Make Life Easy :

System Setting

Monitoring
Monitoring

Device Information
GP-A070-T9D6 (800 x 480)

Device
Monitorin

Autonics

CX6M   Autonics

999999
OUT1
SET1 999999
COUNTER

RESET   MODE   《   ⌃

PRODUCT
GUIDE

Autonics

Vision Sensors

Vision Sensors (Color/Monochrome)

Precise and Accurate Inspection with Global Shutter Method and Integrated Lighting

The VG series(color/monochrome type) vision sensors utilize images captured by the integrated industrial camera lenses to determine the target object's presence, size, shape, orientation, patterns and more. The integrated design featuring LED lighting, camera and lens allows users to set up and manage the units more easily compared to vision systems.

Color Identification | Integrated Lighting | Global Shutter Method | Set Workgroups

Save Data | Various Inspection Functions | VISION MASTER — Dedicated Software | IP67 Protection Rating

CE KC

· 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)

APPLICATION

Used Together With:

APC-1011 Series

: 10.1-Inch Industrial Panel PC

NEW

CE KC

LiDAR

Laser Scanners

Wide and Accurate Laser Scanning with Time-of Flight (ToF) Detection

NEW

The LSE series utilizes time-of-flight (ToF) method using infrared lasers to accurately detect object presence within a 5.6 m x 5.6 m detection area (90°). The scanners offer 4 separate laser beam channels which can be activated individually or simultaneously depending on detection requirements. The units can also set concentrated monitoring areas and non-detection areas for flexible application in diverse environments. The LSE series can be configured and monitored on PCs using the dedicated software, atLidar. Users can also configure and manage the units using the provided infrared remote control.

5.6×5.6m Area Detection Method | 4 Beam Channels | Set Non-Detection Area | Remote Control | atLidar Dedicated Software | IP67 Protection Rating

CE KC

· 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

APPLICATION

SENSORS ▪

Photoelectric Sensors

BRQ Series
Cylindrical Photoelectric Sensors

NEW

CE c RU us

· 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
· Sensitivity adjuster
· Switch between Light ON and Dark ON modes using control wire
· Protection structure:
  - BRQT: IP67 (IEC standard), IP69K (DIN standard)
  - BRQM, BRQP: IP67 (IEC standard)
  - BRQPS: IP67 (IEC standard)

BJX Series
Compact Long Distance Photoelectric Sensors

NEW

CE c RU us

· 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
· Sensitivity adjuster
· Mutual interference prevention function (except through-beam type)
· IP65 protection structure (IEC standard)

BC Series
Color Mark Sensors

CE

· 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)

BH Series
Front/Side Mount Photoelectric Sensors

CE c UL us LISTED

· Front mounting (M18 nut) or side mounting (M3 screws)
· Simultaneous NPN/PNP open collector output
· 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)
· Sensitivity adjuster
· Light ON / Dark ON operation mode switch
· Operation indicator (red LED) and stability indicator (green LED)
· Mutual interference prevention function (except through-beam type)
· IP67 protection structure (IEC standard)

## Photoelectric Sensors

BTF Series
Ultra-Compact, Thin Photoelectric Sensors

CE

· Ultra-thin size of only 3.7 mm
  - W 13 × H 19 × L 3.7 mm (through-beam type)
  - W 13 × H 24 × L 3.7 mm (diffuse reflective type, BGS reflective type)
· 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)

BTS Series
Ultra-Compact, Slim Photoelectric Sensors

CE

· Ultra-slim width of only 7.2 mm
  - W 7.2 × H 18.6 × L 9.5 mm (through-beam type)
  - W 7.2 × H 24.6 × L 10.8 mm (retroreflective type, convergent reflective type)
· 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)

BS5 Series
Photomicro Sensors

CE
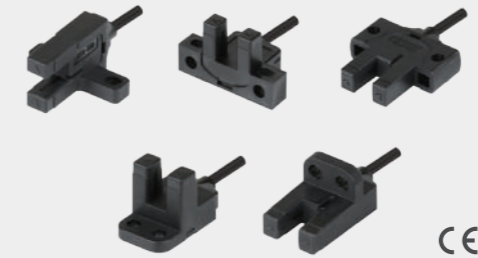
· Ultra-compact size with built-in amplifiers
· Various shapes available for installation flexibility (K, T, L, Y, V types)
· NPN open collector and PNP open collector output models available
· High-speed response frequency : 2 kHz
· Switch between Light ON and Dark ON modes

BL Series
Photoelectric Liquid Level Sensors

CE

· 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
· Operation mode and status indicators

Photoelectric Sensors

BEN Series
Universal AC/DC Type

BPS Series
Compact Flat Type

BA2M Series
Long Distance, Diffuse Reflective Type

BYD Series
Compact Standard Type

BS5-P Series
Push Button Type

BUP Series
U-Shaped Type

SENSORS ◼

Area Sensors

### BW Series
General Purpose Area Sensors

UPGRADE

CE

· Ambient illuminance : 100,000 lux (upgraded feature)
· 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)
· 20mm optical pitch minimizes non-detection area (BW20-□)
· Bright LED indicators on emitter and receiver
· Mutual interference prevention function, self-diagnosis function, stable operation test
· IP65 protection structure (IEC standard)

