

EMPOWER YOUR WAREHOUSE OPERATIONS

Advanced connectivity solutions are the key to overcoming the growing demand for automated warehouses. The rise of smart connectivity (Industry Internet of Things) and the rapid growth of e-commerce have led to a revolution in warehouse automation. Automated guided vehicles (AGVs) and autonomous mobile robots (AMRs), are making warehouses more productive than ever. With automatic storage and retrieval systems (ASRS), these robots can work together to handle material storage, make smart decisions on material placement and inventory rotation, fulfill tasks such as pickup and shipping preparation.

Successful automation relies on durable, rugged connectivity. At TE Connectivity (TE), we are continuing to invest in

our portfolio and developing next-generation products that help address your biggest challenges. Our heavy-duty connectors, reliable relays and contactors, and motor connectivity offerings are among our broad range of solutions designed to take your warehouse operations to the next level. Explore the products below.

Battery and Battery Management System (BMS) **Charging Station**

Connectors, Sensors,

Motor and Drive



Battery and battery management system (BMS) components:

Functions	Product
Cell interconnect Save energy and reduce battery failures with reliable and long-term stable interconnects	 Integrated cell connection system <u>BCON+ high voltage connection system</u> <u>Terminals for a wide range of wire sizes</u>
Connecting signals and data Modern signal and data connectors for batteries supports reliability with vibration- resistant design and reduced battery size. Space constraints and a need for high performance are a challenge - ERNI modern signal and data connectors meet the requirements of increased demand combined with reliability and small size.	 Wire-to-wire, wire-to-board <u>Dynamic Series connectors</u> Sealed wire-to-wire, wire-to-board <u>NanoMQS miniature connector system</u> <u>Micro-MaTch</u> flat cable connectors and <u>ERNI MicroBridge</u> connectors Wire-to-board and board-to-board ERNI connectors including <u>MaxiBridge</u>, <u>MiniBridge</u>, <u>SMC</u>, <u>MicroCon</u> connectors Special connectors <u>ERNI MicroSpeed Power Modules</u>
Connecting and disconnecting battery power Reliable connect and disconnect – from compact to high-power batteries	 High-voltage <u>DC contactors</u> up to 600 A: <u>ECK</u>, <u>IHV200</u>, <u>KILOVAC</u> Potter & Brumfield solid state relays SSR3 series Power PCB relays up to 50 A: <u>PCB relays</u>, <u>POTTER & BRUMFIELD power relay T92</u>
Power distribution Reliable power connectors reduce assembly efforts and help reduce safety hazards	 AMPOWER series connectors Up to 100 A wire-to-wire, wire-to-board <u>Dynamic Series connectors</u> AMP+ HV 800 Series high-voltage interconnection system Terminals for a wide range of wire sizes SCHAFFNER EMC / RFI Chokes
Autonomous connection of chargers Autonomous charging connectivity needs	 Blind mating mobile charging connectors HDC floating charging connectors



power and communication

Charging station components:

Functions	Product	
Connecting and disconnecting charging power Reliable connect and disconnect – from compact to high-power batteries	 High-voltage <u>DC contactors</u> up to 600 A: <u>ECK</u>, <u>IHV200</u>, <u>KILOVAC</u> <u>Potter & Brumfield solid state relays SSR3 series</u> Power PCB relays up to 50 A: <u>PCB relays</u>, <u>Potter & Brumfield power relay T92</u> 	
DC power distribution Reliable power distribution solutions reduce assembly efforts and help reduce safety hazards	 Stationery charging <u>INTERCONTEC connectors</u> Cabinet power and signal distribution <u>ENTRELEC terminal blocks</u> Power distribution <u>Dynamic Series connectors</u> <u>DBL power distribution blocks</u> 	
Autonomous connection of chargers Autonomous charging connectivity needs power and communication	 Blind mating mobile charging connectors HDC floating charging connectors 	
EMI Filtering Choose the right filtering solution to protect your equipment from electromagnetic interference (EMI)	 Multi-function inlet filters CORCOM 1-phase power filters CORCOM 3-phase EMI noise filters DC power line filters SCHAFFNER FN2220, FN2230 FN2240, FN3280, FN3256, FN2060 SCHAFFNER EMC / RFI Chokes 	
Connecting signals and data Modern signal and data connectors reduce	Wire-to-wire, wire-to-board <u>Dynamic Series connectors</u> Micro-MaTch flat cable connectors	

