Artisan Controls Corporation

Solid State Timers and Controllers Since 1965

5400 Color Controller

RECOGNIZED COMPONENT

C ETL LISTED US

Intertek

3080852

The Artisan Controls Model 5400 controller provides a modern graphical user interface via it's 3.5" diagonal color display and includes two inputs for temperature probes, two switch inputs, two relay contact outputs, and two DC outputs for driving solid state relays, thereby providing an excellent platform for heating, cooking, or equipment control for virtually any application.

- Robust Design: Designed *specifically* for the commercial kitchen environment.
- User Interface – 3.5" diagonal color LCD display with simple touchscreen operation and intuitive window designs, 320 x 240 pixels with 64k colors.
- Display Orientation – Landscape or Portrait.
- Dimensions – 4-1/2"wide, 4-1/8" tall, 1-1/2" deep maximum.
- Analog Inputs – Two inputs configurable for 100 ohm or 1000 ohm RTD, any curve, J or K thermocouple. Other inputs such as 4-20mA, 0-10V, etc. are available.
- Digital Inputs – Two low voltage contact inputs.
- Outputs – Two 10A relay outputs and two 5V DC outputs for solid state relays
- Communications – RS-232 and CAN ports provided for expansion/cloud support
- Control – On/Off control with selectable hysteresis or PID control with sophisticated Auto Tune.
- Security – Manager, Service, and Factory access levels.
- Import/Export – Integrated USB port for saving or reading recipes and controller configurations providing consistent factory setup and field service. No 2Gb limitation plus firmware upgrades through USB port
- Controller History – Tracks operational hours and cooking hours to 0.1 hour resolution. Stores up to 128 system events and HACCP events for service history.
- MADE IN USA – Designed and manufactured exclusively in the USA.

Visit our website at: www.artisancontrols.com

Tel: 973-598-9400 Fax: 973-598-9410 Toll Free: 800-457-4950

Artisan Controls Corporation, 111 Canfield Ave., Bldg B15-18, Randolph, NJ 07869

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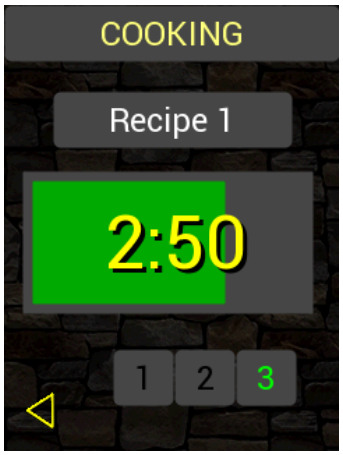
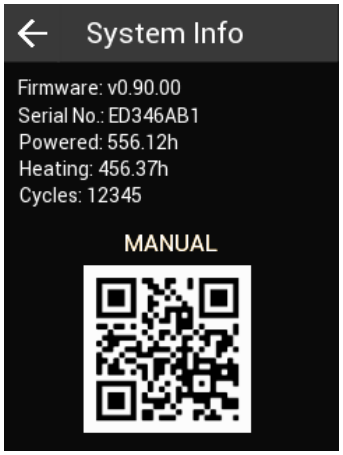
The 5400 controller provides all the input, output, and control methods needed to manage *any* cooking application. We have the ability to measure J & K thermocouples along with 100 ohm and 1000 ohm RTD's, any curve. Our extensive experience in process control methods (thermostatic w/hysteresis, PID, and many custom algorithms) enables us to provide you with exactly the type of temperature control your application needs.