BWC Series
Cross-Beam Area Sensors

UPGRADE

CE
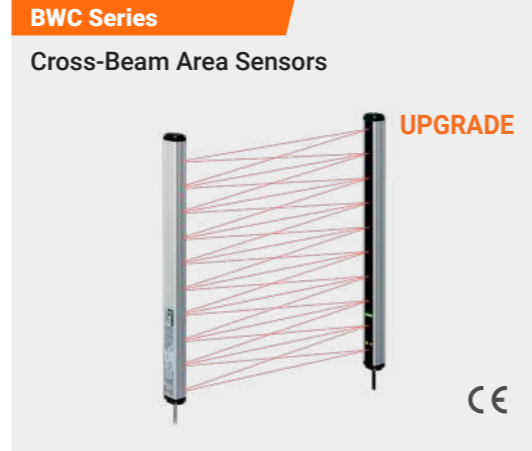
· 3-point cross-beam type detection minimizes non-detection area
· Long sensing distance up to 7 m
· 14 configurations (number of optics: 4 to 20 / optical pitch: 40, 80 mm / detection area: 120 to 1,040 mm)
· Easy installation with installation mode function
· Mutual interference prevention function, self-diagnosis (output) function
· Bright LED indicators on emitter and receiver
· IP67 protection structure (IEC standard)

BWP Series
Flat Body Area Sensors (Plastic Body)

CE

· 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
· Job indicator ON/FLASHING switch
· Bright LED indicators on emitter and receiver
· Operation test (emitter stop) function, mutual interference prevention function
· IP40 protection structure (IEC standard)

BWPK Series
Flat Body Picking Sensors

CE
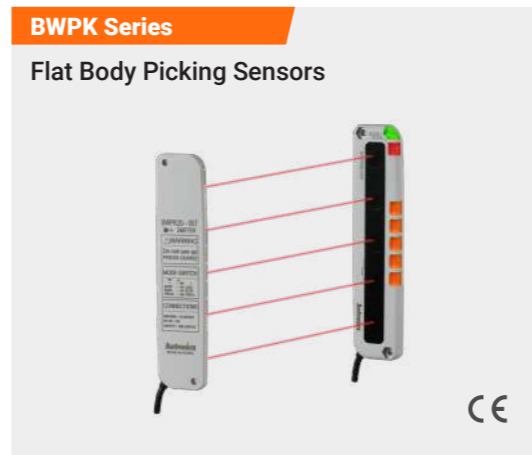
· Flat and compact size : W 30 × H 140 × D 10 mm
· High strength PC/ABS plastic body
· Sensing distance switch (long/short mode switch)
· Light ON/Dark ON operation mode switch
· Mutual interference prevention function (frequency switching)
· Picking indicators on emitter and receiver
· IP40 protection structure (IEC standard)

Fiber Optic Sensors

BF5 Series
High Speed Single/Dual Digital Display Fiber Optic Amplifiers

CE

· 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
· Slim and compact design (W 10 x H 30 x L 70 mm)

BFX Series
LCD Digital Display Fiber Optic Amplifiers

NEW

CE

· 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
· External input function: emitter OFF, remote sensitivity setting, peak value reset, output ON/OFF/MAINTAIN, energy saving mode OFF functions
· Slim and compact design (W 10 x H 30.6 x L 70.5 mm)

FD / FT / FL / GD / GT Series
Fiber Optic Sensor Cables
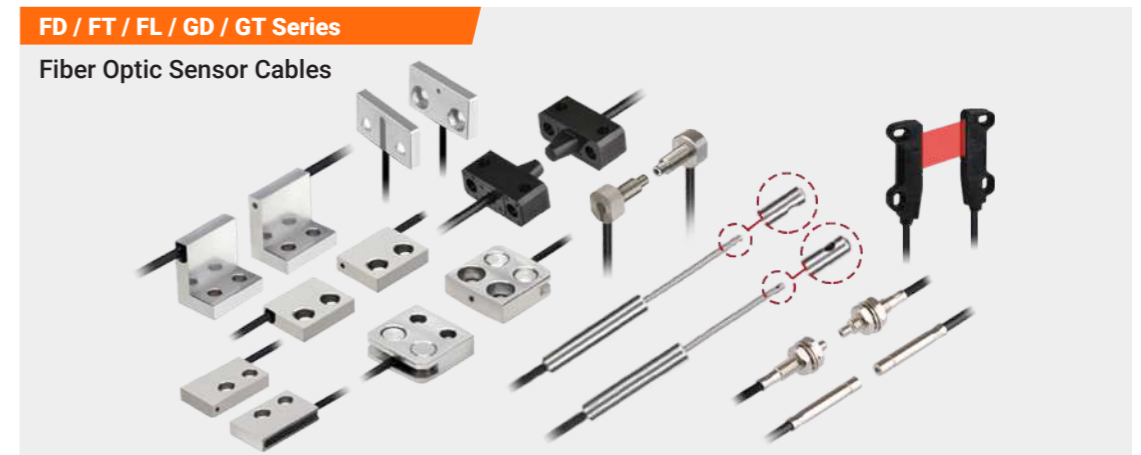
· Various cable head types (thread, cylindrical, flat, perpendicular, plastic, area detection)
· Various sensing directions (top, side, flat, L-type top, top + side)

· Various sensing modes (through-beam, diffuse reflective, convergent reflective)
· Various cable types (standard, flexible, coaxial, break-resistant, heat-resistant)
· Diverse line-up, easy installation, high performance

SENSORS :

Pressure Sensors

PSQ Series
Dual Display Digital Pressure Sensors

CE cᴿᴸus

· 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
· Switch between NPN and PNP open collector output via parameter configuration
· Analog output : voltage (1-5 VDC), current (DC 4-20 mA)
· Copy parameter settings function

PSAN Series
Compact Digital Pressure Sensors

CE

· 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
· Analog output : voltage (1-5 VDC), current (DC 4-20 mA)
· One-touch connector type for easy wiring and maintenance

PSM Series
Multi-Channel Pressure Sensor Indicators

CE

· 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)
· Set PV display color by control output type (red/green)
· Individual output indicators for each channel
· RS485 (Modbus RTU) communication support
· Refrigeration pressure control mode

