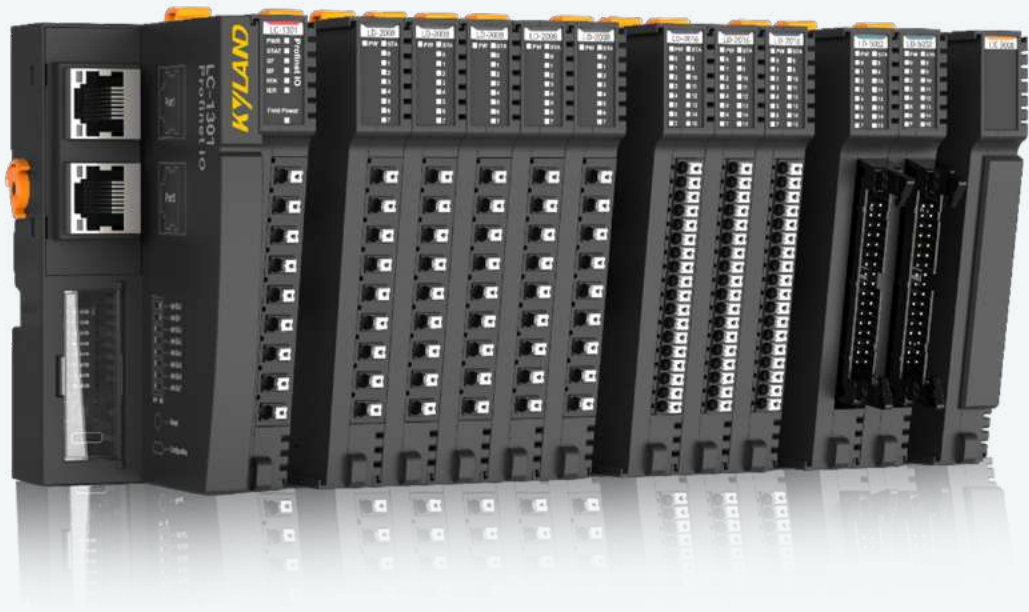


KYLAND

PRODUCT CHECK LIST
KYIO-L Series IO Product



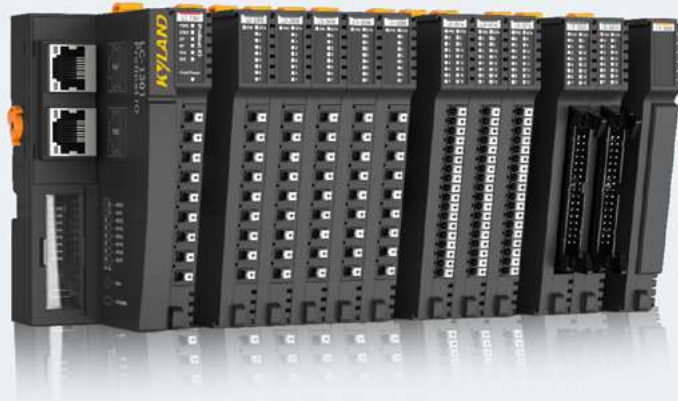
KYIO-L SERIES IO PRODUCT

KYIO-L SERIES IO PRODUCT

KYIO-L Series

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KYIO-L Series IO Product



Highly Reliable Industrial Design

- Exclusive heat dissipation design profile. Utilizing High-Quality thermal conductive materials. Ensuring industrial wide temperature range design of -40~85°C .
- Compliance with EMC Standards, IP20 Protection Level. Meets stringent requirements of industrial application.

Support Multiple Communication Protocols

- The network coupler module supports a variety of protocols, including ProfiNet, Modbus RTU, Modbus TCP, EtherCAT, Ethernet/IP, CANopen and more.
- By using the communication module, it is possible to achieve CANopen and serial port master communication extension.

Variety of Modules, flexible compatibility

- The coupler module can support up to 32 IO modules.
- The coupler module supports a wide range of input/output modules (DI, DO, AI, AO, RTD, TC, PI, PO, Mixed I/O Modules etc.)
- The coupler module can be expanded by using extension modules.

Elegant and Polished Exterior Design

- The coupler module dimensions are 115x51.5x75mm.
- The IO module dimensions are 115x14x75mm.
- Compact Size and modules are easy to disassemble.
- Distributed ultra-thin design. Saving installation space.

Easy Connect Wiring Design

- The terminals are designed with light-guiding holes.
- Terminal with spring, easy for connect.

Channel diagnostics

- The module is equipped with a set of indicator lights that accurately display the module and channel's operational.

Protection Design

- Reverse polarity protection
- Three-Terminal Isolation, Two-Point Grounding

High-Speed Backplane Bus

- Utilize of High-Speed Backplane Bus
- Support for 1ms refresh cycle
- A single coupler module can accommodate up to 32 IO modules.