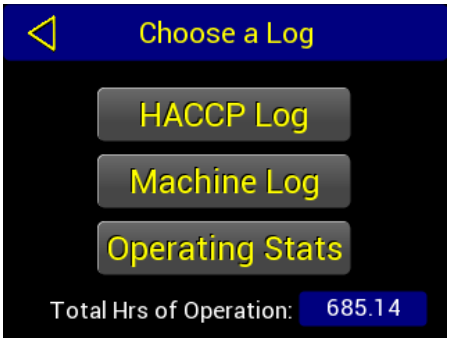


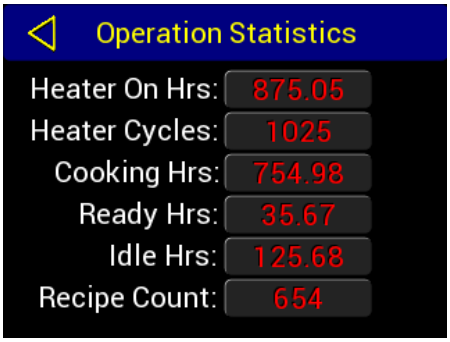
Our flexible graphics system enables us to provide a customized UI and UX which is intuitive and easy to use in color schemes to meet your marketing and branding requirements. We can provide icons of any size and type including actual product or equipment photographs to guide your users accurately with minimal training. We also provide screen images during the development process for your approval and for inclusion in your manuals.



<u>Our standard firmware features:</u>

- Manual and recipe cooking, both single and multi stage
- HAACP logs, event logs, and operational history (hours, heater cycles, etc.)
- Integrated USB port for import/export of recipes, configuration, and firmware updates.
- Exporting of all data in CSV format for easy analysis
- Expansion port with RS-232 port for cloud connectivity
- CAN port for I/O expansion.





