

EtherCAT® MicroNode™ I/O

Compact Fieldbus I/O



The EtherCAT® MicroNode™ is a highly flexible I/O device capable of connecting multiple analog and digital I/O devices at point-of-use, simplifying installation by removing long cable routings. With combined high-density analog and digital capability, the MicroNode reduces the number of I/O devices required. This compact device has a DIN rail mounting and provides easy access to I/Os via a standard 50-pin D-sub connector to interface with field I/O wiring, making installation quick and easy.

The MicroNode provides diagnostic capability over EtherCAT using CAT 5 network cabling, ensuring fast alerts to fault detection. Configurable with a combination of digital I/O points and analog input and output points, the EtherCAT MicroNode is a highly flexible network I/O device.

Product Features

- High density analog and digital combination of I/O points in a compact form factor
- Digital I/O points available in either sink or source versions
- Flexible digital I/O points individually configurable for input or output
- Single-ended analog input and output points, with 16-bit resolution
- Status LEDs for monitoring Device, EtherCAT and all digital I/O points
- Configurable EtherCAT network ID with rotary switches
- High EMC, ESD noise immunity and isolation for demanding industrial applications.

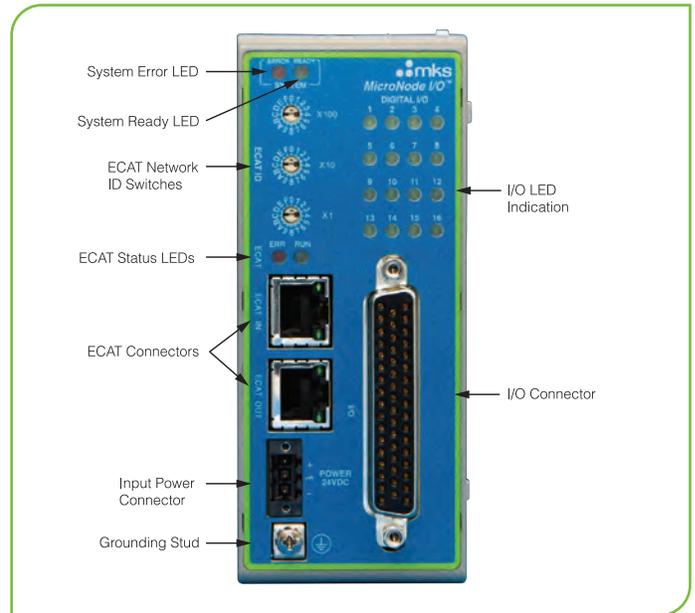


Key Benefits

- High density analog and digital I/O reduces need for multiple network devices
- Highly visible LEDs simplify device status and I/O health monitoring
- Diagnostic capability over EtherCAT ensures rapid fault detection reducing unexpected down time
- Simplified wiring and low cost

Mounting and Connection

EtherCAT MicroNode uses a D-sub 50 I/O connector located on the front face. Features a standard DIN Rail for mounting. Package size is only 4.921 x 2.066 x 3.633 inches (125 x 52.5 x 92.3 mm).



Module Features

Pinouts

3 Position Terminal Block Header, Male Pins

Pin	Signal
1	+24V_Input
2	Chassis GND
3	24V_GND

Power Connector PinOut

Description	Distributor	Part Number
I/O - 50-pin D-SUB Receptacle (solder cup)	Mouser	649-DD50P065TXLF
Power - 3 pin Header for Power Input	Newark	13C9347

Mating Connectors

Pin	Signal	Pin	Signal	Pin	Signal
1	+15V_Ref (Out)	18	An Out #4	34	-15V_Ref (Out)
2	An Out #3	19	An Out #2	35	AGND
3	An Out #1	20	An In #8	36	AGND
4	An In #7	21	An In #6	37	AGND
5	An In #5	22	An In #4	38	AGND
6	An In #3	23	An In #2	39	AGND
7	An In #1	24	24V_Out2	40	AGND
8	24V_Out2	25	24V_Out1	41	24V_DGND
9	24V_Out1	26	DIO #16	42	24V_DGND
10	DIO #15	27	DIO #14	43	24V_DGND
11	DIO #13	28	DIO #12	44	24V_DGND
12	DIO #11	29	DIO #10	45	24V_DGND
13	DIO #9	30	DIO #8	46	24V_DGND
14	DIO #7	31	DIO #6	47	24V_DGND
15	DIO #5	32	DIO #4	48	24V_DGND
16	DIO #3	33	DIO #2	49	24V_DGND
17	DIO #1			50	24V_DGND

I/O Connector PinOut

Notes:

1. AGND is not tied to 24V_GND.

2. The 24V_Out is not directly connected to +24V Input. Each 24V_Out1 and the 24V_Out2 has an independent 0.5A polyfused.

Specifications		
Network	Fieldbus Dimensions (HxWxD) Weight	<ul style="list-style-type: none"> • EtherCAT • 4.921 x 2.066 x 3.633 inches (125 x 52.5 x 92.3 mm) • 0.661 lb (300 g)
Environmental	Operating Temperature Storage Temperature Humidity	<ul style="list-style-type: none"> • 0 to +50°C • -40 to +85°C • 5 to 85% non-condensing
Front Panel Indicators	Network Digital I/O Points System Status	<ul style="list-style-type: none"> • EtherCAT Run (Green) and Error Status (Red) per ETG.1300 • On/Off Status (Green) • System Ready (Green), System Error (Red)
Rotary Switches	EtherCAT Network ID	3 x Hex Rotary Switches
Power	Device AIO Power	<ul style="list-style-type: none"> • 24 VDC, ±10%, 3.2A (max) • Internally powered. No external power required.
Digital I/O Points	Number of DIDO Maximum Output Current Isolation	<ul style="list-style-type: none"> • 16 - Each point either digital input or output • 200 mA • 1500V optical isolation between CPU and digital
Analog Input Points (AI)	Number of Inputs Input Range Resolution Filtering Protection Non-linearity Offset Error Gain Error Impedance	<ul style="list-style-type: none"> • 8 - Single-ended analog inputs • -10V to +10V • 16-bit • 200Hz ±20%, 6dB/octave Min • ESD to IEC 61000-4-2 ±4kV contact, short to 24V, +15V, or -15V • ±4 LSB • ±1.2mV @ 25°C • ±1.2mV @ 25°C to 45°C • ±0.02% Full Scale @ 25°C • ±0.04% Full Scale @ 25°C • 10 MΩ
Analog Output Points (AO)	Number of Outputs Output Range Resolution Output Current Offset Error Gain Error	<ul style="list-style-type: none"> • 4 - Single-ended analog outputs Terminal type block (mating connector provided) • -10V to +9.9997V • 16-bit • Max 5mA per channel • ±1.2mV @ 25°C • ±2.4mV @ 25°C to 45°C • 0.02% Full Scale @ 25°C (with 4KΩ load) • 0.04% Full Scale @ 25°C to 45°C (with 4KΩ load)
Connectors	Power I/O EtherCAT	<ul style="list-style-type: none"> • 3 Pin with polarity and locking (mating connector provided) • D-sub 50 pin female • 2 x RJ45 – EtherCAT IN and EtherCAT OUT

Ordering Information	Part Number
MicroNode EtherCAT I/O Combo, Sink	AS08482G-06

Please contact your local MKS office for price and availability information.