



# PRODUCT GUIDE

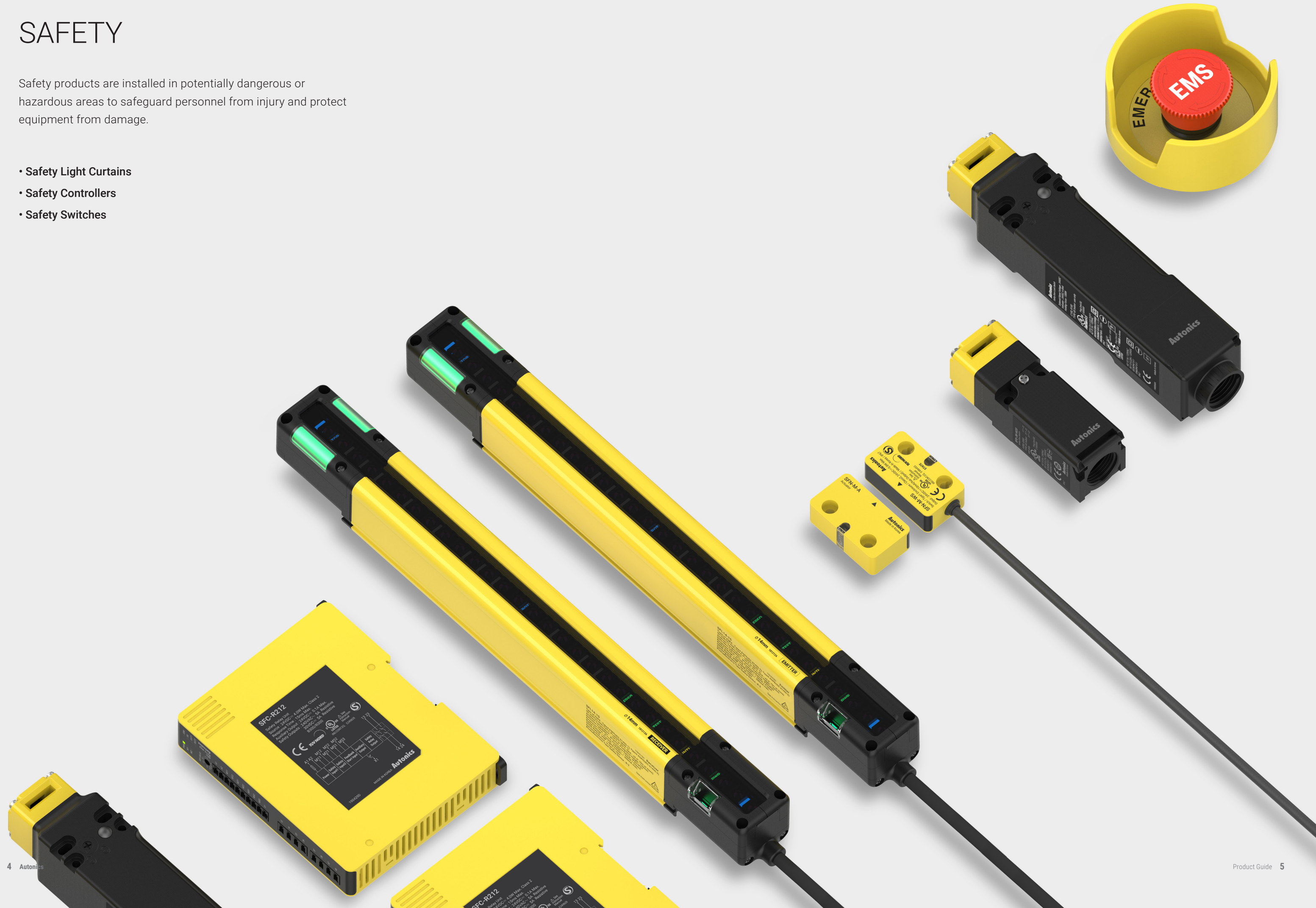




# SAFETY

Safety products are installed in potentially dangerous or hazardous areas to safeguard personnel from injury and protect equipment from damage.

- Safety Light Curtains
- Safety Controllers
- Safety Switches



# Safety Light Curtains

## SFL/SFLA Series Safety Light Curtains



- International safety standard and regulation compliance : Type 4 ESPE(AOPD), SIL3, SIL CL3, Category 4, PL e, CE, UL Listed, S-Mark, KCs
- 3 detection type models available (finger, hand, hand-body detection)
- Various models by protection height (144 to 1,868 mm)
- Expand up to 4 sets and 400 beams with serial connection
- Various safety-related functions: interlock, lockout, EDM, muting, override, blanking, reduced resolution, etc.

- Various self-diagnosis functions including mutual interference protection, ambient light detection, malfunction sensor detection
- Selectable detection distance (short/long mode)
- Operation status reading with 7-segment display and LED indicators
- Detail function settings with dedicated software atLightCurtain (SFLA models)
- IP65 & IP67 protection structure (IEC standard)

# Safety Controllers

## SFC Series Safety Controllers



- Slim size (17.5 mm/22.5 mm/35 mm)
- LED indicator to display various operation status (power/input/logic input/errors/feedback/output)
- Screw/screw-less wiring connection models
- P channel FET/relay contact safety output models
- OFF-delay output and time setting (high performance/non-contact door switch models)
- International safety standard and regulation compliance : SIL3, SIL CL3, PL e, CE, UL Listed, S-Mark



# Safety Switches

## SFD Series Safety Door Switches



- Head unit can be rotated to change insert direction of operation key  
: Operation key can be inserted from 5 directions (top/sides)
- Various contact types: 1 N.C. + 1 N.O., 2 N.C., 2 N.C. + 1 N.O., 3 N.C.
- Connector type (easy installation) and terminal type (easy maintenance) available
- Certifications: IEC/EN 60947-5-1, EN ISO 14119, GS-ET-19, UL 508, S-Mark

## SFDL Series Safety Door Lock Switches



- Head unit can be rotated to change insert direction of operation key  
: Operation key can be inserted from 5 directions (top/sides)
- Various contact types  
: 4-contact (connected), 4-contact (not connected), 5-contact, 6-contact
- Connector type (easy installation) and terminal type (easy maintenance) available
- Manual unlock function (release key) for emergency and testing  
: Standard (cross) type and special type release keys available
- Certifications: IEC/EN 60947-5-1, EN ISO 14119, GS-ET-15, UL 508, S-Mark

## SFN Series Safety Non-Contact Door Switches



- Electromagnetic induction method
- Control up to 30 units with a single controller (SFC-N)
- Easy installation with cable connector models and cable/connector accessories
- Stable detection of actuators in front/rear, top/bottom, right/left direction doors
- IP67 protection structure (IEC standard)
- SIL 3, PL e rating when used with SFC-N series safety non-contact door switch unit

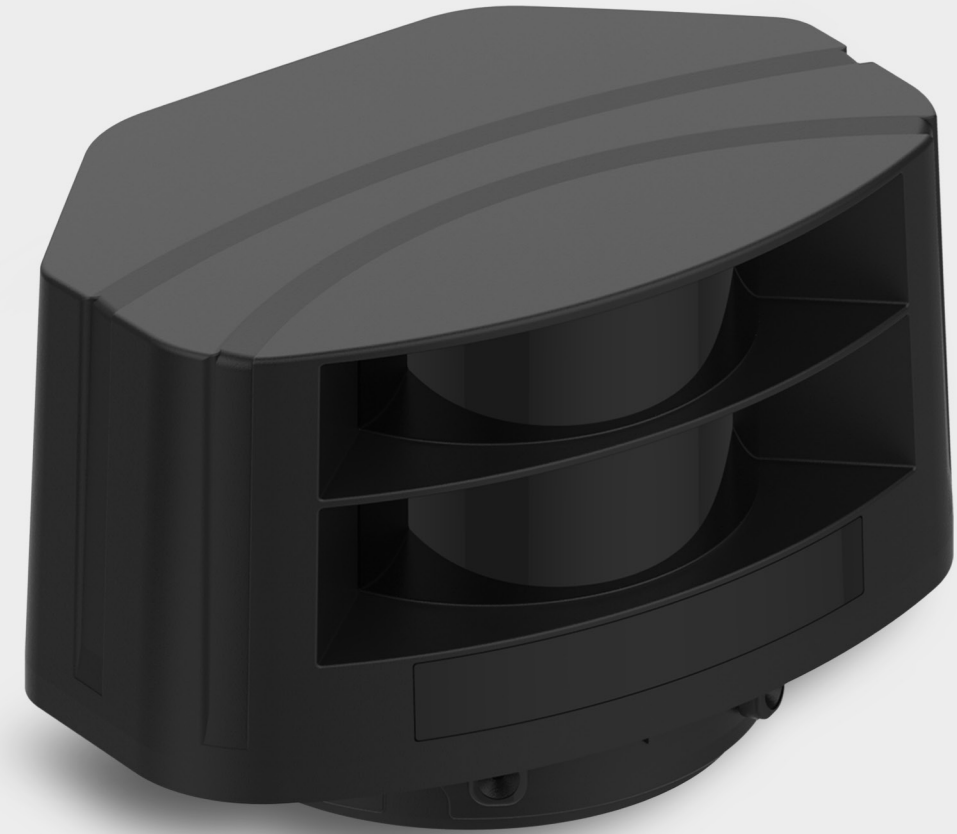
## SF2ER Series Ø22/25 Emergency Stop Button Switches



- Easy installation and removal of contact blocks using levers
- Install up to 3 contact blocks on a single switch
- Compatible with O type and Y type terminals
- Oil-resistant IP65 protection structure
- Certifications: EN 60947-5-1, EN ISO 13850, UL 508, S-Mark

# MACHINE VISION

Machine vision smart camera systems offer ideal machine vision solutions for identifying various objects during manufacturing processes.



# LiDAR

Laser scanners utilize time-of-flight (ToF) method to measure the round trip time of the infrared laser beam, to accurately detect presence of objects within a wide range area.

# Vision Sensors

## VG Series Vision Sensors



- Vision sensors with integrated LED lighting
- Global shutter method for accurate image capturing with minimal motion blur
- Enhanced optical performance with light interference prevention technology
- Various inspection functions: alignment, brightness, contrast, area, edge, shape, length, angle, diameter, object counting, color identification(color type), color area(color type), color object counting(color type)
- Inspection simulator function
- Tight lens cover attachment allows application in environments with dust or shock
- Set up to 32 separate workgroups (64 inspection points per workgroup)
- Save data to FTP servers
- Free vision sensor software included (Vision Master) : inspection simulator function, manage parameters and workgroups, inspection results monitoring, send data to FTP, multilingual support, etc.
- IP67 protection structure (IEC standard)

# Laser Scanners

## LSE Series Laser Scanners



- Activate multiple operation channels from channel 1 to channel 4
  - Set detection area for each channel: from 0.3 m x 0.3 m to 5.6 m x 5.6 m
  - Set concentrated monitoring area for each channel
- Set minimum detection target size (size for each W x H x L: 5/10/15/20 cm)
- Parameter setting and real-time monitoring with "atLidar" laser scanner management software (Ethernet connection)
- Easy parameter settings using remote control (RMC-LS, sold separately)
- Laser property: Class 1, infrared laser (905 nm), max. output power: 75 W
- Compact size for easy installation (W 125 x H 80.3 x L 88 mm)
- IP67 protection structure (IEC standard)
- Korean Railway Standard compliant



# SENSORS

Sensors are commonly used components in automation used to detect changes in the environment and transmit the information electronically.

