

microframe[®]

SERIES 200XXX4 INSTALLATION & OPERATING MANUAL



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D0200XXX4-7010



Limited Warranty Agreement

Your Microframe System is warranted against failure due to defects in workmanship or material for a period of one (1) year from the date of purchase. Microframe Corporation will repair or replace any defective unit. Obvious abuse or mishandling of the unit is NOT covered by this warranty.

Merchandise Return

If your Unit does not work satisfactorily, please give us a call. We may be able to clear up the problem by phone. If it becomes necessary to return your Unit to the factory, please observe the following:

1. Call Microframe for an RMA number. This number authorizes you to return the product.
2. Place Unit in a sturdy box with sufficient packing material. Be sure the RMA number is on the outside of the box.
3. If requested, include the AC power adapter. It is not necessary to return the cable and connectors unless they are the problem.
4. Return the system insured and prepaid. Microframe is not responsible for shipping damages and losses on returned Units.

Warranty Service

For warranty service, please contact Microframe toll-free at 800-635-3811. One of our technicians will be glad to assist you.

Assistance

For any product assistance or maintenance help, contact Microframe by either calling 800-635-3811 or e-mailing us at: support@microframecorp.com.

Safety

Do not install substitute parts or perform any modification to the product without first contacting Microframe.

Disclaimer

We constantly strive to improve our products. Specifications are subject to change without notice.

Warning

All power adapters, line cords, and electrical equipment should be kept out of the reach of children and away from water. (If you are installing cable in an air plenum area, such as a drop ceiling used for air return, you must use plenum-rated cable. The cable supplied from Microframe is rated CL2 and is approved for indoor installation everywhere except plenum areas.)

Life Support Policy

Microframe's products are not authorized for use as components in life support devices or systems without the express written approval of the President of Microframe Corporation. As used herein:

1. Life support devices or systems are defined as systems which support or sustain life, and whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury to the user or any one depending on the system.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

FCC Notice (for wireless products only)

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Series 200XXX4
Installation and Specification Guide

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Overview

Series 200XXX4 displays are 0-20mA current loop displays. A typical application will use the range 4-20mA.

Installation

We recommend configuring the display on a bench before installing it permanently.

Power

Connect the supplied 24VAC adapter to the VIN terminals.



The transformer provides critical isolation from ground loops. Never connect the display power input to the DC supply used to drive the current loop.

Signal

Connect the positive side of your current loop to the 20mA + side. Connect the negative side of your current loop to the – side.

Power Up

Plug in the 24VAC adapter.

Self-Test Modes

Tap the mode button to select the following test modes:

- Firmware revision
- Raster characters (factory test)
- 8's fullbrite (factory burn in)

Configuration

Follow the instructions in Configuration (next page) to configure the module.

Mounting

- The indoor and outdoor version of these displays mount using the tilt-mount brackets attached to the sides of the display. Each bracket has a flange with two screw holes for wall mounting.

Configuration

Configuration is done via a web-page.

The display generates its own hotspot for configuration. Using a phone, tablet, or laptop, connect to the WiFi network name that starts with “SoftAP”. Then open a browser and navigate to “192.168.4.1”. A setup page will load.



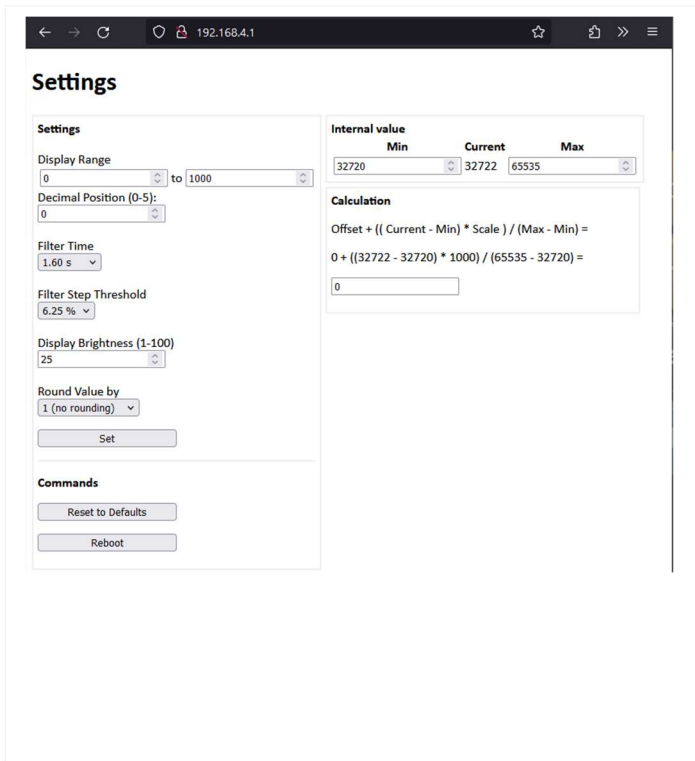
Some cell phones will recognize this WiFi has no internet, and automatically turn on mobile data. You may need to disable mobile data while configuring this device.

Set Zero Point

To set the minimum display value, have your sensor output the minimum value (typically 4mA). On the settings webpage, set the Min value to match the Current value.

Set Range

Set the start and end values of your Display Range.



