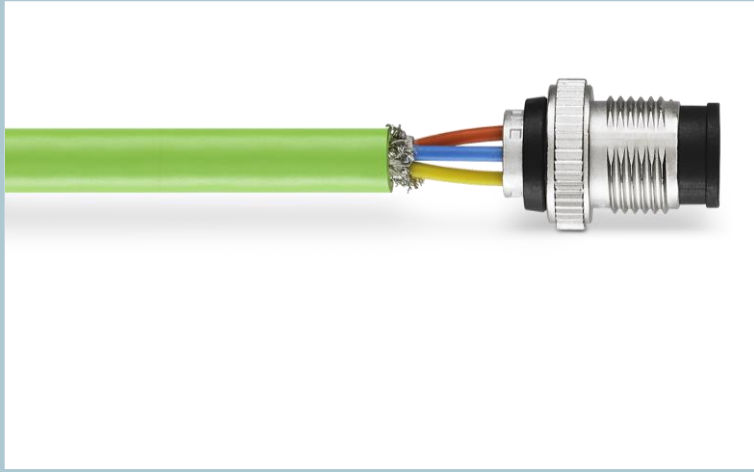
*Please note that the realization regarding the coding is the same even M12 x-coded is shown in the illustrations

Presentation of the new shielding concept

Realization



Cable Preparation



Pre-Mold



Metal-Mold



The ideal shield sleeve does not require a crimp



Totally reliable
at high mechanical loads



Totally protected
Optimum heat dissipation and safe current flow



Totally robust
even when exposed to extreme environmental influences



Totally Future-proof
data transmission and reliable EMC protection

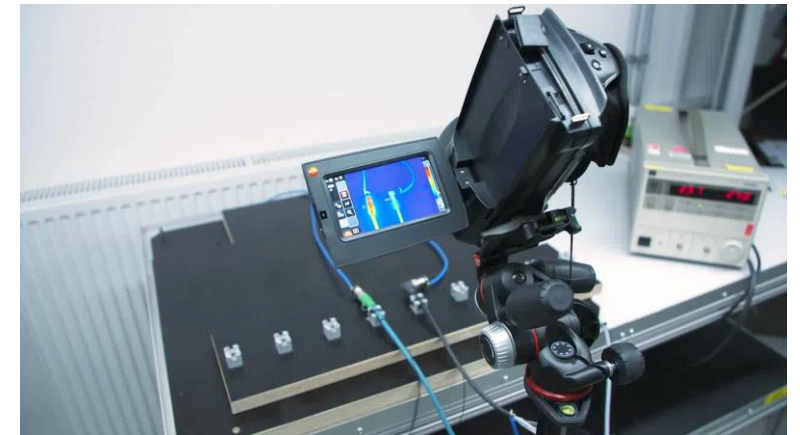
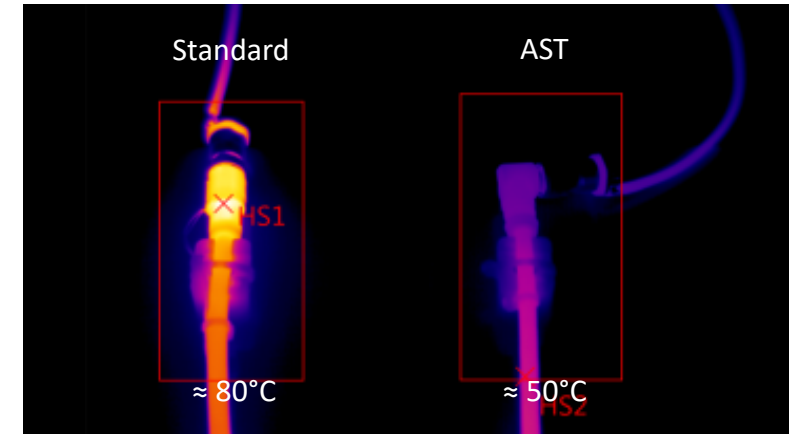


