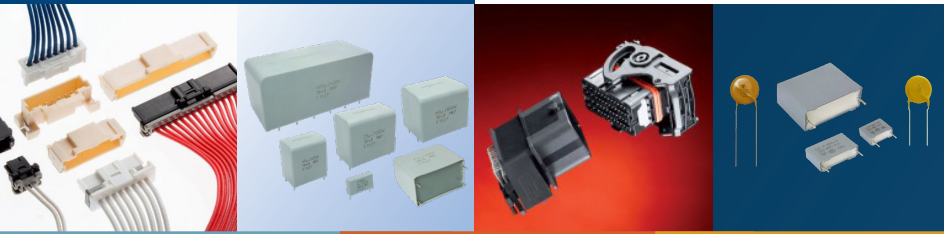




The IP&E  
Specialist

# TRANSPORTATION

## Asia Line Card



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[ttiasia.com](http://ttiasia.com)



Pushing Performance  
Since 1945



Keeping business running smoothly and at top efficiency with today's data and technology demands requires the widest and deepest inventory of high-quality, high-performance components. And TTI stocks them.

Featuring the most comprehensive passive, connector, discrete semiconductor and electromechanical inventory from more than 70 industry-leading manufacturers, TTI delivers the right part at the right time—every time—to keep you up to date, up to speed and ahead of the rest.



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When it comes to IP&E and discrete components, TTI is your go-to resource with the broadest and deepest inventory and a reputation for quality and on-time delivery second to none.

Ask your TTI Sales Specialist about our Online Procurement programs – the quick and easy way to order components online using your terms account, see the status of your orders, upload your BOM and do it all with secure 24/7 access.

### 3M Interconnect Solutions

#### Abrakon

#### AirBorn Interconnects

#### Amphenol

- Amphenol Advanced Sensors
- Amphenol Aerospace
- Amphenol Alden
- Amphenol All Sensors
- Amphenol Anytek
- Amphenol Canada
- Amphenol Communication Solutions
- Amphenol CONEC
- Amphenol Entertainment
- Amphenol FCI
- Amphenol Fiber Optics
- Amphenol Industrial
- Amphenol LTW
- Amphenol Nexus
- Amphenol PCD
- Amphenol PCD Shenzhen
- Amphenol Piher Sensing Systems
- Amphenol Positronic
- Amphenol RF
- Amphenol SGX Technology
- Amphenol Sine
- Amphenol Spectra Strip
- Amphenol SSI Technology
- Amphenol SV Microwave
- Amphenol TCS
- Amphenol Tuchel

#### Aptiv (formerly Delphi)

#### Bourns

- J.W. Miller
- Keko-Varicon
- Komatsulite
- Transtek

#### Chemi-Con

#### Cornell Dubilier (CDE) (Knowles)

- Illinois Capacitor

#### Delevan

#### Dialight

### EATON

- Bussmann
- Coiltronics
- PowerStor
- Souriau-Sunbank
- Transportation and eMobility

#### Glenair

#### HARTING

#### Harwin

#### HellermannTyton

#### Honeywell

#### iNRCORE

- Gowanda
- Vanguard Electronics

#### ITT Cannon

#### JST

#### KEMET (YAGEO Group)

- Arcotronics
- Evox Rifa
- Forest Electric (FELCO)
- NEC TOKIN

#### Knowles

- Cornell Dubilier (CDE)
- Dielectric Labs (DLI)
- IMC
- Novacap
- Syfer
- Voltronics

#### KOA Speer

#### KYOCERA AVX

#### KYOCERA Display

#### Lelon

#### Littelfuse

- C&K Components
- Carling Technologies
- Hamlin
- Hartland Controls
- IXYS
- Littelfuse Automotive
- Teccor
- US SENSOR