PSS Series
Compact Non-Indicating Pressure Sensors

CE

· 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 × H 29.3 mm × L 24.8 mm (with pressure port)
· Analog output : voltage (1-5 VDC), current (DC 4-20 mA)
· Power supply : 12-24VDC ±10

Pressure Transmitters

TPS30 Series
Stainless Steel Pressure Transmitters

Cable Type | DIN43650-A Connector Type | DT04-3P Connector Type | M12 Connector Type | Head Type

CE

· Robust build allows high or low pressure measurement in high and low temperature environments
  - High pressure (0 to 60 MPa/0 to 600 bar), low pressure (0 to 2 MPa/0 to 20 bar)
  * Sealed gauge pressure (-0.1 to 2 MPa/-1 to 20 bar), absolute pressure (0 to 2 MPa/0 to 20 bar), gauge pressure (0 to 60 MPa/0 to 600 bar)
  - Temperature range (-40° to 125°C) (may vary by model)
· Applicable in diverse settings including packaging machines, heavy machinery, factories, and shipbuilding
· Pressure measurement of any gas, liquid, or oil

· 316L stainless steel body for high corrosion resistance (except head component of head types)
· Compact size allows easy installation in tight or limited spaces
· 1 ms high-speed response rate
· Analog output : current (DC 4-20 mA), voltage (1-5 VDC)
· Available thread sizes : G3/8, G1/4, R1/2
· IP67 protection structure (IEC standard), IP65 for DIN43650-A connector type

KT-302H Series
Intelligent Pressure Transmitters

CE

· HART protocol compatibility*
· Display can be rotated 330° depending on environment conditions
· High accuracy pressure measurement (±0.2%)
· Backlit display for high visibility
· Self-stabilization and filter
· Aluminum body and stainless steel diaphragm
· Explosion-proof structure : Ex d IIC T6 (IP67)
  * HART Field Communications Protocol may depend on several factors, including calibrators, software, or firmware updates.
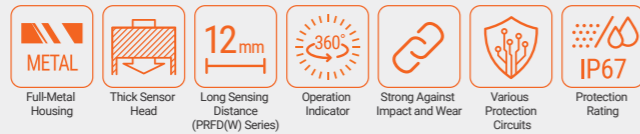
PTF30 Series
2-Wire Smart Pressure Transmitters

CE

· Optimized for small to medium sized projects such as HVAC, sewer systems, and incinerators.
· Minimized external interference with improved noise immunity
· Aluminum body and stainless steel diaphragm
· DC 4-20mA analog output (2-wire)
· Various functions
  - User input range setting, display scale, output scale, digital filter, multi-display selection, error display, TUF(two unit function), etc.
· Explosion-proof structure : Ex d IIC T6 (IP67)

SENSORS ▪

Proximity Sensors

PRF(D)(W) Series

Full-Metal Cylindrical Inductive Proximity Sensors

Full-Metal Sensors with Robust Performance

LINE UP

PRF(D) Series

PRF(D)W Series

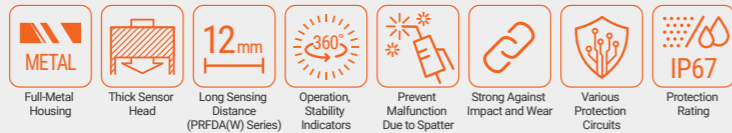| METAL Full-Metal Housing | Thick Sensor Head | 12mm Long Sensing Distance (PRFD(W) Series) | 360° Operation Indicator | Strong Against Impact and Wear | Various Protection Circuits | IP67 Protection Rating |

CE

· 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 / 30mm

· 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
· Available in cable type and cable connector types
· IP67 protection structure (IEC standard)

PRF(D)A(W) Series

Spatter-Resistant Full-Metal Cylindrical Inductive Proximity Sensors

PTFE Coated for High Resistance to Welding Spatter

LINE UP

PRF(D)A Series

PRF(D)AW Series

| METAL Full-Metal Housing | Thick Sensor Head | 12mm Long Sensing Distance (PRFDA(W) Series) | 360° Operation, Stability Indicators | Prevent Malfunction Due to Spatter | Strong Against Impact and Wear | Various Protection Circuits | IP67 Protection Rating |

CE

· PTFE coating prevents malfunctions caused by welding
  spatter
· 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)
· Diameter of head: 8 / 12 / 18 / 30mm

· 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
· Available in cable type and cable connector types
· IP67 protection structure (IEC standard)

Proximity Sensors

PR Series

Standard Cylindrical Inductive Proximity Sensors

CE

· Excellent noise resistance with specialized sensor IC
· Built-in surge protection circuit, reverse polarity
  protection circuit (DC 3-wire types), and overcurrent
  protection circuits (DC types)
· Operation indicator (red LED)
· Durable and reliable alternative to micro switches
  and limit switches
· IP67 protection structure (IEC standard)

PRD Series

Cylindrical Inductive Proximity Sensors With Long Sensing Distance

CE

· Long sensing distance and excellent noise resistance
  with specialized sensor IC
· Simple operation, reliable performance, and high
  durability
· Built-in surge protection circuit, reverse polarity
  protection circuit, and overcurrent protection circuits
· Operation indicator (red LED)
· IP67 protection structure (IEC standard)

PRA Series

Cylindrical Spatter-Resistant Inductive Proximity Sensors

CE

· Coated with teflon for high heat resistance
  (prevent malfunction from welding spatter)
· Excellent noise resistance with specialized sensor IC
· Built-in surge protection circuit
· Built-in overcurrent protection circuit
  (DC 2-wire, DC 3-wire types)
· Built-in reverse polarity protection circuit
  (DC 3-wire types)

