

- Semiconductors
- Passive Components
- Electromechanical Components
- Displays & Monitors
- Boards & Systems
- Storage Technologies
- Wireless Technologies



Our Portfolio. **Unique.**

| | |
|------------------------------|----|
| Preface | 03 |
| Global Facts & Figures | 04 |
| Semiconductors | 06 |
| Passive Components | 12 |
| Electromechanical Components | 16 |
| Rutronik24 | 19 |
| Displays & Monitors | 20 |
| Boards & Systems | 22 |
| Storage Technologies | 23 |
| Wireless Technologies | 24 |
| Rutronik Initiatives | 26 |



360 - Degree Portfolio – Solutions for Your Company



Thomas Rudel | CEO

Changing markets call for new solutions. With a service portfolio extending far beyond the area of just distribution, we have emerged as a major trendsetter and a source of first-class innovation. Indeed, we have established ourselves as a key interface between manufacturers and customers.

To succeed at this level, it is essential that we always remain one step ahead of the game, that we identify new trends as they begin to take shape and that we define new benchmarks in service provision.

We call this approach "Intelligent Distribution". Boasting a product range that is unrivalled in breadth and depth, we have established ourselves as the largest independent European distributor of technical solutions for all product groups. Our unique portfolio is complemented by high-end logistic solutions tailored to customer requirements.

In addition to adjusting our services in line with market conditions, we are committed to shaping our business around customer structures and market needs, as well as aligning our operations with manufacturers' product planning. First-class availability and on-time delivery are two additional milestones of our success.

In essence, "Intelligent Distribution" is about creating a finely tuned service. Only by achieving this balance can one deliver added value on all fronts: more products, more solutions, more service and more profitability.

Our Product Portfolio

| | |
|------------------------------|-----------------------|
| Semiconductors | Boards & Systems |
| Passive Components | Storage Technologies |
| Electromechanical Components | Wireless Technologies |
| Displays & Monitors | |

Our Initiatives



Follow us

- www.facebook.com/rutronik
- <https://twitter.com/Rutronik>
- www.youtube.com/user/Rutronik24
- <https://rutronik-tec.com>
- <https://de.linkedin.com/company/rutronik>

www.rutronik.com

RUTRONIK 24
next generation e-commerce



www.rutronik24.com

Committed to Excellence

Consult – Know-how. Built-in.

The Technical Competence from RUTRONIK

Worldwide and individual consulting on the spot: by competent sales staff, application engineers and product specialists.

Components – Variety. Built-in.

The Product Portfolio from RUTRONIK

Wide product range of semiconductors, passive and electro-mechanical components, displays & monitors, boards & systems, storage and wireless technologies for optimum coverage of your needs.

Logistics – Reliability. Built-in.

The Delivery Service from RUTRONIK

Innovative and flexible solutions: from supply chain management to individual logistics systems.

Quality – Security. Built-in.

Quality without Compromise from RUTRONIK

The integrated management system (IMS) encompasses quality control, information security, environmental protection, occupational health and safety.



More than 80 offices worldwide.
Over 1900 employees. Present in America, Asia and Europe.

Consult – Know-how. Built-in.

The technical competence from Rutronik

Worldwide and individual consulting on the spot: by competent sales staff, application engineers and product specialists.

- Worldwide and Individual Consulting
- Application Consulting
- Commercial Consulting
- Direct Contact to Franchise Suppliers

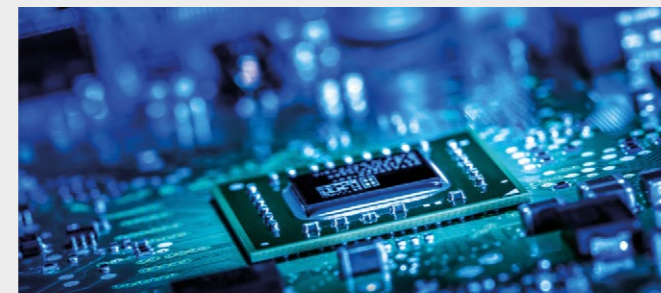


Components – Variety. Built-in.

The product portfolio from Rutronik

Wide product range of electronic components and embedded & wireless technologies for optimum coverage of your needs.

- Semiconductors
- Passive Components
- Electromechanical Components
- Embedded & Wireless
- Monitor & Displays
- Boards & Systems
- Storage Technologies
- Wireless Technologies

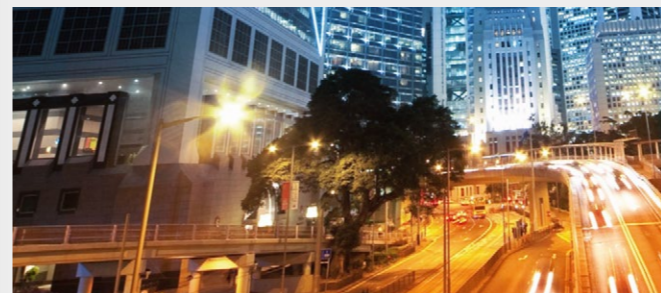


Logistics – Reliability. Built-in.

The delivery service from Rutronik

Innovative and flexible solutions: from supply chain management to individual logistics systems.

- Consulting
- Value Added Services
- Communication & Networking
- Logistics Fulfilment
- Logistics Modules
- Procurement



Quality – Security. Built-in.

Quality management without compromise

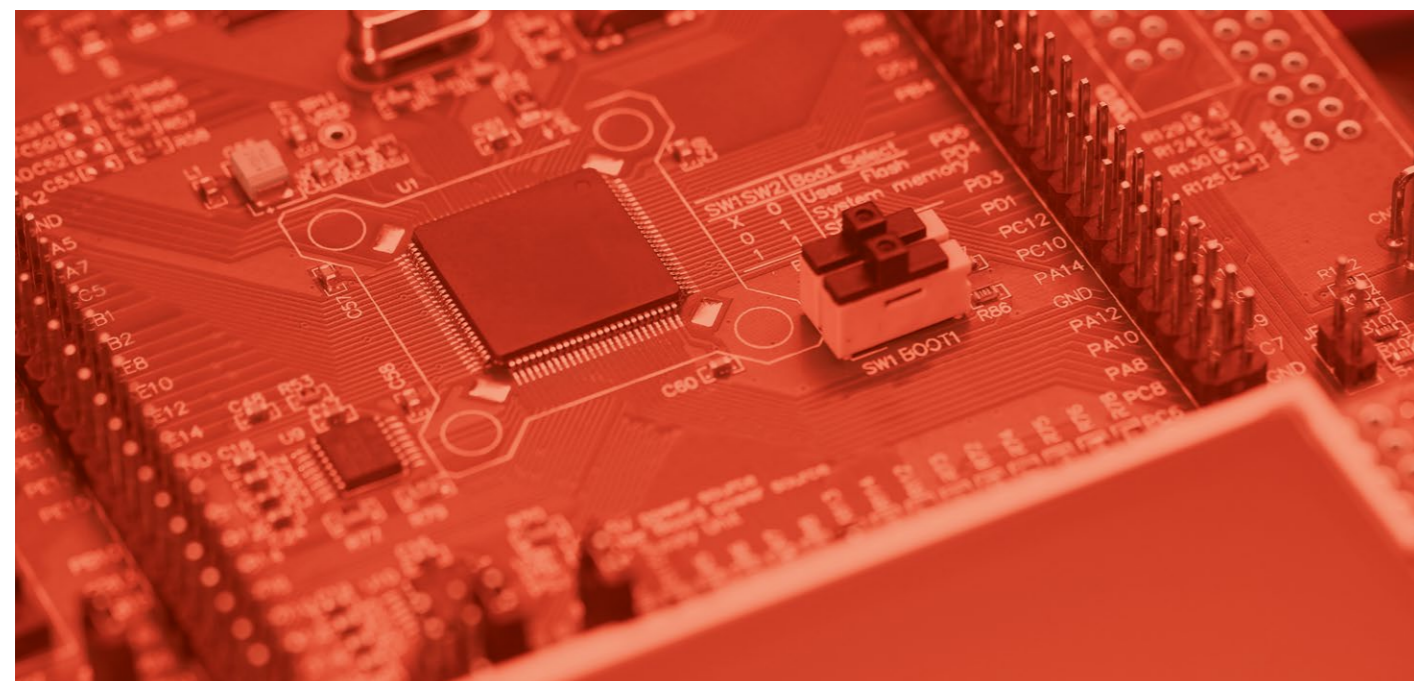
The integrated management system (IMS) encompasses quality control, information security, environmental protection, occupational health & safety.

- Certified Quality Management System
- Certified Environment, Health and Safety System
- Constant Monitoring of Processes





Suppliers



Discretes & Power Discretes

| | BYD | Diodes Inc. | Diotec | Fagor | Infineon | Kyocera AVX | LiteOn | Littelfuse | Panasonic | Pan Jit | Pulse a YAGEO company | Rohm | Shindengen | Toshiba | Vincotech | Vishay | YAGEO GROUP |
|------------------------------|-----|-------------|--------|-------|----------|-------------|--------|------------|-----------|---------|-----------------------|------|------------|---------|-----------|--------|-------------|
| Small Signal | | | | | | | | | | | | | | | | | |
| Standard Bipolar Transistors | | ■ | ■ | | ■ | | | | | ■ | | ■ | | ■ | | | |
| RF- & HF-Transistors | | ■ | | | ■ | | | ■ | | | | | | ■ | | | |
| Bridge Rectifiers | | ■ | ■ | ■ | | | ■ | ■ | | ■ | | | ■ | | | ■ | |
| Trigger Diodes (DIAC) | | | ■ | ■ | | | | | | | | | ■ | | | | |
| Zener Diodes | | ■ | ■ | ■ | | | ■ | | | ■ | | ■ | | ■ | | ■ | |
| Diodes | | | | | | | | | | | | | | | | | |
| Schottky Diodes | | ■ | ■ | ■ | ■ | | ■ | ■ | | ■ | | ■ | ■ | ■ | | ■ | |
| Fast Recovery Diodes | | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | | ■ | |
| Silicon Carbide Diodes | | | | | ■ | | | ■ | | ■ | | ■ | | ■ | | ■ | |
| Protection Diodes | | ■ | ■ | ■ | ■ | | ■ | ■ | | ■ | ■ | ■ | | ■ | | ■ | ■ |
| Standard Diodes/Rectifiers | | ■ | ■ | ■ | ■ | | ■ | ■ | | ■ | | ■ | ■ | ■ | | ■ | |
| Thyristors | | | ■ | ■ | ■ | | ■ | ■ | | | | | ■ | | | ■ | |
| Triacs | | | | ■ | | | | ■ | | | | | ■ | | | | |
| Power Discretes | | | | | | | | | | | | | | | | | |
| MOS Transistors | | ■ | ■ | | ■ | | ■ | ■ | | ■ | | ■ | ■ | ■ | | ■ | |
| Darlington Transistors | | | ■ | | ■ | | | | | | | ■ | | | | | |
| Silicon Carbide Transistors | ■ | | | | ■ | | | ■ | | | | ■ | | ■ | | | |
| GaN HEMTs | | | | | ■ | | | | | | | | | | | | |
| IGBT | ■ | ■ | | | ■ | ■ | | ■ | | | | ■ | | ■ | ■ | ■ | |

