



INDUSTRIAL@AMPHENOL
TRUSTED GLOBALLY

Solution Guide

Connectivity in Factory Automation

+ Factory Automation

Connectivity Solutions for Cabinets & Racks



Industrial Plugs & Sockets

IEC 60309 and UL 1682 connectors

Safe, reliable IEC 60309 power connectors for factory power distribution, including plugs, sockets, connectors, inlets, extensions, and modular distribution boxes.

- + Designed acc. IEC 60309
- + 16 A to 125 A
- + Up to IP69
- + Customized solutions on request



DIN Rail Terminal Blocks

Manage & connect conductors in cabinets

Our DIN rail terminal blocks are mounted onto typical rails in switch cabinets in order to manage and distribute currents.

- + Compact & modular design
- + Screw, clamp and push-in mounting
- + Wide range of accessory
- + Super cost efficient



heavy|mate® Multipin Inserts

Up to 216 contacts in one interface

Wide range of layouts and sizes. Can be used as efficient interface for signal and power transmission from switch cabinet to field area.

- + Screw, push-in and crimp termination
- + Stamped & formed signal contacts
- + POF contacts for D inserts
- + FE/KO hybrid thermocouple inserts

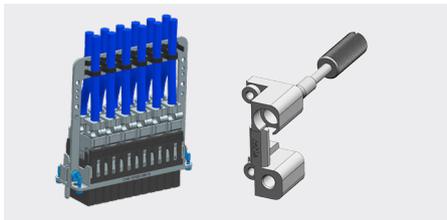


heavy|mate® Snap

DIN rail mounting in protected areas

Frames and multipin inserts can be mounted directly onto EN 50022/DIN EN 60715 rails next to control units and terminal blocks or panels in the cabinet inside.

- + User-friendly snap mounting
- + Coupling connector with 90° bracket for strain relief and wire management

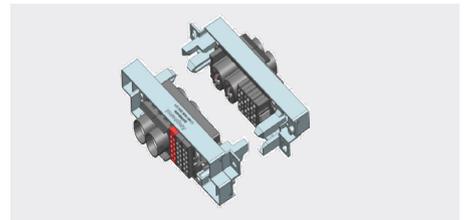


heavy|mate® Mounting Adaptors

Bulkhead mounting in protected areas

Frames and multipin inserts can be mounted directly into cabinet walls without using any housings.

- + Both rear and front mounting possible
- + Shield brackets can be used as cable strain relief and handle



heavy|mate® Guidemate

Blind mating in protected areas

Frames and multipin inserts can be mounted into an IP20 blind mating frame. Used for modular docking and charging stations in switch cabinets.

- + Available in sizes E10, E16 and E24
- + Tolerance compensation of ± 3 mm
- + HVIL module with 2 x „last mate – first brake“ contacts available

Switch Cabinet Interfaces to Field Area



heavy|mate® Modular Systems

Data, signal & power in one interface

Our rectangular connectors with modular systems are typically used as main interfaces between cabinets and field area.

- + Robust & easy-to-assemble frame
- + Specials like 325 A power module
- + Alternative system featuring plastic frame and S&F contacts aiming for space and cost efficiency



heavy|mate® Data Interfaces

Data exchange with the field components

Reduce the number of cabinet interfaces and transfer data within the modular system connections.

- + Plug & Play connection inside the cabinet
- + Data exchange rates up to 10 Gbps
- + Customized & multiple RJ45 connections
- + MegaBit, GigaBit, RJ45, Quintax, Coax



heavy|mate® Housings

To enclose modular systems & multipin inserts

We provide a wide range of rectangular connector housings in the typical sizes from A3 to E48 as well as accessories like glands and adaptors.

- + High flexibility on cable outlets (MOQ 10)
- + Special housings with M50 outlet
- + Great EMV shielding capabilities
- + Robust metal lever

+ Factory Automation

Connectivity Solutions for Automation Components



M23-M40 Connectors & Cables

The conventional servo drive connectors

Assembled servo cables acc. Bosch, Siemens and Allen-Bradley standard as well as our series of M23 connectors motion|grade®.