- Displacement Sensors
- Photoelectric Sensors
- Photomicro Sensors
- Fiber Optic Sensors
- Door Sensors
- Area Sensors
- Proximity Sensors
- Rotary Encoders



# Displacement Sensors

## BD Series Displacement Sensors



- Measurement distance: 30 mm/65 mm/100 mm
- Easy maintenance with detachable sensor head/amplifier unit
- Maximum resolution: 1  $\mu\text{m}$  (vary by model)
- Accurate measurement regardless of target color or material
- Interconnection of up to 8 sensor amplifier units  
: Mutual interference prevention function and auto channel sorting
- Various filter functions for stable measurement (movement average, differential, median)
- Auto sensitivity adjustment (1-point, 2-point teaching)
- Sensor head: IP67 protection structure



## BD-C Series

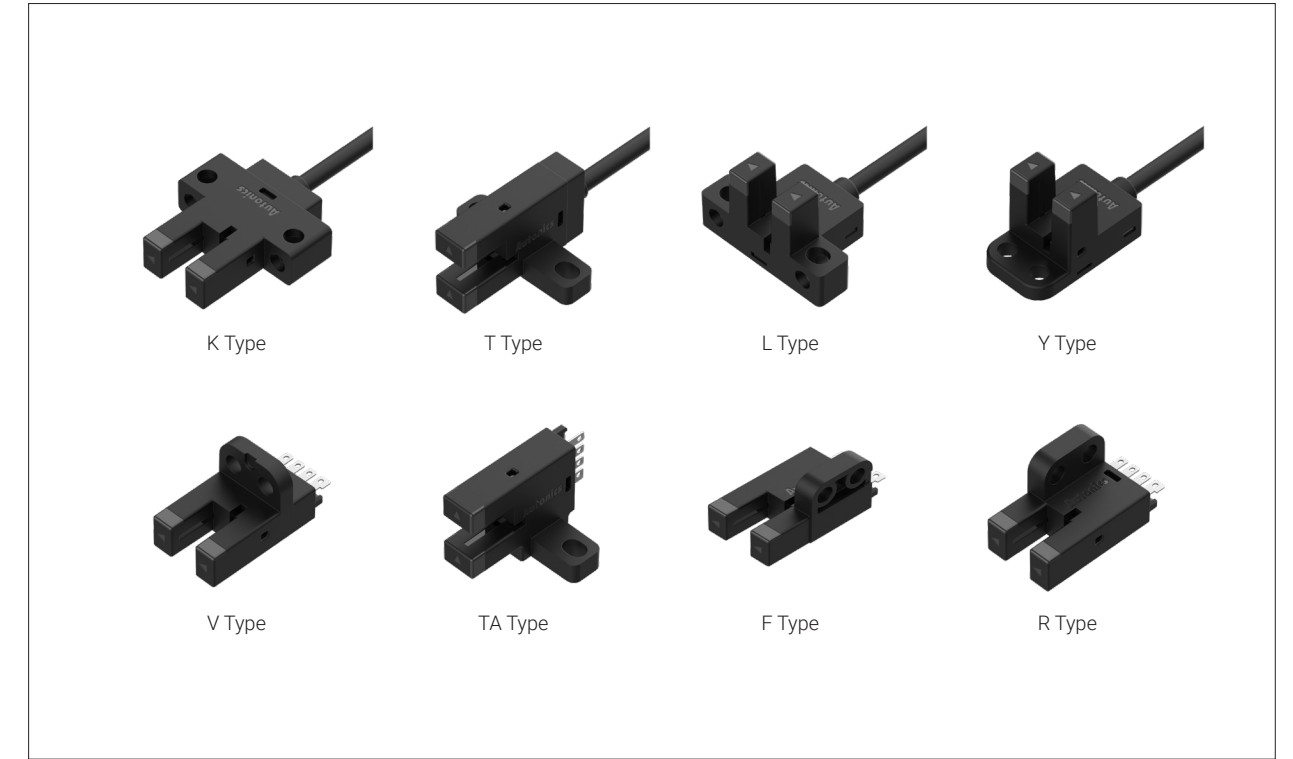


Communication Converter for Laser Displacement Sensors

- Supports both RS232C and RS485 communication in one device  
: Separate ports for RS232C and RS485
- Connect up to 8 amplifier units
- Can be powered directly by amplifier units without additional wiring
- Support for dedicated device management software (atDisplacement)

# Photomicro Sensors

## BS5 Series Photomicro Sensors



- Various shapes available for installation flexibility (K, T, V, L, Y, F, R, TA types)
- Minimize detection errors and improved visibility  
- Sensing side and body level has been improve to minimize detection errors occurring from foreign substances  
- Added operation indicators viewable from multiple directions

- High shock and vibration resistance  
- shock: 15,000  $\text{m/s}^2$  (approx. 1,500 G), vibration: 10 to 2,000 Hz (1.5 amplitude)
- High-speed response frequency: 2 kHz



## BS5-P Series



Push Button Type Photomicro Sensors

- Button switch operation ensures accurate detection regardless of material, color, or reflectivity of target object
- Optimized for transport detection of semiconductor wafer enclosures (FOUP, FOSB, etc.)
- Optical detection (emitter/receiver) by button operation guarantees mechanical life cycle of 5 million operations
- 4 red LED operation indicators (side: 2, top: 2) for higher visibility of operation status

# Photoelectric Sensors



## BRQ Series

Cylindrical Photoelectric Sensors

- Ø18 mm head cylindrical photoelectric sensors
- Various body housing material: stainless steel, metal, plastic
- Various body sizes: standard, short body
- Front sensing type, side sensing type available

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## BJX Series

Compact Long Distance Photoelectric Sensors

- High performance lens with long sensing distance
  - Through-beam type: 30 m, Diffuse reflective type: 1 m, Retroreflective type: 3 m (MS-2A)
- Compact size: W 20 x H 32 x L 11 mm
- M.S.R (Mirror Surface Rejection) function (retroreflective type)
- Light ON/Dark ON operation mode switch

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## BC Series

Color Mark Sensors

- Outstanding color matching accuracy: RGB light emitting diodes and 12-bit resolution, 2 detection modes (color only/color+intensity), 3-step sensitivity adjustment for each mode (fine, normal, rough)
- Check reference color with teaching indicator
- Operation indicator (red LED), stability indicator (green LED), timer indicator (orange LED)
- W 1.24 x L 6.7 mm spot size for detection of tiny targets and color marks
- IP67 protection structure (IEC standard)

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## BH Series

Front/Side Mount Photoelectric Sensors

- Front mounting (M18 nut) or side mounting (M3 screws)
- Simultaneous NPN/PNP open collector output
- Sensing distance- Through-beam type: 20 m, Retroreflective type: 4 m, Diffuse reflective type: 1 m, 300 mm
- Compact size: W 14 mm x H 34.5 mm x L 28 mm
- Mirror Surface Rejection (MSR) function allows stable detection of highly reflective targets (retroreflective type only)

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## BL Series

Liquid Level Photoelectric Sensors

- Photoelectric sensors for non-contact detection of liquid in transparent pipes
- Detects presence of liquid in transparent pipes (external diameter 6 to 13 mm, <1 mm thick)
- Compact size: W 23 x H 14 x L 13 mm
- Light ON/Dark ON operation mode switch

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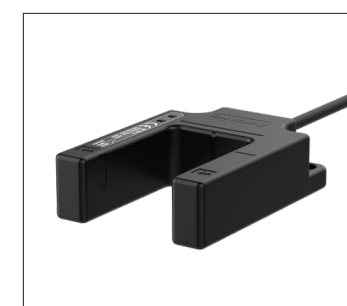


## BEN Series

Universal AC/DC Photoelectric Sensors

- Universal AC/DC models (relay contact output) available
- Light ON/Dark ON operation mode switch
- Sensitivity adjuster (except through-beam types)
- Stability indicator (green LED) and operation indicator (red LED)
- Specialized, high-performance sensor IC

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## BUP Series

U-Shaped Photoelectric Sensors

- High noise immunity to ambient light
- High-speed response time under 1ms
- Built-in reverse polarity protection circuit, output overcurrent (short-circuit) protection circuit
- Switch between Light ON and Dark ON modes using control wire

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## BTS Series

Ultra-Compact, Slim Type Photoelectric Sensors

- Ultra-slim width of only 7.2 mm
- Maximum detection distance: 1 m (through-beam type)
- Stability indicator (green LED) and operation indicator (red LED)
- Stainless steel 304 mounting brackets
- IP67 protection structure (IEC standard)

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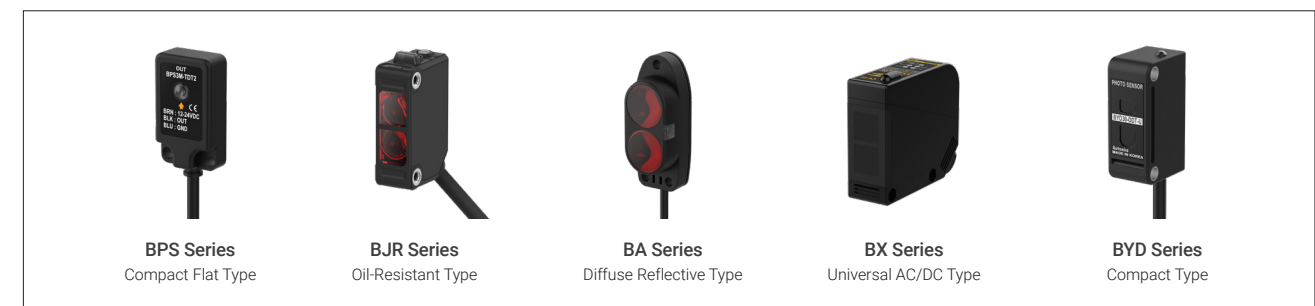


## BTF Series

Ultra-Compact, Thin Type Photoelectric Sensors

- Ultra-thin size of only 3.7 mm
- Maximum detection distance : 1 m (through-beam type)
- Stability indicator (green LED) and operation indicator (red LED)
- Stainless steel 304 mounting brackets
- IP67 protection structure (IEC standard)

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# Fiber Optic Sensors



## BF5 Series

High Performance Single/Dual Digital Display Fiber Optic Amplifiers

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- Available in dual and single display models
- Dual digital display for displaying present value and set value (BF5□-D)
- 5 response speeds: ultra-fast mode (50 μs), fast mode (150 μs), standard mode (500 μs), long-distance mode (4 ms), ultra-long-distance mode (10 ms)
- Display range: 0-4000 (standard mode), 0-9999 (long distance mode)
- Inverted display: invert displays depending on installation for easier reading



## BFX Series

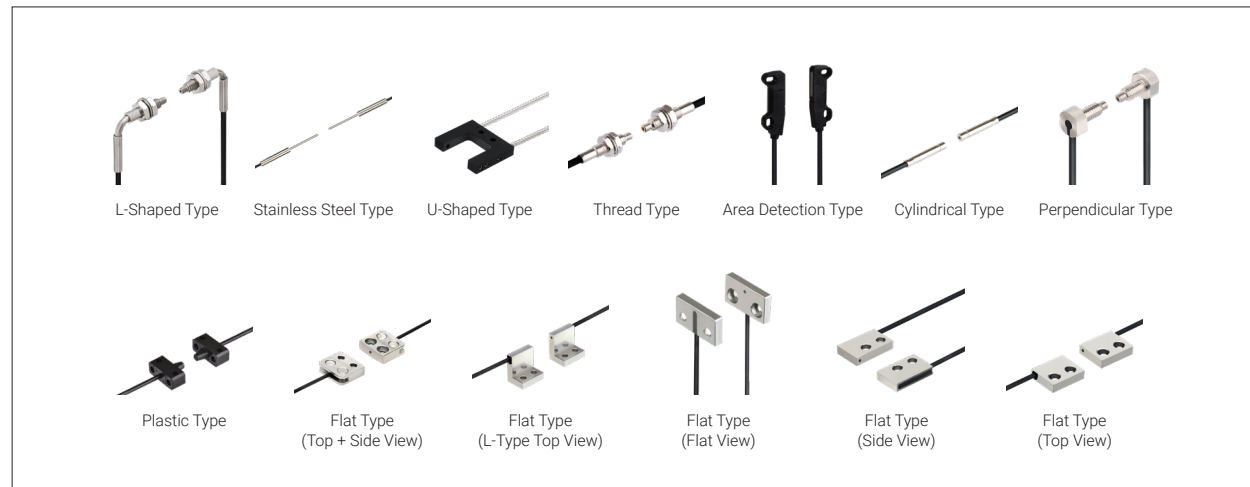
LCD Digital Display Fiber Optic Amplifiers

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- LCD dual display for displaying present value and set value
- High resolution (1/10,000) for detecting tiny targets
- 5 response speeds: ultra-fast mode (50 μs), fast mode (150 μs), standard mode (500 μs), long-distance mode (4 ms), ultra-long-distance mode (10 ms)
- Saturation prevention function: prevent errors from saturation of received light
- Slim and compact design (W 10 x H 30.6 x L 70.5 mm)

## FT/GT, FD/GD, FL/GL Series Fiber Optic Units

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- Various head types and sensing methods for diverse environments
  - Thread, cylindrical, flat, L-shaped, plastic, perpendicular, stainless steel, U-shaped and area detection head types for various user requirements
  - Through-beam, retroreflective and convergent reflective methods are available for diverse working conditions
- Various cable types available for diverse environments

# Area Sensors



## BW Series

General Purpose Area Sensors

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- Ambient illuminance: 100,000 lux
- Long sensing distance up to 7 m
- 22 configurations (number of optics: 4 to 48/optical pitch : 20, 40 mm/detection area: 120 to 940 mm)
- 20 mm optical pitch minimizes non-detection area (BW20-□)
- Bright LED indicators on emitter and receiver

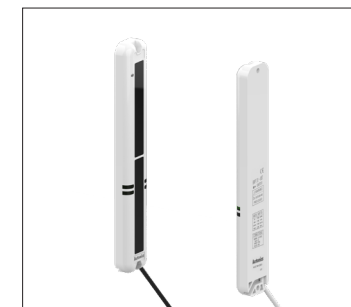


## BWC Series

Cross-Beam Area Sensors

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- 3-point cross-beam type detection minimizes non-detection area
- Long sensing distance up to 7 m
- 14 configurations (number of optics: 4 to 20/optical pitch: 40, 80 mm/detection area: 120 to 1,040 mm)
- Mutual interference prevention function, self-diagnosis function
- IP67 protection structure (IEC standard)



## BWP Series

Slim Plastic Body Area Sensors

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- Flat body (13 mm) area sensors with Fresnel lens
- High strength PC/ABS plastic body
- High-speed response time under 7 ms
- 4 configurations (optical axis: 8 to 20/detection area: 140 to 380 mm)
- Light ON/Dark ON operation mode switch



## BWPK Series

Slim Body Area Sensors (Picking Sensors)

