

EVS Hardware Reference Manual



32CHANNEL DIGITAL NPN TYPE INPUT MODULE

EVS-DI32N

MARCH 2016
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개요



EVS - DI32N (Digital NPN Input 32ch)

EVS-DI32N은 커미조아의 EtherCAT 기반 제어기의 32채널 Digital 입력 모듈입니다.
각 채널의 내부 제어신호와 외부 입출력 신호는 포토커플러를 사용하여 절연됩니다.
본 매뉴얼은 EVS-DI32N의 하드웨어 구성과 기능에 대해 설명하는 하드웨어 매뉴얼입니다.

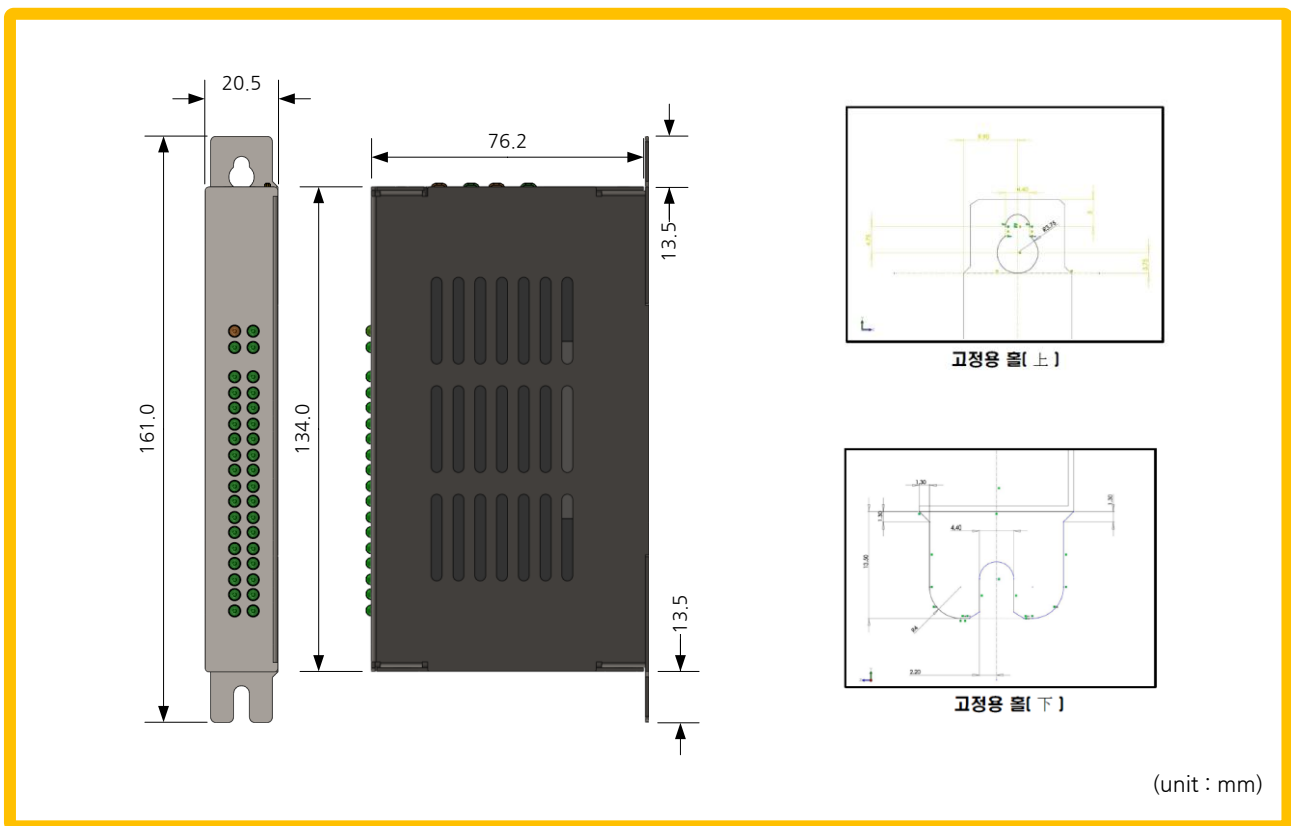
제품사양

| Contents | Details |
|-----------------------|---|
| Dimension | 20.5 x 76.2 x 161.0 (mm) |
| Operating Temperature | 0°C ~ 50°C |
| Storage Temperature | -20°C ~ 80°C |
| Humidity | 5% ~ 90%, non-condensing |
| Power consumption | Power supply input +24V DC ± 5%, 300mA max |
| EtherCAT | 2 Port (RJ-45 Connector) |
| | 100 Mbps, Full-Duplex (Enable Auto-negotiation) |