» Coupler Module Standard Specifications

| Specifications | LC-2101 | LC-3101 | LC-1101 | LC-1301 | LC-1201 | LC-1401 |
|------------------------------------|---|---------------|------------|--------------------|----------|-------------|
| Communication Protocols | Modbus-RTU/ASCII | CANopen DS401 | Modbus-TCP | Profinet IO Device | EtherCAT | Ethernet/IP |
| System Power Supply | Power Supply: 9-36VDC (Nominal 24VDC) Protection: Over-current Protection, Reverse polarity protection | | | | | |
| Module Power Consumption | 30mA@24VDC | 50mA@24VDC | | 110mA@24VDC | | |
| Internal Bus Supply Current | Max: 2.5A@5VDC | | | Max: 2A@5VDC | | |
| Isolation | Power Supply from System to Field: Isolation | | | | | |
| Field Power Supply | Power Supply: 22-28V (Nominal 24VDC) | | | | | |
| Field Power Supply Current | Maximum DC Current: 8A | | | | | |
| Supported Module Number | 32 modules | | | | | |
| Wire Diameter | Max.1.0mm ² (AWG 17) | | | | | |
| Installation Method | 35mm DIN Rail Mounting | | | | | |
| Dimensions | 115x51.5x75mm | | | | | |
| Weight | 130g | | | | | |
| Operating Temperature | -40~85°C | | | | | |
| Environmental Humidity | 5% - 95% non-Condensing | | | | | |
| Protection Rating | IP20 | | | | | |

» Coupler Module Communication Specifications

| Model | Type | Specifications |
|----------------|--|---|
| LC-2101 | Network Protocols | Modbus-RTU/ASCII |
| | Process Data Area | Maximum Sum of Input and Output is 8192 bytes |
| | Function Code | 01 / 02 / 03 / 04 / 05 / 06 / 15 / 16 |
| | Baud Rate | 2400~115200 bps |
| | Station Number | 1~63(DIP Switch Configuration),64~247(Software Configuration) |
| | Interface | 5-Pin Screw Terminal |
| | Data Bit | 7,8 |
| | Parity Bit | No Parity, Odd Parity, Even Parity |
| | Stopping Bit | 1,2 |
| | Maximum Bus Length | 1200m (RS485, 2400 Baud Rate) |
| | Terminal Resistor and Biasing Resistor | DIP Switch Configuration |

| Model | Type | Specifications |
|----------------------|--|---|
| LC-2101 | Network Protocols | Modbus-TCP |
| | Process Data Area | Maximum Sum of Input and Output is 8192 bytes |
| | Diagnostic Functionality | Support |
| | Client Connections Number | 5 |
| | TCP Keepalive | Support |
| | Modbus Application Watchdog | Support(by default on, 30 second) |
| | Function Code | 01/02/03/04/05/06/15/16/23 |
| | Network Interface | 2 RJ45 Interfaces |
| | Connection Speed | 10/100Mbps, Auto-Negotiation, Full Duplex |
| | Maximum Bus Length | 100m |
| | IP Address Configuration | DIP Switch or IO Config Configuration Software |
| LC-1301 | Network Protocols | Profinet IO Device |
| | Process Data Area | Maximum Input: 1440 bytes, Maximum Output: 1440 bytes |
| | RT | Supported, Minimum Period: 1ms |
| | IRT | Not supported |
| | MRP | Not supported |
| | MRPD | Not supported |
| | IO Diagnostic Error | Supported (Diagnostic OB82) |
| | Network Interface | 2 RJ45 Interfaces |
| | Connection Speed | 10/100Mbps, Auto negotiation, Full Duplex |
| | Maximum Bus Length | 100m |
| Profinet Device Name | DIP Switch Configuration or Profinet Monitor for Modifying Device Name | |
| LC-1201 | Network Protocols | EtherCAT |
| | Process Data Area | Maximum Input: 1024 bytes, Maximum Output: 1024 bytes |
| | Network Interface | 2 RJ45 Interfaces |
| | Connection Speed | 10/100Mbps, Auto negotiation, Full Duplex |
| | Maximum Bus Length | 100m |
| LC-1401 | Network Protocols | Ethernet/IP |
| | Maximum Input Length | 504 bytes (per assembly instance) |
| | Maximum Output Length | 504 bytes (per assembly instance) |
| | Maximum Explicit Message Connection Count | 10 |
| | Maximum Implicit Message Connection Count | 5 |
| | Maximum CIP Connection Count | 10 |
| | Network Interface | 2 RJ45 Interfaces |
| | Connection Speed | 10/100Mbps, Auto negotiation, Full Duplex |
| | Maximum Bus Length | 100m |
| LC-3101 | Network Protocols | CANopen DS401 |
| | Connection Interface | 5-Pin Terminal Block |
| | Station Address | DIP Switch Setting (1-127) |
| | Process Data Configuration Interface | Maximum Input: 512 Bytes |
| | | Maximum Output: 512 Bytes |
| | | Type-C |
| Transfer Rate | 10 kbit/s, 20 kbit/s, 50 kbit/s, 100 kbit/s, 125 kbit/s, 250 kbit/s, 500 kbit/s, 800 kbit/s, 1000 kbit/s | |

