



**The IP&E
Specialist**

Building Automation – Smart Home & Surveillance Systems Application Guide

TTI, Inc., – A Berkshire Hathaway Company



The IP&E Specialist

The Specialist in Electronics Component Distribution

Founded in 1971, TTI has steadily grown to become a world leading specialist distributor of electronic components. 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.

Why TTI?

- **Technical Experts** TTI's European team of field-based Sales Engineers and local Product and Technical Specialists are here to support you; from understanding component trends, sustainable sourceability and new product roadmaps, to in depth technical support for your design from our technical engineering experts.

- **Value Added Services** Connector assembly is one of the most important value-added services at TTI, Inc. – Europe. We are specialized in distributing manufacturer controlled and certified connectors and interconnect solutions from globally leading suppliers. Thanks to a large inventory level of connector components, TTI, Inc. – Europe can serve any market requirements.

- **Global Distribution Centers** Our European headquarters is located just outside of Munich, Germany in Maisach-Gernlinden. In total, we have 45.000m² of dedicated warehouse space and local sales and technical support in over 40 locations across Europe. TTI has more than 195.000m² of automated warehousing in North America, Europe and Asia. All are linked into a global warehouse management system that provides superior customer service and overall business efficiencies. Wherever you are in the world, TTI can support you. Year after year, customers rate our inventory availability, on-time delivery and accuracy among the very best in the industry – contact us today to find out what a true specialist has to offer.

- **Quality and Reliability** TTI's global warehouses are all ISO-registered and have received certification to the ISO 9001 and ISO 14001 Standards. TTI Europe is also certified to EN9120/EN9100, IECQ-CECC and ISO/IEC 27001 Standards. Additionally, our European sales branches are ISO 9001 certified. TTI has one global documentation system that ensures that every TTI branch and warehouse in the world follows the same processes.





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www.ttieurope.com

Applications

Home Automation

- Automated lighting control
- Smart thermostats and HVAC management
- Smart blinds and window controls

Energy Management

- Smart meters and energy monitoring
- Automated climate control

Video Surveillance

- Indoor and outdoor security cameras
- Real-time video monitoring

Smart Doorbells & Entry Monitoring

- Video doorbells
- Visitor identification
- Package monitoring

Access Control

- Smart locks
- Remote lock/unlock functionality

Intrusion Detection

- Motion sensors
- Door/window sensors
- Glass-break detection

Safety Monitoring

- Smoke and fire detection
- Carbon monoxide monitoring
- Flood and water-leak detection





Technology Trends

For IP&E (Interconnect, Passive & Electromechanical), Smart Home & Surveillance is being driven by increasing connectivity, AI at the edge, higher power demands, and the need for reliable wireless infrastructure. The key technology trends directly translate into demand of:

- High-speed board-to-board connectors
- Advanced power inductors and capacitors
- Thermal management components
- EMC/EMI suppression devices
- High-speed I/O interconnects

Matter, Thread and Multi-Protocol Connectivity require more sophisticated RF front-end architectures and antenna solutions:

- Embedded antennas
- RF connectors
- RF filters and matching networks
- Shielding solutions
- High-frequency passive components

Smart Sensors Everywhere Homes are becoming sensor-rich environments using:

- MEMS sensor integration
- Sensor connectors
- Precision resistors
- Signal conditioning passives
- Miniature electromechanical components

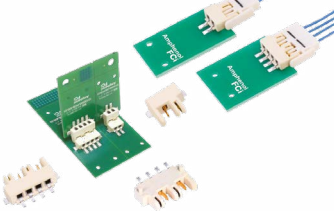
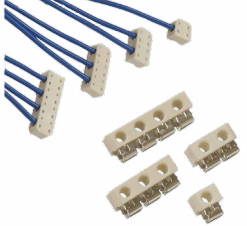
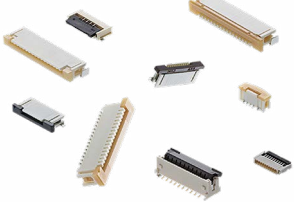
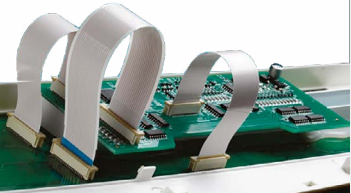
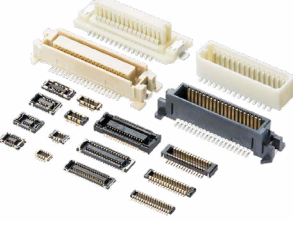
Video Doorbells and Smart Access Control Modern system require:

- Waterproof connectors
- Micro switches
- Biometric sensor interfaces
- Audio connectors
- Battery and charging components

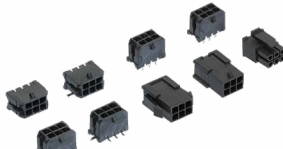
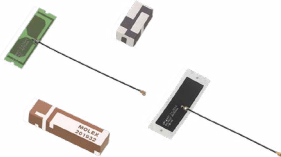
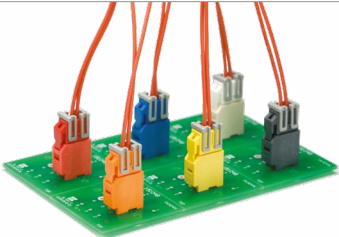
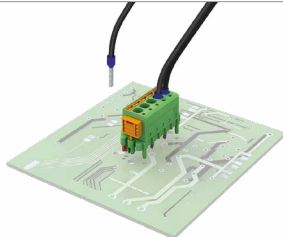
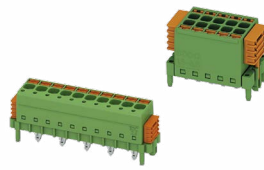
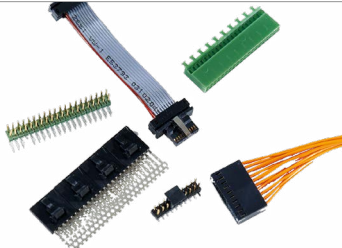
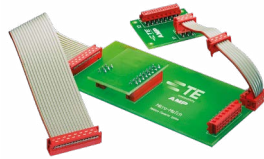
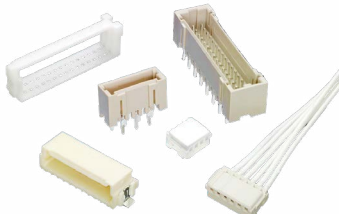
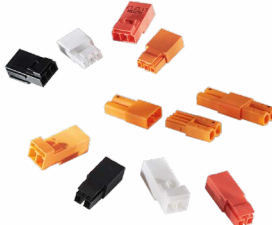
Higher Resolution Video Camera resolutions continue to migrate toward

- High-speed connectors
- Signal integrity solutions
- High-frequency passives
- Data interface interconnects
- Ethernet magnetics
- RJ45 connectors
- PoE transformers
- Power inductors

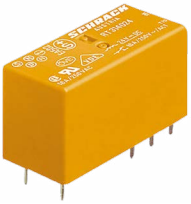
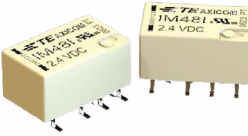
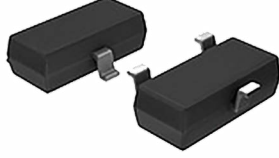
Connectors

Amphenol® eco mate® Aquarius™ 	Amphenol® FLH Mini Sealed 2.50mm Connectors 	Amphenol® FICX Series 	Amphenol® RotaConnect® WTB/BTB 
Amphenol® USB Solutions 	Amphenol® Modular Jack RJ45 Connector Solutions 	Amphenol® USB 3.1 Type C Connectors 	Amphenol® Anytek – Terminal Blocks 
KYOCERA AVX WTB Low Profile IDC Series 9176-800 	KYOCERA AVX Single High Current IDC Contact 	HARWIN Archer M50 (1.27mm pitch) 	HARWIN EMC Shield Cans 
molex KK 254 and KK 396 Connectors 	molex Easy-On FFC/FPC Connectors 	molex Premo-Flex Cable Jumpers 	molex SlimStack Board-to-Board Connectors 