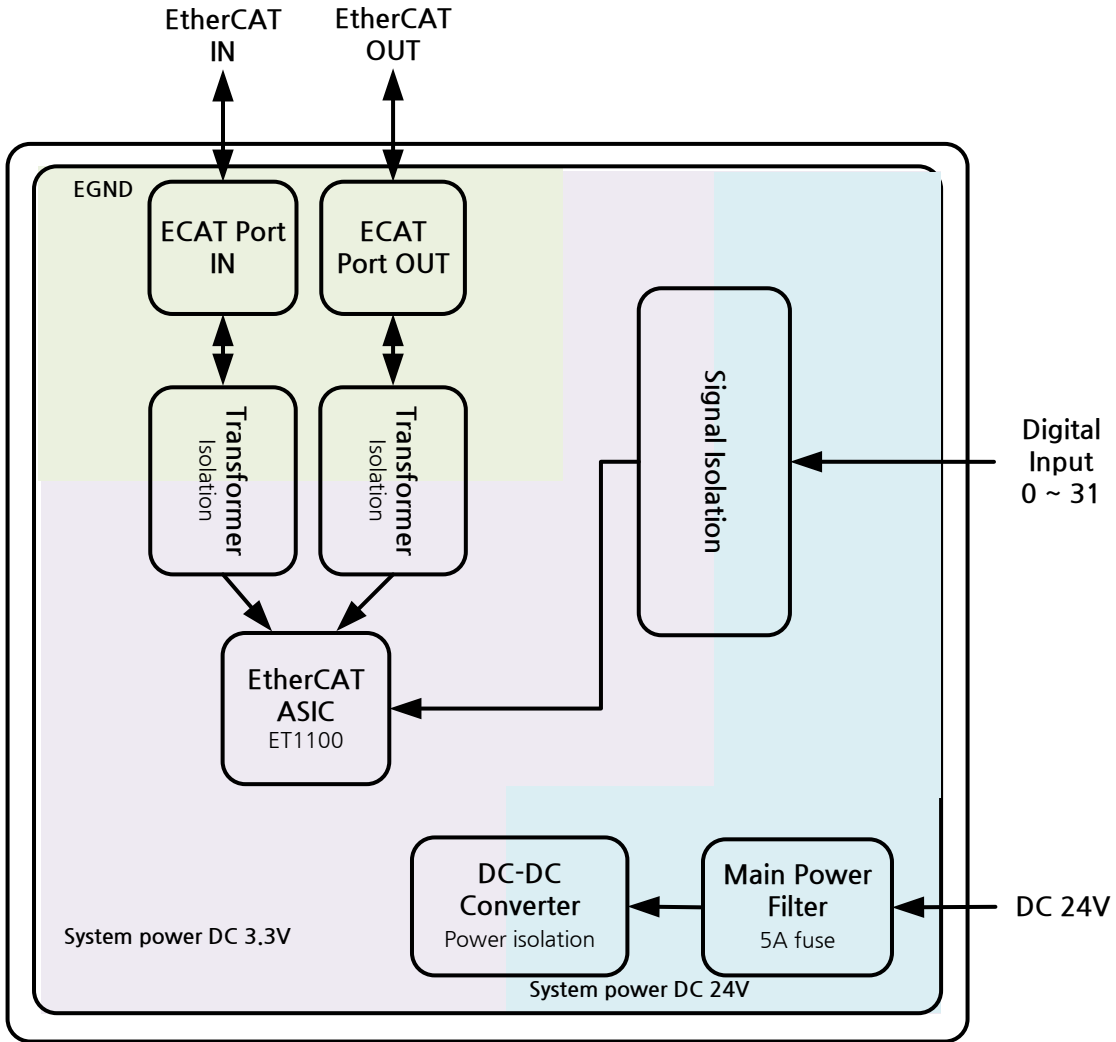
Environmental Specification

| Contents | Details |
|---------------------------------|---|
| Number of Inputs | 32 inputs |
| Input type | Current Sinking type (NPN) |
| Isolation | Photo-coupler ($V_{iso} = 3,000V_{rms}$) |
| OFF State Voltage (logic ' 1') | Min. 11V DC ~ Max. 28.8 V DC (EN 61131-2, type 1/3) |
| On State Voltage (logic ' 0') | Min. 0V DC ~ Max. 5V DC (EN 61131-2, type 1/3) |
| On state Current | Max. 4.2mA per @ 28.8V DC |
| Input Impedance | Approx. 6.6K Ω (±5%) |

Digital Input Specification



Block diagram



EVS-DI32N Block diagram

Connector



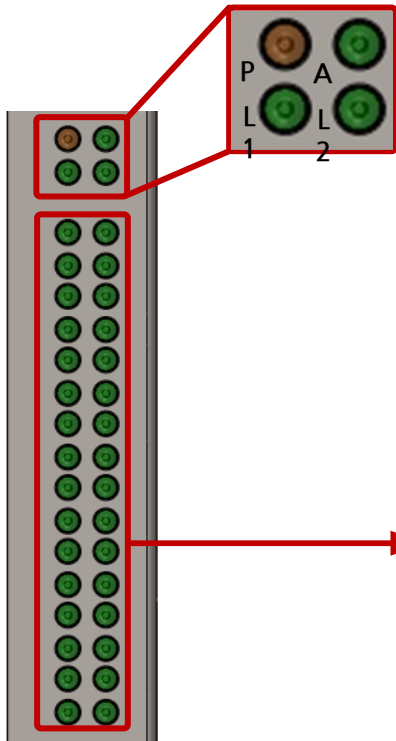
| Pin # | IN | OUT |
|-------|-----|-----|
| 1 | TX+ | TX+ |
| 2 | TX- | TX- |
| 3 | RX+ | RX+ |
| 4 | NC | NC |
| 5 | NC | NC |
| 6 | RX- | RX- |
| 7 | NC | NC |
| 8 | NC | NC |

ETHERCAT CONNECTOR
(CAT.5E ↑)

| Pin # | | Pin # | | Pin # | | Pin # | |
|-------|-----------|-------|-----------|-------|-----------|-------|--------|
| 1 | VCC(+24V) | 21 | INPUT #00 | 40 | INPUT #19 | 60 | GROUND |
| 2 | VCC(+24V) | 22 | INPUT #01 | 41 | INPUT #20 | 61 | GROUND |