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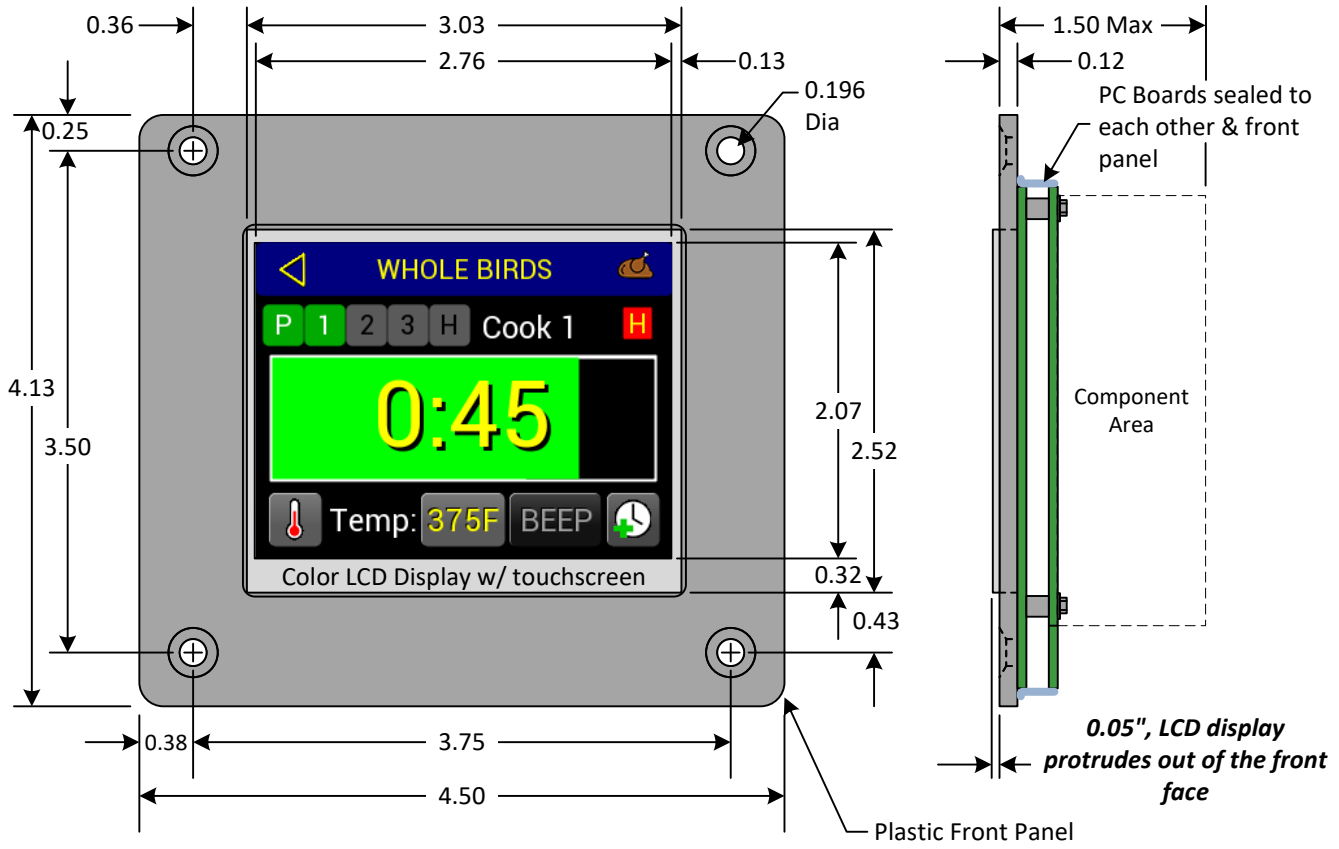
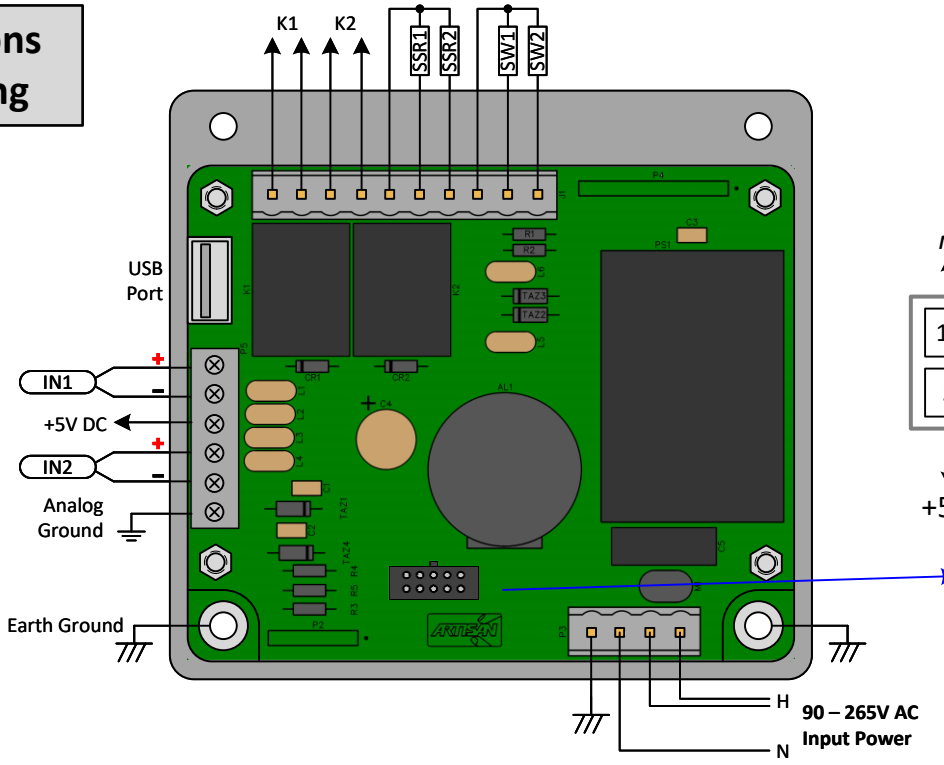
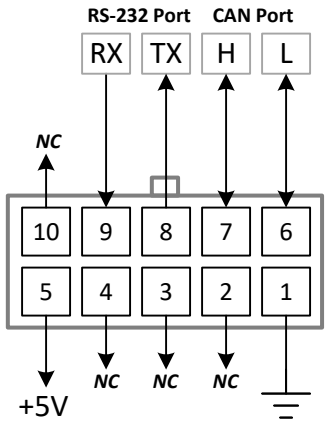


