Neckarsulm (Germany), 29 September 2023
PBC15 – Power Bayonet Connector
**Rugged power and signal interface featuring quick locking**

 **The new Power Bayonet Connector PBC15 from binder is suitable for power supply and signal linking of devices via just one cable. Important features of the compact connector with quick locking include its high power density and easy-to-use design, which is tailored for fast wiring and installation.**binder, a leading supplier of industrial circular connectors, presents the Power Bayonet Connector PBC15. Its size corresponds to an M15 thread. Thus, in the field of power supply connectors, the PBC15 bridges the gap between the widely used M12 and M23 designs. The compact, yet robust connector is suitable for power supply particularly to three-phase motors or frequency converters. It features 3 power pins, for example to supply the 3 live phases of a 3-phase motor, 2 additional pins for signal transmission, as well as a Protective Earth (PE) contact.

The PBC15 design is specified within the DIN EN IEC 61076-2-116 standard. The quick-lock ensures simple, fast, and reliable locking by means of a quarter turn. Termination is provided by screw clamps. The PBC15 is initially available from binder as wireable female or male cable connectors, in each case as an unshielded or shieldable variant.

**Fields of application**

Thanks to the rated values of 630 V and 16 A for the power interface, the circular connector is suitable for the power supply of small to medium-sized drives. With rated values of 63 V and 10 A, the signal pins can be used, for example, to control brakes or to query operating parameters such as temperatures. The shieldable variants of the Power Bayonet Connector are prepared for use in environments exposed to electromagnetic interference. Typical applications are in the fields of intralogistics, factory and process automation, as well as machine engineering.

**Design features**

The compact design of the PBC15 is a unique feature: on the one hand, it offers very little space for an isolation appropriate to the voltage levels. On the other hand, the high currents require wire gauges of up to 2.5 mm2 and sufficiently large contacts in order to be able to ideally connect the wires. Nevertheless, the engineers at binder succeeded in designing the PBC15 in such a way that convenient assembly by means of the screw clamp terminals is possible.

Another challenge arose with the coupling of the PE pin, which is designed here as the center contact, to the connector housing. The connection was established by means of a spring plate which was pressed together with the PE contact inside the contact body, thus forming a secure connection to the housing.

Philipp Zuber, product manager with binder, says: "With the PBC15, we have succeeded in creating a power-dense and easy-to-use connector that is ideally suited for small and medium-sized 3-phase motors. With the high ampacity of its 3 power contacts and with its 2 signal pins, the connector is extremely versatile in supplying power to automation components and drives. The quick locking as well as the screw clamp termination allow users to easily and quickly wire and install the connector."

**Standardization**

Until now, electrical connectivity for small and medium-sized 3-phase drives has often been characterized by products from different manufacturers that have featured different designs for connecting the same motor. Those products are not interchangeable. A committee of various companies, also including binder, developed a standardization proposal to create a uniform interface for this application field. This proposal was published in April 2022 as the official draft standard DIN EN IEC 61076-2-116. The Power Bayonet Connector from binder complies with this design standard, which allows customers to achieve a substantial level of independence from individual suppliers when developing their applications.

**About binder**binder, headquartered in Neckarsulm, Germany, is a family-owned company characterized by traditional values and one of the leading specialists for circular connectors. Since 1960, binder has been synonymous with the highest quality. The company works with more than 60 sales partners on six continents and employs around 2,000 people worldwide.

The binder group includes the binder headquarters, 16 affiliated companies, two system service providers as well as an innovation and technology center. In addition to Germany, the binder sites are located in Austria, China, France, Hungary, the Netherlands, Singapore, Sweden, Switzerland, the UK, and the USA.
Figure caption:
PBC15: Compact connector for the robust power supply of 3-phase drives. Photo: binder

Fields of application:

* Automation technology
* Intralogistics
* Machine engineering

Features:

* Locking system: M15 quick lock
* Termination: screw clamp
* Wire gauge: max. 2,5 mm2
* Cable outlet: 7 to 14 mm
* Pin count: 5+PE (3 power, 2 signal)
* Contact plating: silver
* Rated voltage: 630 V (power), 63 V (signal)
* Rated current: 16 A (power), 10 A (signal)
* Protection degree: IP67

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