### MEAN WELL

#### Molex

- AFFINITY MEDICAL
- BittWare
- Brad
- FCT
- Flamar
- GW Connect
- ISI
- Laird CVS
- Nistica
- OPLINK
- Philips Medisize
- Polymicro Technologies
- PROTEK
- SDP Telecom
- Sensorcon
- Soligie
- SST
- Temp-Flex
- TRITON
- Woodhead

#### Motherson (formerly PKC Group)

#### Murata

- Murata Power Solutions (MPS)

#### Nichicon

#### OHMITE

- Arcol

#### OMRON

- OMRON Automation & Safety
- OMRON Electronic Components

#### Panasonic

#### PANJIT

#### Phoenix Contact

#### Preci-Dip

#### ROHM Semiconductor

### Sensata

- Airpax
- BEI Sensors
- Crydom
- Cynergy3
- Gigavac
- Kavlico
- Sensor Solutions

#### Spectrum Control (formerly APITech)

#### Switchcraft Conxall

#### TAIYO YUDEN

#### TDK

- EPCOS

#### TE Connectivity

- Agastat
- Alcoswitch
- AMP
- AST Sensors
- Augat
- Axicom
- CII Technologies
- Corcom
- DEUTSCH
- Elcon
- ENTRELEC
- ERNI
- First Sensor
- Hartman
- HTS
- Jaquet Sensors
- Kemtron
- Kilovac
- Laird Antennas
- Linx Technologies
- Madison Cable
- Measurement Specialties
- Microdot
- Nanonics
- OEG
- Potter & Brumfield
- Products Unlimited
- Raychem
- Schrack
- Seacon

### TT Electronics

- BI Technologies
- IRC
- OPTEK
- Semelab
- Welwyn

#### Vishay

- Angstrohm
- Barry Industries
- BCcomponents
- Beyschlag
- Cera-Mite
- Dale
- Draloric
- Electro-Films
- Huntington/Milwaukee
- Roederstein
- Semiconductors
- Sfernice
- Siliconix
- Spectrol
- Sprague
- Tansitor
- Techno
- Thin Film
- Vitramon