DI Module Specifications

| Specifications | | LD-1308 | LD-1016 | LD-3108 | LD-3016 | LD-5032 |
|---------------------------|-------------------------------|---|------------------------------------|-----------------------------------|------------------------------------|--|
| General Specifications | Power | Max.52mA@ 5.0Vdc | Max.60mA@ 5.0Vdc | Max.85mA@ 5.0Vdc | Max.60mA@ 5.0Vdc | Max.70mA@ 5.0Vdc |
| | Isolation | I/O to Internal Bus: Opto-isolator(3KVrms) | | | | |
| | Field Power Supply | Rated Voltage: 24Vdc, Input Range: 22~28Vdc | | | | |
| | Wiring | I/O Wiring: Max.1.0mm ² (AWG 17) | | | | 34P Horn Socket 2.54mm |
| | Installation Method | 35mm DIN Rail Mounting | | | | |
| | Dimensions | 115x14x75mm | | | | |
| | Weights | 65g | | | | |
| | Operating Temperature | -40~85°C | | | | |
| | Environmental Humidity | 5% to 95% non-condensing | | | | |
| | Protection Rating | IP20 | | | | |
| | Channel Number | 8-channel PNP input | 16-channel PNP input | 8-channel NPN input | 16-channel NPN input | 32-channel NPN/PNP input |
| | Indicator Lights | 8 -channel input Indicator Lights | 16 -channel input Indicator Lights | 8 -channel input Indicator Lights | 16 -channel input Indicator Lights | 32 -channel input Indicator Lights |
| | Turn On voltage | Min.10Vdc to Max.28Vdc | | | | High Input: Min. 10Vdc to Max. 28Vdc (Common Terminal: 0Vdc) Low Input: Min. 0Vdc to Max. 14Vdc (Common Terminal: 24Vdc) |
| | Cutoff Voltage | Max.5Vdc | | | | Input High Input: Max. 5Vdc (Common Terminal: 0Vdc) Low Input: Min.19Vdc (Common Terminal: 24Vdc) |
| | Inrush Current | Max.5mA/-channel @28V | | | | |
| | Input Impedance | >7.5kΩ | | | | |
| | Input Delay | OFF to ON: Max.3ms | | | | |
| | | ON to OFF: Max.2ms | | | | |
| | Filtering Time | Default 10ms | | | | |
| Sampling Frequency | 500Hz | | | | | |
| Counting Frequency | <200Hz | | | | | |

» DO Module Specifications

| Specifications | | LD-4016 | LD-4032 |
|----------------------------|------------------------|--|--|
| General Specifications | Power | Max.75mA@5.0Vdc | Max.175mA@5.0Vdc |
| | Isolation | I/O to Internal Bus: Opto-isolator(3KVrms) | |
| | Field Power Supply | Rated Voltage: 24Vdc | |
| | | Input Range: 22~28Vdc | |
| | VCLAMP Voltage | Rated Voltage: 24Vdc | |
| | | Input Range: 12~36V | |
| | Wiring | I/O Wiring: Max.1.0mm ² (AWG 17) | |
| | Installation Method | 35mm DIN Rail Mounting | |
| Dimensions | 115x14x75mm | | |
| Weights | 65g | | |
| Environment Specifications | Operating Temperature | -40~85°C | |
| | Environmental Humidity | 5% to 95% non-condensing | |
| | Protection Rating | IP20 | |
| Output Specifications | Channel Number | 16-channel NPN Output | 32-channel NPN Output |
| | Indicator Lights | 16-channel Output Indicator Lights | 32-channel Output Indicator Lights |
| | Rated Current | Single-channel Output: Max.1000mA in the meantime Output: Max.500mA | Single-channel Output: Max .1000mA/16-channel in the meantime Output: Max.500mA/32-channel in the meantime Output: Max.300mA |
| | leakage current | Maximum: 10uA | |
| | On-State Resistance | Typical Value: 500mΩ | |
| | Output Delay | OFF to ON: Max 100 us / ON to OFF: Max 150 us | |
| | Protection Functions | Over-temperature shutdown: Typical value 160°C Over-current protection: Typical value 1.8A Short circuit protection: Supported on the new hardware version Interlock protection: 4 channels in one group | |

| Specifications | | LD-2104 | LD-2008 | LD-2016 | LD-2116 | LD-2032 |
|----------------------------|------------------------|--|-----------------|------------------|------------------|------------------------------|
| General Specifications | Power | Max.30mA@5.0Vdc | Max.80mA@5.0Vdc | Max.175mA@5.0Vdc | Max.175mA@5.0Vdc | Max.185mA@5.0Vdc |
| | Isolation | I/O to Internal Bus: Opto-isolator(3KVrms) | | | | |
| | Field Power Supply | Rated Voltage: 24Vdc | | | | |
| | | Input Range: 12~30Vdc | | | | |
| | Wiring | I/O Wiring:Max.1.0mm ² (AWG 17) | | | | 34P Horn Connector 2.54mm |
| | Installation Method | 35mm DIN Rail Mounting | | | | |
| | Dimensions | 115x14x75mm | | | | |
| Weights | 65g | | | | | |
| Environment Specifications | Operating Temperature | -40~85°C | | | | |
| | Environmental Humidity | 5%~95% RH (Non-condensing) | | | | |
| | Protection Rating | IP20 | | | | |

| | | | | | | |
|------------------------------|--|---|---|---|---|---------------------------------------|
| Output Specifications | Channel Number | 4-channel PNP Output | 8-channel PNP Output | 16-channel PNP Output | 16-channel PNP Output (Independent power supply) | 32-channel PNP Output |
| | Indicator Lights | 4-channel Output Indicator Lights | 8-channel Output Indicator Lights | 16-channel Output Indicator Lights | 16-channel Output Indicator Lights | 32-channel Output Indicator Lights |
| | Ampacity | Typical value: 2.2A | Typical value: 500mA | Typical value: 500mA | Typical value: 500mA | Typical value: 300mA |
| | Leakage Current | Maximum value: 10uA | Maximum value: 100uA | Maximum value: 10uA | Maximum value: 10uA | Maximum value: 10uA |
| | Output Impedance | <90mΩ | <280mΩ | <200mΩ | <200mΩ | <200mΩ |
| | Output Specifications | Output Delay | OFF to ON:Max .5us | OFF to ON: Max.100us | OFF to ON: Max.100us | OFF to ON: Max.100us |
| ON to OFF:Max .200us | | | ON to OFF: Max.150us | ON to OFF: Max.150us | ON to OFF: Max.150us | ON to OFF: Max.150us |
| Protection Functions | | Thermal shutdown: Typical value150°C | Thermal shutdown: Typical value135°C | Thermal shutdown: Typical value135°C | Thermal shutdown: Typical value135°C | Thermal shutdown: Typical value 135°C |
| | Overcurrent protection: Typical value 1.2A | Overcurrent protection: Typical value1.1A | Overcurrent protection: Typical value1.1A Short circuit protection | Overcurrent protection: Typical value1.1A Short circuit protection | Overcurrent protection: Typical value1.1A Short circuit protection | |