- + 100 % compatible with common drives
- + Strong expertise in flexible control cables
- + Customized assemblies with low MOQ
- + Suitable contact layouts on demand



B12-B40 Hybrid Connectors

The modern servo drive connectors

In 2021, CONEC introduced the bayonet series of servo drive connectors with hybrid layouts combining ethernet and power.

- + Optimal solution for decentralization
- + > CAT5 Industrial Ethernet interface
- + Overmolded and field installable
- + Later standardized by IEC 61076-2-118



eco|mate® m and C16

The industry standard for power supply

Both series of plastic connectors provide the typical 3+PE layout, combined power/signal interfaces as well as pure signal interfaces up to 19 pins and 40 A.

- + Compact and user-friendly
- + Design acc. IEC 60664-1 (LVD)
- + VDE certificate as plug & socket device
- + Super cost efficient



M5/M8/M12/RJ45 Connectors

Data, signal and power transmission in field

We provide a wide portfolio of the industry standard metrical connectors such as RJ45, USB and Single Pair Ethernet interfaces.

- + Insulations bodies for SMT/THR
- + Accessories like splitters and adaptors
- + M12 Bayonet & MPronto: time saving and market compatible



signal|mate® M16 Connectors

For extended signal transmission

M16 connectors can be used in all kind of sensors, measurement and control systems, camera applications as well as servo motors.

- + Great shielding capabilities
- + Higher electrical load capacity than M12
- + Up to 19 positions within one interface
- + Strong expertise in PCB connections



Solenoid Valve Connectors

Pneumatic and hydraulic valves

Wide portfolio of valve connectors acc. DIN EN 17530 1-803 with LED indicators, overvoltage protection or feedback contacts.

- + Standardized A, B, C type
- + Specials like Deutsch and AMP Junior Timer
- + Field installable or pre-assembled
- + Ideal EMC protection

Power & Signal Field Distribution Solutions



Powerboss® Connectors

M29 and 1 3/4" power supply and distribution

Powerboss® connectors, assemblies and tees are used as an alternative to hard-wiring for motor controllers and industrial applications.

- + Current up to 30 A at 600 V
- + Rated for motor branch circuits
- + Designed acc. UL2237 and UL2238
- + Suitable for long-term physical stress



7/8" Connectors

For power supply and distribution up to 13 A

Our 7/8" connectors are used to supply power to sensors, actuators as well as motors. Found in conveyor and logistic systems.

- + Increased housing size for better handling
- + Plug & Play assemblies and tees available
- + 2-6 pin, up to 13 A and 600 V
- + Compatible to the industry standard



I/O System Distribution Boxes

Active & passive junction boxes

We provide the complete decentralized I/O system for automation and fieldbus communication in machinery as well as customized distribution boxes.

- + Supports PROFINET, EtherCAT and IO-Link
- + Seamless integration into existing systems
- + Modular system for flexibility
- + Compact, robust and easy installation

+ Factory Automation

Connectivity Solutions for Stationary and Moving Robots



eco|mate® RM & Aquarius

Circular connectors acc. MIL-DTL-26482

The shieldable RM series is used in demanding motor and robotic applications. The plastic pendant is a suitable solution for outdoor instrumentation.

- + 9 shell sizes and layouts up to 48 pins
- + Safe and resistant 1/3 bayonet closure
- + Protection classes up to IP69K
- + PCB mounting options

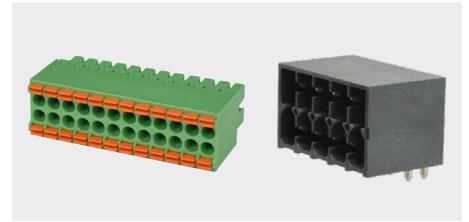


A Series™ Plastic Connectors

For power & signal transmission < 60 VDC

Typically used in harsh environment applications, e.g. tractors. The product features are suitable to the requirements of AGVs and AMRs.