Programmable Options – Web Page

- Min – The zero point for your current loop input. This is the internal value corresponding to 0mA or 4mA.
- Current – Internal ADC value.
- Max – The internal value corresponding to your current loop max value, typically 20mA. This value is typically left at 65535.
- Display Range – range of values shown on screen. e.g. 0 to 1000, 20 to 120, -40 to 40, or 100 to 0 (negative slope).
- Decimal Position – Inserts a decimal point into the displayed value.
- Filter Time – This is a rolling average over the time window specified. Larger values yield a more stable display but have slower response times.
- Filter Step Threshold – This setting is useful to speed up the response time when the input changes significantly. If the input value changes sharply by more than this percentage, then the display will immediately go to the new value.
- Display Brightness – Select the desired brightness.
- Round Value by – Round the displayed value to hide small variations.
- [Reset to Defaults] – press this to reset the settings on this page to the defaults.
- [Reboot] – Reboot the product. You may need to reconnect your device to the SoftAP network.

Module calibration

This product uses a current-to-voltage (CVM) converter module. The CVM is factory calibrated and should not need adjustment. For reference, here is the calibration procedure:

Remove the back panel from the display. Find the CVM on the upper part of the display.

On the website, set 'Filter Time' to 0.40s and click 'Set'.

Place a short jumper wire across the module's input terminals (left side). Turn the (left) zero pot until the 'Current' value shows 32720.

Remove the jumper wire. Connect a precision, low noise 20.00mA current source to the module. Turn the (right) span pot just until the 'Current' value shows 65535.

Set 'Filter Time' back to the previous value and click 'Set'.

Factory Reset

To reset the display hardware to Factory Defaults, press and hold the mode button for 20 seconds.

Appendix A – Troubleshooting

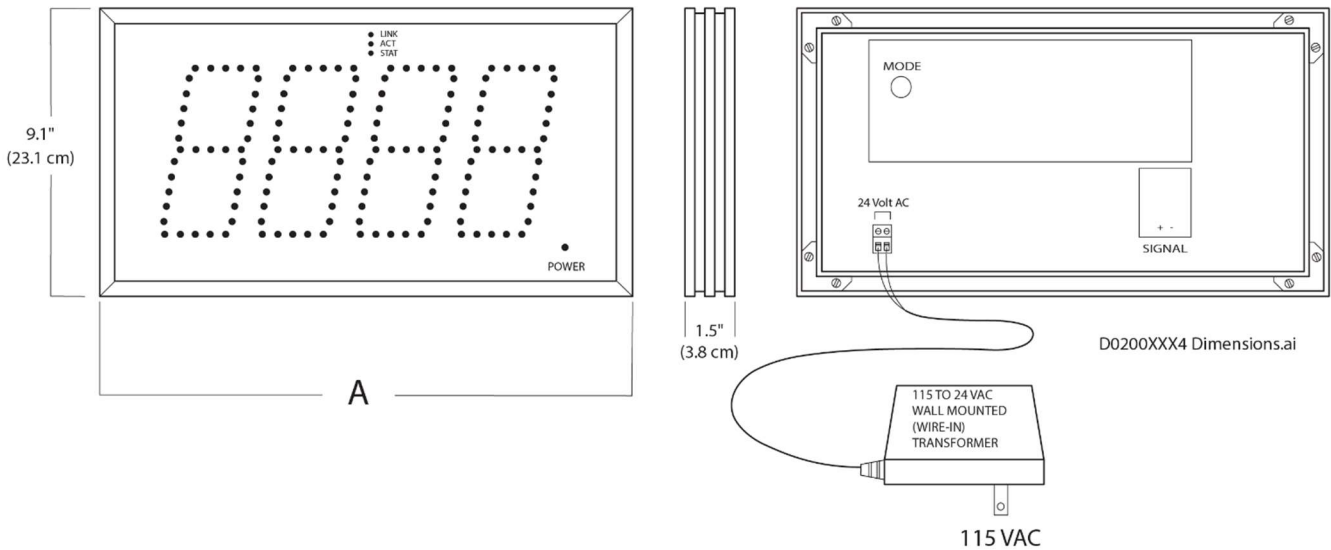
TROUBLESHOOTING CHART		
SYMPTOM	POSSIBLE CAUSE	SOLUTION
Display is blank and no Processor LED	No power to unit	Make sure the unit is plugged in and the outlet is working.
	Unit is dead	Return unit to Microframe for servicing.

Features

- 0 to 20mA current loop input. Typically used for 4-20mA
- Ultrabright LEDs
- Ground loop isolation when using the 24VAC adapter
- Passive device: does not inject voltage into loop
- Configuration via WiFi

Box Contents

- (1) Display w/ antenna
- (1) 24VAC power adapter
- (1) Manual, (1) Microframe Screwdriver



Model 200XXX4 Specifications				
Voltage Input Requirements.....	18-26 VAC			
Character Height.....	5.5 inches, viewable up to 125 feet			
Operating Temperature.....	-20°C to 60°C (-4°F to 140°F)			
Casing.....	Aluminum extrusion			
Color.....	Black frame with dark red acrylic faceplate			
Environment.....	Indoor use (Outdoor cases available)			
WiFi.....	802.11n			
Display Size	2-Digit	3-Digit	4-Digit	
Power Requirements	6.5 watts	7.7 watts	9.9 watts	
Display Weight, w/o adapter	3.0 lbs (1.4 kg)	4.2 lbs (1.8 kg)	4.5 lbs (1.9 kg)	
Width "A" Dimension	13.2" (33.5 cm)	16.8" (42.7 cm)	18.4" (46.7 cm)	