PRDA Series

Cylindrical Spatter-Resistant Inductive Proximity Sensors with Long Sensing Distance

CE

· Coated with teflon for high heat resistance
  (prevent malfunction from welding spatter)
· Long sensing distance and excellent noise immunity
  with specialized sensor IC
· Built-in surge protection circuit, reverse polarity
  protection circuit, and overcurrent protection circuits
· Durable and reliable alternative to spatter-resistant
  limit switches

SENSORS ▪

Proximity Sensors

Rectangular Inductive Proximity Sensors

PS50

PSN25 / PSN17

C€

· 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)
· Operation indicator (red LED)
· IP67 protection structure (IEC standard)

PFI Series

Flat Type Inductive Proximity Sensors

C€

· 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)
· Durable and reliable alternative to micro switches and limit switches
· IP67 protection structure (IEC standard)

AS Series

Rectangular Inductive Proximity Sensors with Long Sensing Distance

C€

· 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)
· Power indicator (greed LED) and operation indicator (red LED)
· IP67 protection structure (IEC standard)

CR Series

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

E15S

E18S

E20S

E30S

E40S

E50S

E58SS

E68S

C€ c⒰us
(CE & UL · E18S Only)
(CE · All models except E15S, E68S)

· 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

E20HB

E40H

E58H

E60H

E80H

E88H

E100H

C€
(Except E60H)

· 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

SENSORS ∎

Rotary Encoders

EP50S Series

Shaft Type Ø50 mm Absolute Rotary Encoders

CE

· 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)

EPM50S Series

Shaft Type Ø50 mm Multi-Turn Absolute Rotary Encoders

CE

· 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 multi-turn count reset functions
· CW/CCW direction setting function
· Overflow alarm (OVF) function

Rotary Encoders

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%

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%

MGA50S / MGAM50 Series

Shaft-Type Ø50 mm Magnetic Absolute Rotary Encoders

MGA50S Series
Single-Turn

MGAM50S Series
Multi-Turn

CE

· High accuracy in harsh environments including shock, vibration, dust, and humidity (compared to optical sensors)
· Longer service life compared to optical encoders
· MGA50S output codes: BCD, binary, Gray
· MGAM50S output code: binary
· High resolution: up to 1,024 divisions
· IP50 protection structure (IEC standard)

E58S / E60H Series

Sine Wave Incremental Rotary Encoders

NEW

E58S Series
Shaft Type

E60H Series
Hollow Shaft Type

CE

· 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
· Power Supply: 5 VDC ±5%

ENC Series

Wheel Type Incremental Rotary Encoders

CE

· 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%

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)

CONTROLLERS ▪

TMH Series

Modular Multi-Channel High Performance Temperature Controllers

Versatile Modular Expansion with Various Option Modules

The TMH series modular temperature controllers can control multiple channels of input/output simultaneously. The control modules can be expanded up to 32 units and 128 channels without requiring additional wiring. Communication modules allow further expansion for total of 1,024 control channels.

Multiple Channels | Option Modules Available | **50ms** High Speed Sampling | **±0.3%** High Measurement Accuracy

Modular Expansion | Simultaneous Heating & Cooling Control | CURRENT / SSR Output Selection | **RS485 / Ethernet** RS485, Ethernet 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)
· 50 ms high-speed sampling rate and ±0.3% measurement accuracy
· Simultaneous heating and cooling control function and auto/manual control mode
· Switch between current output and SSR drive output Isolated input channels (dielectric strength: 1,000 VAC)

[Option Modules]
· TMHA : Analog Input/Output Option Modules
· TMHE : Digital Input/Alarm Output Option Modules
· TMHCT : CT Input Option Modules

[Communication Modules : TMHC]
· Allows connection of control modules (TMH2/4) and option modules (TMHA/E/CT) to master devices (PCs, PLCs, etc.). (Up to 16 communication modules)
· Connect up to 32 control/option modules per communication model
· PLC ladder-less communication (RS485/RS422), Ethernet communication

[Common Features]
· Easy maintenance with detachable body and base terminal
· Power supply and communication with expansion connectors (up to 32 units)
· Parameter configuration with PCs (USB or RS485 communication) : DAQMaster software provided (comprehensive device management software)

[Also Available]
TM Series
: Modular Multi-Channel PID Temperature Controllers

TX Series

LCD Display PID Temperature Controllers

LINE UP

· Large LCD display with easy-to-read white PV characters
· 50 ms high-speed sampling rate and ±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)
· Parameter configuration via PC (DAQ Master)
· 11-segment display for improved display of alphanumeric characters
· Various sizes: W 48 x H 48 mm (TX4S), W 72 x H 72 mm (TX4M), W 48 x H 96 mm (TX4H), W 96 x H 96 mm (TX4L)

TK Series

High Performance PID Temperature Controllers

· 50 ms high-speed sampling rate and ±0.3% display accuracy
· Simultaneous heating and cooling control function
· Automatic/manual control option
· 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)
· Parameter configuration via PC (DAQ Master)

KPN Series

High Performance Digital Process Controllers

· 50 ms high-speed sampling rate and ±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

TC Series Single Display | **TCN Series** Dual Display

· Dual display (TCN) and single display (TC) PID temperature controllers
· 100 ms high-speed sampling rate and ±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
· Connector plug types offer easier wiring and maintenance (TCN4S-□-P)

CONTROLLERS

Temperature Controllers

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
- Sensor disconnect display function
- Built-in microprocessor

TF3 Series
High Performance Refrigeration Temperature Controllers

TFD Series
Remote Display Unit
(sold separately)

- 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 : simultaneous defrost operation of multiple controllers (up to 6 units)
  - RTC (Real Time Clock) function : night mode operation and real-time defrost control
  - 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

(Except 12-24VDC models)

- 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

KT-502H Series
Intelligent Type Temperature Transmitters

- HART protocol compatibility*
- Display can be rotated 330° depending on environment conditions
- DC 4-20 mA analog output (2-wire)
- Various input options:
  - thermocouple (8 types), RTD: (8 types), mV (4 types), Ω (2 types)
- Backlit display for high visibility
- Explosion-proof structure : Ex d IIC T6 (IP67)
  * HART Field Communications Protocol may depend on several factors, including calibrators, software, or firmware updates.