#### VPG Foil Resistors

#### WIMA

#### YAGEO Group

- KEMET
- Nexensos
- Pulse
- Vitrohm

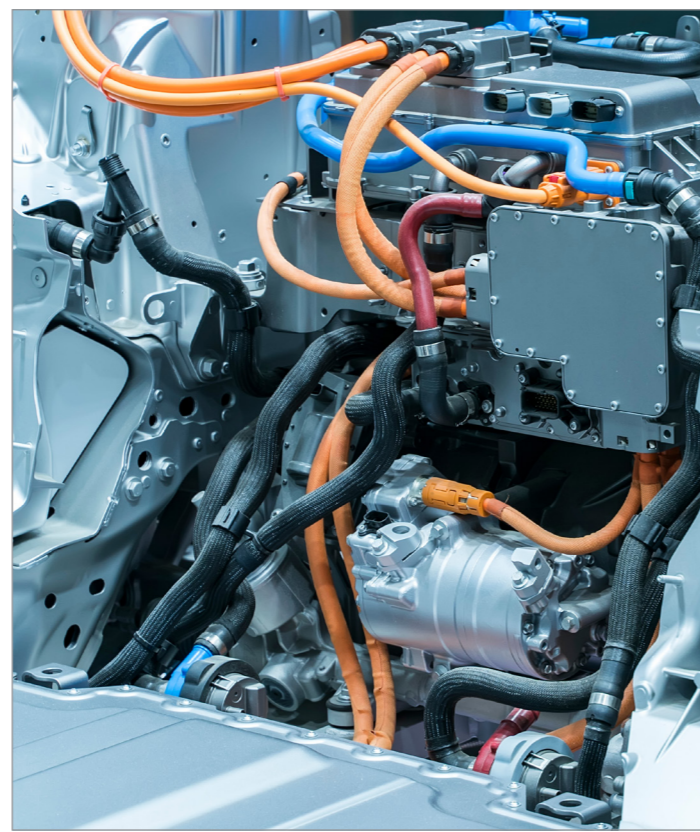


# Circuit Protection & Electromagnetic Components

PROTECTION DEVICES	Bourns	Eaton - Bussmann	KOA	KYOCERA AVX	Littelfuse	Littelfuse - Teccor	Murata	Panasonic	ROHM Semiconductors	TDK	TDK - EPCOS	United Chemi-Con	Vishay	Vishay - Dale	Yageo
	<b>OVER CURRENT</b>														
Automotive (Blade) Fuses		◆			◆										
Axial Fuses		◆			◆										
Cartridge Fuses		◆			◆										
NTC Thermistors				◆			◆			◆			◆	◆	◆
Power (Electrical) Fuses		◆			◆										
PTC Thermistors	◆						◆			◆			◆	◆	◆
Radial Leded Resettable Fuses (PTC)	◆														◆
Radial Subminiature Fuses		◆													
Surface Mount Resettable Fuses (PTC)	◆														◆
Surface Mount (125V+) Fuses	◆	◆			◆										
Thermal Cutoffs (TCO)	◆						◆								
Thin Film (Chip) Fuses	◆	◆		◆	◆			◆						◆	
<b>OVER VOLTAGE</b>															
Gas Discharge Tube (GDT)		◆				◆					◆				◆
Hybrid GDT/MOV		◆													◆
Line Protection Networks		◆													
Polymer ESD Suppression			◆	◆		◆									
Protection Thyristors		◆													◆
Surface Mount Varistors (MLV)	◆	◆	◆	◆	◆			◆		◆		◆	◆	◆	◆
Thermal MOV											◆	◆	◆	◆	◆
Through-Hole Varistors (MOV)	◆	◆	◆	◆	◆			◆		◆		◆	◆	◆	◆
TVS Diodes	◆	◆	◆	◆	◆			◆	◆	◆		◆	◆	◆	◆
TVS Diodes Arrays	◆	◆	◆	◆	◆			◆		◆		◆	◆	◆	◆

FILTERS	EMI/RFI																		
	Abracon	Amphenol RF	API Technologies - Inmet	API Technologies - Spectrum Control	API Technologies - Weinschel	KEMET - NEC TOKIN	Knowles - Precision Devices	KYOCERA AVX	Molex	Murata	Panasonic	Phoenix Contact	Pulse	Taiyo Yuden	TDK - EPCOS	TDK - RF360	TE Connectivity	TE Connectivity - Corcom	Yageo
<b>RF Wireless</b>																			
Amplifiers				◆						◆									
Antennas	◆	◆		◆						◆									◆
Attenuators			◆	◆															
Couplers			◆	◆															
EMI/RFI Filters	◆			◆		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Feed-Thru Filters				◆			◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Noise Suppression Sheets					◆														◆
RF/Microwave Filters				◆						◆									◆
RF Module																			
SAW Filters	◆		◆																
Surface Mount Filters			◆			◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆

MAGNETICS	Ferrites Inductors Transformers																
	Abracon	API Delevan	API Technologies - Spectrum Control	Bourns - JW Miller	Eaton - Coiltronics	Gowanda	KEMET - NEC TOKIN	KOA	KYOCERA AVX	Murata	Panasonic	Pulse	Taiyo Yuden	TDK - EPCOS	TT Electronics - BI Technologies	Vishay - Dale	Yageo
<b>Inductors</b>																	
Air Coil Inductors	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Common Mode Chokes	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Custom Inductors	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Ferrite Beads	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Ferrite Cores/Clamp Filters	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
High-Current Inductors	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Leaded Inductors	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Multilayer Inductors	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Power Inductors	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
RF Inductors	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Thin Film Inductors	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Toroid Inductors	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Transformers	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Wirewound/Coil Inductors	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆



PIEZO FILM SENSORS	Sound Devices		
	Murata	TDK	TE Sensor
Buzzer	◆	◆	
Piezo	◆	◆	
Sensor	◆	◆	◆
Sounder	◆	◆	
Speaker	◆	◆	

