

# ADAM-518

# ADAM-518E

## 24-ch RS-485 T/C Input Module

## 24-ch Ethernet T/C Input Module



### Features

- 24-channel thermocouple input reduces module count, saving wiring and cabinet space
- Supports widely used thermocouple types for general industrial and environmental applications
- Thermocouple type and input range can be easily configured using ADAM Utility with no programming required
- Delivers 16-bit resolution and  $\pm 0.5^\circ\text{C}$  CJC accuracy for stable and precise measurements
- Wide temperature measurement range supports a variety of application needs
- Dual LAN ports support Ethernet daisy-chain connection to simplify wiring and reduce switch costs (ADAM-518E)
- Auto-bypass keeps network connection during power loss, reducing downtime and maintenance costs (ADAM-518E)
- Built-in Graphic Condition Logic (GCL) allows simple control logic to run directly on the module without a PLC or PC (ADAM-518E)



### Introduction

ADAM-518/E features 24-channel thermocouple inputs, supports wide temperature measurement range with high Accuracy, positioning itself as an ideal solution for applications requiring precise temperature monitoring across multiple points.

### 24-Ch T/C Input Module Comparison Table

Model		ADAM-518	ADAM-518E	
Communication	Physical interface	RS-485	10/100 Base-T Ethernet	
	Protocols	ADAM ASCII, Modbus/RTU	ADAM ASCII, Modbus/TCP	
	Speeds	Max. 115200 bps	10/100 Mbps	
	Max. bus length	1200m (depends on bus topology and communication speed)	100m (can use an Ethernet switch hub to extend)	
	Daisy Chain	-	Supported	
	Auto-bypass	-	Supported	
Thermocouple Input	Channels	24 differential and independent configurable channels		
	Input Impedance	20 M $\Omega$		
	CJC sensor accuracy	$\pm 0.5^\circ\text{C}$		
	Resolution	16 bits		
	Sampling Rate	10/100 SPS	10/100/160 SPS	
Thermocouple Input Range	T/C Type	Measurement Range ( $^\circ\text{C}$ )	Reference Accuracy @ $25^\circ\text{C}$	Temperature Drift $^\circ\text{C}/^\circ\text{C}$ (ppm/ $^\circ\text{C}$ )
			10 SPS	10 SPS
	K	-200 ~ +1370 $^\circ\text{C}$	$\pm 0.5^\circ\text{C}$	$\pm 0.047^\circ\text{C}$ ( $\pm 30\text{ppm}/^\circ\text{C}$ )
	J	-200 ~ +0 $^\circ\text{C}$	$\pm 0.8^\circ\text{C}$	$\pm 0.042^\circ\text{C}$ ( $\pm 30\text{ppm}/^\circ\text{C}$ )
		0 ~ +1200 $^\circ\text{C}$	$\pm 0.5^\circ\text{C}$	
	T	-200 ~ -100 $^\circ\text{C}$	$\pm 1.0^\circ\text{C}$	$\pm 0.060^\circ\text{C}$ ( $\pm 100\text{ppm}/^\circ\text{C}$ )
		-100 ~ +400 $^\circ\text{C}$	$\pm 0.6^\circ\text{C}$	$\pm 0.030^\circ\text{C}$ ( $\pm 50\text{ppm}/^\circ\text{C}$ )
	E	-200 ~ +0 $^\circ\text{C}$	$\pm 0.8^\circ\text{C}$	$\pm 0.036^\circ\text{C}$ ( $\pm 30\text{ppm}/^\circ\text{C}$ )
		0 ~ +1000 $^\circ\text{C}$	$\pm 0.5^\circ\text{C}$	
	N	-200 ~ -100 $^\circ\text{C}$	$\pm 1.0^\circ\text{C}$	$\pm 0.120^\circ\text{C}$ ( $\pm 80\text{ppm}/^\circ\text{C}$ )
		-100 ~ +1300 $^\circ\text{C}$	$\pm 0.6^\circ\text{C}$	$\pm 0.060^\circ\text{C}$ ( $\pm 40\text{ppm}/^\circ\text{C}$ )
	R	-50 ~ +0 $^\circ\text{C}$	$\pm 2^\circ\text{C}$	$\pm 0.214^\circ\text{C}$ ( $\pm 120\text{ppm}/^\circ\text{C}$ )
		0 ~ +1750 $^\circ\text{C}$	$\pm 0.5^\circ\text{C}$	$\pm 0.089^\circ\text{C}$ ( $\pm 50\text{ppm}/^\circ\text{C}$ )
	S	-50 ~ +1750 $^\circ\text{C}$	$\pm 0.5^\circ\text{C}$	$\pm 0.178^\circ\text{C}$ ( $\pm 100\text{ppm}/^\circ\text{C}$ )
$\pm 0.071^\circ\text{C}$ ( $\pm 40\text{ppm}/^\circ\text{C}$ )				
B	+200 ~ +500 $^\circ\text{C}$	$\pm 1.2^\circ\text{C}$	$\pm 0.080^\circ\text{C}$ ( $\pm 50\text{ppm}/^\circ\text{C}$ )	
	+500 ~ +1800 $^\circ\text{C}$	$\pm 0.5^\circ\text{C}$		