Dimensions and Wiring





J2 Expansion Port

Molex Micro-Fit 3.0
PN: 0430451012

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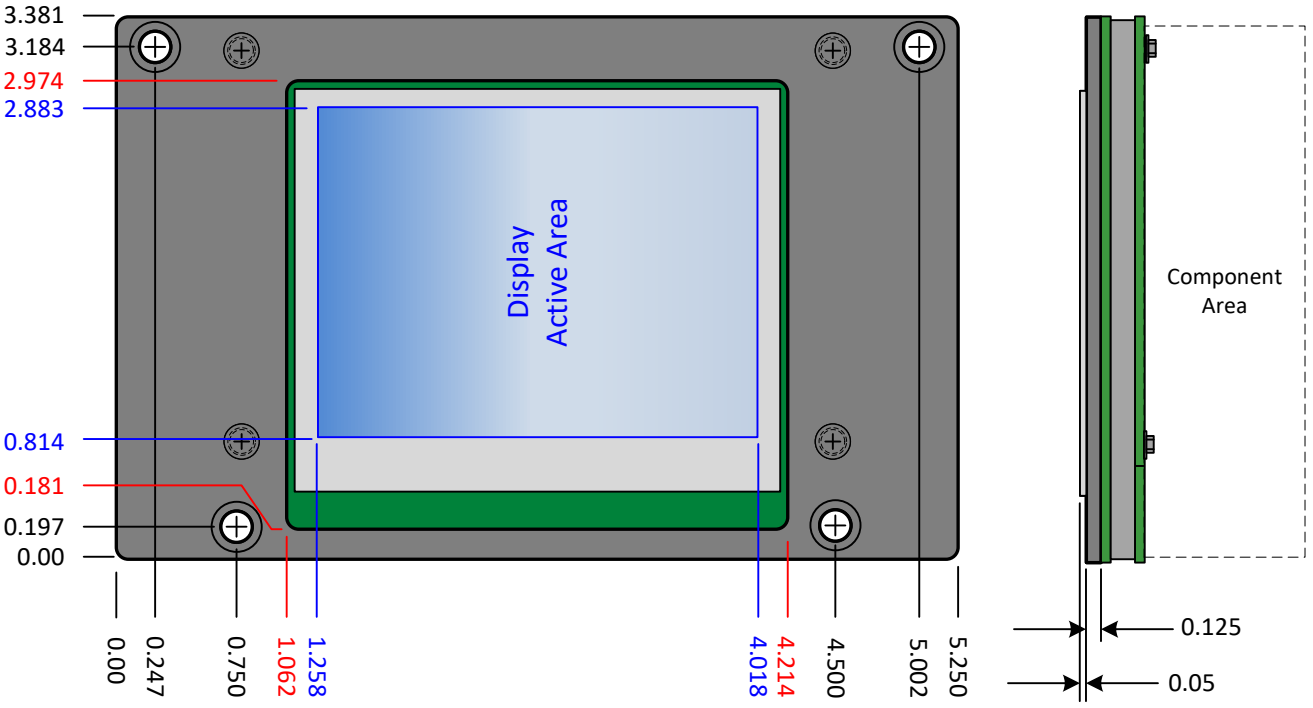
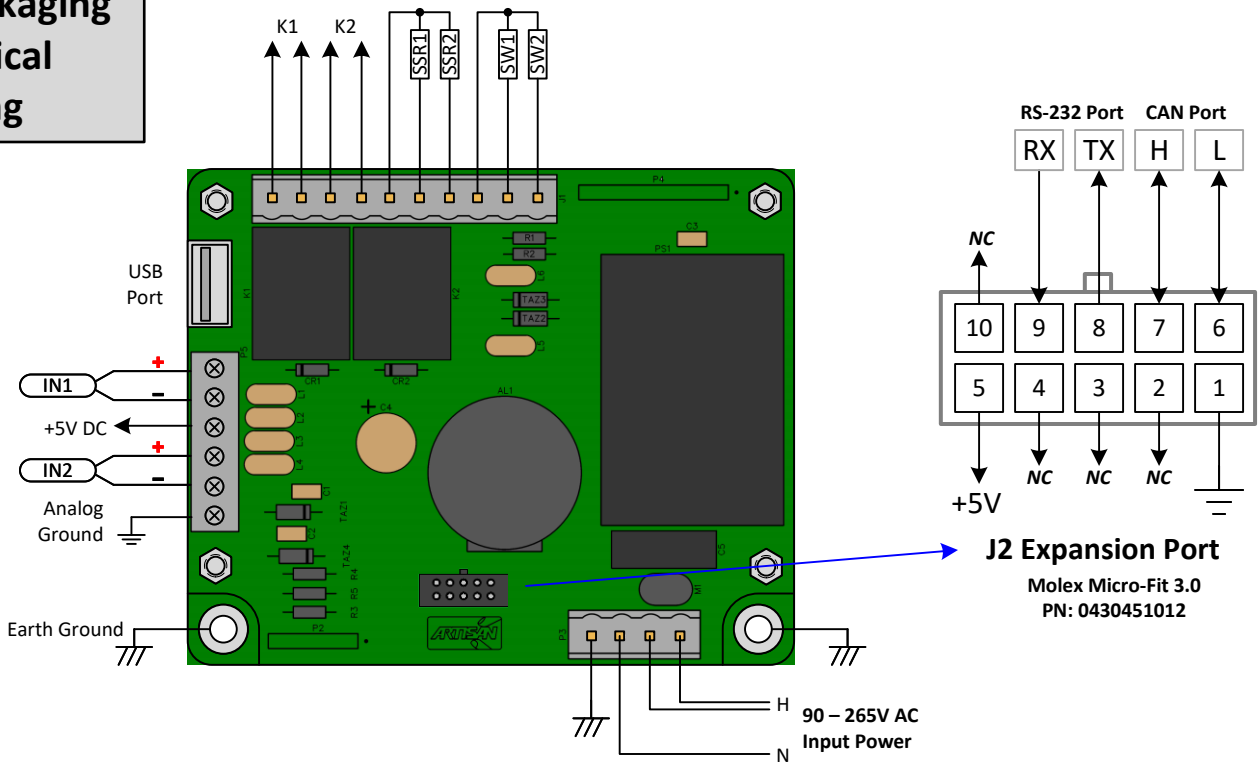