Counters / Timers

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

[Counter Functions]
- Various input/output modes (9 input modes, 11 output modes)
- High-speed counting up to 10 kcps

[Timer Functions]
- Various output modes (11 output modes)
- Wide time setting range

CX Series
LCD Display Counter/Timers

NEW

- 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)

[Counter Functions]
- Various input/output modes (11 input modes, 11 output modes)

[Timer Functions]
- Various output modes (15 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

LA8N Series
Digital Counters

LE8N Series
Digital 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)
- IP66 protection structure (IEC standard)

CONTROLLERS

Timers

LE365S-41 Series
Compact Week/Year Digital Timers

- Time configuration and control in week or year units
- Simple configuration and status monitoring
- Timer programming:
  - Weekly : 48 steps
  - Yearly : 24 steps
- Various functions including daylight savings time
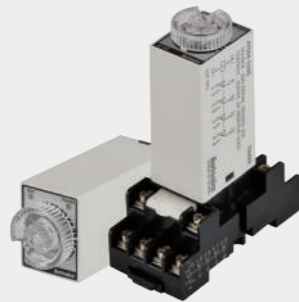- Independent control output (relay)

LE4S Series
Digital LCD Backlight 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

Power Controllers

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

Accurate and Stable Power Control with Feedback Control Option

| Slim Size | Bright LED Display | Feedback Control | ±3% Output Accuracy | RS485 Communication (Modbus RTU) | DAQ Master Dedicated Software |

SPR1 Series   SPR3 Series

- 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

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)

ATS Series
Compact, Multi-Functional Analog Timers

ATS8W / ATS11W Series
Twin 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

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)

CONTROLLERS ■

Solid State Relays

SR(H)2/3 Series
Three-Phase Solid State Relays (2-Pole/3-Pole)

SR2/3 Series   SRH2/3 Series

- 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

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)

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)

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

SRH1 Series
Single-Phase Solid State Relays (Integrated Heatsink 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)

SRS1 Series
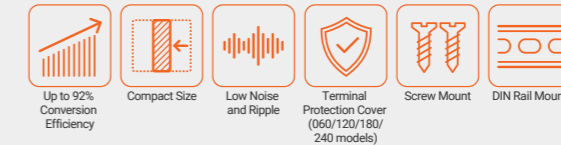**Single-Phase Solid State Relays (Socket Type)**

- 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

Switching Mode Power Supplies

SPB Series
DIN Rail Switching Mode Power Supplies

Stable Power and High Conversion Efficiency

Up to 92% Conversion Efficiency | Compact Size | Low Noise and Ripple | Terminal Protection Cover (060/120/180/240 models) | Screw Mount | DIN Rail Mount
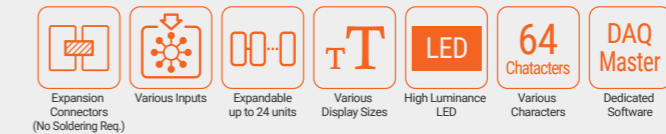
- DIN rail mount and screw mount methods
- Efficient power conversion
  - High conversion efficiency up to 92% with LLC circuit (SPB-240)
  - Stable power supply with minimal noise and ripple
- Space efficient design
  - Slim and compact size for maximum space efficiency
  - Uniform depth size (except 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

Display Units

DS / DA Series
Intelligent Type Digital Display Units

Excellent Visibility and Easy Connection

Expansion Connectors (No Soldering Req.) | Various Inputs | Expandable up to 24 units | Various Display Sizes | High Luminance LED | 64 Characters Various Characters | DAQ Master Dedicated Software

- Simple wiring without soldering
  - Multi-stage connection using expansion connectors or ribbon cables
  - Power supply and data wiring required on base unit only
- Various input options:
  Serial input, Parallel input, RS485 communication input, RS485 communication time sync display, PT temperature sensor input, PT temperature sensor + RS485 communication input
- Expandable up to 24 units with multi-stage connection
- Available in various sizes
  : 16 mm, 22.5 mm, 40 mm, 60 mm
- Available in 7-segment display and 16-segment display types
- Available in red display and green display types
- High luminance LED display
- Various unit display plates with flashing option
- Display 64 unique characters (alphanumeric & symbols)

CONTROLLERS ▪

HMIs

LP-A104 / LP-A070 Series

10.4-inch / 7-Inch Color LCD Logic Panels

All-In-One Device with PLC, HMI, I/O Module Functions

NEW

10.4" SCREEN — 10.4-Inch Touchscreen (LP-A104 Series)
7.0" SCREEN — 7-Inch Touchscreen (LP-A070 Series)
HMI+PLC +I/O ALL IN ONE — Space and Cost Saving
Vertical/Horizontal Setup
at Designer — Screen Editor Software
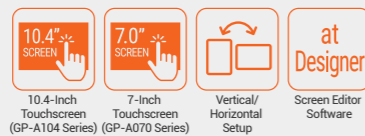at Logic — Logic Programming Software

CE KC

· 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 input and 32 output points provided (LP-A104)
· 16 input and 16 output 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