Power Management

| | BYD | Delta | Diodes Inc. | ELMOS | FSP | Infineon | Kyocera AVX | Littelfuse | MaxLinear | Murata | Nisshinbo | AMS Osram | Recom | Rockchip | Rohm | TDK | Toshiba | Vincotech | Vishay | Wah Hing | |
|---------------------------------------|-----|-------|-------------|-------|-----|----------|-------------|------------|-----------|--------|-----------|-----------|-------|----------|------|-----|---------|-----------|--------|----------|---|
| Power Management IC | | | | | | | | | | | | | | | | | | | | | |
| High/ Low side Switches | | | ■ | | | ■ | | | | | ■ | | | | ■ | | ■ | | ■ | | |
| MOS/IGBT Drivers | ■ | | ■ | | | ■ | | ■ | | | ■ | | | | ■ | | ■ | | ■ | | |
| Motor Drivers | | | ■ | ■ | | ■ | | | | | ■ | | | | ■ | | ■ | | ■ | | |
| Switching Regulator | | | ■ | ■ | | ■ | | | ■ | | ■ | | | ■ | | ■ | | ■ | | ■ | |
| LED Drivers | | | ■ | ■ | | ■ | | ■ | ■ | | ■ | ■ | | | ■ | | ■ | | ■ | | |
| Low Drop Voltage Regulators (LDOs) | | | ■ | ■ | | ■ | | | ■ | | ■ | | | | ■ | | ■ | | ■ | | |
| Power Modules (incl. IPM) | ■ | | | | | ■ | ■ | ■ | | | ■ | | | | ■ | | ■ | | ■ | | |
| System Basic Chips | | | | | | ■ | | | | | | | | | | | | | | | |
| Power Supply and Point of Load | | | | | | | | | | | | | | | | | | | | | |
| AC/DC | | ■ | | | | | | | | ■ | | | ■ | | | | | | | | ■ |
| DC/DC | | ■ | | | | | | | ■ | ■ | | | ■ | | | | ■ | | | | |
| Switching Reg Module | | | | | | | | | | ■ | | | ■ | | | | | | | | |
| LED Driver Modules | | | | | ■ | | | | | | | | ■ | | | | | | | | |





Analog ICs

| | Diodes Inc. | Infineon | MaxLinear | Nisshinbo | Rohm | Toshiba | Vishay |
|--|-------------|----------|-----------|-----------|------|---------|--------|
| Amplifier | | | | | | | |
| Comparators | ■ | | | ■ | ■ | | |
| Current Shunt Amplifier | ■ | | | | | | |
| Operational Amplifier | ■ | | | ■ | ■ | ■ | |
| Logic | | | | | | | |
| Buffer | ■ | | | | ■ | ■ | |
| Decoder | ■ | | | | ■ | ■ | |
| I/O Expander | ■ | | ■ | ■ | | ■ | |
| Inverter | ■ | | | | | ■ | |
| Shift | ■ | | | | | ■ | |
| Analog Switches / Multiplexer | ■ | | | | ■ | ■ | ■ |
| Converter & digital potentiometer | | | | | | | |
| A/D-Converter | | | | ■ | | | |
| D/A-Converter | | | | ■ | ■ | | |
| Voltage references & supervisor | | | | | | | |
| Supervisor | ■ | | ■ | ■ | ■ | | |
| Voltage References | ■ | | ■ | | | | |
| Timer | | | | | | | |
| Oscillator | ■ | ■ | | | ■ | | |
| Real Time Clock | ■ | ■ | | | ■ | | |



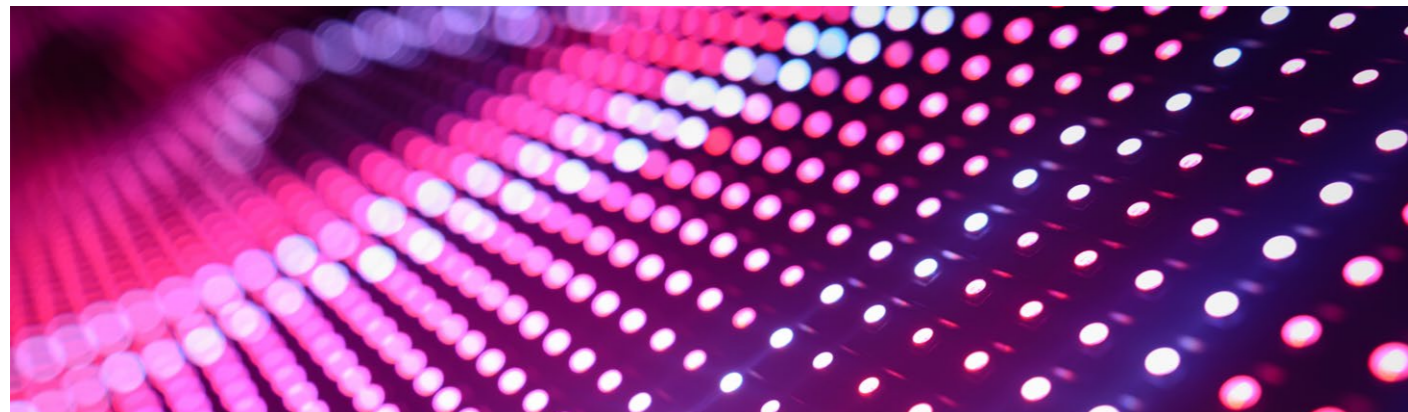
Digital ICs

| | Alliance | AP Memory | Bosch Automotive | Diodes Inc. | Efinix | ELMOS | Epson | ESMT | FCL Components | Giantec | Gowin | HMS Networks | Infineon | Insignis | Intel | KIOXIA | Littelfuse | MaxLinear | MediaTek | Nanya | Rockchip | Rohm | Segger | Swissbit | TDK-Micronas | Toshiba | Zentel | |
|--|----------|-----------|------------------|-------------|--------|-------|-------|------|----------------|---------|-------|--------------|----------|----------|-------|--------|------------|-----------|----------|-------|----------|------|--------|----------|--------------|---------|--------|---|
| MCUs and MPUs | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Microcontrollers MCU | | | | | | | ■ | | | | | | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | | | ■ | ■ | | |
| ARM Cortex-Mx | | | | | | | ■ | | | | | | ■ | | | | | | ■ | | ■ | | | | | | | |
| Proprietary Cores 8, 16 and 32-bit | | | | | | | ■ | | | | | | ■ | | | | | | | | | | | | | | | |
| Microprocessors MPU | | | | | | | | | | | | | | | | | | | ■ | | ■ | | | | | | ■ | |
| ARM Cortex-Ax | | | | | | | | | | | | | | | | | | | ■ | | ■ | | | | | | | |
| Development Tools | | | | | | | ■ | | | | | | ■ | | | | | | ■ | | ■ | ■ | ■ | | ■ | ■ | | |
| Programmable & Standard Logic | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FPGA | | | | | ■ | | | | | | | ■ | | | | | | | | | | | | | | | | |
| Logic ICs | | | | | ■ | | | | | | | | | | | | | | | | | | ■ | | | | ■ | |
| Memories | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DDR | ■ | | | | | | | ■ | | | | | ■ | | | | | | | ■ | | | | | | | ■ | |
| EEPROM | | | | | | | | | | ■ | | | | | | | | | | | | | ■ | | | | | |
| Flash Memory | ■ | | | | | | | | ■ | | | | ■ | | | | ■ | | | | | | | | | | | |
| eMMC Memory | ■ | | | | | | | | ■ | | | | ■ | | | ■ | | | | | | | | | ■ | | | |
| FRAM | | | | | | | | | | ■ | | | ■ | | | | | | | | | | ■ | | | | | |
| Pseudo SRAM | ■ | ■ | | | | | | | | | | | ■ | | | | | | | | | | | | | | | |
| SDRAM | ■ | | | | | | | ■ | | | | | | ■ | | | | | | | | | ■ | | | | | ■ |
| SRAM | ■ | | | | | | | | | | | | ■ | | | | | | | | | | | | | | | |
| Communication | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CAN | | | | | ■ | | | | | | | | ■ | ■ | | | | | ■ | | | ■ | | | | | | |
| Ethernet | | | | | | | | | | | | | | | ■ | | | | ■ | | | | | | | | | ■ |
| FlexRay | | | | | | | | | | | | | ■ | | | | | | | | | | | | | | | |
| Industrial Communication | | | | | | | | | | | | | ■ | | | | | | ■ | | | | | | | | | |
| KNX | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LIN | | | | | | | | | | | | | ■ | | | | | | | | | | | | | | | |
| Media | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RS (-232, -485, -422) | | | | | | | | | | | | | | | | | | | ■ | | | | | | | | | |
| USB | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fieldbus | | | | | | | | | | | | | ■ | | | | | | | | | | | | | | | |
| Special Functions | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ASSP & ASICs | | | | | ■ | ■ | ■ | ■ | ■ | | | | ■ | | | | | ■ | | | | ■ | | | | | ■ | |
| Graphic Display Controller | | | | | | | | | ■ | ■ | | | | | | | | | | | | | | | | | | ■ |
| Speech ICs | | | | | | | | ■ | | | | | | | | | | | ■ | | | ■ | | | | | | |
| Telecom ICs | | | | | | | | | | | | | | | | | | ■ | ■ | | | ■ | | | | | | |