Totally resistant
to transient overvoltages



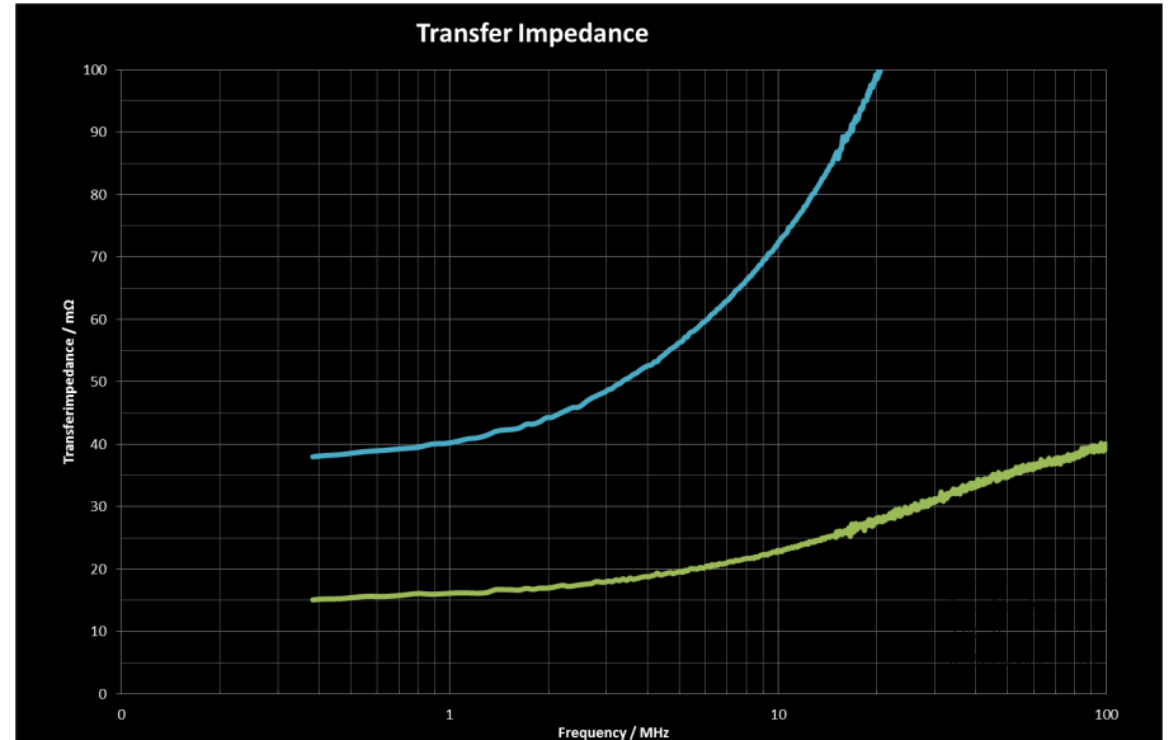
Totally protected

If there is a short circuit in the machine parts, Advanced Shielding Technology can be used to enable a current to flow via the shield until the fuses are triggered. Thanks to the minimal generation of heat, the large-area shielding ensures greater safety and reduces the risk of fire.



Totally future-proof

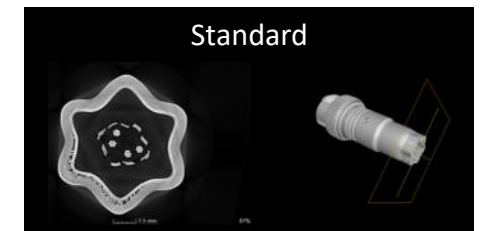
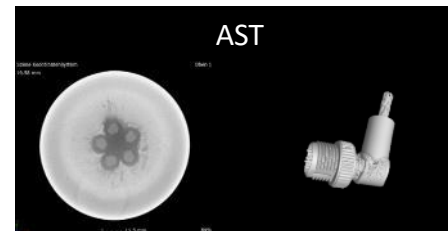
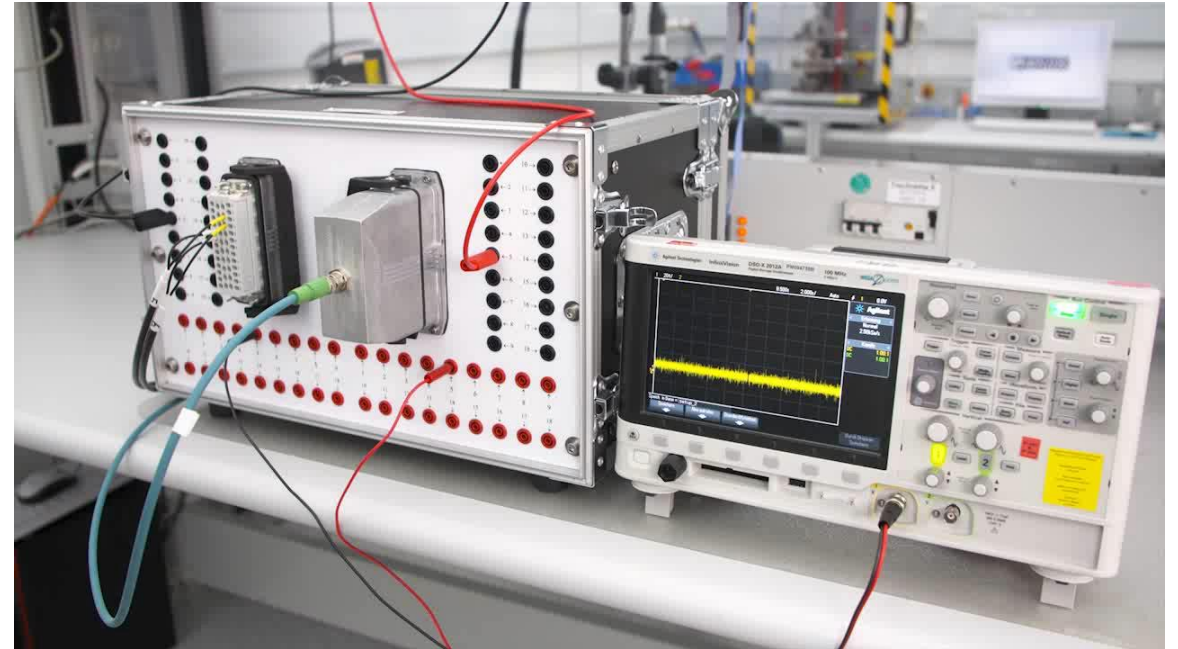
In the field of intelligent production plants and industrial networks, Advanced Shielding Technology realizes the future-proof transmission of high data volumes and continuously increasing transmission rates of up to 40 Gbps. The improved shield dissipation thus provides secure protection against electromagnetic interferences.



Advanced Shielding Technology

Totally reliable

Advanced Shielding Technology guarantees shock- and vibration-resistance at high mechanical loads in torsion, drag chain or robotic applications.



Advanced Shielding Technology

Totally resistant

High voltages are briefly generated when switching inductive loads such as motors. Thanks to the continuous connection between the shielding braid and plug, assembled connectors with Advanced Shielding Technology are resistant to transient overvoltages and guarantee a higher level of system availability.



Advanced Shielding Technology

Totally robust

Thanks to the robust connection and 360° shield cover, connectors with Advanced Shielding Technology will easily even withstand lightning strikes and current peaks up to 20 kA. They are thus particularly suitable for use in outdoor applications.



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**Further information under:
www.phoenixcontact.com/webcode/#2253**