| Specifications | | LD-8008 |
|-----------------------------------|----------------------------------|---|
| General Specifications | Power | Max.280mA@5.0Vdc |
| | Isolation | I/O to Internal Bus: Coil isolation(1600VAC) |
| | Field Power Supply | Not used |
| | Wiring | I/O Wiring: Max.1.0mm2(AWG 17) |
| | Installation Method | 35mm DIN Rail Mounting |
| | Dimensions | 115x14x75mm |
| | Weights | 65g |
| Environment Specifications | Operating Temperature | -40~85°C |
| | Environmental Humidity | 5% to 95% non-condensing |
| | Protection Rating | IP20 |
| Output Specifications | Channel Number | 8-channel NO relay outputs |
| | Indicator Lights | 8-channel Output Indicator Lights |
| | Maximum Switching Current | 2A |
| | Maximum switching Voltage | 250VAC/220VDC |
| | Maximum Switching Power | 62.5VA/60W |
| | Contact resistance | ≤100mΩ |
| | Output Delay | ON to OFF:Max.3ms/OFF to ON:Max.3ms |
| | Mechanical Durability | 1x10 ⁸ cycles |
| | Electrical Durability | 1x10 ⁵ cycles |
| | Shock | Intensity: 980m/s ² / Stability: 735m/s ² |

AI Module Specifications

| Specifications | | LA-3008 |
|----------------------------|------------------------|--|
| General Specifications | Power | Max.100mA@5.0Vdc |
| | Isolation | I/O to Internal Bus: Opto-isolator(3KVrms) |
| | Field Power Supply | Not used |
| | Wiring | I/O Wiring: Max.1.0mm ² (AWG 17) |
| | Installation Method | 35mm DIN Rail Mounting |
| | Dimensions | 115x14x75mm |
| | Weights | 65g |
| Environment Specifications | Operating Temperature | -40~85°C |
| | Environmental Humidity | 5%~95% RH (Non-condensing) |
| | Protection Rating | IP20 |
| Output Specifications | Channel Number | 8-channel Voltage input |
| | Indicator Lights | 8-channel input Indicator Lights |
| | Input Voltage Range | 0~5VDC,0~10VDC,±5VDC,±10VDC |
| | Resolution | 15 Bit/16 Bit |
| | Accuracy | ±0.3%@25°C /±0.5@-40~85°C |
| | Sampling Rate | 1ms/8-channel |
| | Input Impedance | 1MΩ |
| | Common Terminal | Common-ground input |
| | Channel Disabled | Supported |
| | Diagnostic Function | Channel disable fault value: -32767 Overflow: 32767 (supported only in standard mode) Underflow: -32768 (supported only in standard mode) |

| Specifications | | LA-1004 | LA-1008 | LA-1108 |
|----------------------------|------------------------|--|---------|---------|
| General Specifications | Power | Max.65mA@5.0Vdc | | |
| | Isolation | I/O to internal bus: Magnetic isolation (2.5KVrms) /Power Isolation: DC-DC | | |
| | Wiring | I/O Wiring: Max.1.0mm ² (AWG 17) | | |
| | Installation Method | 35mm DIN Rail Mounting | | |
| | Dimensions | 115x14x75mm | | |
| | Weights | 65g | | |
| Environment Specifications | Operating Temperature | -40~85°C | | |
| | Environmental Humidity | 5% to 95% non-condensing | | |
| | Protection Rating | IP20 | | |

| | | | | |
|------------------------------|-----------------------------|---|---------------------------------------|--|
| Output Specifications | Channel Number | 4-channel input current | 8-channel input current | |
| | Indicator Lights | 4 LED-channel status indicator lights | 8 LED-channel status indicator lights | |
| | Input Range | Maximum: 0~23.5mA | | Maximum: -23.5~23.5mA |
| | Resolution | 15 Bit | | |
| | Acquisition Accuracy | ±0.3% of full scale, @25°C /±0.5% full scale, @-20~70°C | | |
| | Sampling Rate | 6ms/4-channel (Filter level 0) | 12ms/8-channel | 28ms/8-channel |
| Output Specifications | Data format | 16-bit signed integer | | |
| | Diagnostic Function | — | | Standard mode: Overflow 32767, Standard mode: Underflow -32768, Channel disabled: -32767 |