THERMAL MANAGEMENT	Thermal Management Solutions	
	Ohmite	Panasonic
Extruded Heatsinks	◆	
Liquid Coldplates	◆	
Liquid Cooling	◆	
Thermal Gap Filler/Paste		
Thermal Solutions Graphite Sheets	◆	

POWER SUPPLIES	Power Supply Solutions			
	Murata Power Solutions	Omron Automation & Safety	Panasonic	Phoenix Contact
AC/DC Power Supplies	◆	◆	◆	
DC/DC Power Converters	◆	◆	◆	
DC/AC Power Inverters				◆

TIMING DEVICES	Frequency Control				
	Abracon	API Technologies	KYOCERA AVX	Murata	Vishay - Dale
Crystals	◆	◆	◆	◆	◆
Oscillators	◆	◆	◆	◆	◆
Resonators	◆	◆	◆	◆	◆

◆ Lead & Lead-free compliant parts available    ◆ Lead-free only parts available

◆ Lead & Lead-free compliant parts available    ◆ Lead-free only parts available





RELAYS	Honeywell	KEMET-NECTOKIN	Littelfuse - Cole Hersee	Littelfuse - Hamlin	Littelfuse - Hartland	Littelfuse - IXYS	Omron	Panasonic	Phoenix Contact	Sensata - Crydom	Sensata - Cynergy	TE Connectivity
Automotive												
Communication		◆										
Contactors			◆									
Crystal Can												
Definite Purpose Contactors				◆								
DIN Rail Mounted												
Dry Reed			◆									
General Purpose	◆											
High-Voltage Switching												
Low Signal PCB	◆											
Miniature PCB												
Monitoring												
MOSFET						◆						
Panel/Plug-In												
Power												
Power Controllers												
Power Distribution Panels												
Power Modules										◆		
Power PCB												

RELAYS CON'T	KEMET-NECTOKIN	Littelfuse - Cole Hersee	Littelfuse - Hamlin	Omron	Panasonic	Phoenix Contact	Sensata - Crydom	Sensata - Cynergy	TE Connectivity
Programmable Time Delay									
Reed			◆						
Reverse Power									
RF									
Rotary									
Signal		◆							
Sockets									
Solid State		◆							
Time Delay									

CIRCUIT BREAKERS	Carding Technologies (Littelfuse)	Eaton	Littelfuse	Phoenix Contact	Sensata (Aipax)	TE Connectivity
Automotive						
Hydraulic/Magnetic Circuit Breakers		◆				
Thermal Circuit Breakers		◆				

SENSORS	Amphenol Advanced Sensors	Bourns	Honeywell	KEMET	KOA Speer	KYOCERA AVX	Littelfuse (Hamlin, US Sensor)	Molex/Contrinex	Murata	Ohmite	Omron Components	Panasonic	ROHM Semiconductor	Sensata (BEI Sensors, Cynergy3, Kavlico)	TDK EPCOS	TE Connectivity's Sensor Solutions	TT Electronics	Vishay
<b>MOTION/POSITION/SPEED</b>																		
Accelerometer & Vibration									◆		◆		◆				◆	
Gyroscopes																		
Inertial Combo			◆															
Liquid Level							◆	◆									◆	◆
Hall Effect & Reed (Switch/Latch)			◆														◆	◆
Linear Position (LVDT)			◆														◆	◆
Rotary Position, Encoders		◆	◆						◆			◆					◆	◆
Proximity (Inductive, Capacitive)			◆				◆	◆									◆	◆
Speed (Hall effect)			◆				◆	◆									◆	◆
Ultrasonic			◆					◆	◆								◆	◆
<b>OPTICAL</b>																		
Ambient Light/Proximity																		◆
Optoelectronics (including Infrared)	◆								◆			◆	◆				◆	◆
Photoelectric/Safety								◆										
Color																		◆
Time of Flight																		
UAV/Solar	◆																	◆
<b>PRESSURE/FORCE/FLOW</b>																		
Flow (Air/Gas)	◆	◆																
Force			◆							◆								◆
Load Cell/Load Pin			◆															◆
Pressure (Heavy Duty, Transducer)	◆	◆												◆				◆
Pressure (SMT/THT)	◆	◆												◆				◆
<b>ENVIRONMENTAL</b>																		
Fine Particle	◆	◆														◆		◆
CO2 and VOC	◆	◆	◆															◆
Digital Combination	◆	◆	◆				◆											◆
Gas	◆	◆	◆															
Humidity	◆	◆	◆															◆
NTC & PTC Thermistors	◆	◆	◆		◆	◆	◆	◆	◆									◆
Temperat Sensing Probes & Assemblies	◆	◆	◆	◆	◆	◆	◆	◆	◆					◆	◆	◆	◆	◆
RTD	◆	◆												◆	◆			◆
Infrared/Thermopiles	◆									◆								◆
Thermocouple	◆												◆					◆
<b>OTHER</b>																		
Current		◆	◆											◆				◆
Fluid Quality & Liquid Level							◆	◆										◆