Ihr Ansprechpartner: 

**AMC – Analytik & Messtechnik GmbH Chemnitz**  
 Heinrich-Lorenz-Str. 55 Tel.: +49/371/38388-0  
 09120 Chemnitz Fax: +49/371/38388-99  
 E-Mail: info@amc-systeme.de Web: www.amc-systeme.de



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## ADAM-518/ADAM-518E

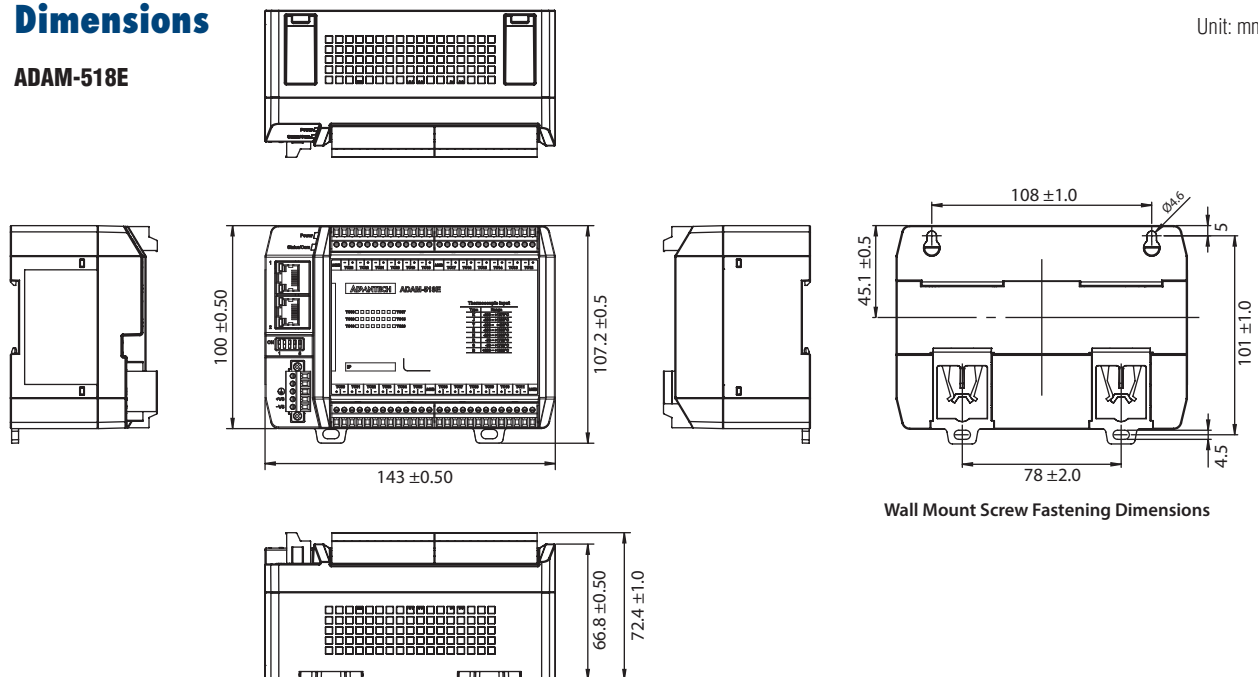
### 24-Ch T/C Input Module Comparison Table (Cont.)

<b>Model</b>	ADAM-518	ADAM-518E
<b>Power Input</b>	10 ~ 30 V <sub>DC</sub> , 24V <sub>DC</sub> nominal	
<b>Power Consumption (typical)</b>	1.2W @ 24V <sub>DC</sub>	2W @ 24V <sub>DC</sub>
<b>Protection Circuit</b>	Reverse Voltage Protection	
<b>Screw Terminal Connector</b>	<b>Power RS-485 (ADAM-518)</b>	1 x 5P / 3.81mm
	<b>I/O</b>	4 x 13P / 3.81mm
<b>DIP Switch</b>	ID configuration (0-31)	static IP / DHCP switching
<b>Watchdog Timer</b>	System (1.6 second) & Communication	
<b>ESD Protection</b>	ESD ±4kV (contact) / ±8kV (air); EFT ±1kV; Surge ±1kV	
<b>Isolation Voltage</b>	3,000 V <sub>DC</sub>	
<b>Environment</b>	<b>Operating Temperature</b>	-10 ~ 70 °C (14 ~ 158 °F)
	<b>Storage Temperature</b>	-25 ~ 85 °C (-13 ~ 185 °F)
	<b>Operating Humidity</b>	5 ~ 95% RH
<b>Material</b>	Polycarbonate	
<b>Mounting</b>	DIN rail Mounting (Top Hat 7.5mm & 15mm), Wall Mounting	
<b>Dimension</b>	<b>With DIN rail kit</b>	143 x 107.2 x 72.4 mm
	<b>Without DIN rail kit</b>	143 x 100 x 66.8 mm
<b>Regulatory / Approvals / Certifications</b>	FCC, CE, RoHS, REACH, WEEE	

### Dimensions

ADAM-518E

Unit: mm



### Ordering Information

Part Number to Order	Description
ADAM-518-A	24 ch RS-485 T/C Input Module
ADAM-518E-A	24-Ch Ethernet T/C Input Module



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