» AO Module Specifications

| Specifications | | LA- 4004 | LA-4008 | LA-2004 |
|-----------------------------------|--------------------------------------|--|-----------------------------------|---|
| General Specifications | Power | Max 500 mA@5.0Vdc | | |
| | Isolation | I/O to internal bus: Electromagnetic Isolation(3KVrms) | | |
| | Wiring | I/O Wiring: Max.1.0mm2(AWG 17) | | |
| | Installation Method | 35mm DIN Rail Mounting | | |
| | Dimensions | 115x14x75mm | | |
| | Weights | 65g | | |
| Environment Specifications | Operating Temperature | -40~85°C | | |
| | Environmental Humidity | 5%~95% RH (Non-condensing) | | |
| | Protection Rating | IP20 | | |
| Output Specifications | Channel Number | 4-channel Voltage Output | 8-channel Voltage Output | 4-channel Current Output |
| | Indicator Lights | 4-channel Output Indicator Lights | 8-channel Output Indicator Lights | 4-channel Output Indicator Lights |
| | Output Voltage/ Current Range | >5kΩ | | Max.1KΩ |
| | Load Resistance | 16 bits | | |
| | Resolution | ±0.1% (full scale)@25°C | | |
| | Accuracy | ±0.3(full scale)@-40~85°C | | |
| | Conversion Time | 1 ms/every channel | | 2ms/every channel |
| | Diagnostic | Overtemperature/Overcurrent State Monitoring | | Open Circuit or Overload, Field Power Supply error |
| | Overcurrent Protection | 20mA | | |
| | Common Terminal | Common ground Output | | 0V common ground, Non-isolated between channels |

RTD Module Specifications

| Specifications | | LA-7003 | LA-7004 |
|----------------------------|------------------------|---|----------------------------|
| General Specifications | Power | Max.35mA@5.0Vdc | Max.65mA@5.0Vdc |
| | Isolation | I/O to internal bus: Magnetic Isolation(2.5KVrms) | |
| | Field Power Supply | Not used | |
| | Wiring | I/O Wiring: Max.1.0mm ² (AWG 17) | |
| | Installation Method | 35mm DIN Rail Mounting | |
| | Dimensions | 115x14x75mm | |
| | Weights | 65g | |
| Environment Specifications | Operating Temperature | -40~85°C | |
| | Environmental Humidity | 5%~95% RH (Non-condensing) | |
| | Protection Rating | IP20 | |
| Input Specifications | Channel Number | 3-channel Thermistor Input | 4-channel Thermistor Input |
| | Indicator Lights | 3 green LED | 4 green LED |
| | Resolution | 15 bits | |
| | Sensor type | PT100 | |
| | Measurement Range | -240~880°C | |
| | Measurement Accuracy | 0.5°C | |
| | Conversion Rate | 400ms/3-channel | |
| | Diagnostic function | 32766: Sensor not connected or disconnected -32766: Short circuit condition 32765: Chip failure 32767: Temperature overflow -32768: Temperature underflow | |

TC Module Specifications

| Specifications | | LA-9004 | LA-9008 |
|--|------------------------|---|------------------------------|
| General Specifications | Power | Max.50mA@5.0Vdc | Max.60mA@5.0Vdc |
| | Isolation | I/O to internal bus: Magnetic Isolation(2.5KVrms) | |
| | Field Power Supply | Not used | |
| | Wiring | I/O Wiring: Max.1.0mm ² (AWG 17) | |
| | Installation Method | 35mm DIN Rail Mounting | |
| | Dimensions | 115x14x75mm | |
| | Weights | 65g | |
| Environment Specifications | Operating Temperature | -40~85°C | |
| | Environmental Humidity | 5%~95% RH (Non-condensing) | |
| | Protection Rating | IP20 | |
| Input Specifications | Channel Number | 4-channel Thermocouple Input | 8-channel Thermocouple Input |
| | Indicator Lights | 4 Input Indicator Lights | 8 Input Indicator Lights |
| | Sensor type | J / K / E / T / S / R / B / N type thermocouples | |
| | Acquisition Accuracy | ±0.3% of full scale, @25°C | |
| | | ±0.5% full scale, @-40~85°C | |
| | Sampling Rate | 70ms/4-channel | |
| | Measurement Range | J Type -210~1200°C / K Type -270~1370°C / E Type -270~1000°C / T Type -270~400°C / S Type -50~1760°C / R Type -50~1760°C / B Type 100~1820°C / N Type -270~1300°C | |
| | Data format | 16-bit signed integer | |
| | Diagnostic function | -32767: Thermocouple type not selected (disable this channel) | |
| | | 32766: Open circuit or disconnected | |
| 32767: Temperature overflow | | | |
| -32768: Temperature underflow | | | |
| 32765: ADC chip failure | | | |
| 32764: Cold junction compensation conversion fault value | | | |

