PRODUCT OVERVIEW



X-I3s™

The X-13s[™] Thermocouple expansion module is used in conjunction with the X-600M[™] controller. The X-13s is a 2-channel signal conditioner for Type-K thermocouples. One or more X-13s thermocouple expansion modules can be connected to a X-600M control module with a ribbon cable. The ribbon cable provides both power and communications to the module.

The X-600M is a multifunction webenabled industrial I/O controller. It performs control, logic, and monitoring functions similar to that of a Programmable Logic Controller (PLC). However, unlike a PLC, the X-600M is designed for web-based applications from the ground up. No add-on software or hardware is required.

The X-600M can be fully configured, programmed and tested using its built-in web server. The web setup pages are intuitive and easy to use and do not require special programming skills.

The X-600M together with the X-13s provide an easy, flexible and reliable way to monitor temperature over a network. The X-13s is suitable for use with freezers, ovens, fermenters, generators – anywhere precision, rugged, temperature sensors are required.

Features:

- 2-Channel thermocouple inputs
- Type K Thermocouples
- Range -200°C to +1250°C
- Two "Open Thermocouple" Channel LEDs
- Powered through expansion bus
- Great for moderate-load applications including:
 - Freezers
 - Ovens
 - ° Fermenters
 - ° Generators
 - ° and much more...

🖡 System		VOOL Daabb
Network		X600M - Dashb
Devices	Thermocouple Type K Slave (0000005c)	φ
≥ vo	Thermocouple: 76.35 F	
Control/Logic	Thermocouple: 89,75 F	
Logging		
Edit Dashboards		

View X-13s components on the X-600M's Dashboard

000 #§ Setup						
← → C 🗋 192.168.	1.2/setup.nt		X600M		u ^{rt}	-
Ж600М	1	192.168.1.2/popup.php				
CONTROLBYWEB		Thermocouple Typ	e K Slave Add I/O		1	hit Ch
🗲 System	De	Add I/O found on Thermocouple Type K Slave (0000005c). Please see below the list for a description of each field.				
Network	Lis	I/O List				
Devices		I/O Type	I/O Description	I/O Name	Select	
± vo		Thermocouple 1	AUTO_GENERATE	AUTO_GENERATE	e 🖉	
Control/Logic	New Devic	Thermocouple 2	AUTO_GENERATE	AUTO_GENERATE	N	
Logging	Show 1	Showing 1 to 2 of 2 entries Select All		Select All	Deselect All	
] Edit Dashboards	Model X-15S	Ad	d Checked I/O Create device widg	Create device widget on panel1		ATE
					E	
	X-12S	Device I/O: This shows the type an	id reference number of each input and ou	tput on the device.	24	LATE
View Dashboards	X-118	I/O Description: Text can be entered here to identify the I/O in a format that is easy to understand and recognize. It can include spaces and the maximum number of characters is ???. If nothing is entered a description will be automatically generated. I/O Name: This is a unique name given to each I/O. This name is used to reference the I/O when writing scripts. This name must start with an alphabetic rule name/shared reference rule spaces. The name can be up to ??? characters long. If nothing is entered a name will automatically be generated.				
	Showing 1					
			hecked) will be added to the X-600M data add that only I/O which will be used be a			

Adding the X-13s on the X-600M





APPLICATIONS & SPECS

Expansion Modules With The X-600M Controller



Applications					
\checkmark	Freezers				
\checkmark	Ovens				
\checkmark	Fermenters				
\checkmark	Generators				
\checkmark	More				

Models:

• X-13s

Power Requirements

- Voltage: 9-28 VDC (supplied via the X-600M controller, 24V recommended)
- Max Current: See table below for typical values at 25°C.

	Power	Thermocouple Open	Thermocouple Good	
9 VDC		49 mA	17 mA	
	12 VDC	37 mA	13 mA	
	24 VDC	20 mA	8 mA	

Thermocouples

- Number of channels: 2 Channels
- Thermocouple: Type-K
- Linear Range: -200°C to 1250°C
- Operating Ambient: -40°C to 85°C (internal cold junction compensation)
- Resolution: 0.027°C
- Drift: 4ppm/°C typical, 15ppm/°C max
- Type: Inputs are not isolated, only use ungrounded thermocouples
- Input Current: Differential, ±165nA max
- Error Detection Detects sensor breakage or disconnection of lead wire

Connectors

- Type: Miniature size, Omega PCC-SMP Series, Type-K
- Mating Connector: Miniature size, SMP
- Expansion Connector: Ribbon cable, 10-conductor, polarized, 2x5-position, 0.100" pitch Provides power and communications for expansion modules (Communications: RS-485)

LED Indicators

- Number of LEDs: 3
- Power on
- ° "Open Thermocouple (Channels 1-2)

Physical

- Size:
- ° 1.41in (35.7mm) wide
- ° 3.88in (98.5mm) tall
- ° 3.1in (78mm) deep (not including connector)
- Weight: 4.8 oz (136 g)
- Enclosure Material: Lexan 940 Polycarbonate Plastic
- Enclosure Flame Rating: UL94 V0

Environmental

- Operating Temperature: -40°F to 150°F (-40°C to 65.5°C)
- Storage Temperature: -40°F to 185°F (-40°C to 85°C)
- Humidity: 5-95%, non-condensing
- Altitude: Up to 2,000m
- Indoor use or NEMA-4 protected location

Electromagnetic Compliance

- IEC CISPR 22, CISPR 24
- FCC 47CFR15 (Class B)
- EN55024 ITE Immunity (2010)
- EN55022 Emissions (2010)

Product Safety Compliance

 UL 61010-1 (Electrical Equipment for Measurement, Control, and Laboratory Use)