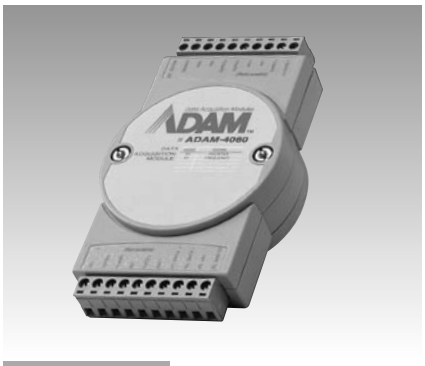
# ADAM-4080/4080D
# ADAM-4117
# ADAM-4118

## Counter/Frequency Module

## 8-channel Analog Input Module

## 8-channel Thermocouple Input Module



ADAM-4080/4080D

ADAM-4117

ADAM-4118

## Specifications

### General

- **LED Indicators** 5-digit readout, CH 0 or CH 1 (programmable) (ADAM-4080D only)
- **Power Consumption** 2.0 W @ 24 $V_{DC}$
- **Power Input** Unregulated 10~30 $V_{DC}$

### Counter Input

- **Alarm** Alarm comparator on each counter
- **Channels** Two independent 32-bit counters
- **Input Frequency** 50 kHz max. (non-isolation)
- **Input Pulse Width** >10 µs.
- **Input Mode** Isolated or non-isolated
- **Isolation Input Level** Logic level 0: +1 V max. Logic level 1: 3.5~30 V
- **Isolation Voltage** 2500 $V_{RMS}$
- **Non-isolated Input Level** Programmable threshold: Logic level 0: 0 to +5 V (default = 0.8 V) Logic level 1: 0 to +5 V (default = 2.4 V)
- **Maximum Count** 4,294,967,295 (32 bits)
- **Preset Type** Absolute or relative
- **Programmable Digital Noise Filter** 2 ~ 65 µs

### Frequency Measurement

- **Range** 5 Hz ~ 50 kHz
- **Programmable Built-in Gate Time** 1.0/0.1 sec.

### Digital Output

- **Channels** 2
- **Open Collector** 30 V, 30 mA max. load
- **Power Dissipation** 300 mW for each channel

## Specifications

### General

- **Power Consumption** 1.2 W @ 24 $V_{DC}$
- **Power Input** Unregulated 10~48 $V_{DC}$

### Analog Input

- **Accuracy**
  Voltage mode : ±0.1% or better
  Current mode : ±0.2% or better
- **ASCII commands and Modbus protocol**
- **Built-in TVS/ESD Protection**
- **Channels** 8 x differential and independent configuration channels
- **CMR @ 50/60 Hz** 92 dB min.
- **Fault and Overvoltage** With stands overvoltage protection up to ±60 V
- **High Common Mode** 200 $V_{DC}$
- **Input Impedance** Voltage: 20 MΩ Current: 120 Ω
- **Input Type** mV, V (supports uni-polar and bipolar), mA
- **Input Range** 0~150mV, 0~500mV, 0~1V, 0~5V, 0~10V, 0~15V, ±150 mV, ±500 mV, ±1V, ±5 V, ±10 V, ±15V, ±20 mA, 4~20mA
- **Isolation Protection** 3000 $V_{DC}$
- **Resolution** 16 bits
- **Sampling Rate** 10/100 samples/sec (selected by Utility)
- **Span Drift** ±25 ppm/° C
- **Watchdog Timers** 2
- **Zero Drift** ±6µV/° C

## Common Specifications

### General

- **Dimensions** 70 x 122 x 30 mm
- **Connector** 2 x Plug-in terminal blocks (#14 ~ 22 AWG)
- **Enclosure** ABS+PC
- **Mounting** DIN 35 rail, stack, wall
- **Watchdog Timer** 1.6 sec. (system)

### Environment

- **Humidity** 5 ~ 95% RH
- **Operating Temperature**
  4080/4080D: -10~70°C (14~158° F)
  4117/4118: -40 ~85°C(-40~ 185° F)
- **Storage Temperature**
  4080/4080D: -25~85°C(-13~185° F)
  4117/4118: -40 ~ 85°C(-40~ 185° F)

## Specifications

### Analog Input

- **Analog Input Channel** 8 differential & independent thermocouple configurations
- **Input Impedance** Voltage: 20 MΩ Current: 120 Ω
- **Input Range**
  Thermocouple
  J 0 ~ 760 °C
  K 0 ~ 1370 °C
  T -100 ~ 400 °C
  E 0 ~ 1000 °C
  R 500 ~ 1750 °C
  S 500 ~ 1750 °C
  B 500 ~ 1800 °C
  Voltage mode
  ±15 mV, ±50 mV, ±100 mV, ±500 mV, ±1 V, ±2.5 V
  Current mode
  ±20 mA, +4~20 mA
- **Sampling Rate** 10/100 samples/sec(selected by Utility)
- **Isolation Protection** 3,000 $V_{DC}$

### Power

- **Power Consumption** 0.5 W @ 24 $V_{DC}$

### Communication

- **Network** RS-485 (2-wire)
- **Speed** 1.2 ~ 115.2 kbps
- **Distance** 1.2 km (4000 ft)
- **Data Format** Advantech protocol: 1 start bit, 8 data bits, 1 stop bit, none parity
- **Modbus Protocol** 1 start bit, 8 data bits, 1 or 2 stop bit, parity check (none, even,odd)
- **Modbus/RTU Protocol Support** Yes
- **Watchdog Timers** System, Communication

## Ordering Information

- **ADAM-4080** Counter/Frequency module
- **ADAM-4080D** Counter/Frequency module with LED Display
- **ADAM-4117** 8-channel Analog Input Module
- **ADAM-4118** 8-channel Thermocouple Input Module

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