Optoelectronic Components

| | BrightLED | Everlight | IMM Photonics | Infineon | Isocom | Laser Components | Ledil | Lextar | LifeOn | Littelfuse | Nisshinbo | ams Osram | Rohm | Samsung | Stanley | Toshiba | Vishay |
|-----------------------|-----------|-----------|---------------|----------|--------|------------------|-------|--------|--------|------------|-----------|-----------|------|---------|---------|---------|--------|
| Visible LEDs | | | | | | | | | | | | | | | | | |
| Radial LED | ■ | ■ | | | | | | | ■ | | | | ■ | | | | ■ |
| SMD LED | ■ | ■ | | | | | | ■ | ■ | | | ■ | ■ | ■ | ■ | | ■ |
| Chip on Board LED | ■ | ■ | | | | | | ■ | ■ | | | ■ | ■ | ■ | ■ | | ■ |
| Highbrightness LED | | ■ | | | | | | ■ | ■ | | | ■ | ■ | ■ | | | ■ |
| Compact Light Source | | ■ | | | | | | ■ | ■ | | | ■ | | ■ | ■ | | |
| Secondary Optics | | | ■ | | | | ■ | | | | | | | | ■ | | |
| Horticulture LED | | ■ | | | | | | | | | | ■ | | | | | |
| Automotive LED | ■ | ■ | | | | | | ■ | ■ | | | ■ | ■ | ■ | ■ | | ■ |
| UVA | | ■ | | | | | | ■ | ■ | | | | | | ■ | | ■ |
| UVC | | ■ | | | | ■ | | ■ | ■ | | | ■ | | | ■ | | ■ |
| Couplers | | | | | | | | | | | | | | | | | |
| Standard | ■ | ■ | ■ | | ■ | | | | ■ | ■ | | | | | | ■ | ■ |
| Highspeed | | ■ | | | ■ | | | | ■ | ■ | | | | | | ■ | ■ |
| TRIAC | | ■ | | | ■ | | | | ■ | | | | | | | ■ | ■ |
| Solid State Relay | | ■ | | ■ | ■ | | | | ■ | ■ | | | | | | ■ | ■ |
| Laser | | | | | | | | | | | | | | | | | |
| Standard Laserdiode | | | ■ | | | ■ | | | | | | ■ | ■ | | | | |
| High Power Laserdiode | | | ■ | | | ■ | | | | | | ■ | ■ | | | | |
| Lasermodule | | | ■ | | | ■ | | | | | | | | | | | |
| LiDAR Module | | | | | | | | | | | ■ | | | | | | |
| VCSEL | | | | | | ■ | | ■ | | | | ■ | ■ | | | | ■ |
| Infra Red | | | | | | | | | | | | | | | | | |
| Emitter / Detector | ■ | ■ | | | | ■ | | ■ | ■ | | ■ | ■ | ■ | | ■ | | ■ |
| Remote Control / IRDA | ■ | ■ | | | | | | | ■ | | | | ■ | | | | ■ |
| Fiber Optic | | ■ | ■ | | | ■ | | | | | | | | | | ■ | |
| LED Display | | | | | | | | | | | | | | | | | |
| Standard | ■ | ■ | | | | | | | ■ | | | | ■ | | ■ | | ■ |

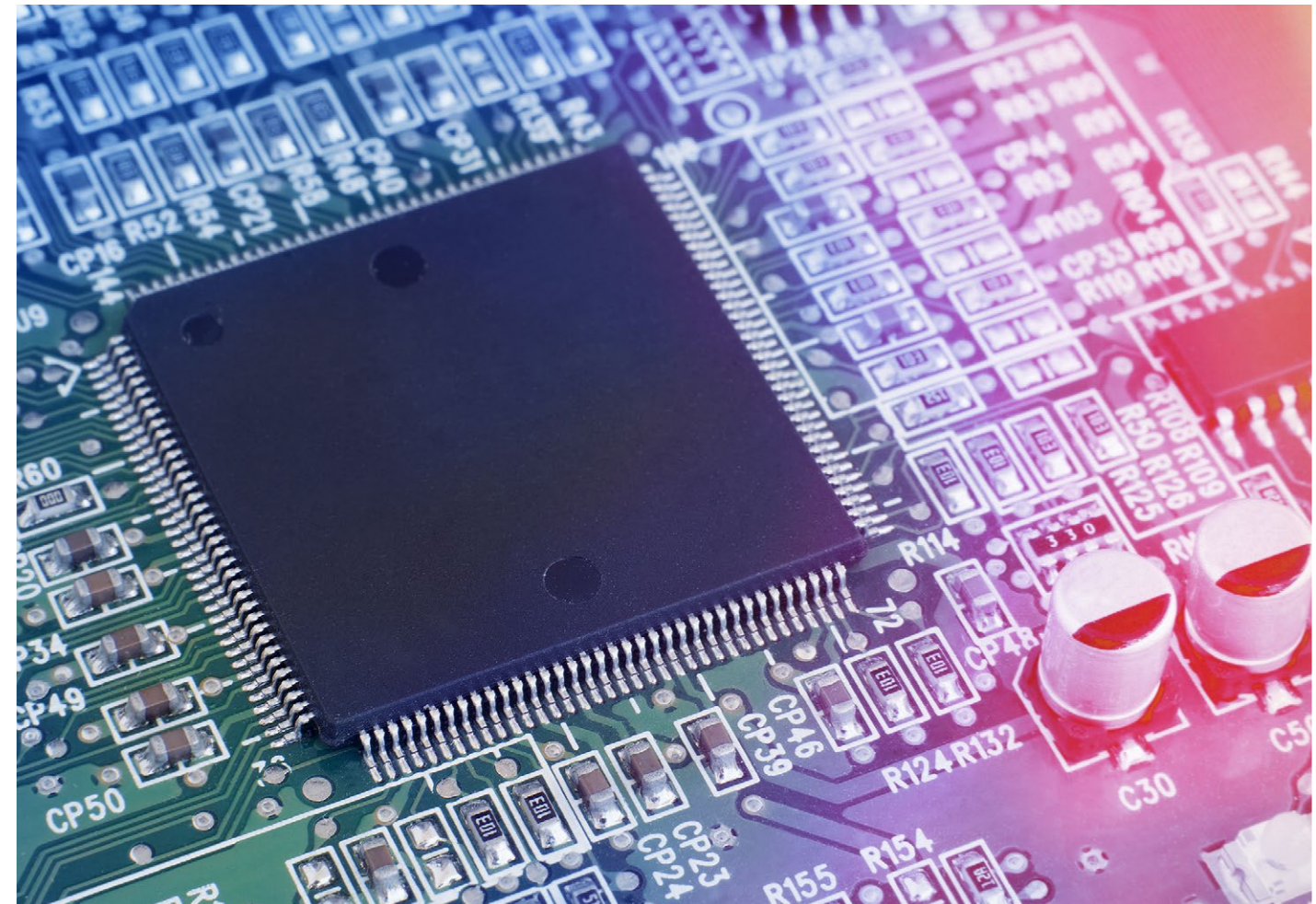


Sensors

| | Bosch Automotive | Bosch Sensortec | BYD | Comus | Diodes Inc. | ELMOS | Epson | Everlight | Infineon | LiteOn | Littelfuse | Murata | Nisshinbo | Omron | AMS Osram | Panasonic | Rohm | Sensirion | TDK | TDK-Micronas | Toshiba | Vishay | |
|--|------------------|-----------------|-----|-------|-------------|-------|-------|-----------|----------|--------|------------|--------|-----------|-------|-----------|-----------|------|-----------|-----|--------------|---------|--------|---|
| MEMS | | | | | | | | | | | | | | | | | | | | | | | |
| Absolute Orientation Sensors | | ■ | | | | | | | | | | | | | | | | | | | | | |
| Acceleration | ■ | ■ | | | | | ■ | | | | | ■ | | | | | | | | | | | |
| eCompass (Acceleration + Magnetometer) | | ■ | | | | | | | | | | | | | | | | | | | | | |
| Gyroscope | ■ | ■ | | | | | ■ | | | | | ■ | | | | | | | | | | | |
| IMU (Acceleration + Gyro) | ■ | ■ | | | | | ■ | | | | | ■ | | | | | | | | | | | |
| Microphone | | | | | | | | | ■ | | | | | | | | | | ■ | | | | |
| Environmental | | | | | | | | | | | | | | | | | | | | | | | |
| Airflow | | | | | | | | | | | | | | ■ | | | | ■ | | | | | |
| Gas | | ■ | | | | | | | ■ | | | ■ | | | | | | ■ | | | | | |
| Humidity | | ■ | | | | | | | | | | | | | | | | ■ | ■ | | | | |
| Pressure | ■ | ■ | | | | ■ | | | ■ | | | ■ | | ■ | | ■ | ■ | ■ | ■ | | | | |
| Temperature | | ■ | ■ | | | | | | | | | | | | | | ■ | ■ | | | | | |
| Particulate matter | | | ■ | | | | | | | | | | | ■ | | ■ | | ■ | | | | | |
| Optical | | | | | | | | | | | | | | | | | | | | | | | |
| Ambient Light | | | | | | | | ■ | | ■ | | | ■ | | ■ | | ■ | | | | | | ■ |
| Camera Modules | | | ■ | | | | | | | | | | | ■ | | | | | | | | | ■ |
| Far Infrared / Infrared | | | | | | ■ | | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | ■ |
| Fingerprint | | | ■ | | | | | | | | | | | | | | | | | | | | |
| Image | | | ■ | | | | | | | | | | | | ■ | | ■ | | | | | ■ | |
| Proximity | | | | ■ | | | | ■ | ■ | ■ | | | | ■ | ■ | | ■ | | | | | | ■ |
| Radar | | | | | | | | | ■ | | | | ■ | | ■ | | ■ | | | | | | ■ |
| Reflective | | | | | | | | ■ | | ■ | | | ■ | ■ | ■ | ■ | ■ | | | | | | ■ |
| Time-of-flight | | | | | | | | | ■ | | | | ■ | | ■ | | ■ | | | | | | ■ |
| Transmissive | | | | | | | | ■ | | ■ | | | | ■ | ■ | | ■ | | | | | | ■ |
| Ultrasonic | | | | ■ | | ■ | | | | | | ■ | | | ■ | | ■ | | | ■ | | | |
| Magnetic | | | | | | | | | | | | | | | | | | | | | | | |
| Geomagnetic | | ■ | | | | | | | | | | | | | | | | | | | | | |
| Hall Linear – Non Programmable | | | | | ■ | | | | | | | | | | | | | | | | ■ | | ■ |
| Hall Linear – Programmable | | | | | | | | | ■ | | | | | | | | | | | | ■ | | ■ |
| Hall Switch – Single | | | | | ■ | | | | ■ | | ■ | | | | | | ■ | | | | ■ | | ■ |
| Hall Switch – Dual | | | | | ■ | | | | ■ | | | | | | | | | | | | | | |
| Hall Switch – Speed | | | | | | | | | ■ | | ■ | | | | | | | | | | | | |
| Hall Switch – Programmable | | | | | ■ | | | | | | | | | | | | | | | | ■ | | ■ |
| Magnetoresistive Switch | | | | | | | | | | | | | ■ | | | | | | | | | | |
| Magnetoresistive 3D Switch | | | | | | | | | | | | | ■ | | | | | | | | | | |
| Magnetoresistive Linear | | | | | | ■ | | | | | | | | | | | | | | | | | |
| Magnetoresistive 2D Sensor | | | | | | | | | | ■ | | | | | | | | | | ■ | | | |
| Multitaxis Hall | | | | | | | | | ■ | | | | | | | | | | | | ■ | | |
| TMR | | | | | | | | | ■ | | | ■ | | | | | | | | ■ | | | |
| Current | | | | | | | | | | | | | | | | | | | | | | | |
| Force | ■ | | | | | | | | | | | | | | | | | | | | | | |
| Hall based IC | | | | | | | | | ■ | | | | | | | | ■ | | | | ■ | | ■ |
| Sensor Moduls | | | | | | | | | | | ■ | | | | | | | | | | | | |