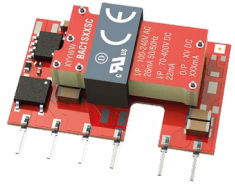
Connectors

molex Squba Sealed Wire-to-Wire Connectors 	molex Micro-Fit 3.0 Family 	molex Spot-On Wire-to-Board Connector System 	molex Combo Antennas 
molex CP-6.5 Wire-to-Board Connector System 	PHOENIX CONTACT SKEDD 	PHOENIX CONTACT PCB Connectors with SKEDD Technology 	TE connectivity AUTHORIZED DISTRIBUTOR AMPMODU – Interconnectsystem 
TE connectivity AUTHORIZED DISTRIBUTOR Cable labels, Markers & Tags 	TE connectivity AUTHORIZED DISTRIBUTOR CoolSplice Connectors 	TE connectivity AUTHORIZED DISTRIBUTOR Micro-MaTch Connector Family 	TE connectivity AUTHORIZED DISTRIBUTOR BUCHANAN WireMate 
TE connectivity AUTHORIZED DISTRIBUTOR 1.5mm AMP Mini CT Connector 	TE connectivity AUTHORIZED DISTRIBUTOR LIGHT-N-LOK Connectors 	TE connectivity AUTHORIZED DISTRIBUTOR Hermaphroditic Blade and Receptacle Connectors 	TE connectivity AUTHORIZED DISTRIBUTOR Lumawise Endurance S Series 

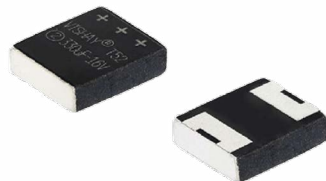
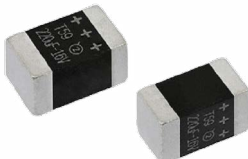
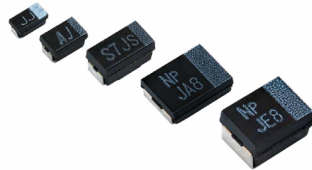
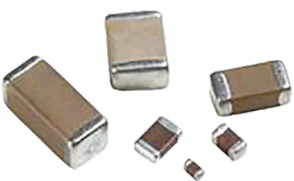
E-Mech & Sensors

			
CRE – 10uraturemm DIP Coded Rotary Switches	Anti-vandal Sealed Pushbuttons	SS SubMiniature Detector Switches	CG2RL Low Profile General Purpose PCB Power Relays
			
			
G5NB Compact & High Capacity PCB Power Relays	DJ-H Latching Relays	DW – polarized Relays	CW Series
			
			
RT1 Inrush Power Relays	SCHRACK Power PCB Relays RZ Series	IM Signal Relays	T9602 Harsh Environment Temperature Sensors
			
			
HPM Series Particle Sensors	MIPS Media Isolated Pressure Sensors	103SR Series	Nanopower Series Magnetoresistive Sensors
			

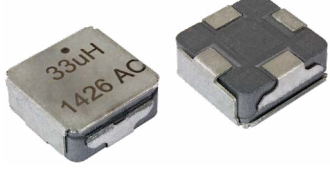
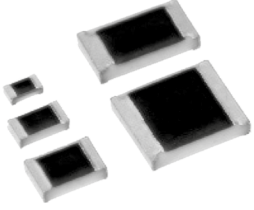
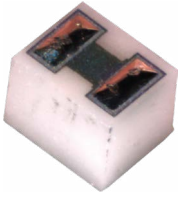
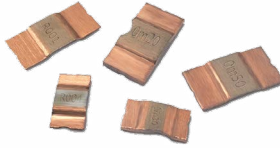
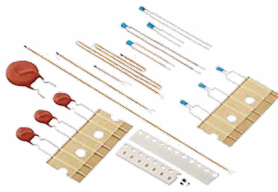
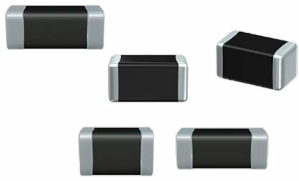
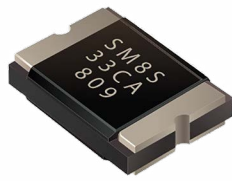
Sensors & Power

			
HAQ Air Quality	MEMS Thermal Sensors	2JCIE Environmental Sensor	PAPIR
			
			
Klixon 3 NT Thermostate	116CP Water Pressure Sensors	Refrigerant Gas Leak Detection	Easy Indoor Air Quality, the MICS-VZ-89TE
			