Slim Packaging For Vertical Mounting



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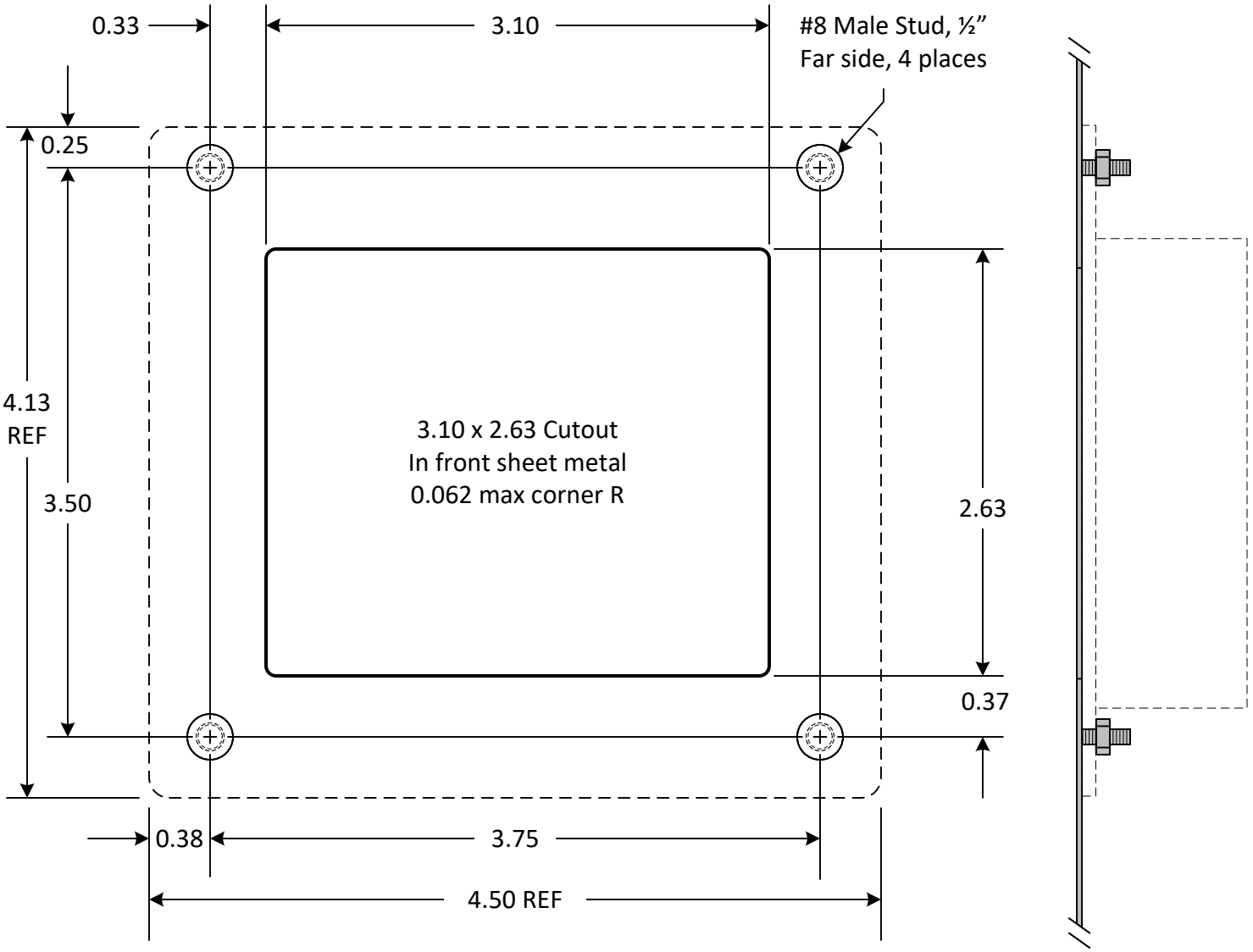