Position Measurement Module Specifications

| Specifications | | LP-1002 | LP-3002 | LP-7002 | LP-5002 | |
|----------------------------------|--|---|---------------------------------------|--|-----------------------------|-----------------|
| General Specifications | Power | Max.65mA@5.0Vdc | | | | |
| | Isolation | I/O to internal bus: Magnetic Isolation(3kVrms) | | | | |
| | Field Power Supply | Rated Voltage: 24Vdc, Input Range: 20~28Vdc | | | | |
| | Wiring | I/O Wiring: Max.1.0mm ² (AWG 17) | | | | |
| | Installation Method | 35mm DIN Rail Mounting | | | | |
| | Dimensions | 115x14x75mm | | | | |
| | Weights | 65g | | | | |
| Environment Specifications | Operating Temperature | -40~85°C | | | | |
| | Environmental Humidity | 5% to 95% non-condensing | | | | |
| | Protection Rating | IP20 | | | | |
| Input Specifications | Channel Number | 2-channel Encoder | | | | |
| | Indicator Lights | 16 channels input Indicator Lights | | | | |
| | Encoder signal types | ABZ input standard: 5V DC, range ±10% | ABZ input standard: 24Vdc, range ±10% | Differential input, voltage output range 0-5V. | SSI absolute value input. | |
| | Encoder Input Impedance | Internal pull-up or pull-down resistor 4.7K. | — | Data frame length | 10-40 bits | |
| | Encoder Filter Time | Configurable, default 0.5us | | | Length | 32 bits maximum |
| | Encoder Counting Frequency | <1.5MHz | <10MHz | Format | Gray code or binary | |
| | Encoder Multiplication Mode | x1/x2/x4 | | LSB/MSB | Configurable | |
| | Encoder measurement functionality | Measurement of load speed or input signal frequency | | | SSI Encoder clock frequency | ≤2MHz |
| | DI Turn on Voltage | Min.5Vdc to Max.28Vdc | | | | |
| | DI Turn Off Voltage | Max.2.7Vdc | | | | |
| | DI Inrush current | Max.5mA/Channel @28V | | | | |
| | DI Input Impedance | >10.0kΩ | | | | |
| | DI Input Delay | OFF to ON: Max.3ms | | | | |
| | | ON to OFF: Max.2ms | | | | |
| | DO Output Voltage | 24V, Range ±10% | | | | |
| | DO Output Current | Max.500mA | | | | |
| DO Output Leakage Current | Max.5uA | | | | | |

» Mixed Digital Input/Output Module Specifications

| Specifications | | LD-0008 | | | |
|----------------------------|------------------------|---|-----------------------|--|-----------------------------------|
| General Specifications | Power | Max.85mA@5.0Vdc | | | |
| | Isolation | I/O to Internal Bus: Opto-isolator(3KVrms) | | | |
| | Field Power Supply | Rated Voltage: 24Vdc | | | |
| | | Input Range: 22~28Vdc | | | |
| | Wiring | I/O Wiring: Max.1.0mm ² (AWG 17) | | | |
| | Installation Method | 35mm DIN Rail Mounting | | | |
| Dimensions | 115x14x75mm | | | | |
| | Weights | 65g | | | |
| Environment Specifications | Operating Temperature | -40~85°C | | | |
| | Environmental Humidity | 5% to 95% non-condensing | | | |
| | Protection Rating | IP20 | | | |
| Input Specifications | Channel Number | 8-channel NPN/PNP bidirectional Input | Output Specifications | Channel Number | 8-channel NPN/PNP Output |
| | Indicator Lights | 8-channel input Indicator Lights | | Indicator Lights | 8-channel Output Indicator Lights |
| | Turn On Voltage | High input: Min.10Vdc to Max.28Vdc (Common terminal:0Vdc) Low input: Min.0Vdc to Max.14Vdc (Common terminal:24Vdc) | | Ampacity | Typical value: 0.5A |
| | Turn off Voltage | High input:Max.5Vdc (Common terminal:0Vdc) Low input: Min.19Vdc (Common terminal:24Vdc) | | Leakage current | Maximum value: 10uA |
| | Inrush current | Max.5mA/channel @28V | | Output Impedance | <200mΩ |
| | Input Impedance | >7.5kΩ | | Output Delay | OFF to ON: Max.100us |
| | Input Delay | OFF to ON: Max.3ms ON to OFF: Max.2ms | | | ON to OFF: Max.150us |
| Input Specifications | Filter Time | Default time: 10ms | Protection Functions | Over Temperature Protection: Typical value135°C | |
| | Sampling Frequency | 500Hz | | Over-Current Protection: Typical value1.1A | |
| | Counting Frequency | <200Hz | | Short circuit protection | |

» Communication Submodule Specifications

| Specifications | | KYIO-LS-1211 | KYIO-LS-1111 |
|--|--|--|--|
| General Specifications | Power | Max.50mA@5.0Vdc | |
| | Isolation | I/O to Internal Bus: Opto-isolator(3KVrms) | |
| | Field Power Supply | Rated Voltage: 24Vdc | |
| | | Input Range: 22~28Vdc | |
| | Wiring | I/O Wiring: Max.1.0mm ² (AWG 17) | |
| | Installation Method | 35mm DIN Rail Mounting | |
| | Dimensions | 115x14x75mm | |
| | Weights | 65g | |
| Environment Specifications | Operating Temperature | -40~85°C | |
| | Environmental Humidity | 5% to 95% non-condensing | |
| | Protection Rating | IP20 | |
| Input Specifications | Channel Number | 1 | 1 |
| | Interface | RS485/RS232/RS422 | CAN |
| | Protocol | Modbus RTU/ASCII | CANopen |
| | Operating Mode | Modbus master, slave, and transparent pass-through | Master Mode |
| | Master/Slave/Transparent Modes Universal Communication Specifications | Baud rate: 300bps-500Kbps; Data bits: 7, 8 bits; Parity: None, Odd, Even parity Stop bits: 1, 2 bits; Character spacing: 1.5t-200t | |
| | Master Communication Specifications | Read data processing mode: Keep the last input value, Clear the input value. Data output mode: Polling, Event-triggered (data change) Module control enable: Disable, Enable Module control mode: Level-triggered, Rising edge-triggered. Power-on event output: Enable, Disable | Supported number of slave: 16 Baud rate: 10K~1Mbps Mode: PDO, SDO, Heartbeat, NMT, EMCY, Network scan PDO number: Default disabled, Automatically assigned if supported PDO COB-ID: Default disabled, Automatically assigned if supported Reset: One-click reset, Restore to factory settings |
| | Slave Communication Specifications | Slave ID: Customizable, default is 1. Response time: Customizable, default is 50 | |
| Transparent Mode Specifications | Byte order conversion: Disable and Enable | | |