			
HTU2X Humidity Sensors	MS5200 Sensor Series	LCC Power Supply	IMP configurable Power Supply
			
			
KNX-20E-640	LPH-18-12 ACDC	LPV 20-150W ACDC Power Supplies	BAC1 1W AC/DC supports ultra low standby power
			

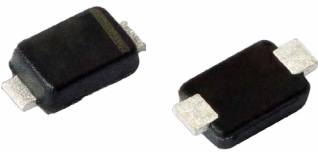
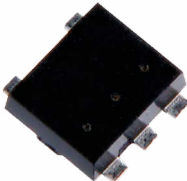
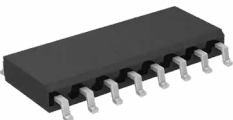
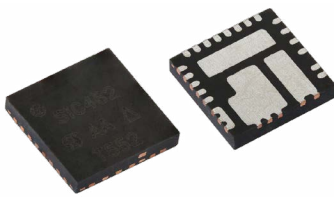
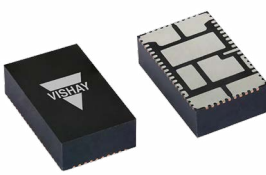
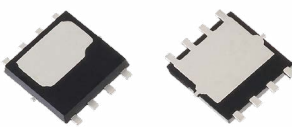
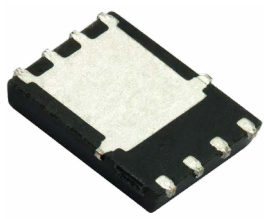
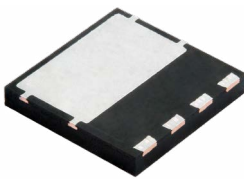
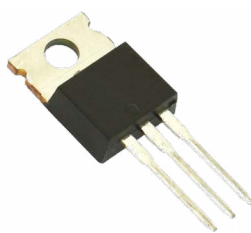
Passives

 Supercapacitors family 	 NFM Capacitor 	Panasonic INDUSTRY ECQUA Series (Class X2) Film Capacitors 	Panasonic INDUSTRY MLCC/Polymer 
Panasonic INDUSTRY ZKU Series Hybrid Capacitor 	 DC link capacitors for harsh environments 	 Ceralink Capacitors 	 230 EDLC-HV Energy Storage Capacitors 
 T52 Capacitors 	 T59 Capacitors 	 Polymer Capacitors 	YAGEO GROUP MLCC – HCV Series Capacitors 
YAGEO GROUP AC-AS-Series Multilayer Capacitors 	 HVC Contractors 	 UTM 250 + MSM Fuses 	 MCB Rotational Absolute Magnetic Kit Encoder 

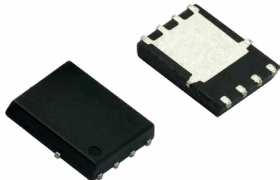
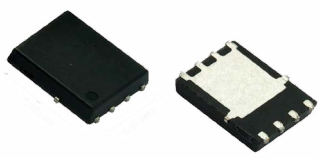
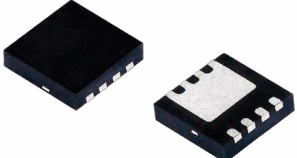
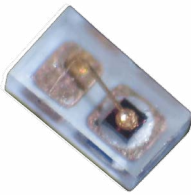
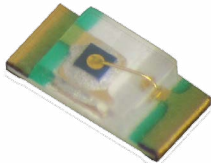
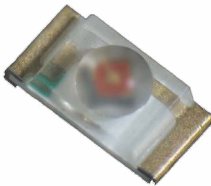
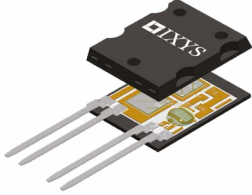
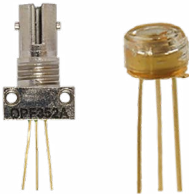
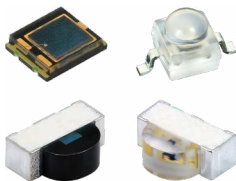
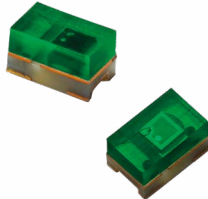
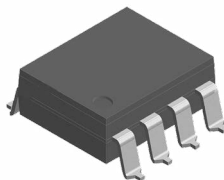
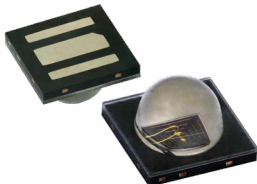
Passives

