MEAN WELL ENTERPRISES CO., LTD.
No.28, Wuquan 3rd Rd., Wugu Dist., New Taipei City 24891,Taiwan (R.O.C.)
Tel:+886-2-2299-6100
Fax:+886-2-2299-6200
E-mail:info@meanwell.com
http://www.meanwell.com

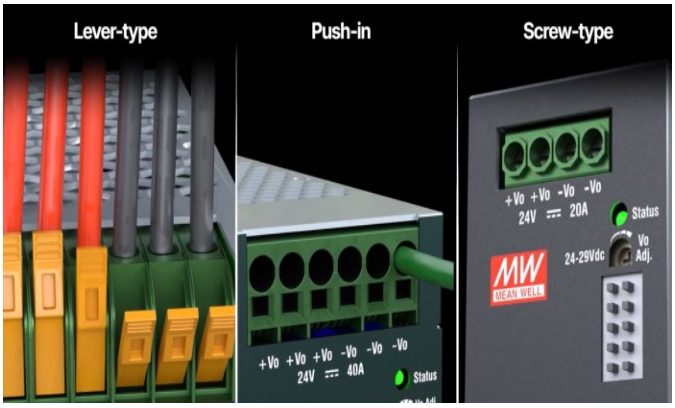
How to Choose Between Screw, Lever-Actuated or Push-In Terminals? XDR/XTR DIN Rail Power Supply Terminal Selection Guide

Date: 2026.8.31
Technical Service Center / Hank Lan
EUTS@meanwell.eu

MEAN WELL's next-generation XDR and XTR DIN Rail power supply series are designed for industrial automation, smart manufacturing, semiconductor equipment, energy systems, and control cabinet applications. In addition to high efficiency, ultra-slim housing, wide operating temperature range, and comprehensive industrial certifications, another key feature is the availability of multiple terminal block options to suit different installation and maintenance requirements.

The XDR/XTR series currently offers three terminal technologies:

- Screw Terminal
- Lever-Actuated Terminal
- Push-In Terminal）



Terminal Type Options			Note
Blank	Screw Terminal		In stock
LA	Lever-Actuated Terminal		In stock
PI	Push In Terminal		In stock

Although all three terminal types provide the same electrical performance and safety standards, each wiring technology offers unique advantages in terms of installation efficiency, maintenance convenience, and overall system productivity.

This article introduces the characteristics and benefits of each terminal technology to help users select the most suitable solution for their applications.

Screw Terminal

Screw terminals have long been the standard connection method used in MEAN WELL power supplies and remain a preferred choice for industrial applications where familiarity and proven reliability are essential.

This technology secures conductors by applying mechanical pressure through a screw-clamping mechanism, creating a stable electrical connection. Because screw terminals have been widely used throughout the industry for decades, most engineers and maintenance personnel are already familiar with their installation

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and inspection procedures, minimizing the need for additional training.

The primary advantage of screw terminals is their maturity and broad industry acceptance. When installed using the recommended tightening torque, they provide reliable contact performance and support solid wires, stranded wires, and ferrule-terminated conductors.
For industrial applications requiring maximum compatibility and long-term reliability, screw terminals remain a trusted solution.



Key Advantages

- Most widely used wiring technology
- Proven reliability through decades of industrial use
- Familiar installation method for engineers and technicians
- Easy integration into existing systems and equipment

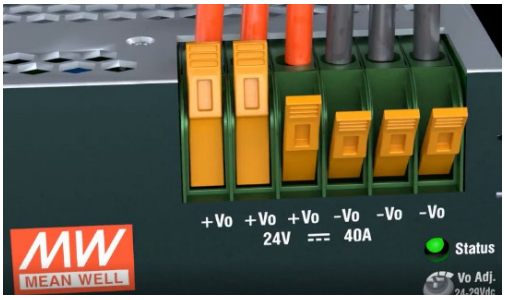
Lever-Actuated Terminal

Lever-actuated terminals utilize spring-clamp technology combined with an easy-to-operate lever mechanism. Users simply open the lever, insert the wire, and close the lever to complete the connection.

No screwdriver or additional tools are required, significantly improving installation and maintenance efficiency. This makes the technology especially suitable for applications requiring frequent maintenance or flexible wiring configurations.