GP-A104 / GP-A070 Series

10.4-inch / 7-Inch Color LCD Graphic Panels

Flexible Installation with Horizontal or Vertical Screen Orientation

NEW

10.4" SCREEN — 10.4-Inch Touchscreen (GP-A104 Series)
7.0" SCREEN — 7-Inch Touchscreen (GP-A070 Series)
Vertical/Horizontal Setup
at Designer — Screen Editor Software

CE KC

· 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

Panel Meters

MX4W Series

LCD Display Multi Panel Meters

NEW

CE c RU us

· 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
· High/low-limit display scale function
· AC frequency measurement (range: 0.100 to 1200 Hz)
· Preset output: OUT1, OUT2 (NPN/PNP open collector output)
· Power factor display/output function

MT4 Series

Digital Panel Meters

CE c RU us
(UL-Except MT4N)

· Various input/output options (default: indicator/no output)
  - 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
· 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)
· Display range : -1999 to 9999
· AC frequency measurement (range: 0.1 to 9999 Hz)

MP5 Series

Digital Pulse Meters

CE c RU us

· 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.

LR5N-B Series

Compact Digital Pulse Meters (Indicator)

· 1-pulse input per revolution
· Display up to 10,000RPM
· Built-in internal battery (power supply not required)
· Display RPM or RPS of rotating shaft or disc
· AC voltage frequency display function
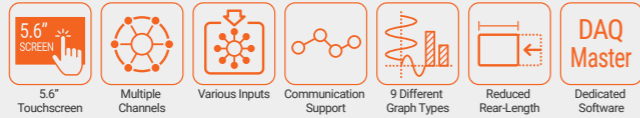· IP66 protection structure (front panel)

CONTROLLERS ▪

Recorders

KRN1000 Series

LCD Touchscreen Paperless Recorders

Cost Effective Data Recording & Analysis

5.6" Touchscreen | Multiple Channels | Various Inputs | Communication Support | 9 Different Graph Types | Reduced Rear-Length | DAQ Master Dedicated Software

CE

· 5.6-inch TFT color LCD (640×480) 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

· 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
· Supports up to 12 input channels and 27 input types

KRN50 Series

50 mm Hybrid Recorders

CE

· 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

Compact Digital/Bar Graph Indicators

CE

· High accuracy with 16-bit ADC (±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

High Accuracy Multi-Color Indicators

CE

· High accuracy with 16-bit ADC (±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)

Converters

CN-6000 Series

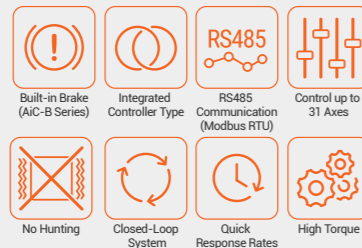**Isolated Converters with Programmable 3-Color LCD Display**

CE

· Multiple input types:
  - CN-610: thermocouple (12 types), RTD (5 types), analog (6 types: mV, V, mA)
  - CN-640: 0 to 50.00 kHz
· Negative LCD display for high visibility
  - 12-segment, programmable 3-color display (red, green, yellow)
· Display input type and unit on display panel

· Various output options
  : Alarm output (1,2, or 4), 0-20 mA transmission output (isolated, output range setting), 0-10 VDC voltage output (isolated, output range setting)
· Various functions: high/low peak monitoring, sensor disconnection alarm output (burn-out), input correction, set user input range, display scale, transmission output scale, set analog output range, etc.
· Built-in power supply for sensors (24 VDC)

Motion Devices

AiC / AiC-B Series

2-Phase Closed Loop Stepper Motor System with Integrated Controllers

Easy Programming, Connection, and Installation with Integrated Motion Controllers

The AiC series 2-phase closed loop stepper motor system features motor drivers with integrated controllers. Direct control is possible via network connection with master control devices, offering easy programming, connection, and installation. The system offers accurate and precise position control through feedback from the integrated encoders.

LINE UP

Built-in Brake (AiC-B Series) | Integrated Controller Type | RS485 Communication (Modbus RTU) | Control up to 31 Axes

No Hunting | Closed-Loop System | Quick Response Rates | High Torque

AiC-B Series (Brake Type)

AiC Series

CE

· Motor driver + integrated controller type
· Low cost closed loop system compared to servo motors with quick response rates for better continuous drive operation
· Control up to 31 axes with RS485 communication
· 14 control commands and up to 256 steps of operation programming
· 4 operation modes: jog mode, continuous mode, index mode, program mode
· 50-pin I/O offers flexible wiring options
· C language library provided (32-bit, 64-bit)
· Windows-based motion control software (atMotion) provided
· Low vibration during low speed drive and high torque during high speed drive
· No tuning required (easy gain setting using adjuster)
· Holding torque and no vibration (hunting) during position hold make it ideal for precision machines including optical inspection
· Brakes are applied during sudden power outages, allowing safe control of vertical loads (AiC-B)

· Various alarm outputs: overcurrent, overspeed, overheating, motor connection error, encoder connection error, etc. (17 alarms)
· Frame sizes: 42 mm, 56 mm, 60 mm

* Applications: semiconductor equipment, 3D printers, optical inspection machines, SMT machines, cartesian robots, conveying equipment, alignment stages, and other precision machines.
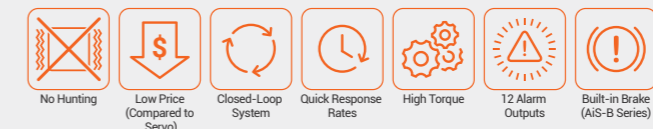
APPLICATION