Recommended Mounting

If front panel temperature is greater than 55°C see next page

When designing the mounting method with a protective overlay there should be a 0.010" – 0.015" gap between the back of the overlay and the front surface of the display. Dielectric dots on the back of the overlay are recommended to prevent adhering of the back of the overlay to the LCD display

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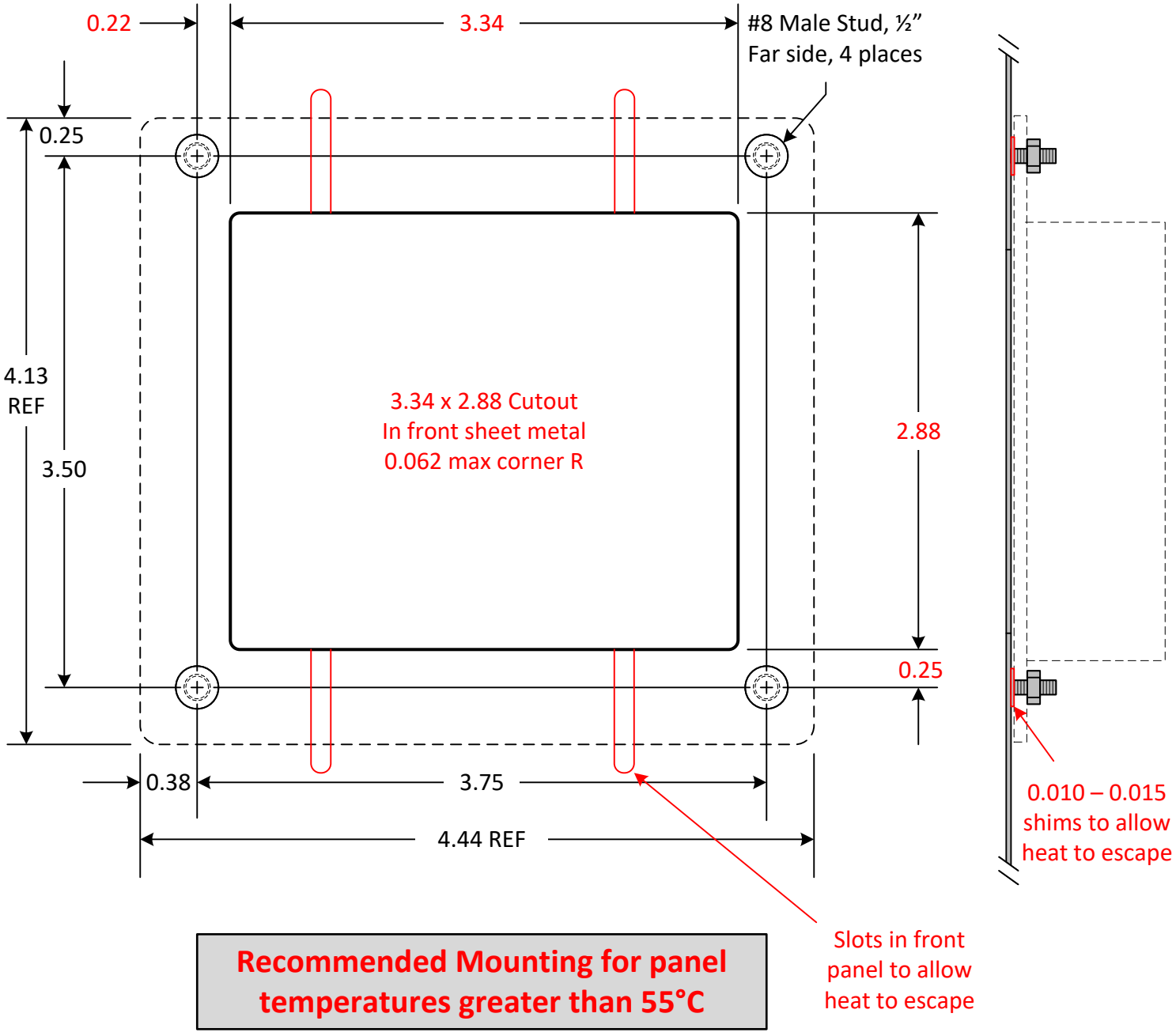

