

New Power Clamp Connectors and Cables Solutions from 3M Provide Reliable, Cost-effective Connectivity for Industrial Control Systems

For designers of industrial control systems seeking reliable and cost-effective performance for input/output (I/O) power and signal distribution applications, the 3M Electronic Solutions Divisions has introduced a new line of interconnects and complementary cables.

The 3M Power Clamp Wiremount Socket, 355 Series; the 3M Power Clamp Header, 356 Series; and 3M Power Clamp Branch Connector, 357 Series are designed to provide connection reliability and cost performance in I/O applications, commonly found in a wide range of industrial controls systems, networking systems, medical equipment and factory automation. The complementary 3M Cables, Series 79100 provide the end-user with the total material solution from one source in order to easily manufacture custom cable assemblies for not only the Power Clamp offerings, but now also for the 3M Link Connector, 381 Series.

3M Power Clamp products use insulation displacement connector (IDC) technology from 3M. The 3M Power Clamp offering uses the IDC contacts to terminate to both flat ribbon and discrete wire. The wire and cables do not require special preparation like stripping, tinning, etc. Simply cut the wires or cable to length and place the wires into the cover and squeeze the cover into the body with a standard pair of pliers – no special tooling required in order to achieve a quality and reliable termination. The simple installation process does not create material debris or waste and potentially saves labor relative to traditional interconnect wire termination alternatives.

The 3M Power Clamp Connectors are designed with color-coded covers to allow for proper wire usage, wire alignment and retention, enabling proper wire termination. The connectors have an integrated wire guide built into the cover, which provides reliable positioning of the individual wires. Polarizing tabs help ensure proper mating and latching devices help provide a reliable connection, even under difficult conditions, such as mechanical stress and vibration commonly found in industrial environments.

The 3M Power Clamp solution is designed to provide outstanding, reliable electrical connections between sensors, power supplies, drives and control units, helping to keep them running at peak performance. The solution significantly reduces the amount of control and power wiring needed in today's complex production lines, potentially saving both space and cost. In addition, the connectors are easy to install and do not require special installation tools.

The 3M Cables, Series 79100 are available in a both flat ribbon for the 3M Link Connectors, 381 Series, and round jacketed or round jacketed shielded discrete wire constructs for the 3M Power Clamp Series and 3M Link Connectors. The round jacketed and shielded are offered and designed for motion or flexing applications.

3M Power Clamp Connectors and Cables are also suitable for CC-Link Partner Association's (CLPA) open technology field-level networking applications and protocols. Applications include integration of a wide range of automation devices from numerous suppliers on a single network. The connectors allow for flexibility in constructing production lines using CLPA-partner products.

As the newest member of [CLPA's board of directors](#), 3M will provide guidance on standards and specifications for CC-Link-compatible connectors and cables. CLPA is one of the world's leading open control networking organizations promoting CC-link, the predominant factory-automation networking technology in Asia that is also gaining acceptance in North America and Europe in the automobile industry. CC-Link reduces wiring and

automation system costs while enabling multiple field devices to communicate to each other and to automation controllers over a single cable. More than 1,300 partner companies comprise CLPA, now in its tenth year. 3M joins Digital Electronics Company, IDEC, NEC, Mitsubishi Electric and Cognex on the Board of CLPA.

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About 3M Electronic Solutions Division

The 3M Electronic Solutions Division offers innovative solutions to the global electronics market, such as static control products; copper interconnect systems; cables and cable assemblies; carrier and cover tapes and trays; flexible circuits; embedded capacitor materials, and Textool brand test and burn-in sockets. For more information on the solutions available from the 3M Electronic Solutions Division, visit www.3M.com/automation.

More information about 3M Company is available [online](#) at www.3M.com.

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