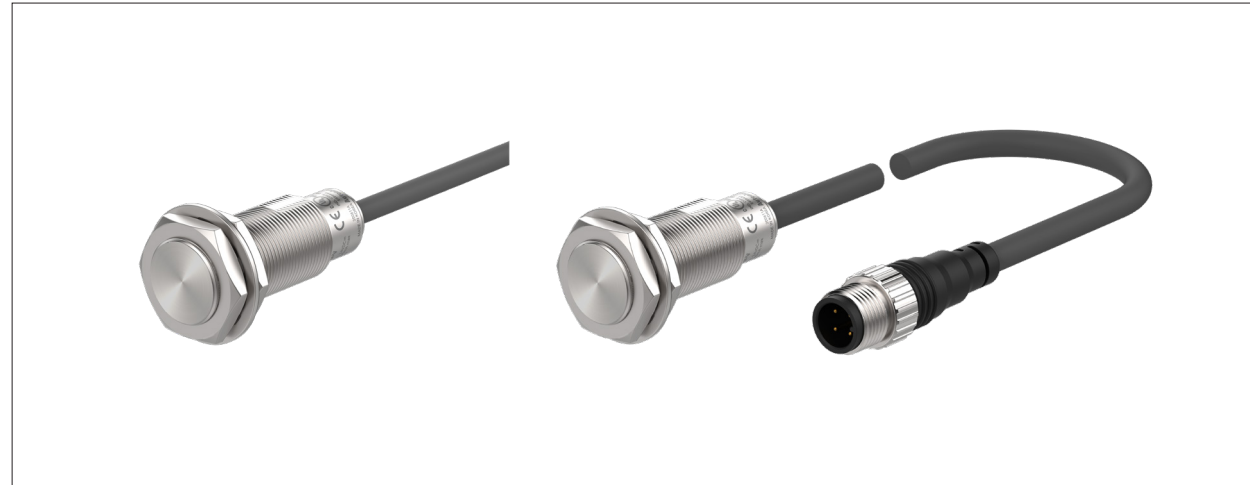
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- Flat and compact size: W 30 x H 140 x D 10 mm
- High strength PC/ABS plastic body
- Sensing distance switch (long/short mode switch)
- Light ON/Dark ON operation mode switch
- Mutual interference prevention function (frequency switching)

# Proximity Sensors

## PRF(D)(W) Series Full-Metal Cylindrical Inductive Proximity Sensors

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- High resistance to impact and wear caused by contact with workpieces or wire brushes (sensor head/housing: stainless steel)
- Reduced risk of malfunction caused by aluminum chips
- Excellent noise immunity with specialized sensor IC
- Long sensing distance (PRFD[W] models)
- Diameter of head: 8/12/18/30 mm
- Built-in surge protection circuit and overcurrent protection circuit
- Operation indicator (red LED), stability indicator (green LED) (PRFD[W] models)
- 360° ring type status indicator
- Oil resistant cable
- IP67 protection structure (IEC standard)

## PRF(D)A(W) Series Spatter-Resistant Full-Metal Cylindrical Inductive Proximity Sensors

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- PTFE coating prevents malfunctions caused by welding (spatter-resistant model)
- High resistance to impact and wear caused by contact with workpieces or wire brushes (sensor head/housing: stainless steel)
- Reduced risk of malfunction caused by aluminum chips
- Excellent noise immunity with specialized sensor IC
- Long sensing distance (PRFDA[W] models)
- Built-in surge protection circuit and overcurrent protection circuit
- Operation indicator (red LED), stability indicator (green LED) (PRFDA[W] models)
- 360° ring type status indicator
- Oil resistant cable
- IP67 protection structure (IEC standard)



## PR(D) Series

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Cylindrical Inductive Proximity Sensors (Long Sensing Distance)

- Wire type : cable, cable connector type, connector type
- Long sensing distance and excellent noise resistance with specialized sensor IC
- Built-in surge protection circuit, reverse polarity protection circuit, and overcurrent protection circuits
- Operation indicator (red LED)



## PS/PSN Series

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Standard Rectangular Inductive Proximity Sensors

- Excellent noise resistance with specialized sensor IC
- Long life cycle, reliable performance, economical, and easy-to-install
- Built-in surge protection circuit
- Built-in reverse polarity protection circuit (DC 3-wire types)
- Built-in overcurrent protection circuit (DC types)



## PFI Series

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Flat Type Rectangular Inductive Proximity Sensors

- Flat design (10 mm height) allows easy installation in limited spaces
- Excellent noise resistance with specialized sensor IC (DC types)
- Built-in reverse polarity protection circuit, overcurrent protection circuit (DC types)
- Built-in surge protection circuit
- Operation indicator (red LED)



## AS Series

CE

Rectangular Inductive Proximity Sensors with Long Sensing Distance

- Long sensing distance of 50 mm
- Excellent noise immunity with specialized sensor IC
- Built-in surge protection circuit, reverse polarity protection circuit, and overcurrent protection circuits
- Power supply: 12-48 VDC (operating voltage: 10-65 VDC)
- Simultaneous output (Normally Open + Normally Closed)



## CR Series

EAC

Cylindrical Capacitive Proximity Sensors

- Detect various materials including metal, iron, stone, plastic, water, and grain
- Long life cycle and reliable performance
- Built-in surge protection circuit, reverse polarity protection circuit (DC types)
- Built-in surge protection circuit (AC types)
- Built-in sensitivity adjuster for easier configuration

# Rotary Encoders

**E15S/E18S/E20S/E30S/E40S/E50S/E58S/E68S Series** Shaft Type Incremental Rotary Encoders   



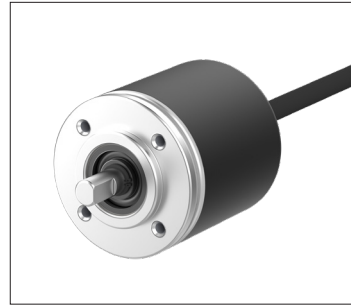
- Encoder diameter  
: 15 mm, 18 mm, 20 mm, 30 mm, 40 mm, 50 mm, 58 mm, 68 mm
- Low shaft moment of inertia
- Various resolutions, output codes, control outputs, and cable types available

**E20HB/E40H/E58H/E60H/E80H/E88H/E100H Series** Hollow Shaft, Built-In Hollow Shaft Incremental Rotary Encoders  



- Encoder diameter  
: 20 mm, 40 mm, 58 mm, 60 mm, 80 mm, 88 mm, 100 mm
- Various hollow shaft sizes
- Various resolutions, output codes, control outputs, and cable types available





### EP50S Series

Shaft Type Ø50 mm Absolute Rotary Encoders

- Compact size absolute rotary encoders with 50 mm diameter
- Various output codes available: BCD, binary, Gray
- Various resolutions, up to 1024 divisions: 6, 8, 10, 12, 16, 20, 24, 32, 40, 45, 48, 64, 90, 128, 180, 256, 360, 512, 720, 1024
- IP64 protection structure (IEC standard)

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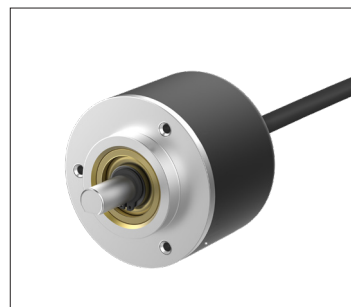


### EPM50S Series

Shaft Type Ø50 mm Multi-Turn Absolute Rotary Encoders

- Control output types: Parallel/SSI
- 23 bit (8388608) total resolution
  - Single-turn: 10-bit (1024 divisions), Multi-turn: 13-bit (8192 revolutions)
- Zero-point reset with single-turn data reset and multiturn count reset functions
- CW/CCW direction setting function
- Overflow alarm (OVF) function

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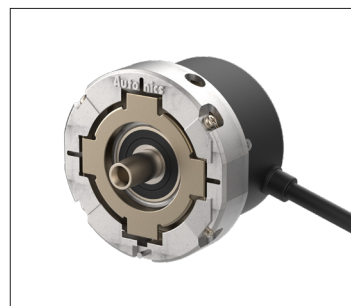


### MGA50S/MGAM50S Series

Shaft-Type Ø50 mm Magnetic Absolute Rotary Encoders

- High accuracy in harsh environments including shock, vibration, dust, and humidity
- Longer service life compared to optical encoders
- Various output code options: BCD, binary, Gray (MGAM50 : binary)
- Resolution
  - MGA50: up to 10-bit (1024 divisions)
  - MGAM50: 23-bit (8,388,608) total resolution, 10-bit single-turn (1024 divisions), 13-bit multi-turn (8192 revolutions)

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### E58S/E60H Series

Sine Wave Incremental Rotary Encoders

- Analog sine wave operational amplifier (op-amp) output
- Ø58 mm housing, tapered shaft (E58S)
- Ø60 mm housing, Ø20 mm hollow shaft (E60H)
- Wide operating temperature: -20°C to 100°C
- High resolution
  - E58S: up to 8,000 divisions, E60H: up to 8,192 divisions

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### ENH Series

Manual Handle Type Incremental Encoders

- Ideal for manual pulse input applications including NC machinery and milling machines
- Terminal connection type
- Resolutions : 25, 100 pulses per revolution
- Power supply : 5 VDC ±5%, 12-24 VDC ±5%

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### ENHP Series

Portable Manual Handle Type Incremental Encoders

- Ideal for manual pulse input applications including NC machinery and milling machines
- Emergency stop switch, enable operation switch
- 6-position axis selector switch, 4-position rate selector switch
- Resolution: 100 pulses per revolution
- Power supply: 5 VDC ±5%, 12-24 VDC ±5%

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### ENC Series

Wheel Type Incremental Rotary Encoders

- Wheel type encoders ideal for measuring length or speed of continuously moving objects
- Output waveform of measured distance is proportional to International Weights and Measures (meters/inches)
- Power supply: 5 VDC ±5%, 12-24 VDC ±5%

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### ERB Series

Flexible Shaft Couplings

- Zero backlash
- High-strength aluminum alloy (AL7075-T6)
- High elasticity
- Alumite treated surface provides high corrosion resistance
- 2 connection types (clamp type, screw type)

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# FIELD INSTRUMENTS

Field instruments including pressure and temperature transmitters measure and transmit important data in industrial applications and other diverse settings.

- Pressure Transmitters
- Pressure Sensors
- Temperature Transmitters



## Pressure Transmitters



### TPS30 Series

Stainless Steel Pressure Transmitters

- High pressure (0 to 60MPa/0 to 600bar), low pressure (0 to 2MPa/0 to 20bar)
- Pressure measurement of any gas, liquid, or oil
- 316L stainless steel body for high corrosion resistance (except head component of head types)
- Various connector types : cable type, DIN43650-A connector type, DT04-3P connector type, M12 connector type, head type

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### KT-302H Series

Display Type Pressure Transmitters

- HART protocol
- Display rotation in 330 ° range
- High accuracy  $\pm 0.2\%$  F.S.
- Explosion-proof specification: Ex D IIC T6
- Protection structure: IP67 (IEC standard)

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### PTF30 Series

Display Type Pressure Transmitters

- Minimized disturbance effect by improving noise resistance
- High accuracy  $\pm 0.2\%$  F.S.
- Various functions: User input range, display scale, output scale, digital filter etc.
- Explosion-proof specification: Ex D IIC T6
- Protection structure: IP67 (IEC standard)

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## Temperature Transmitters



### KT-502H Series

Temperature Transmitters with HART Protocol

- HART protocol
- Display rotation in 330 ° range
- Various inputs (to order, select one from 22 kinds)
  - RTD 8 types, Thermocouple 8 types, mV 8 types, Resistor 2 types
- Explosion-proof specification: Ex D IIC T6
- Protection structure: IP67 (IEC standard)

CE EAC

## Pressure Sensors



### PSQ Series

Dual Display Digital Pressure Sensors

- Dual display for simultaneous display of process value (PV) and setpoint value (SV)
- 3-color main (PV) display (RUN mode: green/red, parameter setting mode: orange)
- 12-segment LCD display capable of diverse alphanumeric characters
- Measurement range : -100.0 to 100.0 kPa/-100 to 1000 kPa
- Analog output : voltage (1-5 VDC), current (DC 4-20 mA)

CE cULus EAC



### PSAN Series

Digital Display Pressure Sensors

- Pressure measurement of any gas, liquid or oil
- High display resolution: negative, compound pressure 0.1 kPa, positive pressure 0.1 kPa, 1 kPa
- Auto shift function, hold function
- Independent 2-point output (N.O./N.C. output selectable)
- Zero-point adjustment function, peak value monitoring function, chattering prevention function

CE EAC



### PSM Series

Multi-Channel Pressure Sensor Indicators

- Display 8 (PSM8) or 4 (PSM4) channels of pressure value from analog pressure sensors
- Input range: 1-5 VDC, DC 4-20 mA (by model)
- Pressure sensor model auto recognition (Autonics PSS series pressure sensors)
- RS485 (Modbus RTU) communication support
- Individual output indicators for each channel

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### PSS Series

Compact Non-Indicating Pressure Sensors

- Rated pressure range: - negative pressure (0 kPa to -101.3 kPa)
  - positive pressure (0 kPa to 100.0 kPa or 1000 kPa)
  - compound pressure (-101.3 kPa to 100 kPa)
- Compact size: W 11.8 mm x H 29.3 mm x L 24.8 mm (R1/8 port)
- Analog output: voltage (1-5 VDC), current (DC 4-20 mA)
- Power supply: 12-24VDC  $\pm 10$

