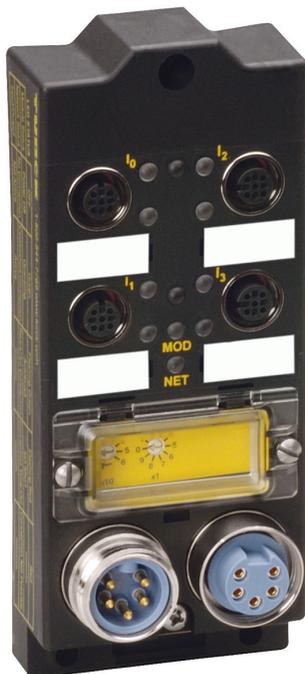# FDNQ-4AI-V/I-T

The FDNQ-4AI-V/I-T station has four analog input connectors. Each connector provides a connection point for an analog transducer. The transducer can be self-powered or loop powered. This station has a 16-bit resolution for the analog signal. Preset current and/or voltage modes are 0 to 10 V, -10 to +10 V, 0 to 20 mA and 4 to 20 mA.

All the analog channels share a common ground. The analog channels are electrically isolated from the DeviceNet™ power. There is also an option to use the 24 V from DeviceNet to power the transducer. In this case, the loop is not isolated from DeviceNet.

The mode can be adjusted using a rotary switch on the front of the station or through software. The node address can be set using the rotary switches or through software node commissioning.

This station supports Poll I/O messages. The connection can be established through UCMM or the predefined master slave connection set.

Recommended cables for inputs:

RK 4.5T-*M-RS 4.5T/S653 for 4-wire devices
RK 4.5T-*M-RS 4.5T/LPS/S653 for 2 & 3-wire devices
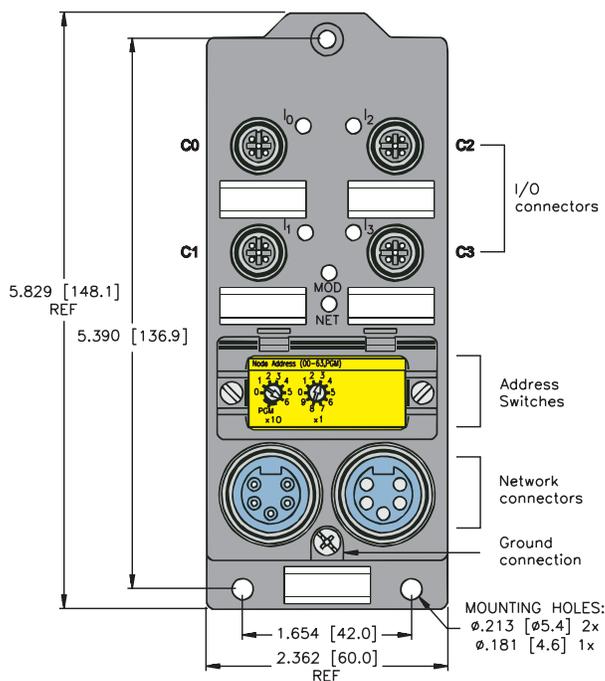
FDNQ-4AI-V/I-T

• Advanced DeviceNet analog station

Applications

• For wet or dry environments
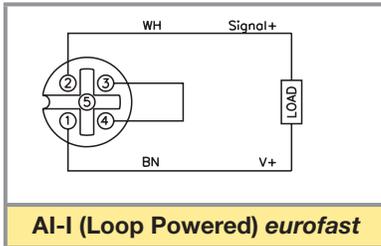• For use with 2, 3 or 4-wire transducers

Features

• Overcurrent protected analog inputs
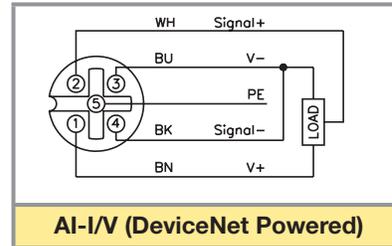• Rotary address switches

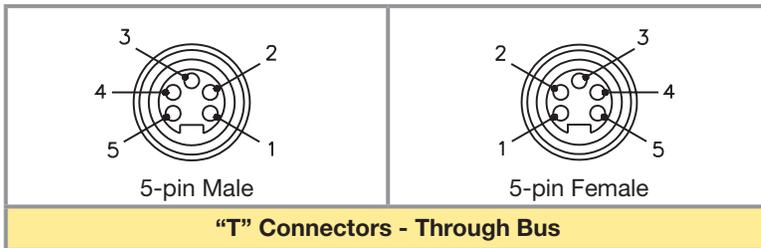## Dimensions

FDNQ-4AI-V/I-T

Connectors

1 = V+
2 = Signal +
3 = V −
4 = Signal -
5 = PE

AI-I (Loop Powered) *eurofast*

1 = V+
2 = Signal +
3 = V −
4 = Signal -
5 = PE

AI-I/V (DeviceNet Powered)

5-pin Male

5-pin Female

1 = Shield
2 = V +
3 = V −
4 = CAN_H
5 = CAN_L

"T" Connectors - Through Bus

I/O Data Mapping

Product Type/Code: Four 16-Bit signed integer

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	Channel 0 LSB							
	1	Channel 0 MSB							
	2	Channel 1 LSB							
	3	Channel 1 MSB							
	4	Channel 2 LSB							
	5	Channel 2 MSB							
	6	Channel 3 LSB							
	7	Channel 3 MSB							

LSB = Least significant byte
MSB = Most significant byte

Voltage Mode

Measured Voltage		Data Returned	
0 to +10 V	-10 to +10V	HEX	Signed Integer
	-10 V	8000	-32,767
0 V	0 V	0000	0
+10 V	+10 V	7FFF	32,767

Current Mode

Measured Voltage		Data Returned	
0-20 mA	4-20 mA	HEX	Signed Integer
0 mA	4 mA	0000	0
20 mA	20 mA	7FFF	32,767

FDNQ-4AI-V/I-T

Module Specifications

Supply Voltage

Bus Power	11-26 VDC
Internal Current Consumption	≤100 mA plus sum of sensor currents (from bus power)

Input Circuits

(4) Analog inputs, voltage and/or current

Input Voltage (V+)	11-26 VDC (from bus power)
Input Short-Circuit (V+)	<700 mA (total, short-circuit protected)
Input Circuit Voltage	0-10 V or -10 to +10 V over current protected
Input Signal Current	0-20 mA or 4 to 20 mA over current protected
Input Resistance	~110Ω current mode
	~110KΩ voltage mode

Resolution	0 to 10 V	305.2 µV/count
	-10 to 10 V	305.2 µV/count
	0 to 20 mA	0.6104 µV/count
	4 to 20 mA	0.4883 µV/count
Accuracy	≤ 0.3% of full scale	
Input Filter	60 Hz	
Isolation	Common ground between channels	

Calibration LED

Green = Valid calibration
Red = Invalid calibration

Network/Module Status LED

Green = Established connection/Operating
Flashing Green = Ready for connection
Flashing Red = Connection time-out
Red = Connection not possible
Flashing Amber = Autobaud

Input Status LED

Off = Less than range
Green = Active
Flashing Green = Greater than range

Adjustments

via Rotary Switch

Address	0-63
Mode Switch	0 to 10 V
	-10 to +10 V
	0 to 20 mA
	4 to 20 mA
	Software selectable - each input port is set via the EDS file

FDNQ-4AI-V/I-T

Housing

Material	Glass filled nylon with nickel plated brass connectors
Enclosure	NEMA 1, 3, 4, 12, 13 and IEC IP 67
Operating Temperature	-40° to 70°C (-40° to 158° F)