Neckarsulm (Germany), 14 December 2021

Winner of the 2021 LEAP Silver Award for engineering  
**Subminiature connectors meet highest demands**

**on protection and flexibility**

**The compact and highly flexible circular connectors of binder's 670 series withstand demanding protection requirements. Rated as particularly innovative among more than 100 products, they have now received a prestigious award.**Form factor, protection degree, signal integrity – these are key features of binder's award-winning NCC series 670 (Not Connected Closed). Thanks to a special design feature, the extremely flexible, space-saving subminiature connectors can achieve IP54 protection when unmated and IP67 when mated. Thus, they are resistant to physical contact, dust and splashing water on all sides (IP54, unmated) and dust-tight as well as protected against temporary submersion (IP67), respectively.

This property is beneficial, for example, in test and measurement as well as medical applications that are subject to limited installation space and also have special requirements for protection against environmental influences. Other applications include temperature-analyzing instruments, lighting, signage and further equipment in wash-down environments.  
  
**From customer development to award-winning series product**  
Developed more than 30 years ago as a customer-specific solution, NCC technology soon attracted a great deal of interest. The continuing high demand prompted Markus Binder, general manager of the binder Group, to make the wise and forward-looking decision to introduce the initially customer-specific NCC solution as a series product.

Now the connectors of the binder 670 series have received a prestigious award: the silver medal at the '2021 LEAP Award' (Leadership in Engineering Achievement Program) – an annual competition that recognizes particularly innovative and forward-thinking products in the design and engineering space. Twelve independent judges, including recognized engineering and academic professionals, selected the most award-worthy products from more than 100. Sponsor of the LEAP Award is the US media company WTWH Media with its publications 'Design World', 'Fluid Power World', 'EE World' and 'Fastener Engineering'.  
  
  
**Closed even when unmated**  
Permanently protecting the pins from contact, dust and moisture under all operating conditions is a challenging task for any supplier of electromechanical connectivity solutions. In general, products achieve their specified degree of protection only when mated. If they are not connected, protective flaps or covers are used as standard market measures. For users, however, this often means restrictions in design or handling.

NCC technology, a special design feature of binder's 670 series, overcomes these disadvantages: a spring-loaded plastic cover inside the connector housing protects the contacts from the ingress of particles, dust and splash water. It also ensures that the pins are enclosed in a contact-proof manner and protected against external mechanical impact. Compared to conventional competitive products, the 670-series male cable connectors and female panel mount connectors enable particularly robust, compact and cost-saving connection solutions in harsh, demanding environments.  
  
**Robust connection features frequent plugging**  
All 670-series products are housed in a 16-mm-diameter plastic enclosure. The 5-pin NCC connectors, equipped with gold-plated contacts, are specified for a rated current of 2 A at a rated voltage of 50 V. Their bayonet lock ensures a stable connection. Thus resistant to vibrations and shock, they operate reliably at -25 °C to +85 °C. The cable outlet measures 3 mm to 5 mm in diameter, and the wire gauge is 0.25 mm2 (AWG 24).

All product versions are offered with solder termination, and the panel mount variants are also offered with dip solder termination. The binder series 670 is especially designed for frequent mating and unmating – up to 1000 mating cycles and beyond. To facilitate identification and organization tasks, both the male connectors and the female panel mount connectors are available in different housing colors.  
  
**About binder**binder is a family-owned business that is shaped by traditional values. Based in Neckarsulm, Germany, it is one of the leading specialists in the area of circular connectors. binder has been synonymous with the highest quality since 1960. We work with 45 distribution partners on five continents and employ 1,800 staff worldwide. The binder group is comprised of the binder headquarters, 16 affiliated companies, two systems providers and an Innovation and Technology Centre.

Figure caption:  
NCC technology protects contacts from particles, dust and splash water when disconnected. Photo: binder  
  
Fields of application:

* Test and measurement instrumentation
* Medical technology
* Indoor/outdoor lighting and signage

Features:

* NCC technology (Not Connected Closed)
* Pin count: 5-pin
* Rated current, voltage 2 A, 50 V
* vibration and shock resistant
* > 1000 mating cycles
* Protection degree: IP54 (unmated), IP67 (mated)

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