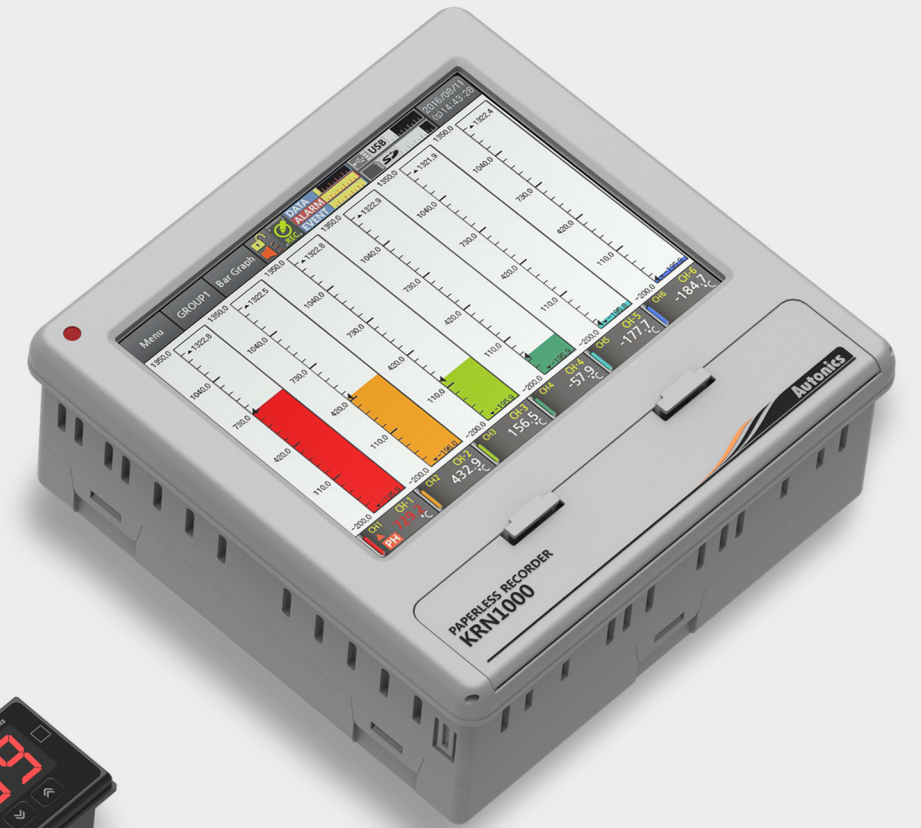
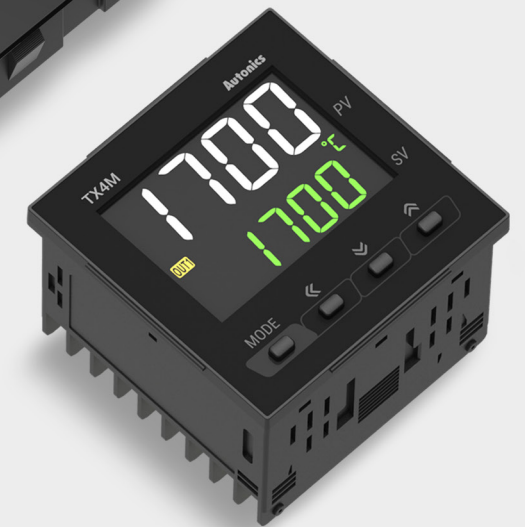
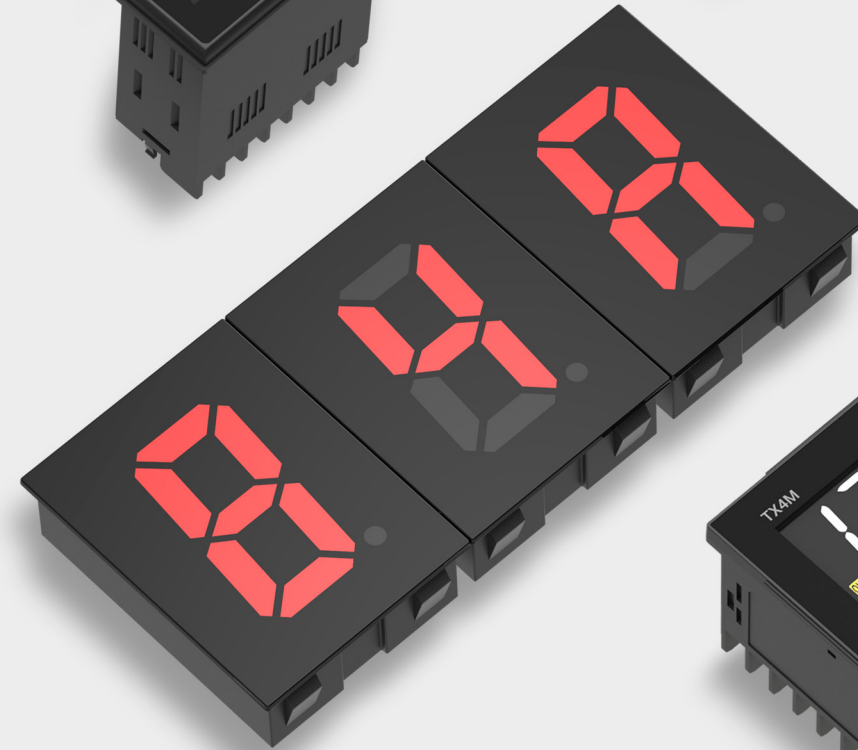
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# CONTROLLERS

Controllers are widely used in industrial control systems to adjust or maintain desired outputs of specific processes within a desired range.

- Industrial PC
- HMIs
- Temperature Controllers
- Counters/Timers
- Digital Panel Meters
- Recorders
- Indicators



# Industrial PC

## APC Series 10.1-Inch Panel PC



- Microsoft Windows 10 included
- Quad-core processor
- Fanless PC with silent operation and low heating
- 10.1 inch IPS TFT LCD with true color display (16,777,216 colors)
- Resistive touchscreen allows operation with gloved fingers, pens, or any stylus-types
- Supports various connection interfaces: Ethernet, Serial (RS232C/RS485/RS422), USB, VGA, HDMI, Audio
- Various installation methods: panel mount, bracket mount

# HMI

## GP-A046/057/070/104 Series Color LCD Graphic Panels



- Horizontal/vertical installation
- Various communication interface support
  - RS232C, RS422/485, Ethernet (GP-A070)
  - RS232C, RS422/485, Ethernet, CAN (GP-A104)
- Device monitoring of connected device possible without screen data
- Multi-language table feature allows users to switch languages with a single button
- atDesigner screen editor software provided
  - Various support functions, extensive image library
  - Convenient user interface
- 10.4-inch TFT LCD True Color display (GP-A104)
- 7-inch TFT LCD True Color display (GP-A070)
- Resistive touchscreen allows operation with bare hands, gloved fingers, or stylus

## LP-A070/104 Series Color LCD Logic Panels



- All-in-one device including functions of PLC, HMI, and I/O modules
- Horizontal/vertical installation
- Various communication interface support
  - RS232C, RS422/485, Ethernet (LP-A070)
  - RS232C, RS422/485, Ethernet, CAN (LP-A104)
- 32 I/O points provided (LP-A104)
- 16 I/O points provided (LP-A070)
- Device monitoring of connected device possible without screen data
- Motion control and high-speed counting function included
- 10.4-inch TFT LCD True Color display (LP-A104)
- 7-inch TFT LCD True Color display (LP-A070)
- Resistive touchscreen allows operation with bare hands, gloved fingers, or stylus

# Temperature Controllers

## TMH Series Modular Multi-Channel High Performance Temperature Controllers



### [Common Features]

- Power supply and communication with expansion connectors (up to 32 units)
- Parameter configuration with PCs (USB or RS485 communication)

### [Control Modules : TMH2/4 Series]

- Multi-channel (2-channel/4-channel) input and output control : Expandable up to 32 units (64 channels/128-channels)
- Simultaneous heating and cooling control function and auto/manual control mode

### [Option Modules]

- TMHA : Analog Input/Output Option Modules
- TMHE : Digital Input/Alarm Output Option Modules
- TMHCT : CT Input Option Modules

### [Communication Modules : TMHC]

- Connect up to 32 control/option modules per communication model
- PLC ladder-less communication (RS485/RS422), Ethernet communication



## TM Series



### Modular Multi-Channel PID Temperature Controllers

- Multi-channel (4-channel: TM4/2-channel: TM2) input and output control
- High-speed sampling cycle (4-channel: 100 ms/2-channel: 50 ms)
- Module connection and expansion with expansion connectors: Expandable up to 31 units (124-channels/62-channels)
- Simultaneous heating and cooling control function



## TX Series

### LCD Display PID Temperature Controllers

- Large LCD display with easy-to-read white PV characters
- 50 ms high-speed sampling rate and  $\pm 0.3\%$  display accuracy
- Switch between current output and SSR drive output
- SSR drive output (SSRP function) control options
- Communication output model available: RS485 (Modbus RTU)



## TK Series

### High Performance PID Temperature Controllers

- 50 ms high-speed sampling rate and  $\pm 0.3\%$  display accuracy
- Simultaneous heating and cooling control function
- Switch between current output and SSR drive output
- SSR drive output (SSRP function) control options: ON/OFF control, cycle control, phase control
- Communication output models available: RS485 (Modbus RTU)



## KPN Series

### Bar Graph Temperature Controllers

- 50 ms high-speed sampling rate and  $\pm 0.3\%$  display accuracy
- Bar graph display of control output value (mV)
- High performance control (independent control outputs for heating and cooling control, automatic/manual control mode)
- Parameter configuration through PCs (DAQMaster)
- Multiple input types and input range



## TC/TCN Series

### Economical Dual/Single Display PID Temperature Controllers

- Dual display (TCN) and single display (TC) PID temperature controllers
- 100 ms high-speed sampling rate and  $\pm 0.5\%$  display accuracy
- Switch between relay output and SSR drive output
- SSR drive output (SSRP function) control options: ON/OFF control, cycle control, phase control
- Compact design with large display panels for easier reading





# Counters/Timers



## TA Series

Analog Non-Indicating Type PID Temperature Controllers

- Auto-tuning PID temperature control
- PID and ON/OFF control: toggle via external switch
- Deviation indicators (green, red LED)
- Control output indicator (red LED)
- Stop control output function using analog dial



## TF3 Series

High Performance Refrigeration Temperature Controllers

- Standard installation size for refrigeration panels (W 70.3 × H 28.2 mm)
- Compressor load current capacity: 5 A, 16 A, 20 A
- Various user-friendly functions: Defrost sync function, RTC (Real Time Clock) function, Built-in alarm function
- Remote monitoring of real-time temperature and output control (with TFD series display unit, sold separately)



## TC3YF Series

Refrigeration Temperature Controllers

- ON/OFF control
- Standard input type: thermistor (NTC): RTD (Pt100Ω) input models available upon request
- Temperature range: - Thermistor (NTC): -40.0 to 99.9 °C (-40 to 212 °F), - RTD (Pt100Ω): -99.9 to 99.9 °C (-148 to 212 °F)
- Various functions: auto/manual defrost selection, compressor start-up delay, restart delay, minimum ON time, end-defrost delay, evaporator fan operation delay



## CT Series

Programmable Digital Counter/Timers

- Integrated counter/timer unit for counting and timing requirements
- RS485 (Modbus RTU) communication (models available)
- One-shot output time: 0.01 s to 99.99 s
- Various input/output modes



## CX Series

LCD Display Counter/Timers

- LCD display with easy-to-read white PV characters
- Input type: voltage input (PNP)/no-voltage input (NPN) selectable (through parameter setting), universal voltage input type available
- One-shot output time: 0.01 to 99.99 seconds (in 0.01 second increments)
- Compact rear-length size (64.5 mm)
- Various input/output modes



## FXM/FXH Series

Standard Digital Counter/Timers

- Counting speeds: 1 cps/30 cps/2 kcps/5 kcps
- Switch between counter and timer operation using DIP switch
- Switch between voltage input (PNP) and no-voltage input (NPN)
- Operation modes: count-up, count-down, count-up/down
- Set decimal point, hr/min/sec display with RESET key



## LA8N/LE8N Series

Compact 8-Digit LCD Backlight Counters and Timers

- Compact digital counters and timers with LCD backlight
- Count-up/down counters with decimal point setting (LA8N)
- Various time specification settings (LE8N)
- Voltage, no-voltage, universal voltage input options
- Built-in lithium battery (operates without external power)





# Timers



## LE7M-2 Series

Digital Week/Year Timers

- Time configuration and control in week or year units
- Simple configuration and status monitoring
- Various functions including daylight savings time

ERAC



## LE4S Series

LCD Display Digital Timers

- Compact, space-saving design with LCD backlight
- Configure set value and time range independently (using flicker or ON-OFF delay output mode)
- One-shot output time: 0.01 s to 99.99 s
- Time setting range: 0.01 s to 9999 h
- Signal ON start and Power ON start options

CE cULus EAC



## ATM Series

Miniature Analog Timers

- Ultra-compact/miniature size (W 21.5 mm x H 28 mm x D 59.3 mm)
- Up to 4 simultaneous control outputs with 4PDT (250 VAC, 3 A)
- Simple and accurate timing control with analog dial
- Various timing ranges: 0.1 s to 3 h (11 available options, by model)

CE EAC



## ATS Series

Compact, Multi-Functional Analog Timers

- Simple operation analog timers with various configurations
- Various time setting range and output operation modes
- Time setting range: 0.1 s to 30 h
- Twin timer models (ATS8W/ATS11W)
- Power ON start, Signal ON start, Power OFF start options

CE cULus EAC

# Digital Panel Meters



## MX4W Series

LCD Display Multi Panel Meters

- LCD display with easy-to-read white PV characters
- Isolated input and power modules allow powering of multiple units using a single power supply
- Compact, space-saving design (rear-length: 20 mm)
- Various input options (by model - DC/AC voltage, DC/AC current)
- Maximum allowed input: 500 VDC, 500 VAC, DC 5 A, AC 5 A

CE cULus



## MT4 Series

Digital Panel Meters with Diverse Input/Output Options

- Various input/output options
  - Input : DC voltage, DC current, AC voltage, AC current
  - Output : RS485 communication output, PV transmission output (DC 4-20 mA), NPN/PNP open collector output, relay contact output, low speed serial output(MT4W/Y), BCD dynamic output(MT4W/Y)
- Maximum allowed input: 50 VDC, DC 500 mA, 250 VAC, AC 5 A (MT4N) 500 VDC, DC 5A, 500 VAC, AC 5 A (MT4W/Y)

CE cULus EAC



## MP5 Series

High Performance Digital Pulse Meters

- 14/16 operation modes (MP5M, MP5S/Y/W)
- Various output options
- Display range: -19999 to 99999
- Various functions: Prescale function, monitoring delay function, hysteresis, auto-zero, parameter lock function
- Various display units: rpm, rps, Hz, kHz, sec, min, m, mm, mm/s, m/s, m/min, m/h, l/s, l/min, l/h, %, counts, etc.