» Coupler Module Ordering Information

| Product Model | Model Specification |
|---------------------|--|
| KYIO-LC-3101 | CANopen slave/64 TPDOs/64 RPDOs/Operating voltage 24VDC |
| KYIO-LC-1201 | EtherCAT protocol/32 slots/ maximum total input of 1024 bytes/ maximum total output 1024 bytes |
| KYIO-LC-1401 | EtherNet/IP protocol/32 slots/maximum total input of 504 bytes/ maximum total output 504 bytes |
| KYIO-LC-2101 | Modbus-RTU protocol/32 slots/ maximum total input and output 8192 bytes |
| KYIO-LC-1101 | Modbus-TCP protocol/32 slots/maximum total input and output 8192 bytes/2 RJ45 Interfaces/Max supported 5 Modbus-TCP client simultaneous access |
| KYIO-LC-1301 | Profinet protocol/32 slots/maximum total input of 1440 bytes/ maximum total output 1440 bytes/supported RT/Not supported Ring |

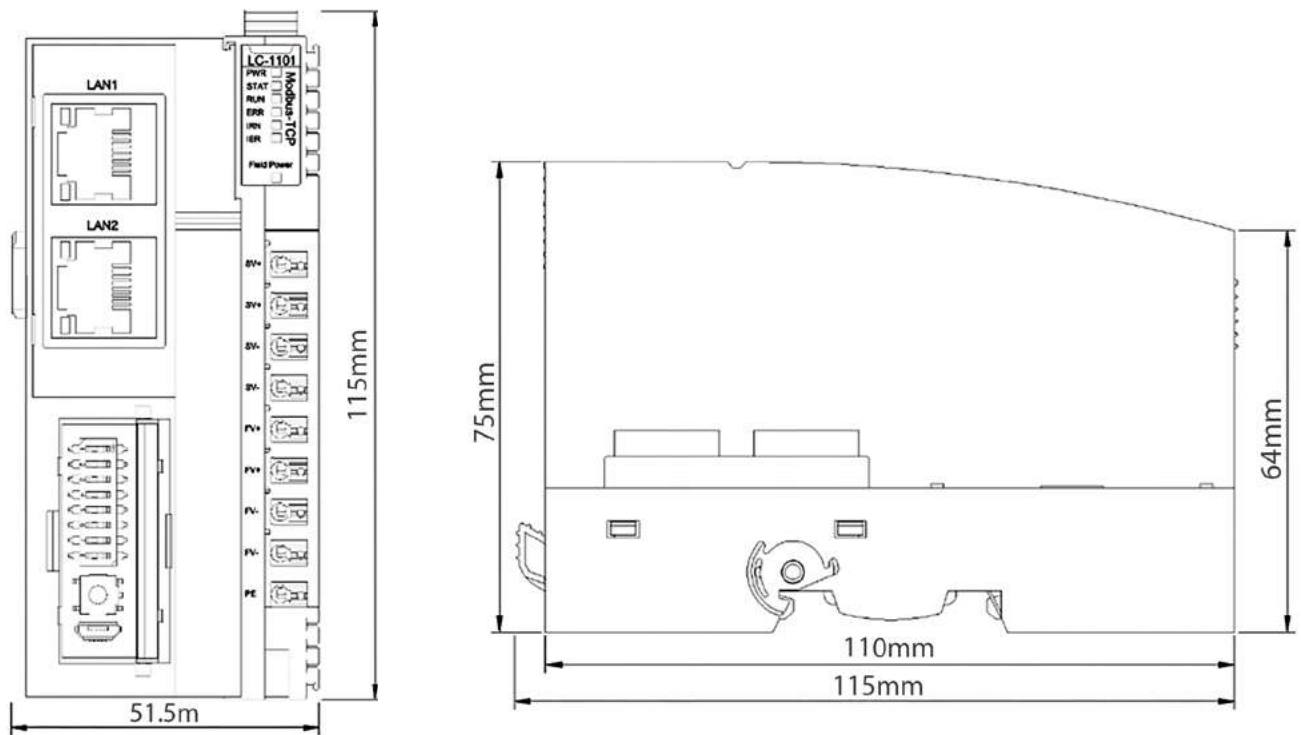
» Expansion Module Ordering Information

| Product Model | Model Specification |
|---------------------|--|
| KYIO-LX-7032 | Rail installation/32-channel horn connector/Spring Wiring |
| KYIO-LX-4006 | 6-channel Field Power Supply distribution module 0V+24V+PE |
| KYIO-LX-4009 | 9-channel Field Power Supply distribution module 0V+24V |
| KYIO-LX-4018 | 18-channel Field Power Supply distribution module 0V |
| KYIO-LX-4118 | 18-channel Field Power Supply distribution module 24V |
| KYIO-LX-4218 | 18-channel Field Power Supply distribution module PE |
| KYIO-LX-4108 | Field Power Supply expansion module (8A)/No configuration required |
| KYIO-LX-1005 | Bus expansion master module/Not exceeding 8 meters/No more than 5 stops |
| KYIO-LX-6108 | Power supply expansion module (system power) input 24VDC/ Output 5VDC/2A; Field Power Supply input 24VDC/ Output 24VDC/8A) |
| KYIO-LX-6008 | Power supply expansion module (system power) input 24VDC/ Output 5VDC/2A; Field Power Supply input 24VDC/ Output 24VDC/8A)/No configuration required/No Slot occupied/No Diagnostic function |
| KYIO-LX-2005 | Bus expansion slave module/Not exceeding 8 meters/Not more than 5 stations |
| KYIO-LX-3000 | Terminal module/No configuration required/Required |
| KYIO-LX-8002 | 2-meter length/Flame-retardant material/Soft cable/Both ends with female horn connectors |