Suppliers



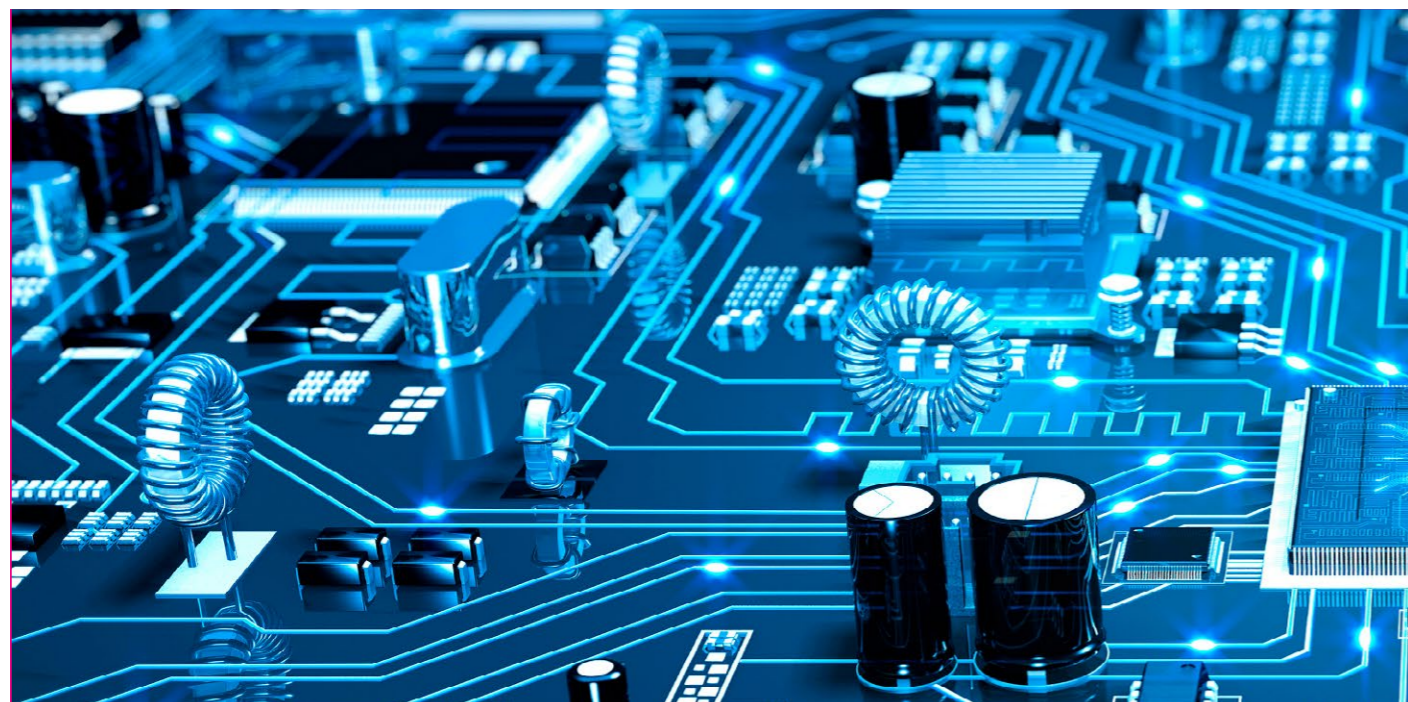
Capacitors

| | BM | Chang | Eaton | ISKRA | Jamicon | Kemet a YAGEO company | Korchip | Kyocera AVX | Maxwell | Murata | Panasonic | Rubycon | Samsung EM | Samwha | SECH | TDK | TDK EPCOS | Vishay | WIMA | YAGEO Group |
|--|----|-------|-------|-------|---------|-----------------------|---------|-------------|---------|--------|-----------|---------|------------|--------|------|-----|-----------|--------|------|-------------|
| Electrolytic Capacitors | | | | | | | | | | | | | | | | | | | | |
| SMD Capacitors | | ■ | | | ■ | ■ | | ■ | | | ■ | ■ | | ■ | | | | ■ | | ■ |
| Miniature Radial Capacitors | | ■ | | | ■ | ■ | | | | | ■ | ■ | | ■ | | | ■ | ■ | | ■ |
| Large Can Radial Capacitors | | ■ | | | ■ | ■ | | | | | | ■ | | ■ | | | ■ | ■ | | ■ |
| Axial Capacitors | | | | | | ■ | | | | | | | | | | | ■ | ■ | | |
| Solid Polymer Capacitors | | | | | | ■ | | | | | ■ | | | | | | | ■ | | ■ |
| Polymer Hybrid Capacitors | | | | | | ■ | | ■ | | | ■ | ■ | | ■ | | | ■ | ■ | | ■ |
| Electric Double Layer Capacitors (EDLC) | | | | | | | | | | | | | | | | | | | | |
| Flat Pack / Pouch Cells | | | | | | | | ■ | | | | | | | | | | | | |
| Coin / SMD | | | ■ | | | ■ | ■ | | | | | | | | | | | | | |
| Radial | | | ■ | | | ■ | ■ | ■ | ■ | | | | | ■ | ■ | | | ■ | | |
| Screw / Weldable | | | ■ | | | | | ■ | ■ | | | | | ■ | ■ | | | | | |
| Modules | | | ■ | | | | ■ | ■ | ■ | | | | | ■ | ■ | | | | | ■ |
| Ceramic Capacitors | | | | | | | | | | | | | | | | | | | | |
| MLCC - Commodity | | | | | | ■ | | ■ | ■ | | | | ■ | ■ | | ■ | ■ | ■ | | ■ |
| MLCC - High Cap | | | | | | ■ | | ■ | ■ | | | | ■ | ■ | | ■ | ■ | ■ | | ■ |
| MLCC - High Volts | | | | | | ■ | | ■ | ■ | | | | ■ | ■ | | ■ | ■ | ■ | | ■ |
| MLCC - High Reliability | | | | | | ■ | | ■ | ■ | | | | ■ | ■ | | ■ | ■ | ■ | | ■ |
| MLCC - Automotive Grade | | | | | | ■ | | ■ | ■ | | | | ■ | ■ | | ■ | ■ | ■ | | ■ |
| MLCC - Specialties (i.e. Array, HiQ, etc.) | | | | | | ■ | | ■ | ■ | | | | ■ | ■ | | ■ | ■ | ■ | | ■ |
| Suppression and Safety Capacitor | | | | | | ■ | | ■ | ■ | | | | ■ | ■ | | ■ | ■ | ■ | | ■ |
| Leaded Capacitor - Multi Layer | | | | | | ■ | | ■ | ■ | | | | ■ | ■ | | ■ | ■ | ■ | | ■ |
| Leaded Capacitor - Single Layer | | | | | | ■ | | ■ | ■ | | | | ■ | ■ | | ■ | ■ | ■ | | ■ |
| Special Tech (i.e. Silicon, Solid State, etc.) | | | | | | ■ | | ■ | ■ | | | | ■ | ■ | | ■ | ■ | ■ | | ■ |
| Film Capacitors | | | | | | | | | | | | | | | | | | | | |
| SMD Capacitors | | | | | | ■ | | ■ | | | ■ | | | | | | | | | ■ |
| Leaded Capacitors | ■ | | | ■ | | ■ | | ■ | | | ■ | | | | | | ■ | ■ | ■ | |
| Interference Suppression Capacitors | ■ | | | ■ | | ■ | | ■ | | | ■ | | | | | | ■ | ■ | ■ | |
| Power Capacitors | ■ | | | ■ | | ■ | | ■ | | | ■ | | | | | | ■ | ■ | ■ | |
| Motor Capacitors | ■ | | | ■ | | ■ | | ■ | | | ■ | | | | | | ■ | ■ | ■ | |
| Tantalum & Niobium Capacitors | | | | | | | | | | | | | | | | | | | | |
| SMD Standard Capacitors | | | | | | ■ | | ■ | | | | | | | | | | | | ■ |
| SMD Low ESR Capacitors | | | | | | ■ | | ■ | | | | | | | | | | | | ■ |
| SMD Polymer Capacitors | | | | | | ■ | | ■ | | | ■ | | ■ | | | | | | | ■ |
| SMD Conformal Coated Capacitors | | | | | | ■ | | ■ | | | | | | | | | | | | ■ |
| SMD Automotive & High Rel. Capacitors | | | | | | ■ | | ■ | | | | | | | | | | | | ■ |
| Leaded Capacitors | | | | | | ■ | | ■ | | | | | | | | | | | | ■ |
| Niobium Capacitors | | | | | | ■ | | ■ | | | | | | | | | | | | ■ |



