



AFP7AD4H | FP7 Analog Input and Output units



※Photo may vary from actual product.

Product Number	AFP7AD4H
Part Number	AFP7AD4H
Product	FP7 Analog Input and Output units
Details	FP7 Analog Input unit (High-speed and high-accuracy type)
Product name	FP7 Analog Input and Output units

Spec Detail

As of May 30, 2021

Specifications and design of the products are subject to change without notice for the product improvement.

Item	Specifications
Product Number	AFP7AD4H
Part Number	AFP7AD4H
[[ANALOG INPUT SPECIFICATIONS]]Number of input channels	4 channels
[[ANALOG INPUT SPECIFICATIONS]]Input range (resolution max. 16 bits):Voltage	-10 to +10 V (resolution: 1/62,500) 0 to 10 V (resolution: 1/31,250) 0 to 5 V (resolution: 1/31,250) 1 to 5 V (resolution: 1/25,000) (Note)The full scale (F.S.) on the accuracy of an analog voltage input range from 1 to 5 V and that of an analog current input range from 4 to 20 mA are 0 to 5 V and 0 to 20 mA, respectively.AR7
[[ANALOG INPUT SPECIFICATIONS]]Input range (resolution max. 16 bits):Current	0 to 20 mA (resolution: 1/31,250) 4 to 20 mA (resolution: 1/25,000) (Note)The full scale (F.S.) on the accuracy of an analog voltage input range from 1 to 5 V and that of an analog current input range from 4 to 20 mA are 0 to 5 V and 0 to 20 mA, respectively.
[[ANALOG INPUT SPECIFICATIONS]]Conversion speed:Voltage / Current	25 micro s/channel (at not insulated channels), 5 ms/channel (at insulated channels)
[[ANALOG INPUT SPECIFICATIONS]]Overall accuracy	plus or minus 0.05 % F.S. or less (at 25 degrees 77 degrees Fahrenheit), plus or minus 0.1 % F.S. or less (at 0 to 55 degrees 32 to 131 degrees Fahrenheit)
[[ANALOG INPUT SPECIFICATIONS]]Input impedance:Voltage input	1 MOhm
[[ANALOG INPUT SPECIFICATIONS]]Input impedance:Current input	250 Ohm
[[ANALOG INPUT SPECIFICATIONS]]Absolute maximum input	-15 to +15 V Voltage input, -2 to +30 mA Current input
[[ANALOG INPUT SPECIFICATIONS]]Insulation method:Between the input terminal and internal circuits	Photocoupler, Insulation type DC/DC converter
[[ANALOG INPUT SPECIFICATIONS]]Insulation method:Between channels	PhotoMOS relay
[[ANALOG INPUT SPECIFICATIONS]]Digital processing:Averaging:Number of times	Setting range: 2 to 60,000 times
[[ANALOG INPUT SPECIFICATIONS]]Digital	Time setting: 1 to 1,500 ms (at not insulated channels), 200 to 60,000 ms (at insulated channels)

processing:Averaging:Time duration

[[ANALOG INPUT
SPECIFICATIONS]]Digital
processing:Averaging:Moving

Range setting: 2 to 2,000 times

[[ANALOG INPUT
SPECIFICATIONS]]Digital
processing:Scale conversion setting

Any value within plus or minus 30,000

[[ANALOG INPUT
SPECIFICATIONS]]Digital
processing:Offset setting

Any value within plus or minus 3,000

[[ANALOG INPUT
SPECIFICATIONS]]Digital
processing:Gain setting

Any value within 9,000 to 11,000

[[ANALOG INPUT
SPECIFICATIONS]]Input range
change method

Selectable for each channel

[[ANALOG INPUT
SPECIFICATIONS]]Conversion
execution / non-execution channel
setting

Selectable for one channel unit

[[ANALOG INPUT
SPECIFICATIONS]]Maximum and
minimum value holding

Settable for each channel

[[ANALOG INPUT
SPECIFICATIONS]]Comparison of
upper and lower limit values

Settable for each channel (hysteresis)

[[ANALOG INPUT
SPECIFICATIONS]]Broken wire
detection

When less than 0.7 V / 2.8 mA (only when voltage input range 1 to 5 V or current input range 4 to 20 mA is set.)