SWITCHES	Bourns	C&K Components	Honeywell	Littelfuse - Hamlin	Omron	Panasonic	TE Connectivity
Anti-Vandal							◆
DIP		◆					◆
Encoder			◆	◆			◆
Keylock			◆				◆
Keypad			◆	◆			◆
Knobs					◆		◆
Limit				◆			◆
Optical				◆			◆
Paddle			◆	◆			◆
Panel Mount			◆	◆			◆
Power Rocker			◆				◆
Pressure Switch				◆			◆
Pushbutton			◆	◆			◆
Pushwheel			◆				◆
Reed				◆			◆
Rocker			◆				◆
Rotary		◆	◆	◆			◆
E-Stop			◆	◆			◆
Selector			◆	◆			◆
Slide			◆				◆
Snap Action			◆	◆			◆
Special Purpose			◆	◆			◆
Switchlock			◆	◆			◆
Surface Mount			◆	◆			◆
Tactile			◆	◆			◆
Thumbwheel			◆				◆
Toggle			◆	◆			◆

## Discretes

POWER SEMICONDUCTORS	Bourns	Littelfuse - IXYS	Littelfuse - Teccor	KYOCERA AVX	Panasonic	ROHM Semiconductor	TT Electronics - Semelab	Vishay
<b>DIODES</b>								
Arrays	◆	◆				◆	◆	◆
Schottky	◆	◆				◆	◆	◆
Small Signal	◆	◆				◆	◆	◆
TVS	◆	◆				◆	◆	◆
Zener	◆					◆	◆	◆
Silicon Carbide (SiC)		◆				◆	◆	◆
<b>RECTIFIERS</b>								
Bridge	◆	◆				◆	◆	◆
Rectifiers	◆	◆	◆			◆	◆	◆
Schottky	◆	◆				◆	◆	◆
<b>THYRISTORS</b>								
Switching (SCRs, Triacs)		◆	◆					◆
<b>TRANSISTORS</b>								
Bipolar						◆	◆	
Small Signal						◆	◆	
<b>IGBTs</b>								
Discrete		◆				◆	◆	
Modules		◆				◆	◆	
<b>MOSFETS</b>								
Gallium Nitride (GaN)						◆	◆	◆
High-Voltage		◆				◆	◆	◆
Low-Voltage		◆				◆	◆	◆
Modules		◆				◆	◆	◆
Silicon Carbide (SiC)		◆				◆	◆	◆

■ MIL Spec Discretes (DSCC)