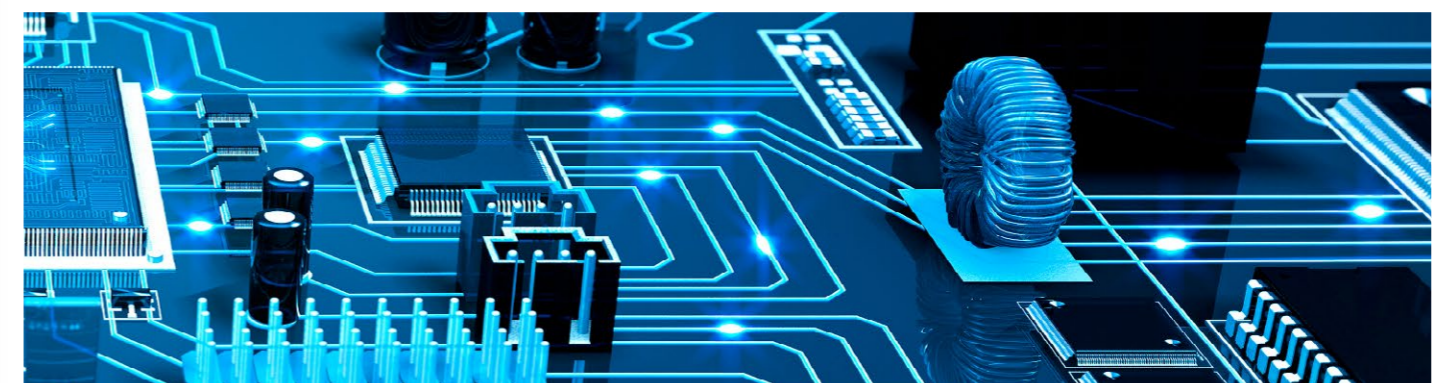
Resistors

| | ASJ | Eaton | Joyin | KOA | Krah | Kyocera AVX | Littelfuse | Murata | Nexensos a YAGEO company | Nidec | Panasonic | Piher | Rohm | Susumu | TDK | TDK EPCOS | Viking | Vishay | Vitrohm a YAGEO company | YAGEO Group | YFC |
|--------------------------------|-----|-------|-------|-----|------|-------------|------------|--------|--------------------------|-------|-----------|-------|------|--------|-----|-----------|--------|--------|-------------------------|-------------|-----|
| Fixed Resistors | | | | | | | | | | | | | | | | | | | | | |
| Thickfilm | ■ | | | ■ | | | | | | | ■ | | ■ | | | | | ■ | | | ■ |
| Thinfilm | | | | ■ | | | | | | | ■ | | ■ | ■ | | | ■ | ■ | | | ■ |
| Shunt | | | | ■ | | | | | | | ■ | | ■ | ■ | | | | ■ | ■ | | ■ |
| MELF | | | | | | | | | | | | | | | | | ■ | ■ | ■ | | |
| Leaded Resistors | | | | ■ | | | | | | | | | | | | | | ■ | ■ | ■ | ■ |
| Low Power Wirewound Resistors | | | | ■ | ■ | | | | | | | | | | | | | ■ | ■ | ■ | ■ |
| High Power Wirewound Resistors | | | | ■ | ■ | | | | | | | | | | | | | ■ | ■ | ■ | ■ |
| Resistor Array | ■ | | | | | | | | | | | | | | | | ■ | | | | ■ |
| Nonlinear Resistors | | | | | | | | | | | | | | | | | | | | | |
| PTC Thermistors | | | | | | | ■ | ■ | | | | | | | | ■ | | ■ | | | |
| NTC Thermistors | | | ■ | | | ■ | ■ | ■ | | | ■ | | | | ■ | ■ | | ■ | | | ■ |
| Thermistor Probes | | | ■ | | | ■ | | | | | | | | | | ■ | | ■ | | | ■ |
| Platin Sensors | | | | ■ | | ■ | | ■ | | | | | | | | | | ■ | | | ■ |
| SMD Varistors | | ■ | ■ | | | ■ | ■ | | | | ■ | | | | ■ | ■ | | ■ | | | |
| THT Varistors | | | ■ | | | ■ | ■ | | | | ■ | | | | ■ | ■ | | ■ | | | ■ |
| Variable Resistors | | | | | | | | | | | | | | | | | | | | | |
| Potentiometers | | | | | | ■ | | | | | ■ | | | | | | | ■ | | | |
| Trimmers | | | | | | | | | | ■ | | | | | | | | ■ | | | |



Inductors, Timing Devices and Acoustic Components

| | 3L | Diodes | Eaton | EPSON | HKC | Jauch Quartz | Kemet a YAGEO company | Kingstate | Kritter-Inductive | Kyocera AVX | Marschner Tech Power | Murata | Panasonic | PUJ Audio | Pulse a YAGEO company | Sumida | TDK | TDK EPCOS | Vishay | Wah Hing | |
|--------------------------------|----|--------|-------|-------|-----|--------------|-----------------------|-----------|-------------------|-------------|----------------------|--------|-----------|-----------|-----------------------|--------|-----|-----------|--------|----------|--|
| Chokes | | | | | | | | | | | | | | | | | | | | | |
| Power/RF/Storage Chokes | ■ | | ■ | | | | ■ | | ■ | | | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | | |
| Common Mode Chokes | ■ | | ■ | | | | ■ | | ■ | | | ■ | | | ■ | ■ | ■ | ■ | | | |
| Current Sense Transformer | | | | | | | | | ■ | | | ■ | | | ■ | ■ | | ■ | | | |
| Transformers | | | | | | | | | | | | | | | | | | | | | |
| RF/Power Transformers | ■ | | ■ | | | | | | ■ | | ■ | ■ | | | ■ | ■ | | ■ | | ■ | |
| Telecom & Datacom Transformers | | | | | | | | | ■ | | | | | | ■ | | | ■ | | | |
| Ferrites | | | | | | | | | | | | | | | | | | | | | |
| Ferrite Beads | ■ | | | | | | ■ | | ■ | | | ■ | | | ■ | | ■ | | | | |
| EMI Filters | | | | | | | ■ | | | | | ■ | | | | | ■ | ■ | | | |
| Ferrite Cores | | | | | | | ■ | | | | | ■ | | | | ■ | | ■ | | | |
| Timing Devices | | | | | | | | | | | | | | | | | | | | | |
| SMD Resonators | | | | | | | | | | | | ■ | | | | | | | | | |
| Leaded Resonators | | | | | | | | | | | | ■ | | | | | | | | | |
| Crystals | | ■ | | ■ | ■ | ■ | | | | ■ | | ■ | | | | | | | | | |
| Oscillators | | ■ | | ■ | ■ | ■ | | | | ■ | | ■ | | | | | | | | | |
| Real Time Clocks | | | | ■ | | | | | | ■ | | | | | | | | | | | |
| Filters | | | | | | | | | | | | | | | | | | | | | |
| Ceramic Filters | | | | | | | | | | | | ■ | | | | | | | | | |
| SAW Filters | | | | ■ | | | | | | ■ | | ■ | | | | | | ■ | | | |
| Acoustic Components | | | | | | | | | | | | | | | | | | | | | |
| Piezo Buzzers | | | | | | | | | ■ | | | ■ | | ■ | | | | ■ | | | |
| Magnetic Buzzers | | | | | | | | | ■ | | | ■ | | ■ | | | | ■ | | | |
| Microphones | | | | | | | | | ■ | | | ■ | | ■ | | | | ■ | | | |
| Speaker/Receiver | | | | | | | | | ■ | | | ■ | | ■ | | | | ■ | | | |





Suppliers



Batteries

| | Adam Tech | EEMB | EVE Energy | Keystone | MPE Garry | Murata | Panasonic | Renata | SAFT | Samsung SDI | Tenpower |
|---|-----------|------|------------|----------|-----------|--------|-----------|--------|------|-------------|----------|
| Alkaline (Cylindrical & 9V Block) | | | | | | | ■ | | | | |
| Lithium Metal coin cell (Primary & Secondary) | | ■ | | | | ■ | ■ | ■ | | | |
| Lithium Metal Cylindrical Cell (Primary) | | ■ | | | | | ■ | ■ | | | |
| Lithium Ion Polymer | | ■ | | | | | | ■ | | | |
| Lithium Ion (Cylindrical Cell) | | | ■ | | | | | | | ■ | ■ |
| Battery Holder (THM & SMT) | ■ | | | ■ | ■ | | | ■ | | | |

Thermal Management

| | ADDA | Assmann WSW | Delta | Fischer Elektronik | InnoTape | Jamicon | Mechatronics |
|-----------------------|------|-------------|-------|--------------------|----------|---------|--------------|
| AC Fans | ■ | | | | | ■ | ■ |
| DC Fans | ■ | | ■ | | | ■ | ■ |
| EC Fans | | | ■ | | | | |
| CPU Cooler | ■ | | ■ | | | | |
| Blowers | ■ | | ■ | | | ■ | ■ |
| Heatsinks | ■ | ■ | ■ | ■ | | | |
| Heat Contacting Foils | | | | ■ | ■ | | |
| Heatpipes | ■ | | ■ | ■ | | | |
| Housing | | | | ■ | | | |

Fuses

| | Conquer | Eaton | Littelfuse | Schurter | Siba |
|--------------------|---------|-------|------------|----------|------|
| 5x20 / 6.3x32 | ■ | ■ | ■ | ■ | ■ |
| Automotive Fuses | ■ | ■ | ■ | | |
| Subminiature Fuses | ■ | ■ | ■ | ■ | ■ |
| SMD Fuses | ■ | ■ | ■ | ■ | ■ |
| Resettable Fuses | ■ | ■ | ■ | ■ | |
| Fuse Holders | ■ | ■ | ■ | ■ | ■ |
| High Voltage Fuses | ■ | | ■ | ■ | |

Relays

| | Comus | Coto | FCL Components | Finder | HongFa | Littelfuse | Nexem | NF Forward | Omron | Relpol | TDK |
|--------------------|-------|------|----------------|--------|--------|------------|-------|------------|-------|--------|-----|
| Signal | | | ■ | ■ | ■ | | ■ | ■ | ■ | | |
| Power | | | ■ | ■ | ■ | | | ■ | ■ | ■ | ■ |
| Automotive | | | ■ | | ■ | | ■ | ■ | ■ | | |
| Security | | | | ■ | ■ | | | | ■ | | |
| Timer | | | | ■ | ■ | | | | | ■ | |
| Sockets | | | ■ | ■ | ■ | | | ■ | ■ | ■ | |
| MosFet-Relays | ■ | ■ | | | | ■ | | | ■ | | |
| SSR's | ■ | | | | | | | | | | |
| Reed Contacts | ■ | ■ | | | | ■ | | | | | |
| Reed Relays | ■ | ■ | | | | ■ | | | | | |
| Mercury Relays | ■ | | | | | | | | | | |
| Proximity Switches | ■ | | | | | ■ | | | | | |

Switches

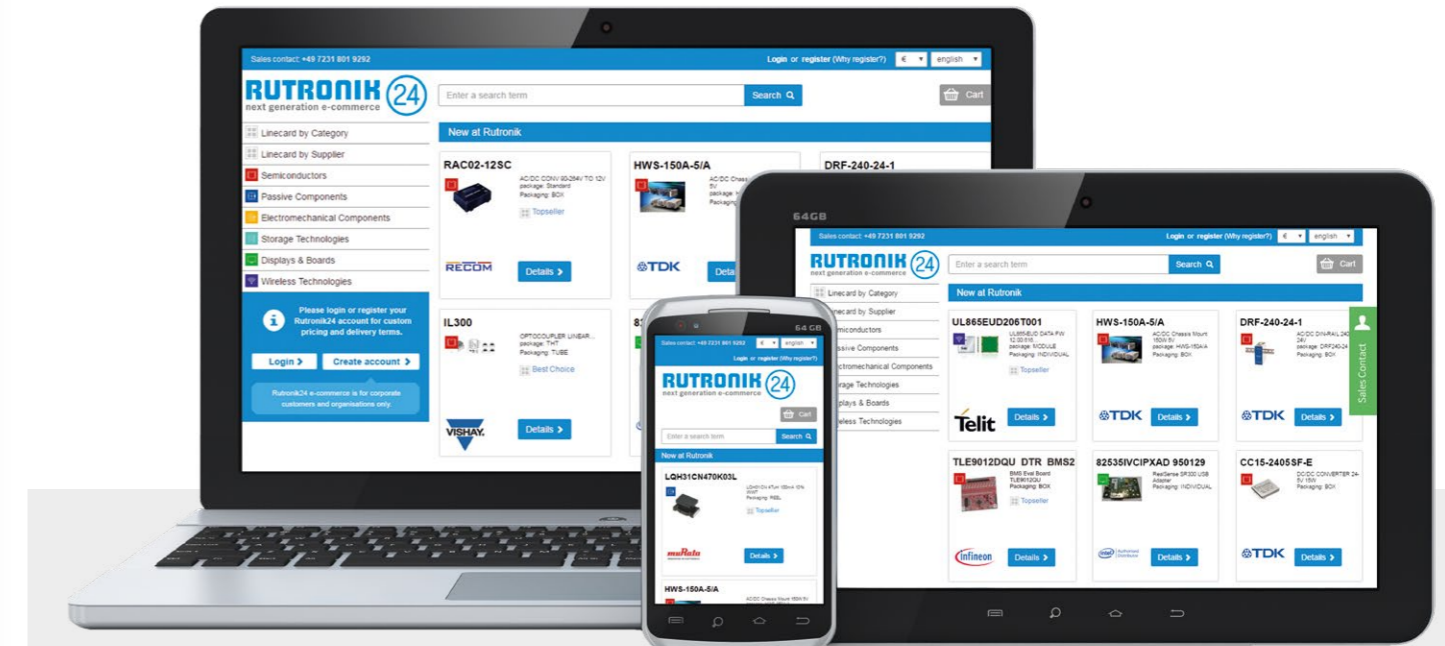
| | C&K Littelfuse | Diptronics | Knitter-Switch | Omron | Panasonic | Schurter |
|-----------------------------|----------------|------------|----------------|-------|-----------|----------|
| Tact Switches | ■ | ■ | ■ | ■ | ■ | ■ |
| DIP Switches | ■ | ■ | ■ | ■ | | |
| Slide Switches | ■ | ■ | ■ | | | |
| Pushbutton Switches | ■ | ■ | ■ | | ■ | ■ |
| Rotary Switches | ■ | | ■ | | | |
| Rotary Coded Switches | ■ | ■ | ■ | ■ | | |
| Encoder Switches | ■ | | ■ | | ■ | |
| Toggle Switches | ■ | | ■ | | | |
| Navigation Switches | ■ | ■ | ■ | | | |
| Industrial Switches | ■ | ■ | ■ | | | ■ |
| Rocker Switches | ■ | | ■ | ■ | | |
| Detection Switches | ■ | ■ | ■ | ■ | ■ | |
| Microswitches/Snapacting S. | ■ | ■ | ■ | ■ | | |
| Membrane & Rubber Keypads | | | ■ | | | |