[[ANALOG INPUT
SPECIFICATIONS]]Buffer function

3 trigger types: Soft trigger, External trigger and Input level

[[ANALOG INPUT
SPECIFICATIONS]]Trigger input
section:Insulation method

Optical coupler insulation

[[ANALOG INPUT
SPECIFICATIONS]]Trigger input
section:Rated input voltage

24 V DC

[[ANALOG INPUT
SPECIFICATIONS]]Trigger input
section:Rated input current

4.5 mA approx. (at 24 V DC)

[[ANALOG INPUT
SPECIFICATIONS]]Trigger input
section:Input impedance

5.1 kOhm approx.

[[ANALOG INPUT
SPECIFICATIONS]]Trigger input
section:Operating voltage range

21.6 to 26.4 V DC

[[ANALOG INPUT
SPECIFICATIONS]]Trigger input
section:Min. ON voltage / Min. ON
current

19.2 V / 3.5 mA

[[ANALOG INPUT
SPECIFICATIONS]]Trigger input
section:Max. OFF voltage / Max. OFF
current

5 V / 1.5 mA

[[ANALOG INPUT
SPECIFICATIONS]]Trigger input
section:Response time:OFF→ON

0.2 ms or less

[[ANALOG INPUT
SPECIFICATIONS]]Trigger input
section:Response time:ON→OFF

0.2 ms or less

[[ANALOG INPUT
SPECIFICATIONS]]Trigger input
section:Input points per common

2 points/common

[[ANALOG INPUT
SPECIFICATIONS]]External
connection method

Terminal block (M3 terminal screw)

[[COMMON GENERAL
SPECIFICATIONS]]Ambient
temperature

0 to +55 °C +32 to +131 °F, Storage: -40 to +70 °C -40 to +158 °F

[[COMMON GENERAL SPECIFICATIONS]]Ambient humidity	10 to 95 % RH (at +25 °C +77 °F, no condensation), Storage: 10 to 95 % RH (at +25 °C +77 °F, no condensation)
[[COMMON GENERAL SPECIFICATIONS]]Breakdown voltage	500 V AC for 1 minute (Note) For between analog input channels of analog input unit, the breakdown voltage is 200 V AC, 1 minute.
[[COMMON GENERAL SPECIFICATIONS]]Insulation resistance	100 MOhm or more (at 500 V DC)
[[COMMON GENERAL SPECIFICATIONS]]Vibration resistance	5 to 8.4 Hz, single amplitude of 3.5 mm 0.138 in, 1 sweep/min. (IEC 61131-2) ; 8.4 to 150 Hz, constant acceleration of 9.8 m/s ² , 1 sweep/min. (IEC 61131-2), 10 times each in X, Y, and Z directions
[[COMMON GENERAL SPECIFICATIONS]]Shock resistance	147m/s ² 以上 XYZ各方向3回(IEC 61131-2)
[[COMMON GENERAL SPECIFICATIONS]]Noise immunity	1,000 V [p-p] with pulse width 50 ns and 1 micro s (using a noise simulator)
[[COMMON GENERAL SPECIFICATIONS]]Operating condition	Free from corrosive gasses and excessive dust
[[INDIVIDUAL GENERAL SPECIFICATIONS]]Rated voltage range	-
[[INDIVIDUAL GENERAL SPECIFICATIONS]]Current consumption	100 mA or less
[[INDIVIDUAL GENERAL SPECIFICATIONS]]Net weight	130 g approx.

Accessories



Product Number	AFP7TER
Part Number	AFP7TER
Product name	FP7 Terminal block

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