Recommended Mounting for panel temperatures greater than 55°C

Shims on the mounting studs or slots in the front metal should be used to allow hot air that is trapped between the controller and the overlay to escape. A larger opening for the display is required to increase the distance between the hot front panel and the touchscreen and to allow for additional overlay flexing if shims are used to create the convective cooling required.

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OVERLAY RECOMMENDATIONS:

The overlay must allow for a small amount of stretching to overcome the distance between the back of the overlay and the front of the resistive touchscreen. We recommend using 0.007" – 0.010" thick pure polyester material; polycarbonate or polycarbonate/polyester blends are less flexible and may crack over years of heat, flexing, and cleaning solutions.

We additionally recommend using a higher strength adhesive than the standard 3M 467, especially in food service environments where there is a high level of mechanical cleaning and cleaning solutions used. We recommend adhesives such as 3M 300-LSE or equivalent for these applications.

The overlay adhesive must stop at or before the edges in the opening in the front sheet metal to allow for the flexing of the overlay when being touched.

The clear area of the overlay should end at the edges of the Active Display Area to ensure full visibility of the LCD display.

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SPECIFICATIONS:

DISPLAY: Color 3.5" diagonal LCD display, 320 x 240 pixels, 16 bit color, resistive touchscreen for user interface. 60Hz display refresh rate.

PROCESSING: 32 bit processor providing 16 bit sensor measurement resolution with programmable gain to handle wide ranges of input voltages. Floating point conversion of input signals using ITS-90 conversion formulas. Analog resolution better than 0.1°F, cold junction resolution 0.25°F, measurement accuracy better than 3°F.

OUTPUTS: K1 & K2 - SPNO relay contacts rated 10A @ 125VAC, 7A @ 250VAC. SSR1 & SSR2 - 5VDC @ 50mA maximum[2].

INPUTS: SW1 & SW2 - Low voltage dry contact inputs, <5mA @ 5VDC.
IN1 & IN2 - Universal analog inputs. Software configurable for 100 Ohm or 1000 Ohm RTD, J or K thermocouple, other analog inputs (ie: 4-20mA, 0-10V) available. +5V DC for sensor power limited to 50mA maximum[2].

USB PORT: Flash drive interface for importing & exporting cooking recipes, controller configuration, and firmware update. Any drive size up to 16Gb, ESD & current limited to prevent damage.

J2 EXPANSION PORT: Provides RS-232 and CAN ports for I/O expansion and cloud support

CONNECTIONS:
Power - Wago 231-134/001-000
Input/Output - Wago 231-140/001-000
Analog Inputs - Rising cage w/screw, 16-30 GA
Expansion – Molex Micro-Fit-3.0, 0430451012

ENVIRONMENTAL: PCB's - Sealed to each other to prevent penetration of moisture or other contaminants.
Operating Temperature - 0°C to +70°C

POWER: Universal AC 90-265VAC, 50/60Hz, or 24V AC/DC (add -24 to part number)

[2] *- Total external 5VDC current load (SSR1 + SSR2 + INP + J2) = 90mA maximum.*

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