OPTOELECTRONICS	Dialight	Littelfuse	Murata - MPS	Panasonic	ROHM Semiconductor	TT Electronics - OPEK	Vishay
Digital Panel Meters				◆			
High-Voltage Isolators							◆
Infrared Components						◆	◆
Infrared Touch Panels						◆	◆
LCD Modules							◆
LEDs - Indication		◆				◆	◆
LEDs Illumination <1W		◆				◆	◆
LEDs - Illumination >1W						◆	◆
LEDs - UV							◆
LED Displays						◆	◆
LED Drivers					◆	◆	◆
LED Modules					◆	◆	◆
Light Pipes		◆					◆
OLED Displays						◆	◆
Optical Sensing						◆	◆
Optocouplers			◆			◆	◆
Panel Mount Indicators		◆					◆
Plasma Displays							◆
Solid State Relays		◆		◆			◆
TFT Displays							◆

ADDITIONAL DISCRETE COMPONENTS	Littelfuse - IXYS	ROHM Semiconductor	TT Electronics - Semelab	Vishay
Analog Switches		◆	◆	◆
LDO (Low Drop Out) Voltage Regulator			◆	◆
Logic				◆
Motor Control Drivers			◆	◆
RF Diodes			◆	◆
RF Transistors			◆	◆
Voltage Regulators		◆	◆	◆

■ MIL Spec Discretes (DSCC)

MEMORY	Panasonic	ROHM Semiconductor	TDK
CompactFlash™, CFast™			◆
DRAM			◆
eMMC Memory		◆	
FeRAM			◆
SD Memory Cards		◆	◆
Serial EEPROM		◆	
Solid State Drives (SSD)			◆

## Why Buy from the Specialist in Electronic Component Distribution?

Founded in 1971, TTI has steadily grown to become the world's leading interconnect, passive, electromechanical and discrete component distributor in the industry.

The company was founded on the premise that passive component purchasing could be made more efficient by offering product specialization, customer-driven service, and proprietary supply chain solutions – and do it all with secure 24/7 access.



### Knowledgeable Product Experts

Specialization allows TTI product managers to provide much better product insight to support your manufacturing from design through production. TTI Specialists' commitment to our customers is key to our continued success.



### Broader and Deeper Inventories

TTI maintains extensive component inventories, stocking more than 500,000 part numbers in North America and over 850,000 globally – that's more interconnect, passive, electromechanical and discrete inventory available than from any other source.



### AIM – Advanced Inventory Management Platform

TTI's proprietary supply chain system is specifically designed for managing IP&E products and partnerships with premier manufacturers. This allows us to provide the BOM coverage necessary to deploy comprehensive solutions that reduce total cost of ownership and mitigate line down risk.

### Asia Sales Offices

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<b>Suzhou</b>	T: +86 512 8957 0488
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<b>Taiwan - Taichung</b>	T: +886 2 2796 8305
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<b>India</b>	
Bangalore	T: +91 80 4530 1900
New Delhi	T: +91 80 4530 1957
Pune	T: +91 80 4530 1988
<b>Indonesia</b>	T: +65 6788 9200
<b>Korea</b>	
Seoul	T: +82 2 376 8171
Gumi	T: +82 2 376 8171
<b>Malaysia</b>	
Kuala Lumpur	T: +60 4 659 2011
Penang	T: +60 4 659 2011
<b>Philippines</b>	T: +63 2 654 5599
<b>Singapore</b>	T: +65 6788 9200
<b>Thailand</b>	T: +66 2 694 2277
<b>Vietnam</b>	
Hanoi	T: +84 28 3822 9468
Ho Chi Minh	T: +84 28 3822 9468

## QUALITY AND RELIABILITY

TTI is the first distributor to have all global warehouse locations ISO registered and currently are certified to ISO 9001 with AS9100C and ISO 14001 in North America, ISO 9001, EN 9100, ISO 14001 and EN 9120 in TTI Europe and ISO 9001 in TTI Asia.

Year after year, customers rate our inventory availability, on-time delivery and accuracy among the very best in the industry – call your local TTI Specialists at +65 6510 1846 and discover why.