Motion Devices

AiS / AiS-B Series

2-Phase Closed Loop Stepper Motor System

Combining the Best of Servo and Stepper Motors

No Hunting | Low Price (Compared to Servo) | Closed-Loop System | Quick Response Rates | High Torque | 12 Alarm Outputs | Built-in Brake (AiS-B Series)
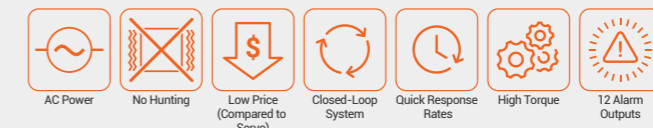
AiS Series | AiS-B Series (Brake Type)

CE

· Low cost closed loop system compared to servo motors with quick response rates for better continuous drive operation
· Low vibration during low speed drive and high torque during high speed drive
· No tuning required (easy gain setting using adjuster)
· Holding torque and no vibration (hunting) during position hold make it ideal for precision machines including optical inspection

· Various encoder resolutions
· Various alarm outputs: overcurrent, overspeed, overheating, motor connection error, encoder connection error, etc. (12 alarms)
· Brakes are applied during sudden power outages, allowing safe control of vertical loads (AiS-B)
· Frame sizes:
  - AiS : 20 mm, 28 mm, 35 mm, 42 mm, 56 mm, 60 mm
  - AiS-B : 42 mm, 56 mm, 60 mm

AiSA Series

AC Type 2-Phase Closed Loop Stepper Motor System

Maintain High Torque During High Speed Drive

AC Power | No Hunting | Low Price (Compared to Servo) | Closed-Loop System | Quick Response Rates | High Torque | 12 Alarm Outputs

CE

· Low cost closed loop system compared to servo motors
· 7-segment display for alarm/status reading
· Quick response rates for better continuous drive operation
· Low vibration during low speed drive and high torque during high speed drive
· Low current operation during mid-high speed drive
· Max. holding torque with current down mode (for vertical loads)

· Easy gain setting using adjuster
· Various encoder resolutions: 500, 1000, 1600, 2000, 3200, 3600, 5000, 6400, 7200, 10000 (10-stages)
· Various alarm outputs: overcurrent, overspeed, overheating, motor connection error, encoder connection error, etc. (12 alarms)
· Frame sizes: 60 mm, 86 mm

MOTION DEVICES ▪

Motion Devices

AK(B) / AHK / AK-G(B) / AK-R(B) Series

5-Phase Stepper Motors

AK Series
Shaft Type

AK-B Series
Built-In Brake Type

AHK Series
Hollow Shaft Type

AK-G Series
Geared Type

AK-GB Series
Geared + Built-In Brake Type

AK-R Series
Rotary Actuator Type

AK-RB Series
Rotary Actuator + Built-In Brake Type

CE

· Compact design and lightweight with high accuracy, speed, and torque
· Space-saving design ideal for building compact-sized systems

· Various types: shaft, hollow shaft, brake, geared, geared-brake, rotary actuator, rotary actuator-brake type
· Various frame sizes: 24, 42, 60, 85 mm
· Economical and cost-efficient

MD5 Series

5-Phase Stepper Motor Drivers

CE c(UL)us
(UL · MD5-HF14/HF28 Only)

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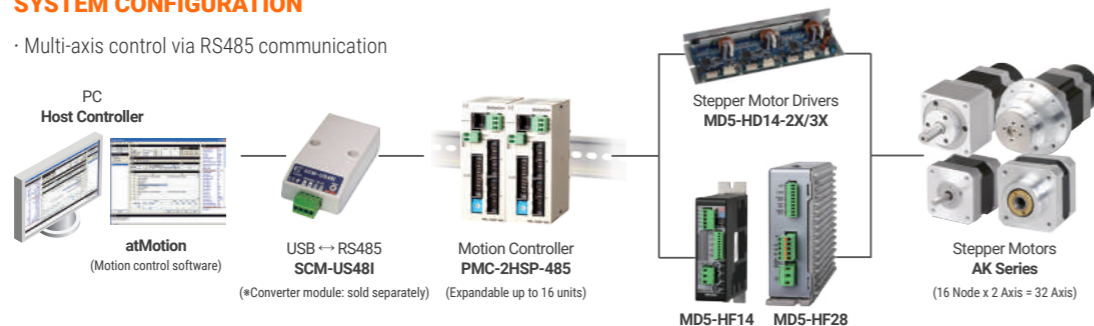
PMC-2HSP/N Series

2-Axis Programmable Motion Controllers

CE

· 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

SYSTEM CONFIGURATION

· Multi-axis control via RS485 communication

PC
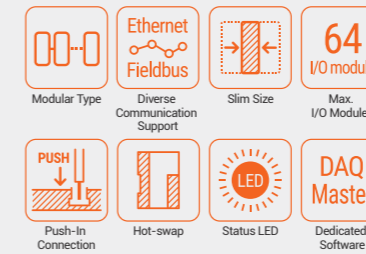Host Controller

atMotion
(Motion control software)

USB ↔ RS485
SCM-US48I
(✳Converter module: sold separately)

Motion Controller
PMC-2HSP-485
(Expandable up to 16 units)

Stepper Motor Drivers
MD5-HD14-2X/3X

MD5-HF14   MD5-HF28

Stepper Motors
AK Series
(16 Node x 2 Axis = 32 Axis)

CONNECTIVITY ▪

Field Network Devices

ARIO Series

Slim Modular Remote I/O

Remote I/O with Diverse Communication Protocols and Modular Expansion

The ARIO series slim remote I/O offers Ethernet/Fieldbus communication I/O with modular expansion up to 64 units in various I/O types. The coupler modules are available in various communication protocols. The push-in connection method offers simple and easy wiring for improved user convenience. The hot-swap feature allows the terminal unit and body (control) unit of the module to be disconnected from the base (communication) unit without stopping power or communication for easy maintenance.