Interconnect Solutions

| | Adam Tech | Alysium | Amphenol | Assmann WSW | Gradconn | JAE | Kyocera AVX | Lumberg / Lutronic | Molex | MPE Garry | Pancon | Preci-Dip | Pulse a YAGEO company | Sauro | Sumida | | |
|-----------------------------------|-----------|---------|----------|-------------|----------|-----|-------------|--------------------|-------|-----------|--------|-----------|-----------------------|-------|--------|---|---|
| Connectors | | | | | | | | | | | | | | | | | |
| Board-to-Board | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | |
| Wire-to-Board | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | |
| Wire-to-Wire | ■ | | ■ | ■ | | ■ | | ■ | ■ | | | | | | | | |
| Crimp Terminals | ■ | | ■ | ■ | | ■ | | | ■ | ■ | | | | | | | |
| FFC/FPC | ■ | ■ | ■ | | | ■ | ■ | | ■ | | | | | | | | |
| IC Socket | ■ | | | ■ | | | | | | ■ | | ■ | | | | | |
| USB | ■ | | ■ | ■ | | ■ | | | ■ | | | | ■ | | | | |
| Audio/Video | ■ | | ■ | ■ | | ■ | | ■ | ■ | | | | | | | | |
| D-Sub | ■ | | ■ | ■ | | | | | ■ | | | | | | | | |
| Memory and SD Card | ■ | | ■ | ■ | ■ | ■ | ■ | | ■ | | | | | | | | |
| Modular Jacks | ■ | | ■ | ■ | | | | | ■ | | | | ■ | | | | |
| Circular Connectors | ■ | | ■ | ■ | | | | ■ | ■ | | | | | | | | |
| Coaxial Connector | ■ | ■ | ■ | | ■ | | | | ■ | | | | | | | | |
| EV Charging | ■ | | ■ | | | ■ | | | | | | | | | | | |
| Terminal Blocks | ■ | | ■ | ■ | | | | ■ | ■ | | | | | | | ■ | |
| Customized Connectors | ■ | | ■ | ■ | ■ | ■ | ■ | | | ■ | | | | | | | |
| Tools Crimp | | | ■ | | | ■ | | ■ | ■ | | | | | | | | |
| Cable & Cable Assembly | | | | | | | | | | | | | | | | | |
| Round Cable | | ■ | ■ | ■ | | | | | | | | | | | | | |
| Flat Cable | | | | ■ | | | | | | | | | | | | | |
| FFC/FPC | ■ | ■ | ■ | ■ | | | ■ | | ■ | | | | | | | | ■ |
| Standard Assembly | ■ | ■ | | ■ | | ■ | | | ■ | | | | | | | | |
| Customized Assembly | ■ | ■ | ■ | ■ | ■ | ■ | | | ■ | | | | | | | | ■ |
| EV Charging Cable | ■ | | ■ | | | ■ | | | | | | | | | | | |

Next generation e-commerce



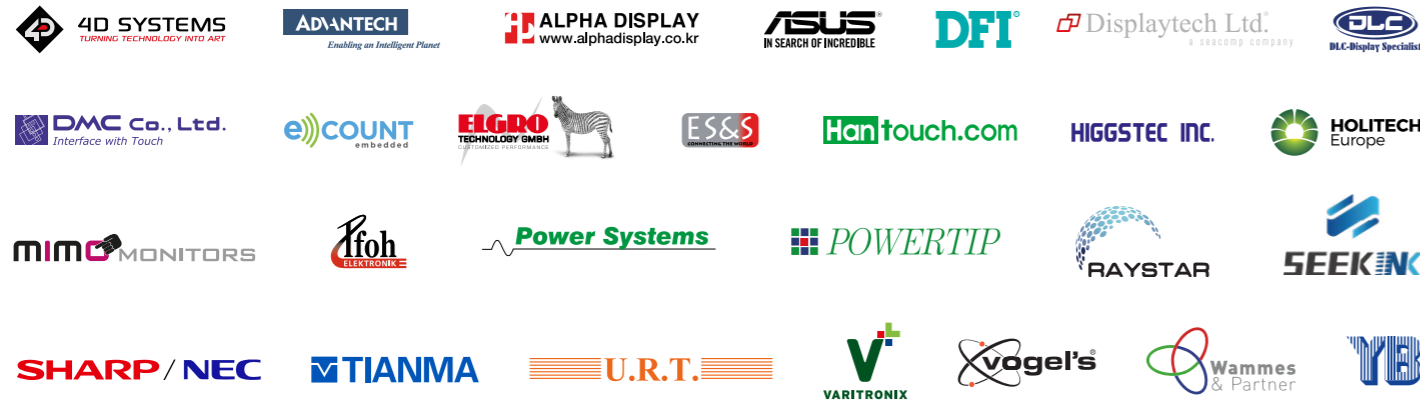
e-commerce made easy

FASTER. EASIER. JUST MORE PERSONAL.

rutronik24.com



Suppliers



TFTs

| | 4D Systems | Advantech | Alphadisplay | Displaytech | DLC | Ecourt | Holitech | Mimo Monitors | Powertip | Raystar | Sharp / NEC | Tianma | URT | Yeebo |
|-------------------------|------------|-----------|--------------|-------------|-----|--------|----------|---------------|----------|---------|-------------|--------|-----|-------|
| 1,5" - 2,4" Diagonals | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 2,5" - 3,4" Diagonals | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 3,5" - 5,7" Diagonals | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 5,7" - 7,0" Diagonals | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 8,4" - 15,0" Diagonals | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 15,1" - 21,3" Diagonals | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 21,4" - 42" Diagonals | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 42" - 65" Diagonals | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |

Open Frames

incl. Controller, Cable, PowerSupply

| | Advantech | Alphadisplay | Mimo Monitors |
|-----------|-----------|--------------|---------------|
| 7" - 32" | ■ | ■ | ■ |
| 37" - 82" | ■ | ■ | |

Passive Displays

| | 4D Systems | Advantech | Displaytech | DLC | Holitech | Powertip | Raystar | Seekink | Tianma | URT | Varitronix | Yeebo |
|-------------------------------|------------|-----------|-------------|-----|----------|----------|---------|---------|--------|-----|------------|-------|
| Character- and Graphic Module | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Customized Module / Panel | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| OLED | ■ | | ■ | | | ■ | | | ■ | | ■ | ■ |
| ePaper | | ■ | | | | | | ■ | | | | |
| Turn Key Solutions | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |

Smart Panels

incl. Controller

| | 4D Systems | Alphadisplay | Displaytech | Mimo Monitors | Powertip | Raystar | URT |
|------------------------|------------|--------------|-------------|---------------|----------|---------|-----|
| 0,96" - 1,8" Diagonals | ■ | | ■ | | ■ | ■ | |
| 1,8" - 7" Diagonals | ■ | | ■ | ■ | ■ | ■ | ■ |
| 7" - 15" Diagonals | ■ | | | | | | |
| 15" - 19" Diagonals | | ■ | | ■ | ■ | | |
| High Bright Versions | ■ | ■ | | ■ | ■ | | ■ |

Special TFT Applications

| | 4D Systems | DLC | Holitech | Mimo Monitors | Powertip | Tianma | URT | Yeebo |
|----------------------------|------------|-----|----------|---------------|----------|--------|-----|-------|
| Brightness >= 500 cd/m² | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Enhanced Temperature Range | | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Rough Environment | | | ■ | ■ | ■ | ■ | ■ | ■ |

Monitors & LED Walls

| | 4D Systems | Advantech | Alphadisplay | Asus | DFI | Ecourt | Holitech | Mimo Monitors | Sharp / NEC |
|-------------------------|------------|-----------|--------------|------|-----|--------|----------|---------------|-------------|
| Professional Monitor | | ■ | | ■ | ■ | ■ | | ■ | ■ |
| Gaming Monitor | | ■ | ■ | ■ | | ■ | | ■ | ■ |
| USB Monitor / Tablet | | | | | | | | ■ | |
| Bar Type | | ■ | | | ■ | ■ | ■ | ■ | |
| Open Frame Display | ■ | ■ | ■ | | ■ | ■ | | ■ | |
| Collaborative Solutions | | | | | | | | | ■ |
| Beamer | | | | | | | | | ■ |
| LED Walls/Panels | | | | | | | | | ■ |

Touch-Screen Panels & Controllers

| | DLC | DMC | Hantouch | Higgstec | Holitech |
|--------------------------------------|-----|-----|----------|----------|----------|
| Four+five wire resistive Touch Panel | ■ | ■ | ■ | ■ | ■ |
| Surface Wave Touch Panel | | | ■ | ■ | |
| Capacitive Touch Panel | | ■ | ■ | ■ | ■ |
| Infrared Touch Panel | | | ■ | ■ | |