» IO Module Ordering Information

| Product Model | Model Specification |
|---------------------|---|
| KYIO-LD-1308 | 8-channel digital input/Sink/24VDC/Supports counting function (maximum clocking frequency of 200Hz) /PNP |
| KYIO-LD-1016 | 16-channel digital input/Sink//24VDC/Supports counting function (maximum clocking frequency of 200Hz) /PNP |
| KYIO-LD-3108 | 8-channel digital input/Source/24VDC/Supports counting function (maximum clocking frequency of 200Hz) /NPN |
| KYIO-LD-3016 | 16-channel digital input/Source/24VDC/Supports counting function (maximum clocking frequency of 200Hz) /NPN |
| KYIO-LD-5032 | 32-channel digital input/Bidirectional/With KYIO-LX-7032/34 Pin male horn connector/24VDC/Supports counting function (maximum clocking frequency of 200Hz) |
| KYIO-LD-2104 | 4-channel digital output/Source/5.5-40VDC Single channel maximum 3.3A/4-channel maximum per channel 2A/Channels can be used in parallel/PNP |
| KYIO-LD-2008 | 8-channel digital output/Source/24VDC/0.5A/PNP |
| KYIO-LD-2016 | 16-channel digital output/Source/24VDC/0.5A/PNP |
| KYIO-LD-2116 | 16-channel digital output/Source/24VDC/0.5A/PNP/Independent power supply |
| KYIO-LD-2032 | 32-channel digital output/Source/24VDC/0.5A/With KYIO-LX-7032/34 Pin male horn connector/PNP |
| KYIO-LD-8008 | 8-channel relay output (9~30VDC@2A/110Vac@0.55A/250Vac@0.25A) |
| KYIO-LD-4016 | 16-channel digital output/sink/24VDC/0.5A/NPN |
| KYIO-LD-4032 | 32-channel digital output/24VDC/NPN/Can be used to boot device/electromagnetic protection/Overcurrent protection/ With KYIO-LX-7032/34 Pin male horn connector/ |
| KYIO-LD-0008 | 8-channel digital input/24VDC/PNP or NPN & 8-channel digital output/24VDC |
| KYIO-LA-1004 | 4-channel analog input/0&4-20mA/15-bit/Single Terminal |
| KYIO-LA-1008 | 8-channel analog input/0&4-20mA/15-bit/Single Terminal |
| KYIO-LA-1108 | 8-channel analog input/-20-20mA/15-bit/Single Terminal |
| KYIO-LA-3008 | 8-channel analog input/0~5VDC/-5~5VDC/0~10VDC/-10~10 VDC/15-bit/Single Terminal |
| KYIO-LA-2004 | 4-channel analog output/0&4-20mA/16-bit/Single Terminal |
| KYIO-LA-4004 | 4-channel analog output/0~5VDC/-5~5VDC/0~10VDC/-10~10VDC/16-bit/Single Terminal |
| KYIO-LA-4008 | 8-channel analog output/0~5VDC/-5~5VDC/0~10VDC/-10~10VDC/16-bit/Single Terminal |
| KYIO-LA-7003 | 3-channel RTD input (PT100) |
| KYIO-LA-7004 | 4-channel RTD-PT100 Temperature Acquisition Module |
| KYIO-LA-7006 | 6-channel RTD input RTD-PT100/Non-isolated acquisition accuracy between channels<=0.5-C |
| KYIO-LA-9004 | 4-channel TC input (J/K/E/T/S/R/B/N/C) |
| KYIO-LA-9008 | 8-channel TC input (J/K/E/T/S/R/B/N/C)/15bit |
| KYIO-LP-3002 | 2-channel Encoder/24V input/Quadrature Decoder/Direction Pulse/high-speed counting/2-channel DI/2-channel DO/ 2-wire 24VDC output/32bit/Maximum output Frequency 1.5MHz |
| KYIO-LP-7002 | 2-channel Encoder/Differential input/Quadrature Decoder/Direction Pulse/high-speed counting/2-channel DI/2-channel DO/32bit/Maximum Input Frequency 10MHz |
| KYIO-LP-5002 | 2-channel Encoder/SSI input/Each channel supports SSI absolute encoder signal input/1 digital signal input/Input Voltage 5VDC or 24VDC/Each channel supports 1 digital output signal/Output Voltage 5VDC/ |
| KYIO-LP-1002 | 2-channel Encoder/5V Input/Quadrature Decoder/Direction Pulse/high-speed counting/2-channel DI/2-channel DO/ 2-wire 5V Output/32bit/Maximum output Frequency 1.5MHz |
| KYIO-LP-4002 | 2-channel 4-wire PWM output Module/24V Single Terminal/Switching Frequency≤200KHz |
| KYIO-LS-1111 | 1-channel CANopen communication module supports CANopen master mode |
| KYIO-LS-1211 | 1-channel serial communication module (RS232/RS485/RS422/Support Modbus-RTU/ASCII/"Master-Slave mode/ Transparent mode |

» Coupler Module Dimension Drawing



» IO Module Dimension Drawing