CE cULus EAC



## LR5N-B Series

Compact Digital Pulse Meters (Indicator)

- 1-pulse input per revolution
- Display up to 10,000 RPM
- Built-in internal battery (power supply not required)
- Display RPM or RPS of rotating shaft or disc
- AC voltage frequency display function

EAC

# Recorders

## KRN1000 Series LCD Touchscreen Paperless Recorders

CE EAC



- 5.6-inch TFT color LCD (640x480) touchscreen display with excellent visibility and intuitive control interface
- Supports 27 input types (thermocouple, RTD, analog voltage and current[shunt])
- 4/8/12/16 input channel models available
- Various communication methods (USB, RS422/485, Ethernet) supported
- 25 to 250 ms high-speed sampling, 1 to 3600 s recording cycle
- 200 MB internal memory and external memory support (SD/USB up to 32 GB)
- Store and backup internal data to external memory (SD/USB)
- 9 different graph types available
- Various option input/output available: digital input (contact/non-contact), alarm output, transmitter power output
- Compact, space-saving design (rear length: 69.2 mm)



## KRN100 Series

100 mm Hybrid Recorders

CE EAC

- Hybrid strip chart recorder + paperless recorder
- Data logger function: print saved data from internal memory or USB
- Status monitoring and parameter configuration through USB, RS485, or Ethernet
- 25 ms high-speed sampling, 240 mm/H high-speed recording
- 100 mm strip chart recording in 6 colors



## KRN50 Series

50 mm Compact Hybrid Recorders

CE EAC

- 50 mm strip chart recorders with thermal transfer printing
- Data logger function for paperless recording
- Real-time monitoring and configuration on PC/PLC via RS485 communication or dedicated communication port
- Simultaneous 2-channel recording (graph mode, digital mode)
- Supports various input types (RTD, thermocouple, analog)

# Indicators



## KN-1000B Series

Bar Graph Indicators

CE EAC

- High accuracy with 16-bit ADC ( $\pm 0.2\%$  F.S.)
- Supports various input types (RTD, thermocouple, analog)
- Bar graph with 101 LEDs (green), 4-digit digital LED display (red)
- Various output options and customized functions
- Built-in power supply for sensors (24 VDC)



## KN-2000W Series

1-channel Digital Indicators

CE EAC

- High accuracy with 16-bit ADC ( $\pm 0.2\%$  F.S.)
- Supports various input types (RTD, thermocouple, analog)
- Auto display color change function (errors/alarms)
- Display range: -19999 to 19999
- Various output options and customized functions
- Built-in power supply for sensors (24 VDC)

# POWER ELECTRONICS

Power electronics, including switching mode power supplies, solid state relays, and power controllers, help maintain stable and efficient power supply.

- Switching Mode Power Supplies
- Power Controllers
- Solid State Relays





# Switching Mode Power Supplies

## SPB Series DIN Rail Switching Mode Power Supplies



- DIN rail mount and screw mount methods
- Efficient power conversion: High conversion efficiency up to 92% with LLC circuit (SPB-240), Stable power supply with minimal noise and ripple
- Space efficient design: Slim and compact size for maximum space efficiency, Uniform depth size (except SPB-015/030) for neat and tidy installation

- Safety and user-friendly features
  - Terminal protection cover (SPB-060/120/180/240)
  - Easy wiring with rising clamp terminal (SPB-015/030)
  - Inrush current prevention, output overcurrent prevention, output overvoltage prevention, output short-circuit protection, circuit overheating protection
  - Low output voltage indicator (red LED), output indicator (green LED)
- Output power: 15 W, 30 W, 60 W, 120 W, 180 W, 240W

# Power Controllers

## SPR1/3 Series Slim Single-Phase/Three-Phase Power Controllers with LED Display



- Slim and elegant design
- LED display allows real-time monitoring of control input, load voltage, load current, load power, load resistance, and heat-sink temperature
- Stable control with feedback control (constant current, constant voltage, constant power)
- Communication output models available: RS485 (Modbus RTU)

- Parameter configuration via PCs (RS485)
  - : Free device management software (DAQMaster)
- Various alarm functions (alarm output)
  - : overcurrent, overvoltage, heater disconnection, fuse break, heat-sink overheat, diode (SCR) error
- Easy installation with mounting brackets
- Easy fuse replacement and maintenance
- High performance SCR (IXYS) diode

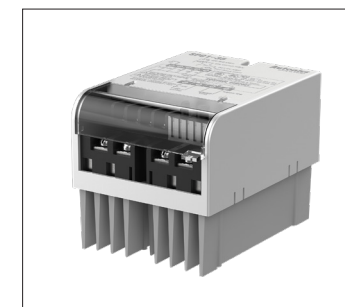


## DPU Series



Digital Thyristor Power Controllers

- High-speed, high-accuracy digital power control with high-speed CPU
- Accurate feedback control (constant current, constant voltage, constant power) through RMS measurement
- Phase control for various load control and zero-cross cycle control (fixed, variable cycles)
- Built-in rapid fuse for internal circuit protection
- Various alarm outputs including current error or heater disconnection (partial disconnection detection)



## SPC1 Series



Single-Phase Power Controllers

- Various control inputs: DC 4-20 mA, 1-5 VDC, external 24 VDC, external adjuster (1 kΩ), external contact (ON/OFF)
- Various functions: Output adjustment (limit output) function, soft start function (except ON/OFF control), output indicator, 50/60 Hz auto recognition
- Control mode selection switch: Phase control, cycle control (zero cross turn-on), ON/OFF control (zero cross turn-on)



# Solid State Relays



## SR(H)2/3 Series



Three-Phase Solid State Relays (Detachable/Integrated Heatsink Type)

- Two mounting hole types and sizes
- Alarm function (overheating): Alarm output indicator (red LED), disconnect standard output, alarm output
- High dielectric strength: 4000 VAC (select models)
- High heat dissipation efficiency with ceramic PCB and integrated heatsink



## SRHL1 Series



Single-Phase Solid State Relays (Integrated Heatsink, Left/Right Terminal Type)

- Left/right terminal layout
- Zero cross turn-on, random turn-on models available
- Input indicator (green LED)
- Alarm function (overheating)
  - 10 A, 15 A, 20 A, 25 A: alarm indicator (red LED),
  - 40 A: alarm output, alarm output indicator (red LED)
- DIN rail mount or panel mount installation



## SR1 Series



Single-Phase Solid State Relays (Detachable Heatsink Type)

- Compact, universal design for flexible installation
- Dielectric strength: 2500 VAC
- High heat dissipation efficiency with ceramic PCB
- Zero cross turn-on, random turn-on models available
- Input indicator (green LED)



## SRH1 Series



Single-Phase Solid State Relays (Integrated Heatsink, Top/Bottom Terminal Type)

- DIN rail mount or panel mount installation
- High Dielectric strength: 4000 VAC (Select Models)
- High heat dissipation efficiency with ceramic PCB and integrated heatsink
- Zero cross turn-on, random turn-on models available
- Input indicator (green LED)

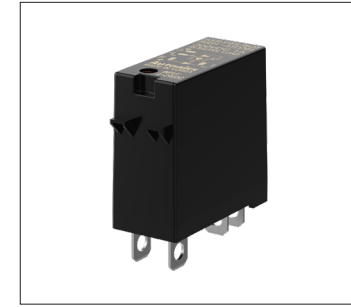


## SRC1 Series



Single-Phase Solid State Relays (Slim, Detachable Heatsink Type)

- Slim, compact size (22.5 mm width)
- Dielectric strength: 2500 VAC
- High heat dissipation efficiency with ceramic PCB
- Zero cross turn-on, random turn-on models available
- Input indicator (green LED)



## SRS1 Series



Single-Phase Solid State Relays (Socket Type)

- Socket type for easier installation and maintenance
  - SRS1-A: Autonics SK-G05 sockets (AC, DC, AC/DC)
  - SRS1-B: Universal LY2 sockets (AC)
  - SRS1-C: Universal MY4 sockets (AC, DC, AC/DC)
- Dielectric strength: 2500 VAC

# MOTION DEVICES

Motion devices are used to convert electrical energy into mechanical energy acting as actuators in automation processes.

- Closed Loop Stepper Motor System (Ai-SERVO)
- Motors/Drivers/Motion Controllers





# Closed Loop Stepper Motor System (Ai-SERVO)

## AiC Series 2-Phase Closed Loop Stepper Motor System with Integrated Controllers

CE EAC



- Closed loop system for precise real-time position control
- High speed and high torque drive without missed steps
- Motor driver + integrated controller type
- Control up to 31 axes with RS-485 communication
- Windows-based motion control software (atMotion) provided
- Standard Type (20 mm, 35mm, 42mm, 56 mm, 60mm)
- Built-in Brake Type (42 mm, 56 mm, 60 mm)
- Built-in Gear Type (42 mm, 60 mm)
- Built-in Rotary Actuator Type (60 mm)

## AiC-CL Series CC-Link Type 2-Phase Closed Loop Stepper Motor System

CE



- Closed-loop system with real-time position control
- High speed and high torque drive without missed steps
- Control up to 42 axes with CC-Link communication
- Windows-based software (atMotion) for easy parameter setting and monitoring
- 7-segment display for alarm/status reading
- Standard Type (20 mm, 35mm, 42mm, 56 mm, 60mm)
- Built-in Brake Type (42 mm, 56 mm, 60 mm)
- Built-in Gear Type (42 mm, 60 mm)
- Built-in Rotary Actuator Type (60 mm)

## AiCA Series AC Power 2-Phase Closed Loop Stepper Motor System with Integrated Controllers

CE



- Closed loop system for precise real-time position control
- High speed and high torque drive without missed steps
- Motor driver + integrated controller type
- Control up to 31 axes with RS485 communication
- Standard Type (60 mm, 86mm)
- Built-in Brake Type (60 mm, 86 mm)
- Built-in Gear Type (60 mm, 86 mm)
- Built-in Rotary Actuator Type (60 mm)

## AiS Series 2-Phase Closed Loop Stepper Motor System

CE EAC



- Closed loop system for precise real-time position control
- High speed and high torque drive without missed steps
- Easy operation setting with external adjuster (Gain, speed filter, in-position, resolution)
- Standard Type (20 mm, 35mm, 42mm, 56 mm, 60mm)
- Built-in Brake Type (42 mm, 56 mm, 60 mm)
- Built-in Gear Type (42 mm, 60 mm)
- Built-in Rotary Actuator Type (60 mm)

# Motors/Drivers/Motion Controllers

## AiSA Series AC Power 2-Phase Closed Loop Stepper Motor System

CE EAC



- Closed loop system for precise real-time position control
- High speed and high torque drive without missed steps
- Easy operation setting with external adjuster (Gain, speed filter, in-position, resolution)
- 7-segment display for alarm/status reading
- Standard Type (60 mm, 86mm)
- Built-in Brake Type (60 mm, 86 mm)
- Built-in Gear Type (60 mm, 86 mm)
- Built-in Rotary Actuator Type (60 mm)

## AK(B)/AHK/AK-G(B)/AK-R(B) Series 5-Phase Stepper Motors

CE EAC



- Compact design and lightweight with high accuracy, speed, and torque
- Space-saving design ideal for building compact-sized systems
- Economical and cost-efficient
- Various types: shaft, hollow shaft, brake, geared, geared-brake, rotary actuator, rotary actuator-brake type
- Various frame sizes: 24, 42, 60, 85 mm