BOURNS® SRP High Current Shielded Power Inductors 	TDK Power Inductors (TDK brand) 	TT Electronics HA72L/HM72L 	VISHAY The DNA of tech. IHLE 
KOA Metal Film High Precision Chip Resistors 	KOA Anti-Surge/Pulse Thick Film Resistors 	TT Electronics EBW8518 Resistors 	TT Electronics GHVC Series Resistors 
TT Electronics LRMAP3920 & LRMAP5930 Resistors 	VISHAY The DNA of tech. CH MICROWAVE Resistors 	YAGEO GROUP Shunt Resistors 	muRata INNOVATOR IN ELECTRONICS Thermistors 
TDK B57*V2 & B57*C Varistors 	TDK SMD multilayer Varistors 	VISHAY The DNA of tech. Sfernice 981HE Sensors 	BOURNS® Model SM8SF-Q series TVS Diode 

Diodes, IC's & MOSFET's

BOURNS®		 The DNA of tech.	 The DNA of tech.
PTVS-Series Diodes	Commercial Grade TVS Diodes	eSMP Rectifiers Diodes	MSPxx-Series Diodes
			
 The DNA of tech.		TOSHIBA	 The DNA of tech.
PLZxx-Series Diodes	IX9907 Integrated Circuit	TC75S67T Integrated Circuit	DG012B Integrated Circuit
			
 The DNA of tech.	 The DNA of tech.	TOSHIBA	 The DNA of tech.
SIC462ED Integrated Circuit	SIC931BED Integrated Circuit	TPWR8004PL,L1Q MOSFET	SI7460DP-T1-GE3 MOSFET
			
 The DNA of tech.	 The DNA of tech.	 The DNA of tech.	 The DNA of tech.
SIHD7N60E-GE3 MOSFET	SIHH27N60EF MOSFET	SIHP065N60E MOSFET	SIHP11N80E MOSFET
			

MOSFET's & Opto's

 The DNA of tech. SIR626ADP MOSFET	 The DNA of tech. SIR680ADP MOSFET	 The DNA of tech. SISS32LDN MOSFET	 Kingbright Electronic Europe GmbH KPDA-1806 Opto
			
 Kingbright Electronic Europe GmbH KPG-0603 Opto	 Kingbright Electronic Europe GmbH KPG-1005 Opto	 Kingbright Electronic Europe GmbH KPHD-1608 Opto	 SSRs & Gate Drivers Opto
			
 OPF350A/OPF352A Opto	 The DNA of tech. Infrared Solutions Opto	 The DNA of tech. TEMT6200FX01 Opto	 The DNA of tech. VCNL3040 Opto
			
 The DNA of tech. VCNL4040M3OE Opto	 The DNA of tech. VOS617A Opto	 The DNA of tech. VOW3120 Opto	 The DNA of tech. VSMY98545 Opto
			



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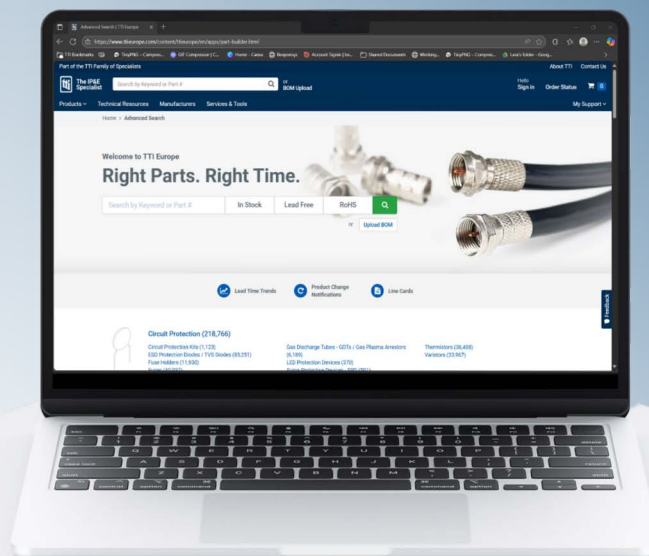
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