| 3 | VCC(+24V) | 23 | INPUT #02 | 42 | INPUT #21 | 62 | GROUND |
| 4 | VCC(+24V) | 24 | INPUT #03 | 43 | INPUT #22 | 63 | GROUND |
| 5 | VCC(+24V) | 25 | INPUT #04 | 44 | INPUT #23 | 64 | GROUND |
| 6 | VCC(+24V) | 26 | INPUT #05 | 45 | INPUT #24 | 65 | GROUND |
| 7 | VCC(+24V) | 27 | INPUT #06 | 46 | INPUT #25 | 66 | GROUND |
| 8 | VCC(+24V) | 28 | INPUT #07 | 47 | INPUT #26 | 67 | GROUND |
| 9 | VCC(+24V) | 29 | INPUT #08 | 48 | INPUT #27 | 68 | GROUND |
| 10 | VCC(+24V) | 30 | INPUT #09 | 49 | INPUT #28 | 69 | GROUND |
| 11 | VCC(+24V) | 31 | INPUT #10 | 50 | INPUT #29 | 70 | GROUND |
| 12 | VCC(+24V) | 32 | INPUT #11 | 51 | INPUT #30 | 71 | GROUND |
| 13 | VCC(+24V) | 33 | INPUT #12 | 52 | INPUT #31 | 72 | GROUND |
| 14 | VCC(+24V) | 34 | INPUT #13 | 53 | - | 73 | GROUND |
| 15 | VCC(+24V) | 35 | INPUT #14 | 54 | - | 74 | GROUND |
| 16 | VCC(+24V) | 36 | INPUT #15 | 55 | - | 75 | GROUND |
| 17 | VCC(+24V) | 37 | INPUT #16 | 56 | - | 76 | GROUND |
| 18 | VCC(+24V) | 38 | INPUT #17 | 57 | - | 77 | GROUND |
| 19 | VCC(+24V) | 39 | INPUT #18 | 58 | - | 78 | GROUND |
| 20 | VCC(+24V) | | | 59 | - | | |

