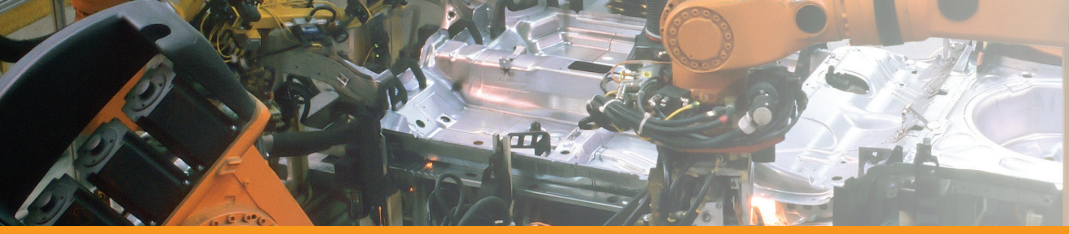

Fact Sheet

MOTION & DRIVES

What is Motion & Drives?

- Motion control is a sub-field of automation, in which the position or velocity (motion) of a machine is controlled using a device such as a hydraulic pump, linear actuator, or electric servo motor. A “servo motor” is a rotary actuator that allows for precise control of angular position.
- The drive, also known as the “amplifier,” is used to transform the control signal from the motion controller into higher power electrical current or voltage presented to an actuator, such as hydraulic pump, air cylinder, linear actuator, or electric motor to output motion. “Intelligent” drives (frequency inverters) can close the position and velocity loops within the system, resulting in more accurate control.
- Connectivity solutions provide professional decentralization within the production facility, making it easier to simplify or retrofit machine architecture, save power and reduce applied cost, hence increasing system reliability and productivity.

Target Customers

- Inverter manufacturers
- Servo drive and servo motor manufacturers
- Motion controller manufacturers
- Automation assembly manufacturers
- Robotics manufacturers
- Control systems integrators
- CNC controllers
- Industrial PC system
- PLC manufacturers
- Industrial communications integrators
- Sensor technology

Motion & Drives Subsystems

- Controller / PLC System
- Drive Unit
- System Interface
- I/O (Input / Output)
- HMI / Display & Control Unit
- Motor
- Sensing Device

In-the-Know

- The miniaturization of subsystems and components supporting motion & drives is an important trend that provides the required performance while achieving space savings.
- The need for motion & drives to withstand high vibration conditions and harsh environments (including high temperature) is very important. Components designed to support these requirements are critical to the performance and reliability of the system.
- Signal integrity with higher data transfer rates between controllers is a factor driving faster response time, better communication, and control accuracy impacting the overall performance of the complete system. Industrial communications systems are becoming increasingly sophisticated and demand more functionality.
- Multiple I/O interfaces are required to meet specific industry or international standards driving the I/O specifications to meet each of these unique applications.

Design Navigator

Inside the Motion & Drives solutions guide, the Design Navigator will help you select the right TE products for your customer based on their unique component requirements and application challenges.

TE provides interconnect solutions for industrial networking, powered drive systems, motors, controllers, sensing devices, and safety networking for use in a broad range of motion and drive environments from system controller, integration, drive to other I/O interface applications.

When selecting electrical components for equipment operating in harsh environments with exposure to liquids, debris, high vibration, or mechanical and thermal shock, TE products can help solve many design challenges.

Key Questions to Ask Your Customers

- Are you working on or adopting the next generation or new platform of system integration for motion & drives?
- What are the primary considerations in the products used between different controllers in your motion & drives system?
- Would your application benefit from a connection solution that could reduce downtime and improve production yield?
- Do you have a need for rugged communication I/O products to be applied in either a centralized or decentralized system to withstand harsh environments?
- Is your application exposed to severe levels of vibration?
- Do you have requirements on protection against dust and water ingress?
- Will the next generation of your product design migrate to a smaller footprint requiring smaller interconnect products in support of your system development?

Design Navigator

Get more information on te.com by clicking on the product names below.