## MD5 Series

CE cULus EAC

### 5-Phase Stepper Motor Drivers



- Bipolar constant current pentagon drive type
- Auto-current down and self-diagnosis function
- Micro stepping drive (max 250 divisions)
- Isolated photocoupler input design minimizes influence from external noise
- Multi-axis control (MD5-HD14-2X/3X)

## PMC-2HSP/N Series

CE EAC

### 2-Axis Interpolation/Standard Type Programmable Motion Controllers



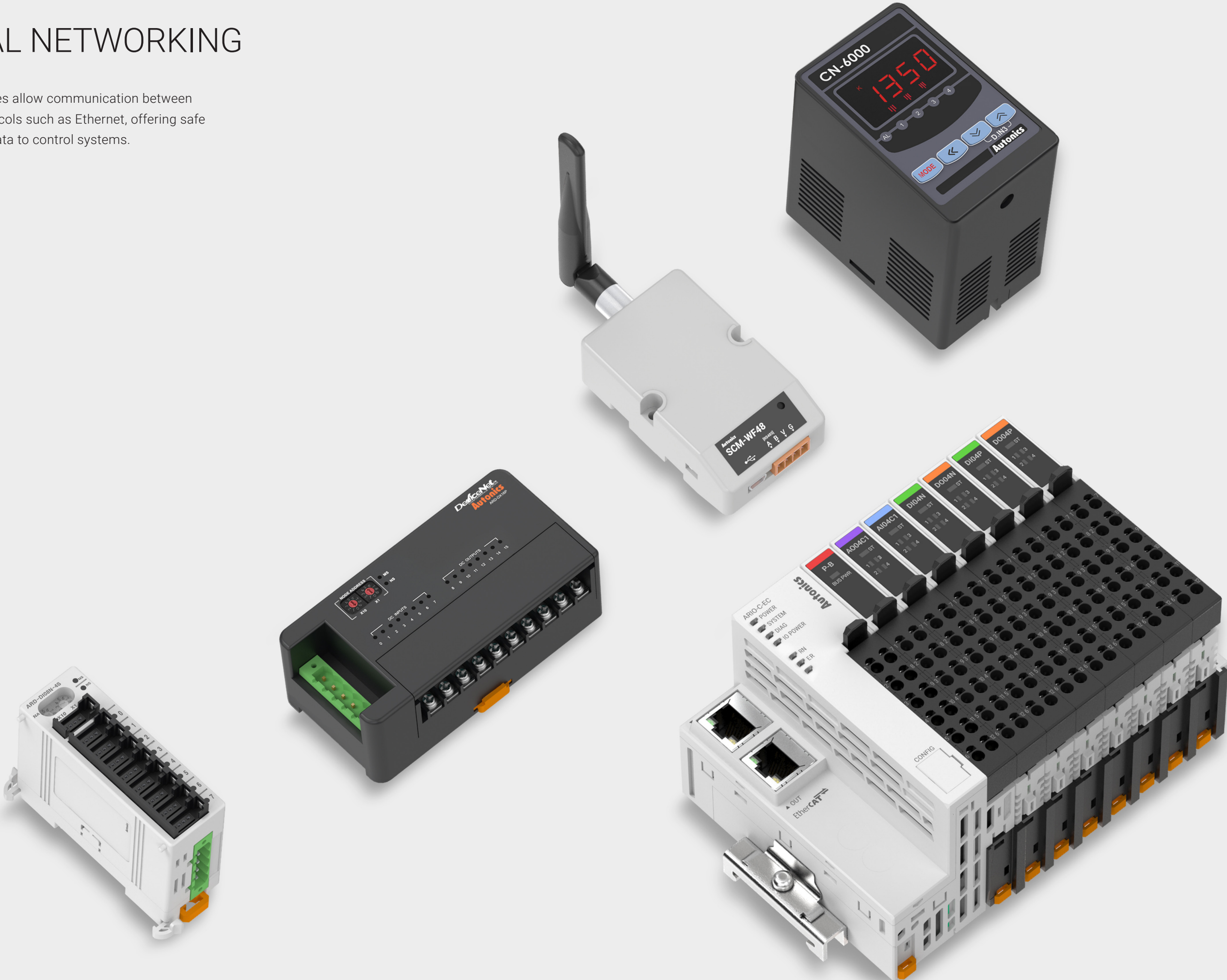
- High-speed independent 2-axis control with processing speed up to 4 Mpps
- 17 control commands and up to 200 steps of operation programming
- Multiple control of up to 32-axes (16 units) with RS485
- 4 operation modes: scan, continuous, index, program



# INDUSTRIAL NETWORKING

Industrial networking devices allow communication between devices using various protocols such as Ethernet, offering safe transmission of real-time data to control systems.

- Remote I/O System
- Signal Conditioners
- Network Converters



# Remote I/O System

## ARIO Series Slim Remote I/O



- Industrial Ethernet/Fieldbus serial communication I/O for Smart Factory
- Multiple I/O distribution control using PLCs and industrial PCs
- Coupler: available in 8 different communication protocols
  - EtherCAT, CC-Link, ProfiNet, ProfiBus, EtherNet/IP, DeviceNet, Modbus TCP compatible, Modbus RTU compatible
- Module: various input/output modules, power module
  - Remote bus I/O power, digital input/output (4/8 channels), analog input/output (2/4 channels)
  - Expandable up to 64 modules (may vary by communication type)
- Hot-swap feature
  - Terminal and body units can be removed/swapped during operation for easy maintenance
- Push-in connection method: easy wire connection without requiring additional tools



Also Available

## ARM/ARD Series



Modbus RTU/DeviceNet Remote I/O

- [ARM Series]**
  - Modbus RTU protocol digital remote I/O (sensor connector type)
- [ARD-D Series]**
  - DeviceNet digital remote I/O (terminal block type/sensor connector type)
- [ARD-A Series]**
  - DeviceNet analog remote I/O (terminal block type)

# Signal Conditioners



## CN-6000 Series



Isolated Converters with Programmable 3-Color LCD Display

- Multi-input: Thermocouple 12 types, RTD 5 types, Analog (mV, V, mA) 6 types
- Improved visibility with negative LCD: 12 segment, 3 colors (selectable red, green, yellow)
- Displays input type and unit on display part
- Various outputs: Alarm output, 0-20mA transmission output, 0-10VDC voltage output
- Various functions: High/Low peak input monitoring, Transmission output/display scale

# Network Converters

## SCM-WF48



Wireless Communication Converters



- Convert RS485/USB signals to Wi-Fi signals for wireless transmission up to 100m
- Compact size (W45 × H25 × L76.3mm, without antenna)
- Built-in surge protection circuit and reverse polarity protection circuit
- Supports Access Point (AP) mode and Station (STA) modes
- Various mounting methods (DIN rail, screw mount)

## SCM-US48I



USB-RS485 Communication Converters



- Convert and transmit signals between USB and RS485 devices (up to 1.2km)
- RS485 transceiver provides electrical insulation (2500 Vrms) between USB and RS485
- Built-in surge protection circuit
- Bus powered by USB host controller
- Ferrite bead USB 2.0 AB type cable with noise suppression provided

## SCM-38I



RS232C-RS485 Communication Converters



- Convert and transmit signals between RS232C and RS485 devices (up to 1.2km)
- Built-in surge protection circuit
- Isolated signal lines (RS232C, RS485)
- Tx Enabled signal

## SCM-US/SCM-USP



USB-Serial Communication Converters



- Easy connection between devices and PCs
- Ferrite bead USB cable with noise suppression
- Built-in protection circuits
- Non-isolated type
- USB 1.1 and USB 2.0 host controller compatible

## SCM-USU2I



2-Channel USB Temperature Data Loggers



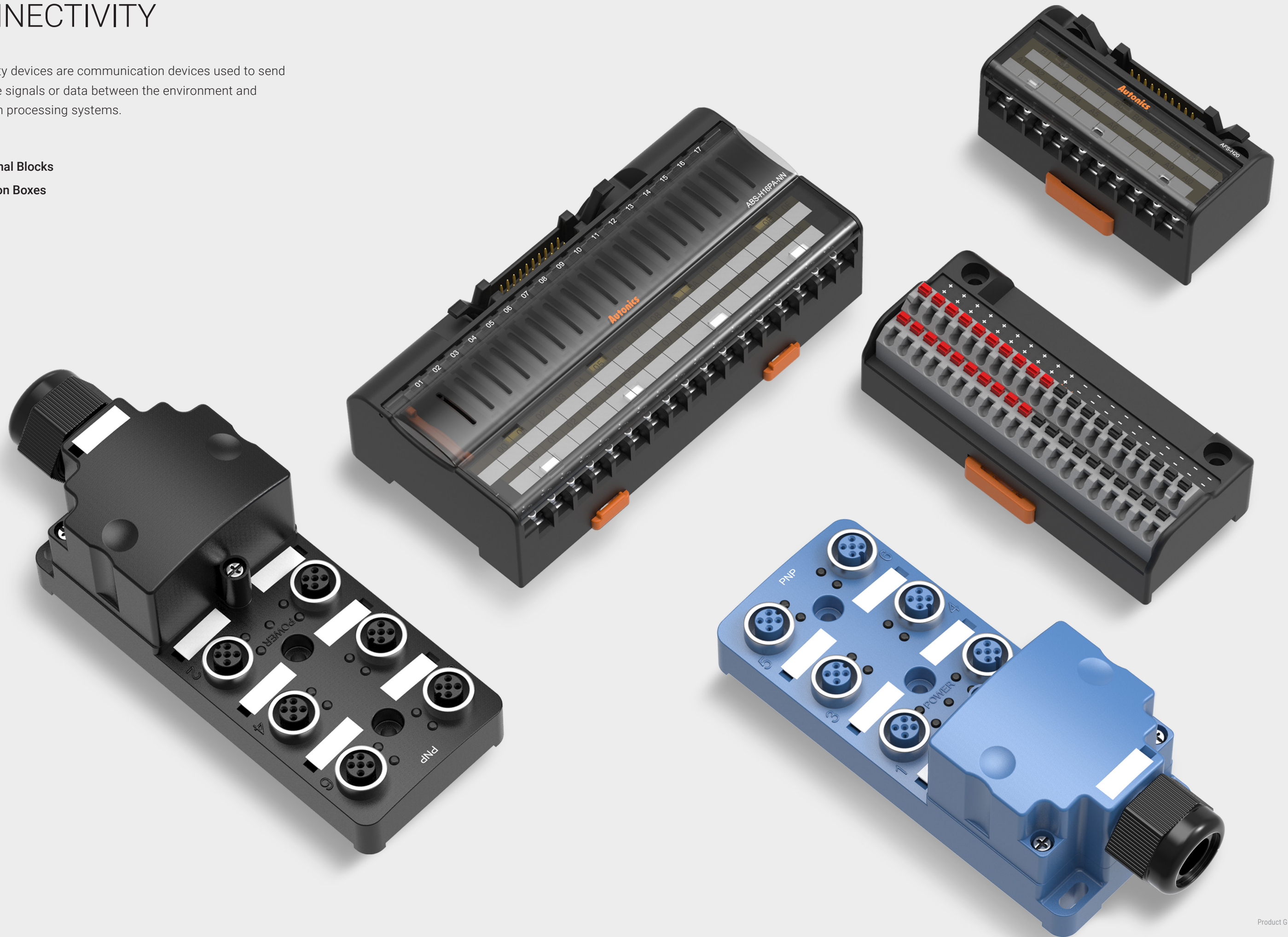
- Transmit 2 channels of real-time temperature data to PCs
- Record and monitor temperature using DAQMaster (comprehensive device management software)
- USB-powered device with USB communication interface (Modbus RTU)
- Supports various input types (thermocouple, RTD, mA, V) and different sensors can be assigned to each channel
- 50ms high-speed sampling rate (simultaneous 2-channel sampling)



# CONNECTIVITY

Connectivity devices are communication devices used to send and receive signals or data between the environment and information processing systems.