- + Space saving power and signal interfaces
- + Vibration resistant and reliable
- + Different PCB mounting options
- + Very cost efficient design



Terminal Blocks

Connecting wires and PCBs in protected areas

Our compact terminal blocks are used to manage and connect wires and PCBs in all kind of automation components, e.g. control units and actuators.

- + Wire-2-wire, wire-2-board, board-2-board
- + Screw, clamp and push-in connection
- + Compatible to the industry standard
- + Super cost efficient



PowerMate® HV Connectors

For power supply up to 550 A

PowerMate® connectors are designed acc. strict Automotive standards and can be used as power interfaces in heavy load AMRs.

- + 1-3 pole headers, 180° and 90° plugs
- + 16-150 mm² connection cross-section
- + Touch proof when unmated (IPXXB)
- + Small mounting heights



Radsok® & Busbar Combinations

Power connectivity and distribution solutions

We provide strong expertise in customized busbars for power distribution including our patented power contact system „Radsok“.

- + Crimp and PCB mounting options
- + Flexible and cost efficient solutions
- + High vibration and shock resistance
- + Efficient ultrasonic welding solutions



energy|mate® Blind Mating

High mating cycles charging interface

A special plastic frame can be equipped with heavy|mate® M modules and so provide a blind mating charging system for AGVs.

- + Tolerance compensation of ±10 mm
- + Up to IP69K possible
- + Available in two sizes: 3 and 5 slots
- + Up to 100k mating cycles possible

Service and Computer Interfaces



Pass Through Connectors

Lütze PANELCON® service interface

Modular communication interface with a wide range of industrial modules like HDMI, RJ45, USB Type A/B/C.

- + Selfclosing cap with IP class 65/67/69
- + Audible feedback when closing
- + Sealing and description plate possible
- + Interface is clearly visible below hinged lid



Audio / XLR Connectors

User-friendly connector interfaces

XLR Connectors are well-known from audio related applications. With their user-friendliness they are also installed for service interfaces in automation.

- + Easy to mate and unmate
- + Up to 5k mating cycles
- + PCB mounting options
- + For data and signal transmission

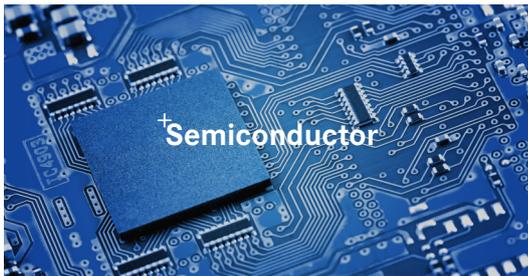


D-Sub Connectors

For high-density signal transmission

D-Sub connectors can be used as high-density signal interface and provide great PCB mounting capabilities in 180° and 90°.

- + „SnapLock“ quick locking hood
- + Complex systems with up to 78 pin layouts
- + Up to IP67 protection class
- + Choice of C-, LC-, PI-Filter



Applications & Markets

This overview presents a selection of interconnect solutions from Amphenol Tuchel Industrial and its sister companies with a special focus on the factory automation market.

From sensors to actuators and communication technology we cover the entire automation chain with connectors and support machine builders in integrating the components into their systems. We provide cable assemblies such as customized connectivity solutions tailored to each applications' specific requirements.

Not shown in this overview, LÜTZE offers innovative cabinet and control solutions including space-saving wiring systems, efficient climate management, and reliable power distribution, protection, and signal processing. Their systems enable optimized cabinet design and ensure seamless integration into Industry 4.0 and IIoT environments.

Interested?

We understand the interaction of all electrical currents as one system, targeting for simplicity, safety and efficiency.

Get in touch with our experienced specialists or distribution partners, available worldwide.

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