		Max Current Rating per Contact(A)[1]	Power & Signal Combined	Protection from EMI/RFI Noise	Speed & Determinism	High Vibration Performance	Thermal Performance	Quick Connect/ Disconnect	Miniaturization & Space Savings	Wire-to-Wire	Wire-to-Board	Board-to-Board	Standards
1	**CONTROLLER / PLC SYSTEM**												
	AMPLIMITE D-Subminiature Connectors	7.5	●	●	●	●		●			●		UL, CSA
	AMPMODU Board-to-Board & Wire-to-Board Connectors	1-3				●		●		●	●	●	UL, CSA
	CHAMP Board-to-Board & Wire-to-Board Connectors	1.0		●	●	●		●			●	●	UL, CSA, SCSI
	DIMM Sockets	N/A	●	●	●	●							JEDEC, Industry*
	DIP Switches	0.1				●							N/A
	Dynamic Series Wire-Applied Connectors	45				●		●			●	●	UL, CSA, TUV
	Eurocard Board-to-Board & Wire-to-Board Connectors	1.5	●	●	●	●					●	●	DIN 41612 & EIC 60603-2
	Free Height (FH) Board-to-Board Connectors	1.0		●	●	●			●			●	UL
	Force Guided Relays	8.0	●		●				●				UL, VDE, TUV, CQC, Industry*
	Industrial USB Connectors	1.5			●	●		●			●		UL, CSA, Industry*
	Micro-MaTch Board-to-Board & Wire-to-Board Conn.	1.5				●		●			●	●	UL
	Overvoltage Circuit Protection Devices	N/A			●	●	●		●				UL, CSA, TUV
	Precision Resistors	N/A				●			●				N/A
	Signal PCB Relays	2.0							●				UL, VDE, TUV, CQC, Industry*
	Tactile Switches	0.05				●			●				N/A
	Terminal Blocks & Strips	30				●		●			●		RU, CSA
	Z-STACK Board-to-Board Connectors	0.3		●	●	●			●			●	UL
2	**DRIVE UNIT**												
	AMPMLIMITE D-Subminiature Connectors	7.5	●	●	●	●		●			●		UL, CSA
	AMPMODU Board-to-Board & Wire-to-Board Connectors	1-3				●		●		●	●	●	UL, CSA
	CHAMP Board-to-Board & Wire-to-Board Connectors	1.0		●	●	●		●			●	●	UL, CSA, SCSI
	Dynamic Series Wire-Applied Connectors	45				●		●			●	●	UL, CSA, TUV
	Industrial Mini I/O Connector System	0.5		●	●	●		●	●		●		Cat5e
	Industrial RJ45 Connectors	0.5		●	●	●		●		●	●		UL, CSA, Cat5E, Cat6
	Industrial USB Connectors	1.5			●	●		●			●		UL, CSA, Industry*
	Micro-MaTch Board-to-Board & Wire-to-Board Connect.	1.5				●		●			●	●	UL
	Overvoltage Circuit Protection Devices	N/A			●	●	●		●				UL, CSA, TUV
	Precision Resistors	N/A				●			●				N/A
	Remote I/O Terminal System (RITS) Connectors	3.0			●	●		●			●		UL
	Signal PCB Relays	2.0							●				UL, VDE, TUV, CQC, Industry*
3	**SYSTEM INTERFACE**												
	AMP Power Series Wire-Applied Connectors	275				●		●		●			UL, CSA
	Circuit Breakers	0.2-50			●			●					UL, CSA, VDE
	Corcom Power Line Filters	Refer to the table below for product detail											UL, CSA, VDE
	Customized Cable Assemblies[2]	N/A	●	●	●	●	●	●		●	●		UL, CSA, VDE, Industry*
	Identification & Labeling	N/A					●						UL, CSA, Industry*
	Panel Mount Relays	16				●		●					UL, CSA, VDE
	Power Triple Lock (PTL) Wire-Applied Connectors	20				●		●		●			UL, CSA, GWT
	Switches	20	●			●	●	●					UR, UL, CSA, VDDE
	Terminal Blocks & Strips	30				●		●	●		●		RU, CSA
	Terminals & Splices	30				●		●		●	●		UL, CSA, Industry*
	Universal MATE-N-LOK Wire-Applied Connectors	19				●	●	●		●	●	●	RU, CSA, UL, VDE
4	**I/O (INPUT / OUTPUT)**												
	Circular Plastic Connectors (CPC)	60	●			●		●		●	●	●	UL, CSA, VDE
	Customized Cable Assemblies[2]	N/A	●	●	●	●	●	●		●	●		UL, CSA, VDE, Industry*
	Heavy Duty Connectors (HDC)	300	●	●	●	●		●		●	●		UL, CSA, SEV, VDE, DIN
	Identification & Labeling	N/A					●						UL, CSA, Industry*
	Industrial Ethernet Switches	0.5		●	●	●		●	●				UL, CSA
	Industrial RJ45 Connectors	0.5		●	●	●	●	●		●	●		UL, CSA, Cat5e, Cat6
5	**HMI / DISPLAY & CONTROL UNIT**												
	Refer to the Innovative Solutions for Industrial Control Guide for information on products included in this subsystem												
6	**MOTOR**												
	Circular Plastic Connectors (CPC)	60	●			●		●		●	●	●	UL, CSA, VDE
	Customized Cable Assemblies[2]	N/A	●	●	●	●	●	●		●	●		UL, CSA, VDE, Industry*
	Hall Sensors / Resolvers	N/A			●	●							N/A
	Heavy Duty Connectors (HDC)	300	●	●	●	●		●		●	●		UL, CSA, SEV, VDE, DIN
	Industrial RJ45 Connectors	0.5		●	●	●		●		●	●		UL, CSA, Cat5e, Cat6
	MAG-MATE Terminals	N/A				●				●			UL
	Motorman Hybrid I/O Connectors	20	●	●		●		●	●		●		UL, CSA, VDE, Cat5e
	Power Resistors	N/A				●	●		●				N/A
	Universal MATE-N-LOK Wire-Applied Connectors	19				●		●		●	●	●	RU, CSA, UL, VDE
7	**SENSING DEVICE**												
	Circular Plastic Connectors (CPC)	60	●			●		●		●	●	●	UL, CSA, VDE
	Hall Sensors / Resolvers	N/A			●	●							N/A
	M8/M12 Industrial Cordsets & Connectors	5.0		●	●	●		●	●	●			UL, CSA

CORCOM EMI/RFI POWER LINE FILTERS

Series	Type		Rated Current / Voltage (max)	Agency Approvals
FC Series	Single Phase	RFI Filter for Frequency Converters	6 - 50A / 250 VAC	UL
K Series		General Purpose RFI Filter	1 - 60A / 250 VAC	UL, CSA, VDE
AYC Series	Three Phase	WYE or Delta RFI Power Line Filter	16 - 200A / 480 VAC / 277 VAC	UL
BCF Series		Compact Delta RFI Filter	7 - 180A / 480 VAC / 277 VAC	UL, CSA, VDE

For a complete list of TE's Corcom EMI/RFI filters, visit: www.corcom.com

[1] May vary based on application and product selection

[2] Solves the same problems as the applied interconnect

UL – UL Listed
RU – Recognized Under
CSA – Canadian Standards Association
* Industry – Meets product specific industry standards (see product page on te.com for more detail)