

# Analog Modules

## ND-6013

### 3-CH RTD Input Module



#### Analog Input

- Channels: 3
- Input Type: Pt-100, Ni-100, or Ni-120 RTD

RTD	Type	Temperature Range
Pt	-100°C to +100°C	= 0.00385
Pt	0°C to +100°C	= 0.00385
Pt	0°C to +200°C	= 0.00385
Pt	0°C to +600°C	= 0.00385
Pt	-100°C to +100°C	= 0.003916
Pt	0°C to +100°C	= 0.003916
Pt	0°C to +200°C	= 0.003916
Pt	0°C to +600°C	= 0.003916
Ni	-100°C to +100°C	
Ni	-120°C to +100°C	
Q	0 Ω to +60 Ω	

- Isolation Voltage: 2500 VRMS
- Sampling Rate: 10 samples/sec
- Input Wiring: 2, 3, or 4 wires

#### Power

- Requirement: unregulated +10 V to +30 Vdc
- Power Consumption: 0.696 W typical

## ND-6017

### 8-CH Analog Input Module



#### Analog Input

- Channels: 6 differential & 2 singled-ended
- Input Type: mV, V, and mA
- Input Range:  $\pm 150$  mV,  $\pm 500$  mV,  $\pm 1$  V,  $\pm 5$  V,  $\pm 10$  V
- Current Range: 0 to 20 mA (with external 125 Ω resistor)
- Isolated Voltage: 2500 VRMS
- Sampling Rate: 10 samples/sec

#### Power

- Requirement: unregulated +10 V to +30 Vdc
- Power Consumption: 1.2 W typical

## ND-6018

### 8-CH Thermocouple Input Module



#### Analog Input

- Channels: 6 differential & 2 singled-ended
- Input Type: Thermocouple, mV, V, or mA
- Thermocouple Type: J, K, T, E, R, S, B, N, C
- Thermocouple Input Range
  - J: 0°C to 760°C
  - K: 0°C to 1,370°C
  - T: -100°C to +400°C
  - E: 0°C to 1,000°C
  - R: 500°C to 1,750°C
  - S: 500°C to 1,750°C
  - B: 500°C to 1,800°C
  - N: -270°C to 1,300°C
  - C: 0°C to 2,320°C

- Internal CJC can be enable/disable

- Voltage Range:  $\pm 15$  mV,  $\pm 50$  mV,  $\pm 100$  mV,  $\pm 500$  mV,  $\pm 1$  V,  $\pm 2.5$  V
- Current Range: 0 to 20 mA (with external 125 Ω resistor)
- Isolated Voltage: 2500 VRMS
- Sampling Rate: 3 samples/sec

#### Power

- Requirement: unregulated +10 V to +30 Vdc
- Power Consumption: 0.96 W typical

## ND-6021

### Analog Output Module



#### Single Channel Analog Output

- Voltage Output: 0 to +10 V
- Current Output: 0 to +20 mA, +4 to +20 mA
- Output Isolation: 5000 VRMS
- Resolution: 12-bit output resolution accuracy
- Programmable Output Slope:
  - 0.125 to 128 mA/sec
  - 0.0625 to 64 V/sec
- Current Load Resistor: 0 to 500 Ω

#### Power

- Requirement: unregulated +10 V to +30 Vdc
- Power Consumption: 1.32 W typical

## ND-6024

### 4-CH Analog Output Module



#### Analog Output

- Channels: 4
- Voltage Output -10 V to +10 V
- Resolution: 12-bit
- Accuracy:  $\pm 0.02\%$  of FSR
- Maximum current output:  $\pm 10$  μA
- Gain Drift: 10 ppm FSR/°C

#### Digital Input

- Channels: 7
- Switching Levels: TTL
- Internal Pull-up Resistor: 10 k

#### Power

- Requirement: unregulated +10 V to +30 Vdc
- Power Consumption: 1.848 W typical