Display & Monitoring Accessories

| | Elgro-Technology | ES&S | Mimo Monitors | Pfoh | Power Systems | Powertip | Sharp / NEC | Tianma | URT | Vogel's | Wammes & Partner Solution partner | Yeebo |
|--|------------------|------|---------------|------|---------------|----------|-------------|--------|-----|---------|-----------------------------------|-------|
| Standard Cables and Connectors | | ■ | ■ | ■ | | | | | | | | |
| Customer-specific Cables | | ■ | | ■ | | | | | | | | |
| Inverter | | | | | ■ | | | | | | | |
| Backlight | | | | | | ■ | | ■ | ■ | | | ■ |
| Trouble Shooting | | | | | | | | | | | ■ | |
| Beamer accessoires & Computing solutions | | | | | | | ■ | | | | | |
| Wall Mount Solutions | | | | | | | | | | ■ | | |
| Digital Signage Player | | | | | | | ■ | | | | | |
| Zebra Connectors (Elastomeric) | ■ | | | | | | | | | | | |

Suppliers



Boards

| | Adlink | Advantech | ASUS | Cherry | DFI | F&S | Kontron | Seco | Via |
|----------------------------|--------|-----------|------|--------|-----|-----|---------|------|-----|
| Industrial Mainboards | ■ | ■ | ■ | | ■ | | ■ | | ■ |
| Server Mainboards | | ■ | ■ | | ■ | | ■ | | |
| Workstation Mainboards | | | ■ | | ■ | | ■ | | |
| Desktop Mainboards | | | ■ | | | | ■ | | |
| Computer on Modules | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Base- / Evaluationboards | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Single Board Computer | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Slot Single Board Computer | | ■ | | | ■ | | | | |
| Backplanes | | ■ | | | ■ | | | | |
| Blade Computing | | ■ | | | | | ■ | | |

Embedded Systems

| | Adlink | Advantech | ASUS | DFI | EMKO | Extra Computer | Kontron | Seco | Via |
|---|--------|-----------|------|-----|------|----------------|---------|------|-----|
| Embedded Box-PCs | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Embedded Panel PCs / Touch Panel PCs | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Desktop PCs | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Mobile PCs / Ind. Tablet PCs / Comp.-Sticks | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Embedded Servers | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |

Accessories

| | Aaeon | Adlink | Advantech | ASUS | Cocom | DELTA | DFI | E-COUNT | EKL | F&S | FSP | HMS | HSM Zamecki | IEI | Intel | Kontron | Seco | Via |
|---|-------|--------|-----------|------|-------|-------|-----|---------|-----|-----|-----|-----|-------------|-----|-------|---------|------|-----|
| Digital LCD Controllers (Scaler) | | | | | | | | ■ | | | | | | | | | | |
| Artificial intelligence Accelerator Modules & Cards | ■ | | ■ | ■ | | | | | | ■ | | | | ■ | | | | |
| Controller Cards (Digital / Analog / Mixed Signal) | | | ■ | ■ | | | | | | | | ■ | | | ■ | | | |
| Industrial Chassis / Cases | | | ■ | ■ | | | ■ | | | | | | | | | ■ | | |
| Graphic Cards | | ■ | ■ | ■ | | | | | | | | | | | ■ | | | |
| HPC Cards | | | ■ | ■ | | | | | | | | | | | ■ | | | |
| Coolers & Heatspreaders | | | ■ | ■ | | | ■ | | ■ | ■ | | | ■ | | ■ | ■ | ■ | ■ |
| Cables & Adapters | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |

Wired Communication

| | Adlink | Advantech | Cherry | HMS | Intel | Kontron | Seco |
|-------------------------------------|--------|-----------|--------|-----|-------|---------|------|
| Network Cards | ■ | ■ | | | ■ | ■ | ■ |
| Network Switches / KVM Switches | | ■ | | | | ■ | |
| Industrial Bus & Protocol Solutions | ■ | ■ | | ■ | | | |
| Wired Long-Range Network Solutions | | | ■ | | | | |

Processors

| | Intel |
|--------------------|-------|
| Mobile Processors | ■ |
| Desktop Processors | ■ |
| Server Processors | ■ |
| Chipsets | ■ |

Power Supplies

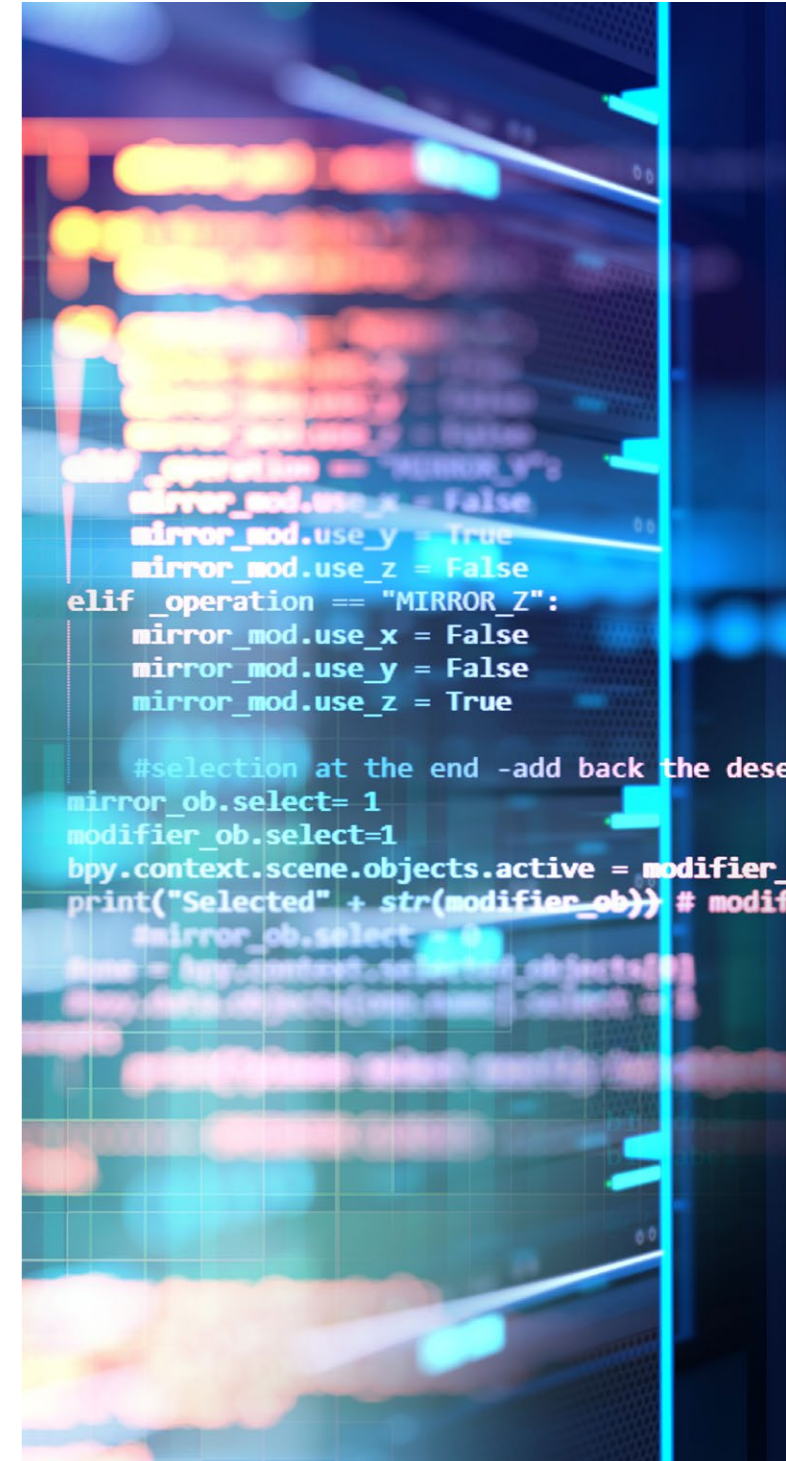
| | Advantech | DELTA | DFI | FSP | Kontron |
|--------------------------------------|-----------|-------|-----|-----|---------|
| Industrial PC (IPC) | ■ | ■ | | ■ | |
| Redundant Power Supplies | | ■ | | ■ | |
| AC/DC Adapter | ■ | ■ | ■ | | ■ |
| DC/DC Converters | | ■ | ■ | ■ | |
| Uninterruptable Power Supplies (UPS) | | | | ■ | |

Suppliers



Storage

| | Advantech | Apacer | ATP | GoodRam | KIOXIA | Swissbit | Teac | Toshiba | Transcend |
|------------------------------|-----------|--------|-----|---------|--------|----------|------|---------|-----------|
| Memory Modules | | | | | | | | | |
| DDR1 | | ■ | ■ | ■ | | | | | ■ |
| DDR2 | | ■ | ■ | ■ | | | | | ■ |
| DDR3 | ■ | ■ | ■ | ■ | | | | | ■ |
| DDR4 | ■ | ■ | ■ | ■ | | | | | ■ |
| DDR5 | ■ | ■ | ■ | ■ | | | | | ■ |
| Flash-Memory | | | | | | | | | |
| SD/microSD | | ■ | ■ | ■ | ■ | ■ | | | ■ |
| Compact-Flash | | ■ | ■ | ■ | ■ | ■ | | | ■ |
| CFast | ■ | ■ | ■ | ■ | ■ | ■ | | | ■ |
| CFexpress | | ■ | ■ | ■ | ■ | ■ | | | ■ |
| Flash-Module (USB/PATA/SATA) | | ■ | ■ | | ■ | ■ | | | ■ |
| USB-Sticks | | ■ | ■ | ■ | ■ | ■ | | | ■ |
| SSD 2.5" | ■ | ■ | ■ | ■ | ■ | ■ | | | ■ |
| mSATA | ■ | ■ | ■ | ■ | ■ | ■ | | | ■ |
| M.2 | ■ | ■ | ■ | ■ | ■ | ■ | | | ■ |
| Add-in Card (AiC) | | | | ■ | | | | | |
| U.2 SSD | | ■ | | ■ | | | | | ■ |
| U.3 SSD | | ■ | | ■ | | | | | |
| EDSFF | | ■ | | ■ | ■ | | | | |
| Hard Disc Drive | | | | | | | | | |
| 2.5" | | | | | | | | ■ | |
| 3.5" | | | | | | | | ■ | |
| extern USB | | | | | | | | ■ | ■ |
| Optical Drives | | | | | | | | | |
| CD-Drives for Audio/CE | | | | | | | | ■ | |
| DVD-Drives | | | | | | | | ■ | |
| BluRay-Drives | | | | | | | | ■ | |
| Medical Recorder | | | | | | | | ■ | |
| Accessories | | | | | | | | | |
| Card Reader | | ■ | ■ | ■ | | | | | ■ |