Board-to-board ERNI SMC connectors

• Wire-to-wire, wire-to-board **Dynamic Series connectors**

• Wire-to-board, wire-to-wire **Dynamic Series connectors**



size and supports reliability

Connecting signals and data

Controls, sensors, vehicle wiring components:

Product

Modern signal and data connectors reduce size and support reliability	 Flat cable connectors - <u>Micro-MaTch</u> Wire-to-board and board-to-board ERNI <u>SMC</u> connectors
Connecting power and signal Power and signal connectors for vehicle wiring need to be reliable and flexible in use	 Industrial servo motor <u>INTERCONTEC connectors</u> Rugged <u>circular plastic connectors (CPC)</u> <u>AMP MCP connector system</u> Sensor/actuator connectivity - <u>M8 and M12 Ethernet connectors</u>
Data and Ethernet connectivity The increasing need for data and bandwidth changes the requirements for signal and data connectivity	 Industrial sealed Ethernet M12 D-code connectors, M12 X-code connectors Industrial RJ45 Ethernet connectors Industrial Mini I/O connectors MATE-AX miniaturize automotive coaxial connector system enetSEAL+ Ethernet connectors Single Pair Ethernet (SPE) connectivity
Push buttons and emergency stop switches Push buttons need to be ergonomic and support application safety	 Battery disconnect switches Push button switches KISSLING emergency stop switches ALCOSWITCH push button emergency stop switches



components: **Product** • Industrial servo motor INTERCONTEC connectors

Motor and drive

EMI/EMC performance	• Wire-to-board, wire-to-wire <u>Mini-Oniversal MATE-N-LOK Conflectors</u>
Power distribution Reliable power connectors reduce assembly efforts and help reduce safety hazards	 AMP Power Series Connectors Up to 100 A wire-to-wire, wire-to-board <u>Dynamic Series connectors</u> AMP+ HV 800 Series high-voltage interconnection system Terminals for a wide range of wire sizes
Braking resistors Braking resistors for different environmental conditions and power levels	 Sealed, aluminum-housed power resistors Wire-wound tubular power resistors
Connecting signals and data The increasing need for data and bandwidth changes the requirements for signal and data connectivity	 Sensor/actuator connectivity - M8 and M12 Ethernet connectors Wire-to-wire, wire-to-board <u>Dynamic Series connectors</u> <u>AMP MCP connector system</u> <u>Single Pair Ethernet (SPE) connectivity</u>
Internal controller connectivity Reliable interconnects inside controls are essential	Modular signal <u>AMPMODU interconnect system</u> <u>Micro-MaTch</u> contact system
Motor feedback / position system Rugged motor feedback systems helps enable high-power densities	 Industrial resolvers and angular position sensors for Smart motors Reluctance resolver Anisotropic Magneto-Resistive magnetic position sensors
RFI/EMC Filters	 SCHAFFNER FN3287, FN3288 SCHAFFNER FN350 SCHAFFNER FN3270

Get more insights from TE's experts:

help simplify your most complex manufacturing processes.

We are ready to help you take your industrial automation capabilities to the next level.

Connect With Us No matter your answers to the questions above, the engineering team at TE is here to help. Our team brings deep expertise in warehouse automation applications and can work with you to co-create a customized solution to fit your needs. At TE, we provide highly engineered connectivity solutions that support virtually uninterrupted operations for power, signal, and data, including high-speed connectivity. We also build integrated components and solutions to

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