- I/O Terminal Blocks
- Distribution Boxes
- Cables



## I/O Terminal Blocks



### AFL/AFR/AFS Series

Interface Terminal Blocks

- Screwless push-in type connection for simple and easy connection (AFL)
- Terminal pitch: 5mm(AFL/AFR), 7mm(AFS)
- Ideal for connector type PLCs and motion device I/O
- DIN rail mount and screw mount installation



### ACL/ACR/ACS Series

Common Terminal Blocks

- Screwless push-in type connection for simple and easy connection (ALC)
- Rising clamp type connection method offers easy and durable connection
- Terminal pitch: 5mm(ACR/ACL), 7mm(ACS)
- Common wiring on PCB, jumper bar not required
- DIN rail mount and screw mount installation



### ABL/ABS Series

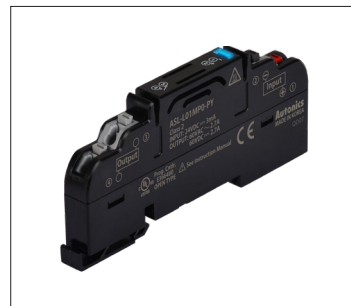
Relay Terminal Blocks

#### [ABL Series]

- Switch between independent and load common output with jumper bar
- Easy wiring and stable connection with screwless push-in connection

#### [ABS Series]

- Ideal for operating various loads using output signals from PLCs
- Diverse models available to accommodate voltage and current from various loads



### ASL Series

Solid State Relay Terminal Blocks

- Switch between independent and load common output with jumper bar
- Easy wiring and stable connection with screwless push-in connection
- Operation status indicator (blue LED)



### AFE Series

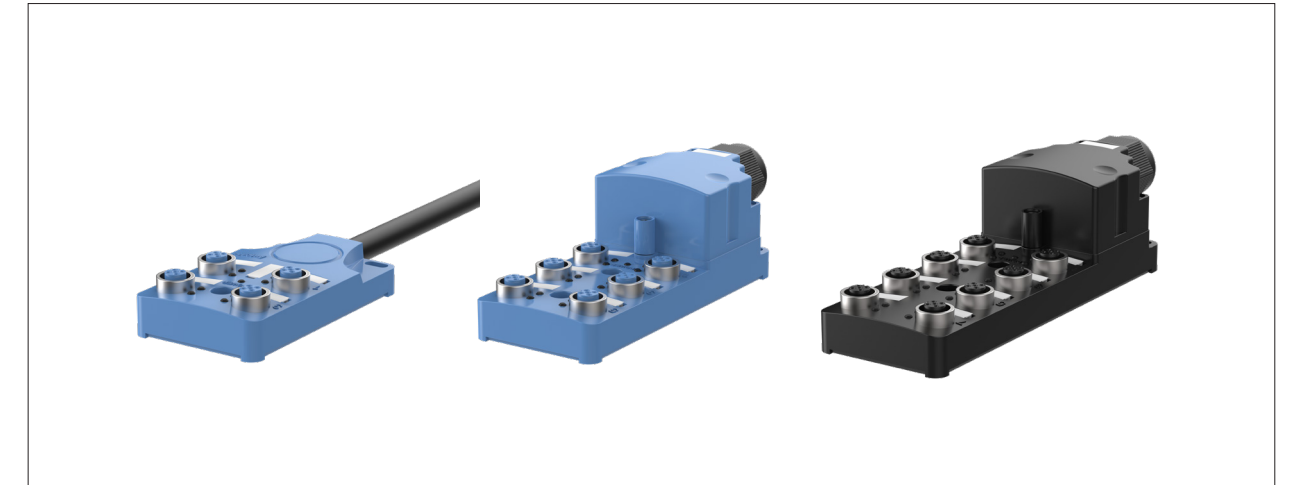
Sensor Connector Terminal Blocks

- Save installation time and work with Autonics CNE series sensor connectors
- Wire stripping and tools not required
- Compact size for space saving installation
- LED indicator for operation and connection status display
- NPN/PNP input selection via selection switch (default : NPN)



## Distribution Boxes/Cables

### PT Series M12 Connector Sensor Distribution Boxes



- Available models: 5-pin M12 connector types (cable/spring terminal/plug-in terminal type), 4-pin M12 connector type sensor distribution boxes (cable type)
- Supply power to multiple sensors using a single power supply
- Supports 1-signal, 2-signal (DC 4-wire type)

### CH/CO Series I/O Cables





# CONTROL SWITCHES

Extensive range of control switches are available including push buttons, selector switches, emergency switches, pilot lights, buzzers, and more.

- Control Switches
- Buzzers
- Control Switch Accessories



# Control Switches

## Round/Square Push Button Switches



(\*) Illuminated Type Available

## Pilot Lights



(\*) Illuminated Type Available

## Selector Switches



(\*) Illuminated Type Available

## Key Selector Switches



## Double Push Button Switches/Mushroom-Head Push Button Switches



S2TR-P3(\*)

S16BR-H(\*)

S2BR-P1

## Emergency Switches



S16ER-E(\*)

S2ER-E1

S2ER-E2

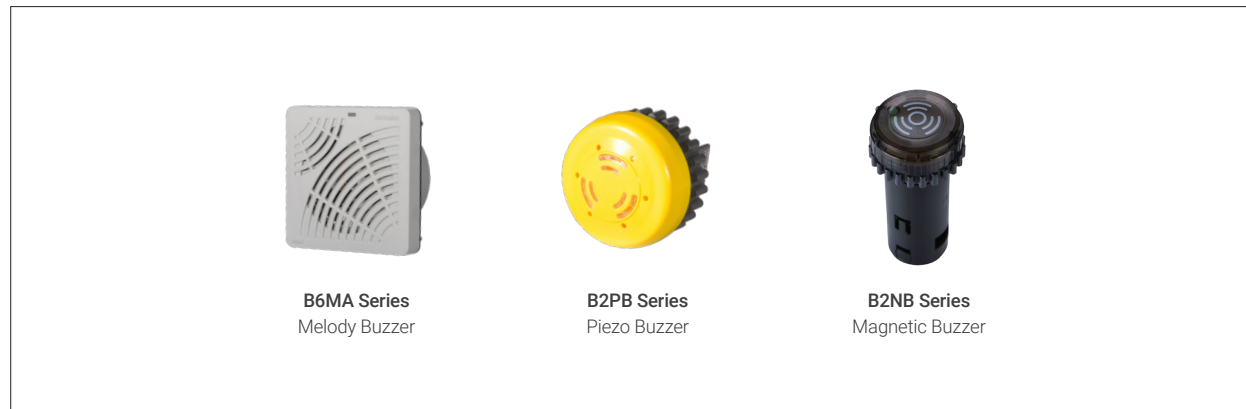
S2ER-E3

S2ER-E4(\*)

S2ER-E5

(\*) Illuminated Type Available

## Buzzers

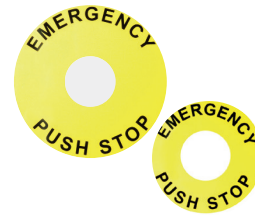


B6MA Series  
Melody Buzzer

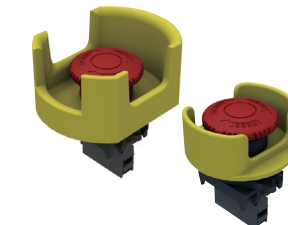
B2PB Series  
Piezo Buzzer

B2NB Series  
Magnetic Buzzer

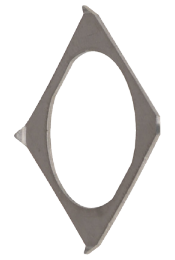
## Control Switch Accessories



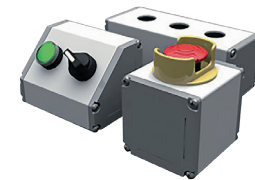
Emergency Switch  
Nameplates



Emergency Switch  
Protective Shrouds



Switch washer



Switch Enclosures



Locking Handle for Switches



Waterproof Cap



\* Ø16 mm

Switch Contact



\* Ø22/25, Ø30, □30 mm

Switch LED Blocks



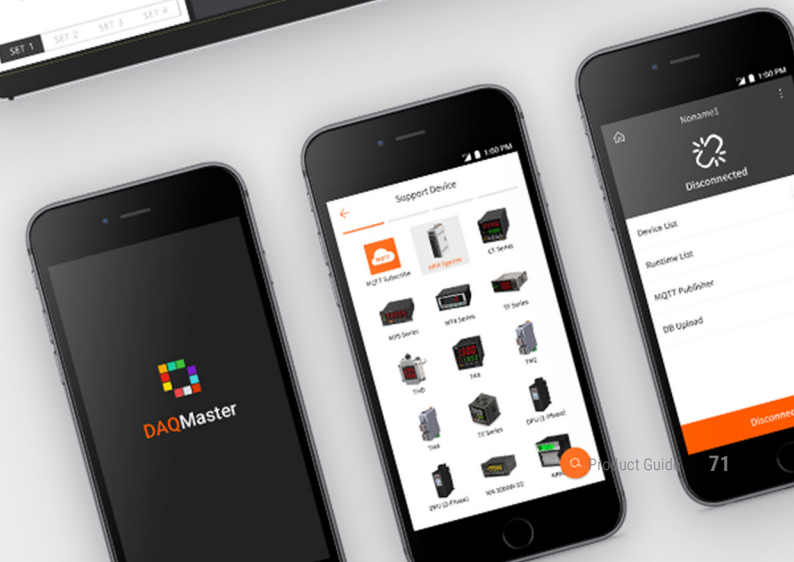
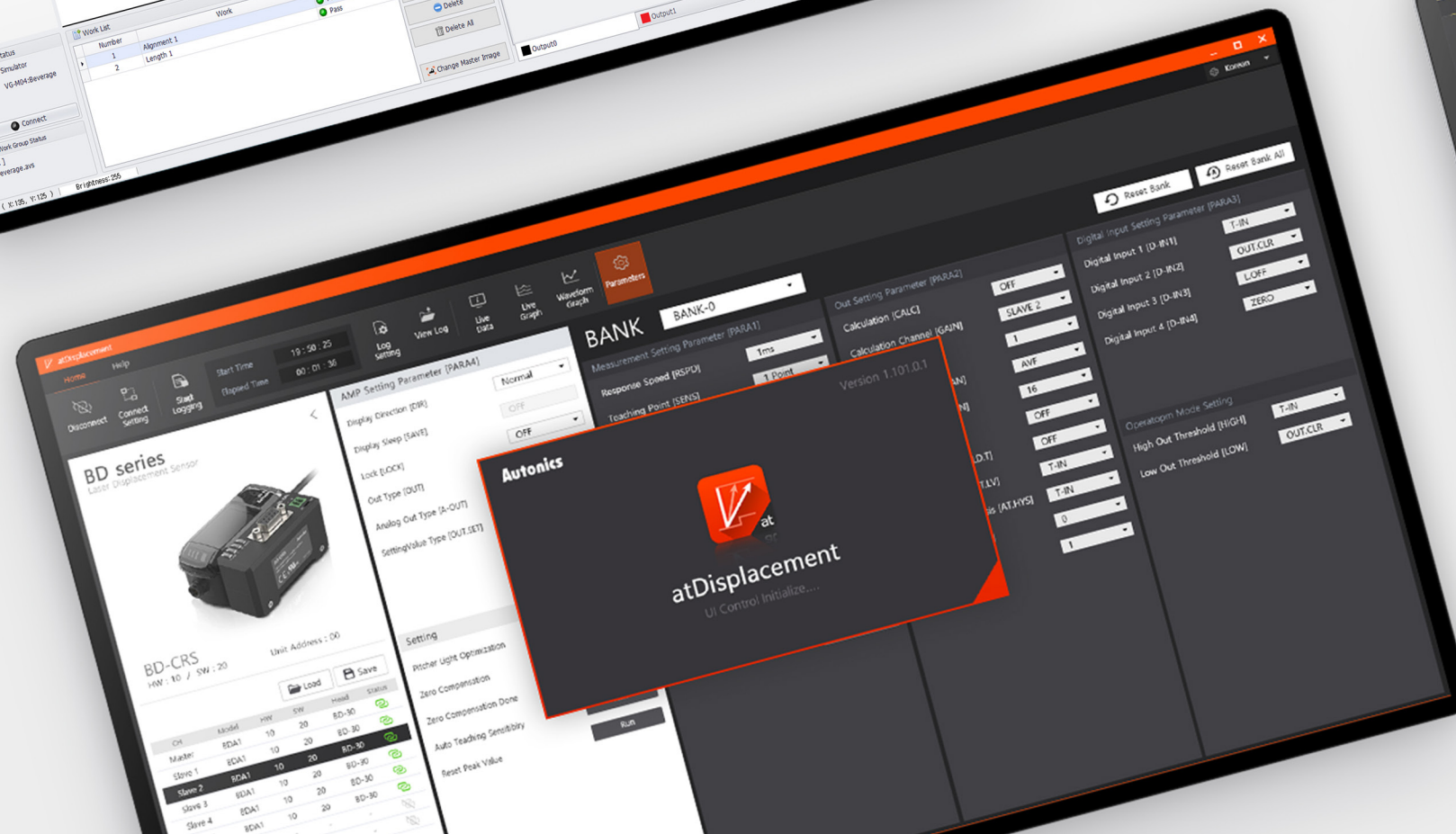
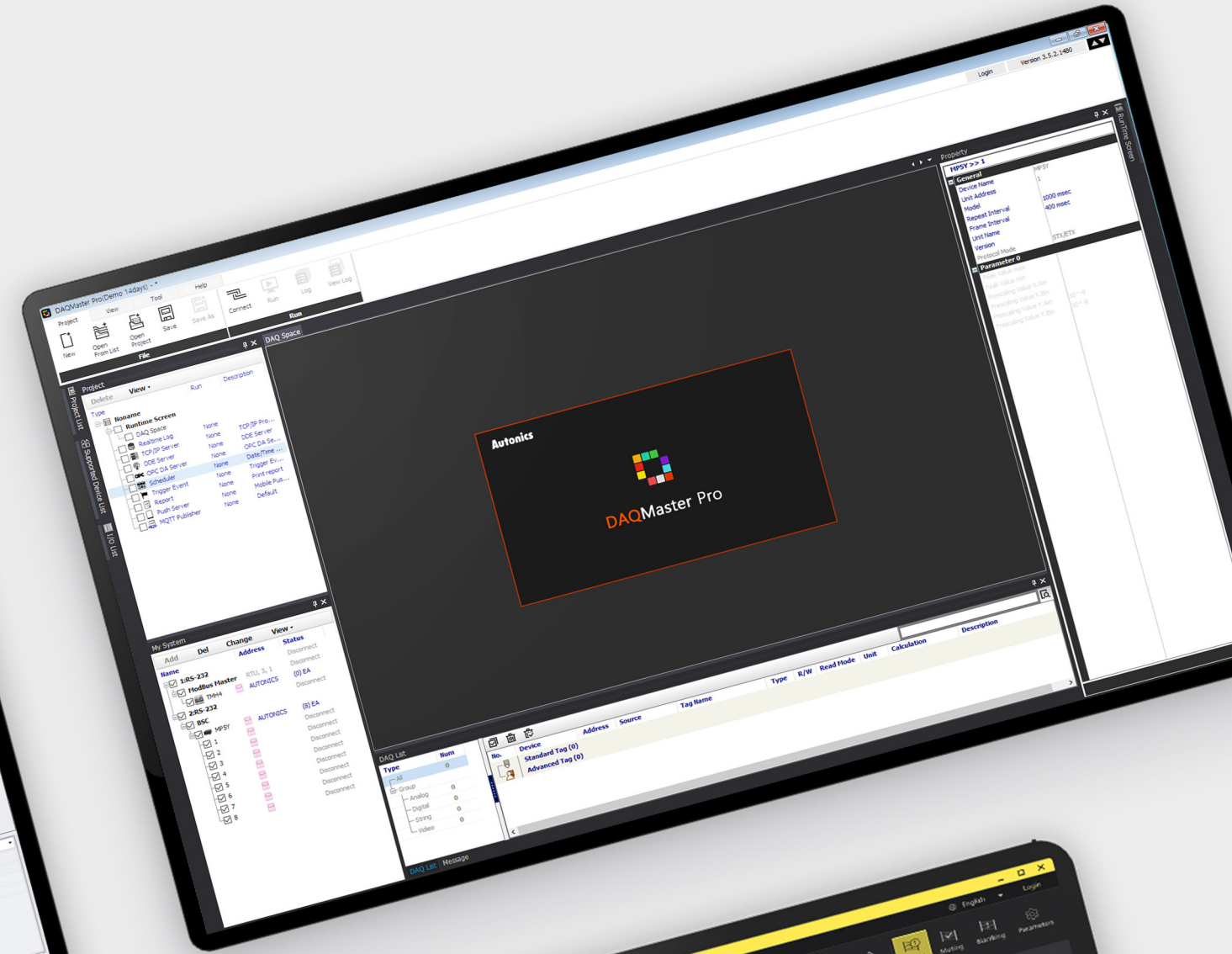
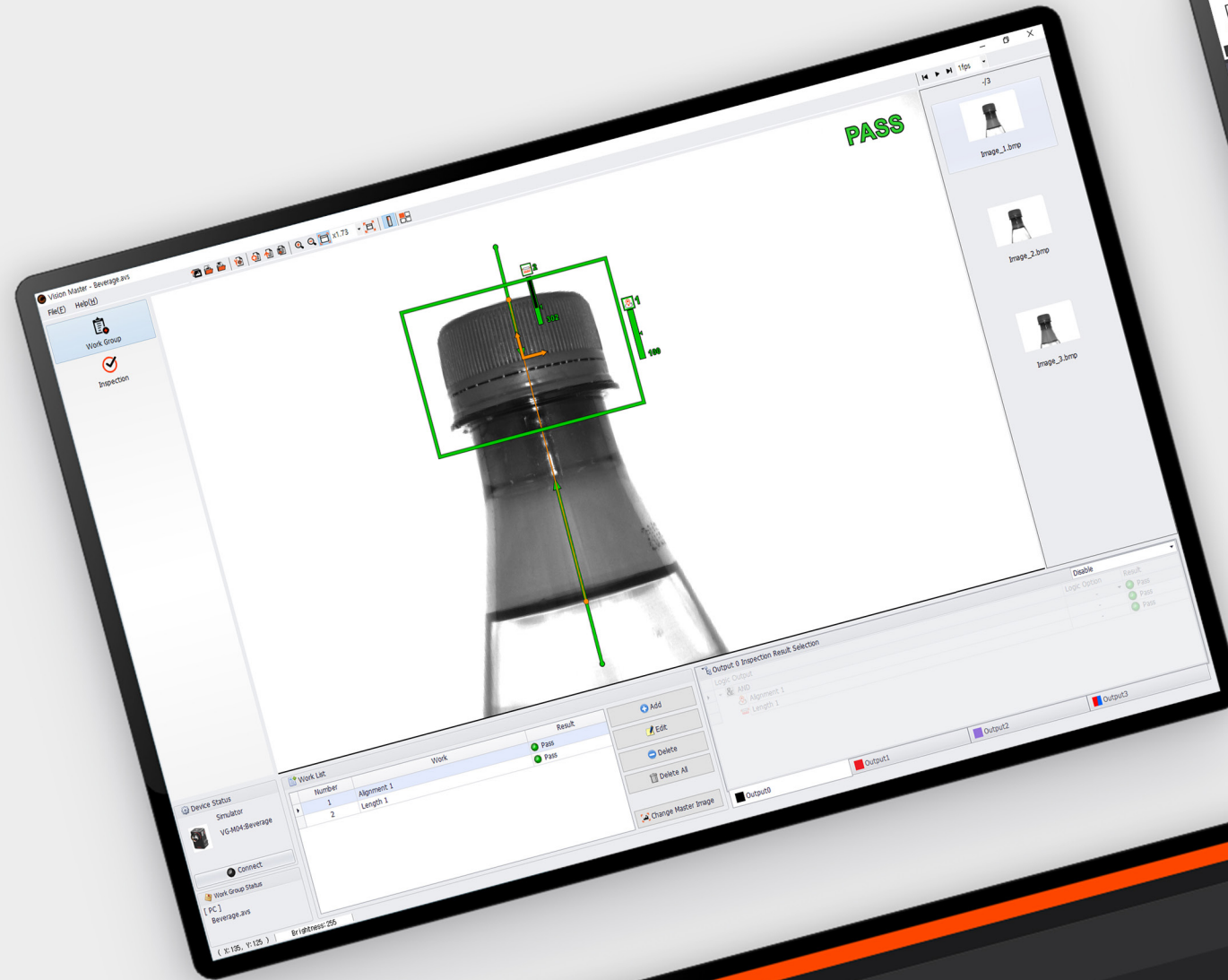
Lens removal tool