I/O CONNECTOR (D-SUB 78PIN)

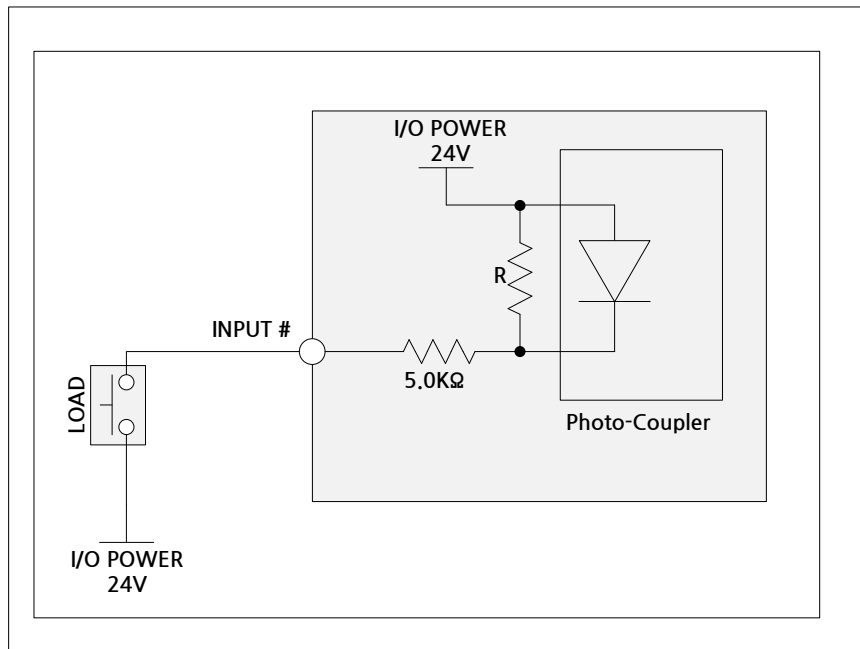
Status LED



| | | | |
|----|-----------------------|------------------|------------------------|
| P | BOX POWER LED | ON | BOX POWER(3.3V DC) ON |
| | | OFF | BOX POWER(3.3V DC) OFF |
| A | EtherCAT AL STATE LED | OFF | INIT |
| | | Blinking(slow) | PRE-OP |
| | | Single Flash | SAFE-OP |
| | | ON | OP |
| L1 | LINK 0 STATE LED | Flickering(fast) | BOOTSTRAP |
| | | Blinking(slow) | MII Port IN OPEN |
| L2 | LINK 1 STATE LED | OFF | MII Port IN Closed |
| | | Blinking(slow) | MII Port OUT OPEN |
| | | OFF | MII Port OUT Closed |

| | | | |
|------|-----------------|-----|-------------------------------|
| 0-31 | INPUT STATE LED | ON | INPUT ON STATE (LOGIC '1') |
| | | OFF | INPUT OFF STATE (LOGIC '0') |

DIGITAL INPUT CIRCUIT



Hardware Reference Manual Update List

| No. | Version | Date | Changes in |
|-----|---------|------------|----------------|
| 1 | 1.00 | 2015.07.29 | release |
| 2 | 1.01 | 2016.03.01 | 폰트 교체(나눔고딕,굴림) |

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