



INDUSTRIAL AUTOMATION

Form A, B and C: Do You Know Your DIN Valve Connectors?

Ryan Smith | 07.06.2021

Valve connectors may be small in terms of size and cost when you consider everything that keeps industrial plants running, but high demands are placed on these small components. They're expected to hold up in extreme temperatures, operate amid contact with oil and grease, and maintain reliable connections.

A DIN valve connector is designed to supply power and, in some cases, signal transmission to end devices like solenoid valves by connecting them to voltage supplies and/or data networks.

These end devices serve an important purpose: to control the direction of liquids and gases. In some cases, they can also protect against surges that could damage devices. They function similarly to your kitchen faucet—except they control the flow of electricity instead of water.

The connectors can also be used to connect pressure sensors, temperature sensors and flow monitors to necessary power and data.

Wherever you find manufacturing processes, you'll find DIN valve connectors. They're used in automotive, chemical, food/beverage, pharmaceutical, oil/gas and water/wastewater environments, to provide just a few examples.

Types of DIN Valve Connectors

For years, DIN valve connectors have provided a quick and economical disconnect alternative to traditional hardwired devices.

Before you select one to use, however, it's important to understand the three standard types of DIN valve connectors that are available. Each offers a different housing size, pin type and pin spacing to fulfill different purposes.

1. Form A DIN Valve Connectors

As the largest of the three types of valve connectors, Form A valve connectors can be identified by their connector head shape (a 1-inch by 1-inch square) or their three inward-facing, U-shaped pins. The pins are spaced 18 mm apart.

These connectors are designed to be used with solenoid valves in hydraulics and pneumatics applications to securely supply power using a water-resistant method.

Form A valve connectors are built in accordance with EN 175301-803-A (formally known as DIN 43560) and available in 2-pole or 3-pole + ground options.

2. Form B DIN Valve Connectors

Form B valve connectors are ideal in situations that don't offer lots of extra room to work with, such as in manifold banks. Thanks to their rectangular connector head shape, the connectors can be mounted side by side to maximize space usage. You may also hear them being called "micro valve connectors."

Similarly to Form A valve connectors, Form B valve connectors can be found on solenoid valves in hydraulics and pneumatics applications, as well as in marine applications.

They're offered with two different pin spacings:

1. 10 mm between the #1 and #2 pins (EN) with one flat-blade contact and two outward-facing, U-shaped contacts
2. 11 mm between the #1 and #2 pins (Industrial Standard) with three flat-blade contacts; this is the industry standard

Form B valve connectors are built in accordance with EN 175301-803-B or Industrial Standard and available in 2-pole + ground.

3. Form C DIN Valve Connectors

The smallest of the three types of valve connectors, Form C valve connectors feature a square-shaped connector head like Form A valve connectors. Because of its size, they're also sometimes called "sub-micro valve connectors."

They are offered with two different flat-blade pin spacings:

1. 8 mm pin spacing between the #1 and #2 pins (EN)
2. 9.4 mm pin spacing between the #1 and #2 pins (Industrial Standard)

Form C valve connectors are built in accordance with EN 175301-803-C or Industrial Standard and available in 2-pole or 3-pole + ground options.

Valve Connectors from Belden

For more than 50 years, Hirschmann and Lumberg Automation, both Belden Brands, have offered a comprehensive product portfolio to support end devices like solenoid valves, pressure sensors, temperature sensors and flow monitors.

Our products provide a complete end-to-end solution by providing not only the female side that plugs into an end device, but also the male side that can be mounted or molded directly to an end device.

Our DIN valve connectors are available in a variety of styles, including field-attachables, single- and double-ended molded cordsets, adaptors, molded splitters and receptacles.



About the Author: [Ryan Smith](#)

Ryan first joined Belden in 2008 as an inside sales representative. In 2012, he joined the US product management team as a product marketing analysis, and then project manager for key accounts. In 2018, Ryan joined the global product management team as the product manager for valve connectors and select power connectors. He has a Bachelor's degree in Business Management from Waynesburg University, and is certified through the Project Management Institute as a PMP.