NEW

Modular Type	Ethernet Fieldbus — Diverse Communication Support	Slim Size	64 I/O module — Max. I/O Modules
PUSH — Push-In Connection	Hot-swap	LED — Status LED	DAQ Master — Dedicated Software

CE c(UL)us LISTED KC

· 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, Mobus 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
· Comprehensive device management software DAQMaster for improved convenience
  - Module settings, real-time control / monitoring / diagnosis of input / output signals
· Virtual mode allows simulation of product set up and offers set up recommendations

[Also Available]
ARM / ARD Series
: Modbus RTU / DeviceNet Remote I/O

CE DeviceNet
(DeviceNet - ARD only)

[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)

CONNECTIVITY

I/O Terminal Blocks

AFL / AFR / AFS Series
Interface Type

AFL Series
Screwless Push-In Type

AFR Series
Rising Clamp Type

AFS Series
Standard Type

CE c UL US LISTED

ACL / ACR / ACS Series
Common Type

ACL Series
Screwless Push-In Type

ACR Series
Rising Clamp Type

ACS Series
Standard Type

CE c UL US LISTED

ABL / ABS Series
Relay Type

ABL Series
Screwless Type

ABS Series
Standard Type

CE c UL US LISTED

ASL Series
Solid State Relay Type

CE c UL US LISTED

AFE Series
Sensor Connector Type

CE c UL US

SYSTEM CONFIGURATION

Twisted Pair Cable

Modbus Digital Remote I/O Sensor Connector Type
ARM-D□□□-4S (Base Unit)
ARX-D□□□-4S (Expansion Unit)

Proximity Sensor
PR Series

Photoelectric Sensor
BJ Series

Fiber Optic Sensor
BF5 Series

**I/O Cable for Connecting
I/O Terminal Blocks and PLCs**

Relay Terminal Block
ABS-S04

Relay Terminal Block
ABS-S01

Relay Terminal Block
ABS-H16

Relay Terminal Block
ABS-H32

Sensor Connector Terminal Block
AFE-H20

Interface Terminal Block
AFS-H40

Distribution Boxes

PT Series
M12 Connector Sensor Distribution Boxes

Diverse Options for Easy Sensor Connectivity

* PT-P (plug-in terminal type), PT-S (spring terminal type) series available in black and blue models.

CE

· 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
· Simplify complicated wiring and maintenance work
· Check operation status with LED indicators (green, red LED)
· Supports 1-signal, 2-signal (DC 4-wire type)

Cables

CH / CO Series
I/O Cables

Customizable Cable Options

LINE UP

Software

DAQMaster (Standard / Pro)
Comprehensive Device Management Program

DAQMaster

[DAQMaster Standard / Pro Version Common Features]
· Multiple device support
· Scan for devices
· Simple user interface
· Project management
· Data analysis using grids or graphs
· Log monitoring data
· Edit tag formulas
· Print Modbus Map Table report

[DAQMaster Pro Version Features]
· Modbus device editor
· Trigger event, scheduler
· Push server
· Database management
· TCP/IP server
· OPC server/client
· DDE server/client
· Fieldbus master
· Modbus slave

CONTROL SWITCHES

CE c UL us
(UL - except emergency switches, buzzers)

Round/Square Push Button Switches

(*) Illuminated Type Available

S16PR-E□(*)	S16PRS-H□(*)	S16PRT-H□(*)	S2PR-P1□	S2PR(U)-P3□(*)
S2PR(U)-E□(*)	S2PRS(U)-P□(*)	S3PR-P1□	S3PF(U)-P□(*)	SQ3PFS(U)-P□(*)

Selector Switches

(*) Illuminated Type Available

S16SR-S□(*)	S16SRS-L□(*)	S16SRT-S□(*)	S2SR-S 1/3/5/7/A/C□	S2SRN-□ 1/3/5/7/A/C□(*)
S2SR-S 2/4/6/8/B/D□	S2SRN-□ 2/4/6/8/B/D□(*)	S3SF-S 1/3/5/7/A/C□	S3SFN-□ 1/3/5/7/A/C□(*)	S3SF-S 2/4/6/8/B/D□	S3SFN-□ 2/4/6/8/B/D□(*)

Pilot Lights

(*) Illuminated Type Available

L16RR-E□(*)	L16RRS-H□(*)	L16RRT-H□(*)	L2RR-L1(*)	L2RR-L2(*)
L2RR(U)-L3(*)	L2RR(U)-L4(*)	L3RF(U)-L3(*)	LQ3RF(U)-L4(*)	

Key Selector Switches

S16KR-□	S16KRS-□	S16KRT-□	S2KR-□	S3KF-□

Emergency Switches

(*) Illuminated Type Available

S16ER-E□(*)	S2ER-E1□	S2ER-E2□	S2ER-E3□	S2ER-E4□(*)	S2ER-E5□

Double Push Button Switches

(*) Illuminated Type Available

S2TR-P3(*)

Mushroom-Head Push Button Switches

(*) Illuminated Type Available

S16BR-H□(*)	S2BR-P1□

Buzzers

B6MA Series Melody Buzzer	B2PB-B1D Series Piezo Buzzer	B2NB-B1D Series Magnetic Buzzer

Accessories

Switch Contact/LED Blocks		Emergency Switch Protective Shrouds	Emergency Switch Nameplates	Switch washer
*Ø16 mm	*Ø22/25, Ø30, □30 mm			

Waterproof Cap	Switch Enclosures	Locking Handle for Switches	Lens removal tool
		*Ø16 mm / *Ø22/25, Ø30, □30 mm	*Ø16 mm