Compared with traditional screw terminals, the spring-clamp mechanism continuously maintains a consistent clamping force and automatically compensates for stress variations caused by vibration, temperature changes, or conductor aging. Another major advantage is wiring compatibility. Lever-actuated terminals can accommodate solid wires, stranded wires, and even flexible wires without ferrules.

As a result, they provide an excellent balance between convenience and reliability for applications such as test equipment, laboratory systems, educational platforms, and industrial installations requiring frequent maintenance or wiring modifications.



Key Advantages

- Tool-free wiring and rewiring
- Fast conductor replacement
- Supports multiple wire types
- Ideal for maintenance and wiring modifications

Push-In Terminal

Push-in terminals are among the most efficient wiring technologies available in modern industrial applications. They are particularly suitable for mass production, automation equipment, and control cabinet assembly. Users simply insert a solid conductor or a ferrule-terminated stranded wire directly into the terminal. The internal spring mechanism automatically secures the conductor and establishes a reliable electrical connection. It is important to note that untreated flexible stranded wires are generally not recommended, as loose strands may affect insertion quality and contact reliability.

The greatest advantage of push-in technology is installation speed. Unlike screw terminals that require tightening or lever terminals that require an additional operating step, push-in terminals allow users to simply insert the conductor to complete the connection. In high-volume production environments, the resulting time savings can directly translate into increased productivity and reduced labor costs.



Many push-in terminals feature a front-entry design, allowing wire insertion, removal, and maintenance to be performed entirely from the front of the terminal. This not only improves accessibility inside control cabinets but also makes the technology highly suitable for automated wiring systems using robotic assembly. Because all operations are performed from a single direction, robot movement complexity and positioning requirements can be significantly reduced, further improving automation efficiency. In addition to installation efficiency, push-in terminals provide highly consistent connection quality. Since no torque control or additional assembly steps are required, variations caused by human operation can be minimized. The spring mechanism also ensures stable contact pressure, excellent vibration resistance, and long-term reliability.
For wire removal, users simply press the release mechanism with a screwdriver or designated tool to temporarily release the spring clamp, allowing safe conductor removal without damaging either the wire or the terminal.

For OEM manufacturers and large-scale industrial facilities focused on productivity, wiring consistency, and standardized assembly processes, push-in terminals often represent the ideal combination of performance, reliability, and automation compatibility.



Key Advantages

- Fastest wiring method
- Highest installation efficiency
- Reduced labor costs
- Consistent connection quality

How to Select the Right Terminal Type

The appropriate terminal technology depends on your application requirements. Choose Screw Terminals if you need: compatibility with existing systems, familiar installation practices, and proven long-term reliability.

Choose Lever-Actuated Terminals if you need: frequent maintenance or rewiring, flexibility for different conductor types, and fast and convenient field service
Choose Push-In Terminals if you need: faster control cabinet assembly, reduced production time, lower labor costs, and higher levels of manufacturing automation.

Terminal Type	Recommended Wire Type	Applications	Note
Screw Terminal 	Solid wire, stranded wire	High-reliability industrial wiring, motor control panels, distribution cabinets, vibration-prone environments	Please refer to the product datasheet for recommended wire sizes, stripping lengths, and terminal tightening torque specifications.
Push-In Terminal 	Solid wire, ferrule-terminated stranded wire	High-volume production, control cabinet assembly, automated manufacturing	
Lever-Actuated Terminal 	Solid wire, stranded wire	Test equipment, laboratory systems, educational platforms, applications requiring frequent maintenance	

Conclusion

The XDR and XTR series not only deliver outstanding power performance but also provide greater design flexibility through three terminal block options: Screw, Lever-Actuated, and Push-In.

By selecting the terminal technology that best matches the application environment, users can optimize installation efficiency, maintenance convenience, and long-term system reliability. Whether your priority is familiarity, serviceability, or production efficiency, the XDR/XTR series offers a terminal solution tailored to your needs, helping you build more efficient and reliable industrial power systems.

For product information or application support, please contact your local MEAN WELL distributor or MEAN WELL technical representatives. You are also welcome to visit the MEAN WELL Virtual Expo for related products, solutions, and technical training resources.



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