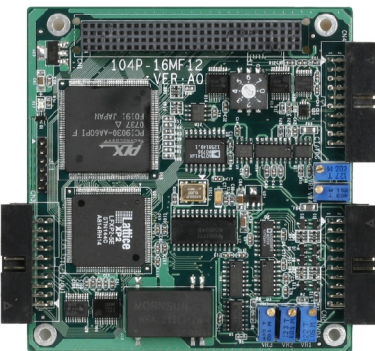


# 104P-16MF12

16-channel single-ended/8-channel differential/mixed input, 12-bit analog input, 12-bit analog output channel, up to 100k conversion rate; 1-channel 12-bit analog output; 8-channel digital input/output channel; 1-channel programmable timer/counter



## Specifications and Features

### Analog (AD) Input

Channel: 16-channel single-ended/8-channel differential/mixed

Resolution: 12-bit

FIFO Size: 4K x 16-bit

Max. Sampling Rate: 100Ksps

Input Voltage Range and Gain:

Gain:	1	2	4	8	0.5
Unipolar	0~10V	0~5V	0~2.5V	0~1.25V	NA
Bipolar	±5V	±2.5V	±1.25V	±0.625V	±10V

Accuracy:  $\pm 0.05\%$ FSR (gain =1)(FSR: full scale range)

Input Impedance: 2M $\Omega$ /5pF

Max. Input Overload Voltage (continuous):  $\pm 15$ V

Input Overload Protection Voltage (instant):  $\pm 30$ Vp-p  
(peak-to-peak value)

ESD Protection: 2000V<sub>DC</sub>

Trigger Mode: Software trigger, external trigger, internal timing  
trigger supports both continuous and one-time trigger

Interrupt Mode: Interrupt after AD conversion or interrupt when  
FIFO is half-full

### TTL Digital Input

Channel: 8

Input Level: TTL

### Analog (DA) Output

Channel: 1

Resolution: 12-bit

Accuracy: 0.05% FSR

Output Impedance: 0.81 $\Omega$

Driving Capacity: 3mA

Voltage Output Range:

0V~5V or 0V~10V (internal reference voltage -5V, -10V)

0 $\rightarrow$  Vref V or -Vref-0V (external reference voltage -10V  $\leq$  Vref  $\leq$  10V)

Settling Time: 26 $\mu$ s (from 0 to full scale range)

Reference Source: Internal 5V or 10V; external -10V~+10V

### Programmable Timer/Counter

Channel: 1

Input Level: TTL

Output Level: TTL

Resolution: 16-bit

Max. Input Frequency: 20MHz

### TTL Digital Output

Channel: 8

Output Level: TTL

## General Specifications

2-bit Board ID setup function

Compatible with PC104 Plus 2.0 specification

Power Consumption: Typical +5V@470mA; max. +5V@500mA

External Dimensions (L x H): 95.89mm x 90.17mm (3.775" x 3.550")

Operating Temperature: 0°C~60°C

Storage Temperature: -20°C~70°C

Relative Humidity: 5%~95% RH, (IEC 68-2-3), (non-condensing)

## Ordering Information

Part Number	Model Number	Description
0060-002940	104P-16MF12	16-channel single-ended/8-channel differential/mixed A/D input, 2-channel D/A output, 1-channel programmable timer/counter
0060-003050	PCLD-8753	IDC connector industrial terminal board, onboard CJC (cold-junction compensation) circuit