

# ADAM-4118 ADAM-4150 ADAM-4168

**Robust 8-ch Thermocouple Input Module with Modbus**

**Robust 15-ch Digital I/O Module with Modbus**

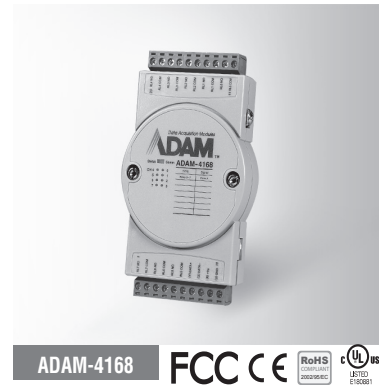
**Robust 8-ch Relay Output Module with Modbus**



ADAM-4118



ADAM-4150



ADAM-4168



## Specifications

### General

- Power Consumption 0.5W @ 24 V<sub>DC</sub>

### Analog Input

- Channels 8 differential and independent configuration channels
- Input Impedance Voltage: 20 M $\Omega$   
Current: 120  $\Omega$   
T/C, mV, V, mA
- Input Type Thermocouple
- Input Range

|   |              |   |               |
|---|--------------|---|---------------|
| J | 0 ~ 760°C    | R | 500 ~ 1,750°C |
| K | 0 ~ 1,370°C  | S | 500 ~ 1,750°C |
| T | -100 ~ 400°C | B | 500 ~ 1,800°C |
| E | 0 ~ 1,000°C  |   |               |

- Voltage mode  $\pm 15$  mV,  $\pm 50$  mV,  $\pm 100$  mV,  $\pm 500$  mV,  $\pm 1$  V,  $\pm 2.5$  V
- Current mode  $\pm 20$  mA, 4 ~ 20 mA
- Accuracy Voltage mode:  $\pm 0.1\%$  or better  
Current mode:  $\pm 0.2\%$  or better
- Resolution 16-bit
- Sampling Rate 10/100 samples/sec (selected by Utility)
- CMR @ 50/60 Hz 92 dB
- NMR @ 50/60 Hz 60 dB
- Overvoltage Protection  $\pm 60$  V<sub>DC</sub>
- High Common Mode 200 V<sub>DC</sub>
- Span Drift  $\pm 25$  ppm/ $^{\circ}$ C (Typical)
- Zero Drift  $\pm 6$   $\mu$ V/ $^{\circ}$ C
- Built-in TVS/ESD Protection
- Burn-out Detection

## Common Specifications

### General

- Power Input Unregulated 10 ~ 48 V<sub>DC</sub>
- Watchdog Timer System (1.6 second) & Communication
- Connector 2 x plug-in terminal blocks (#14 ~ 22 AWG)
- Isolation Voltage 3,000 V<sub>DC</sub>

### General

- Power Consumption 0.7 W @ 24 V<sub>DC</sub>

### Digital Input

- Channels 7
- Input Level Dry contact: Logic level 0: Close to GND  
Logic level 1: Open  
Wet contact: Logic level 0: 3 V max  
Logic level 1: 10 ~ 30 V  
(Note: The Digital Input Level 0 and 1 status can be inverted)
- Supports 3 kHz Counter Input (32-bit + 1-bit overflow)
- Supports 3 kHz Frequency Input
- Supports Invert DI Status
- Over Voltage Protection 40 V<sub>DC</sub>

### Digital Output

- Channels 8, open collector to 40 V (0.8A max. load)
- Power Dissipation 1W load max
- RON Maximum 150 m $\Omega$
- Supports 1 kHz Pulse Output
- Supports High-to-Low Delay Output
- Supports Low-to-High Delay Output

- Supported Protocols ASCII Command and Modbus/RTU

### Environment

- Operating Humidity 5 ~ 95% RH
- Operating Temperature -40 ~ 85 $^{\circ}$ C (-40 ~ 185 $^{\circ}$ F)
- Storage Temperature -40 ~ 85 $^{\circ}$ C (-40 ~ 185 $^{\circ}$ F)

## Specifications

### General

- Power Consumption 1.8 W @ 24 V<sub>DC</sub>

### Relay Output

- Output Channels 8 Form A
- Contact Rating (Resistive) 0.5 A @ 120 V<sub>AC</sub>  
0.25 A @ 240 V<sub>AC</sub>  
1 A @ 30 V<sub>DC</sub>  
0.3 A @ 110 V<sub>DC</sub>
- Breakdown Voltage 750 V<sub>AC</sub> (50/60 Hz)
- Initial Insulation Resistance 1 G  $\Omega$  min. @ 500 V<sub>DC</sub>
- Relay Response Time (Typical) On: 3ms  
Off: 1ms
- Total Switching Time 10 ms
- Supports 100 Hz pulse output
- Maximum Operating Speed 50 operations/min (at related load)

## Ordering Information

- ADAM-4118 Robust 8-ch Thermocouple Input Module w/ Modbus
- ADAM-4150 Robust 15-ch Digital I/O Module with Modbus
- ADAM-4168 Robust 8-ch Relay Output Module with Modbus

## Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

### US

[sales@assured-systems.com](mailto:sales@assured-systems.com)

Sales: +1 347 719 4508

Support: +1 347 719 4508

1309 Coffeen Ave  
Ste 1200  
Sheridan  
WY 82801  
USA

### EMEA

[sales@assured-systems.com](mailto:sales@assured-systems.com)

Sales: +44 (0)1785 879 050

Support: +44 (0)1785 879 050

Unit A5 Douglas Park  
Stone Business Park  
Stone  
ST15 0YJ  
United Kingdom

VAT Number: 120 9546 28

Business Registration Number: 07699660