# SOFTWARE

Autonics software allows users to configure parameters, monitor status, program control processes with various Autonics devices.

- DAQMaster
- Vision Master
- atLightCurtain
- atDisplacement
- atLidar
- atMotion
- atLogic
- atDesigner





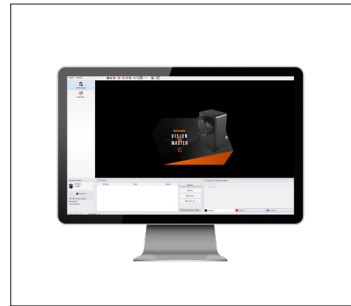
# Software



## DAQMaster

Comprehensive Device Management Software

- Multiple device support
- Scan for devices
- Simple graphic user interface
- Project management
- Data analysis using grids or graphs Log monitoring data



## Vision Master

Vision Sensor Software

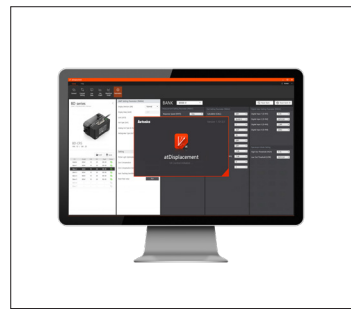
- Various inspection functions: alignment, brightness, contrast, area, edge, length, angle, diameter, object counting
- Set up to 32 separate workgroups (64 inspection points per workgroup)
- Manage parameters and workgroups: The saved workgroups using the Vision Master software can be saved to PCs, and the workgroups saved on PCs can be copied and saved on to the vision sensors
- Inspection simulator function: The inspection result images can be saved on to FTP servers depending on the settings



## atLightCurtain

Safety Light Curtain Software

- Intuitive graphic user interface
- Light curtain operation status monitoring
  - Monitor amount of light received
  - Monitor connection and switches
  - Monitor errors and warnings
- Supports safe distance calculation function



## atDisplacement

PC Software for Laser Displacement Sensors

- Dedicated software for use with BD-C series
  - : Graphic user interface, parameter settings and data monitoring of BD amplifier units
- Check profiles of connected devices through status window
- Monitor real-time data, graph, and wave patter graphs



## atLidar

Laser Scanner Management Software

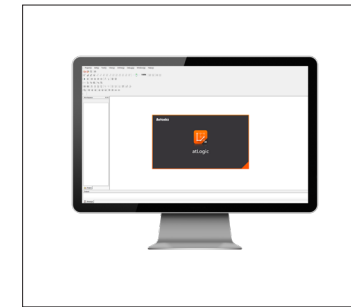
- Convenient user interface
- Parameter management
- Data log monitoring
- Data analysis
- Multi-language support



## atMotion

Comprehensive Motion Control Management Software

- Supports Multiple Devices
  - Monitor operation status of multiple devices and set parameters for each device
  - When multiple units with different addresses are connected, the address scan function provides
- Simple Graphic User Interface
  - Freely edit screen data to set parameters, monitor devices, and program control
  - Monitor operation status and history using DAQ Space (Line Graph, Grid)



## atLogic (for LP Series)

Logic Programming Software

- Supports multiple projects: Open up to 5 projects to create or edit programs simultaneously
- Convenient program editing
- Various monitoring functions: Variable monitoring, device monitoring, system device monitoring, etc.
- Convenient user interface
- Real-time switching between ladder and mnemonic program



## atDesigner

Screen Editor for LP/GP-A Series

- Convenient user interface
- Supports Windows TrueType fonts and various bitmap fonts
- LP/GP hardware firmware upgrades
- Project conversion feature
  - Easily convert LP/GP-S series projects to LP/GP-A series projects
- Diverse image library provided

# Autonics

## Products

### Sensors, Controllers, Motion Devices, Safety, Measuring Equipment, Connection Equipment and more

- Safety Light Curtains • Safety Switches • Safety Controllers • Vision Sensors • LiDAR • Displacement Sensors
- Photoelectric Sensors • Photomicro Sensors • Fiber Optic Sensors • Door Sensors • Area Sensors • Proximity Sensors • Pressure Sensors
- Rotary Encoders • Temperature Controllers • Solid State Relays • Power Controllers • Counters • Timers
- Digital Panel Meters • Digital Display Units • Sensor Controllers • SMPS • Industrial PC • HMIs • Recorders • Indicators • Network Converters
- Closed Loop Stepper Motor System (Ai-SERVO) • 5-Phase Stepper Motor & Drivers • 2-Phase Stepper Motor Drivers
- Motion Controllers • Industrial Networking • I/O Terminal Blocks • Distribution Boxes • Cables
- Control Switches/Pilot Lights/Buzzers • Pressure Transmitters • Temperature Transmitters • Software

## Global Network

**Global Business Headquarters** 39, Magokjungang 5-ro 1-gil, Gangseo-gu, Seoul, Republic of Korea, 07594  
Tel: 82-2-2048-1577 / E-mail: sales@autonics.com

**Brazil** **Autonics do Brasil Comercial Importadora e Exportadora LTDA**  
Tel: 55-11-2307-8480 / 3195-4610 / Fax: 55-11-2309-7784 / E-mail: comercial@autonics.com.br

**China** **Autonics electronic(Jiaxing) Corporation**  
Tel: 86-21-5422-5969 / Fax: 86-21-5422-5961 / E-mail: china@autonics.com

**India** **Autonics Automation India Private Limited**  
Tel : 91-22-2768-2570 / E-mail: india@autonics.net.in

**Indonesia** **PT. Autonics Indonesia**  
Tel: 62-21-8088-8814/5 / Fax: 62-21-8088-4442/0 / E-mail: indonesia@autonics.co.id

**Japan** **Autonics Japan Corporation**  
Tel: 81-3-6435-8380 / Fax: 81-3-6435-8381 / E-mail: ja@autonics.com

**Malaysia** **Mal-Autonics Sensor Sdn. Bhd.**  
Tel: 60-3-7805-7190 / Fax: 60-3-7805-7193 / E-mail: malaysia@autonics.com

**Mexico** **Autonics Mexico S.A. DE C.V**  
Tel: 52-55-5207-0019 / Fax: 52-55-1663-0712 / E-mail: ventas@autonics.com.mx

**Russia** **Autonics Rus LLC**  
Tel/Fax: 7-495-660-10-88 / E-mail : russia@autonics.com

**Turkey** **Autonics Otomasyon Ticaret Ltd. Sti.**  
Tel: 90-216-365-9117/3 / Fax: 90-216-365-9112 / E-mail: turkey@autonics.com

**USA** **Autonics USA, Inc.**  
Tel: 1-847-680-8160 / Fax: 1-847-680-8155 / E-mail: sales@autonicsusa.net

**Vietnam** **Cong Ty TNHH Autonics Vina**  
Tel: 84-28-3771-2662 / Fax: 84-28-3771-2663 / E-mail: vietnam@autonics.com

\* The dimensions or specifications on this product guide may change and some models may be discontinued without notice.