Suppliers



Bluetooth

| | Asus | EnOcean (Dolphin) | FCL Components | GARMIN | Infineon | Insight SIP | iVativ | Minew | Murata | NORDIC | Panasonic | ROHM | SILEX | TDK | TELIT |
|---|------|-------------------|----------------|--------|----------|-------------|--------|-------|--------|--------|-----------|------|-------|-----|-------|
| Bluetooth Classic Modules | | | ■ | | | | | | | | | ■ | | | |
| Bluetooth LE (Low Energy) Modules | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Bluetooth Dual Mode Modules | | | ■ | | ■ | | | | ■ | | ■ | | | | |
| Bluetooth Dual Mode System on Chips | | | | | ■ | | | | | | | | | | |
| Bluetooth LE (Low Energy) System on Chips | | | | | ■ | | | | | ■ | | | | | |
| Bluetooth devices (Beacons, Key Finder, Dongles etc.) | ■ | | ■ | | | ■ | ■ | ■ | | | | | | | |

GSM/GPRS/UMTS/LTE/NB-IoT/5G GNSS

| | 2J Antennas | Advantech | GNS | Infineon | iVativ | Minew | Murata | NORDIC | TELIC | TELIT | Unicore |
|------------------------------------|-------------|-----------|-----|----------|--------|-------|--------|--------|-------|-------|---------|
| GSM/GPRS/UMTS/LTE/NB-IoT/5G | | | | | | | | | | | |
| Modules | | | | | | | ■ | ■ | | ■ | |
| Cards | | ■ | | | | | | | | ■ | |
| Terminals | | ■ | | | ■ | | | | ■ | ■ | |
| With integrated GPS | | ■ | | | | | | ■ | ■ | ■ | |
| SIM-Card Connectivity | | | | | | | | | | ■ | |
| GNSS | | | | | | | | | | | |
| GPS/GNSS Modules | | | ■ | | | ■ | ■ | | | ■ | ■ |
| GPS/GNSS Cards | | ■ | | | | | | | | | |
| GPS/GNSS Chips | | | | ■ | | | | | | | ■ |
| Ultra High Precision | | | | | | | | | | ■ | ■ |
| Modules with integrated Antenna | ■ | | ■ | | | | | | | ■ | |

Proprietary Wireless

| | Advantech | EnOcean (Dolphin) | GARMIN | Infineon | Insight SIP | Minew | NORDIC | Panasonic | ROHM |
|---------------------|-----------|-------------------|--------|----------|-------------|-------|--------|-----------|------|
| Receiver Chips | | | | ■ | | | | | |
| Transceiver Modules | | ■ | ■ | | ■ | ■ | | ■ | |
| Transceiver Chips | | | | ■ | | | ■ | | ■ |
| Transmitter Chips | | | | ■ | | | ■ | | |
| Gateway Solution | ■ | | | | | ■ | | | |
| USB Sticks | | ■ | ■ | | | ■ | ■ | | |

Long Range Wide Area Network

| | Advantech | Insight SIP | iVativ | Kyocera AVX | Minew | Murata |
|--------|-----------|-------------|--------|-------------|-------|--------|
| LoRa | ■ | ■ | ■ | ■ | ■ | ■ |
| Sigfox | | | | | | ■ |

RFID/ NFC

| | FCL Components | GARMIN | GIANTEC | IDTRONIC | Insight SIP | Minew | Murata | NORDIC | ROHM |
|-----------------------------|----------------|--------|---------|----------|-------------|-------|--------|--------|------|
| Passive Reader Modules | ■ | | ■ | ■ | | | | | ■ |
| Passive Transponder Chips | | | ■ | | | | ■ | | |
| Passive Transponder Devices | | | ■ | ■ | | | ■ | | |
| Passive Reader Chips | | | ■ | | | | | | |
| NFC Pairing Chip | | ■ | | | ■ | ■ | ■ | ■ | |

Hardware Security Solutions

| | Infineon |
|-------------------|----------|
| Authentication | ■ |
| Trusted Computing | ■ |



ZigBee

| | EnOcean (Dolphin) | FCL Components | GARMIN | Infineon | Insight SIP | iVativ | Minew | NORDIC | Panasonic | ROHM |
|-----------------|-------------------|----------------|--------|----------|-------------|--------|-------|--------|-----------|------|
| System on Chips | | | | ■ | | | | | ■ | |
| Modules | ■ | ■ | ■ | | ■ | ■ | ■ | | ■ | ■ |

WIFI

| | Advantech | Asus | FCL Components | Infineon | Insight SIP | Intel | iVativ | Minew | Murata | NORDIC | Panasonic | ROHM | SILEX | TELIT |
|----------------------------------|-----------|------|----------------|----------|-------------|-------|--------|-------|--------|--------|-----------|------|-------|-------|
| Modules WiFi a/b/g/n/ac | | | ■ | | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | ■ |
| Modules WiFi 6 (ax) | | | | | ■ | ■ | | ■ | ■ | | ■ | | ■ | ■ |
| Modules SubGHz-WiFi (ah) | | | | | | | | | | | | | | ■ |
| Cards WiFi a/b/g/n/ac | | ■ | | | | | ■ | ■ | | | | | | ■ |
| Cards WiFi 6 (ax) | | | | | | | ■ | | | | ■ | | | |
| Chips WiFi a/b/g/n/ac/ax | | | | ■ | | | | | ■ | ■ | | | | |
| Access Points/ Gateways/ Routers | ■ | ■ | | | | | ■ | ■ | | | | | | ■ |

Accessories

| | 2J Antennas | Advantech | CHINMORE | EnOcean (Dolphin) | GradConn | Kyocera AVX | Molex | Pulse a YAGEO comp. | YAGEO Group |
|----------------------------|-------------|-----------|----------|-------------------|----------|-------------|-------|---------------------|-------------|
| Adapter Cables | ■ | ■ | ■ | | ■ | | ■ | ■ | |
| Antennas (internal) | ■ | | ■ | | | ■ | ■ | ■ | ■ |
| Antennas (external) | ■ | | ■ | | | ■ | ■ | ■ | ■ |
| Antennas (surface mounted) | ■ | | ■ | | | ■ | ■ | ■ | ■ |
| SIM-card Holders | | | | | ■ | ■ | ■ | | |
| Energy Harvester | | | | ■ | | | | | |

Special Wireless Techn.

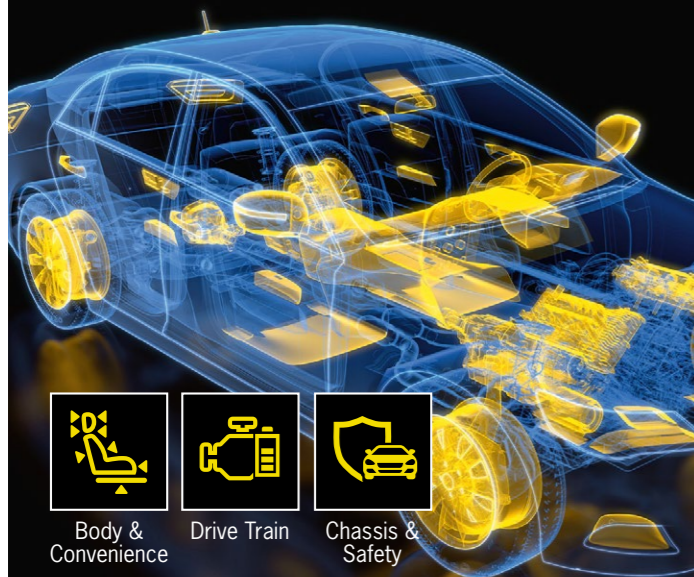
| | GNS |
|-------|-----|
| ADS-B | ■ |
| TMC | ■ |

UWB

| | Insight SIP | Minew | Murata |
|---------|-------------|-------|--------|
| Modules | ■ | ■ | ■ |



RUTRONIK AUTOMOTIVE



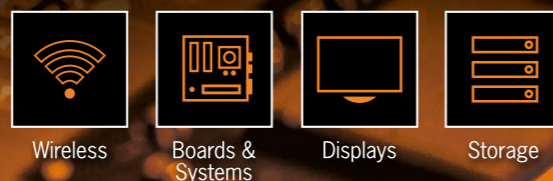
Discover Innovation in Motion AUTOMOTIVE Products

RUTRONIK **AUTOMOTIVE** offers innovative products of leading manufacturers for the automotive industry. RUTRONIK **AUTOMOTIVE** brings together entire solutions for the following topics:

- Body & Convenience
- Drive Train
- Chassis & Safety
- Connected Car
- eMobility
- Consulting

More information:
www.rutronik.com/automotive

RUTRONIK EMBEDDED



Combine Technologies Realize **EMBEDDED** Designs

RUTRONIK **EMBEDDED** will provide specific support to manufacturers of machines with focus on professional and robust applications:

- Digital Signage
- Industrial Control
- Medical
- Transportation

More information:
www.rutronik.com/embedded

RUTRONIK POWER



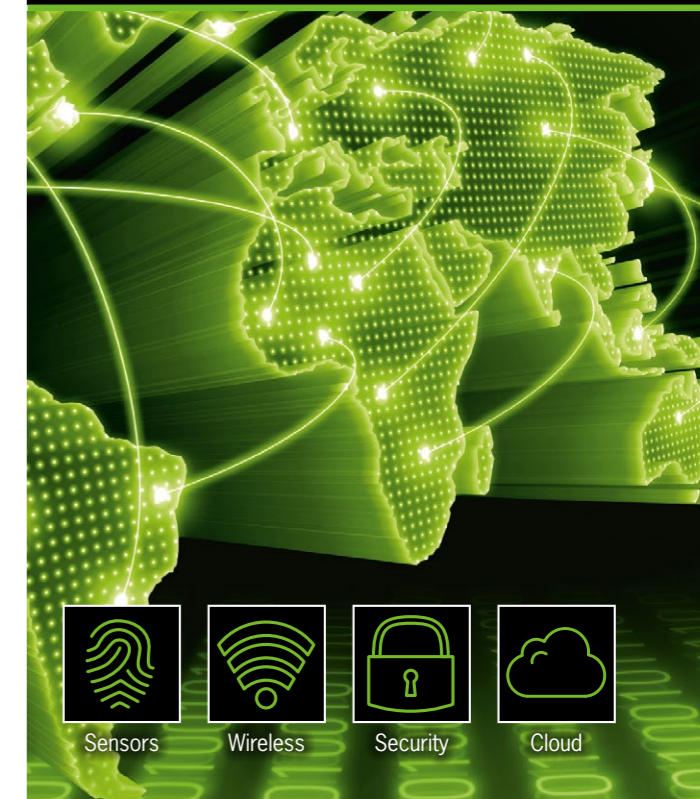
Efficient. Robust. Scalable. Design your **Ideas**

RUTRONIK **POWER** brings the latest knowledge, scalable solutions and efficient support for innovative power electronic components together – not only in the focus markets:

- Industrial
- eMobility
- Home Appliance

More information:
www.rutronik.com/power

RUTRONIK SMART



Discover the Internet of Things Design **SMART** Products

RUTRONIK **SMART** offers a new range of bundled hardware, software and services. RUTRONIK **SMART** brings together entire solutions to build applications for:

- Health
- Home
- Retail
- Tracking

More information:
www.rutronik.com/smart

Find your regional Rutronik contact!



info@rutronik.com | www.rutronik.com