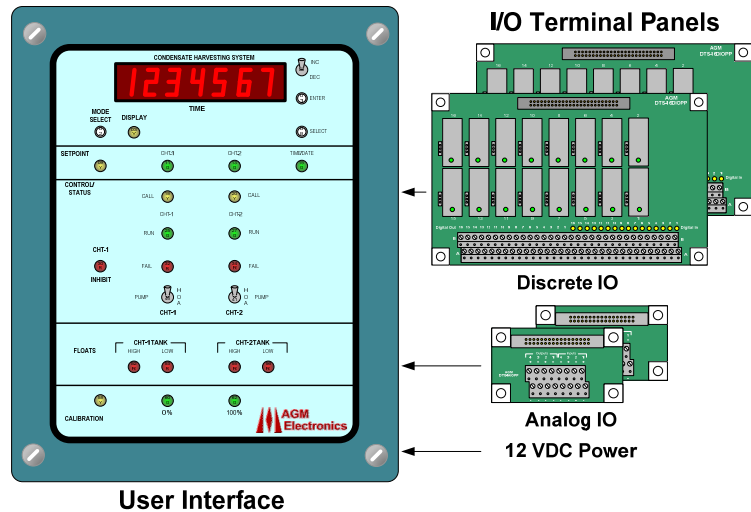


Integrated Control Station – ICS

DOC # WSD30074-12, Rev 0

Product Number – TA 5300-1 (or) TA 5300-2

- Intuitive User Interface
- Preconfigured
- Up to 8 Analog I/O
- Up to 32 Discrete I/O
- Easy Installation
- 7 Year Warranty



1) Overview

The assembly contains two separate microprocessor systems (one called "PROCESS SYSTEMS" and the other called "FRONT PANEL SYSTEMS"), an Input/Output module system, a front panel and rear panel.

The front panel contains displays and controls that are familiar to an operator. An LED digital display shows the value in engineering units of any specified function with the process systems. The other controls and adjustments are simple toggle switches and push buttons that do not require any complicated programming effort or knowledge of access codes. Process status information is displayed either by indicator lights on a menu or a color graphic.

The rear panel contains polarized connectors for connecting to the I/O Terminal Panels. Use of these external panels provides simplified installation and maintenance. A computer generated wiring table is provided for wiring these panels.

The ICS assembly is designed to accept and transmit from one to eight analog signals, one to 32 input relay contacts, and one to 32 output relay-coil drives. The analog section is used for A/D, D/A, electronic scanning, special analog functions, buffers and transient protection. This section is always an AGM factory designed circuit and does not require any user adjustments.

Included:

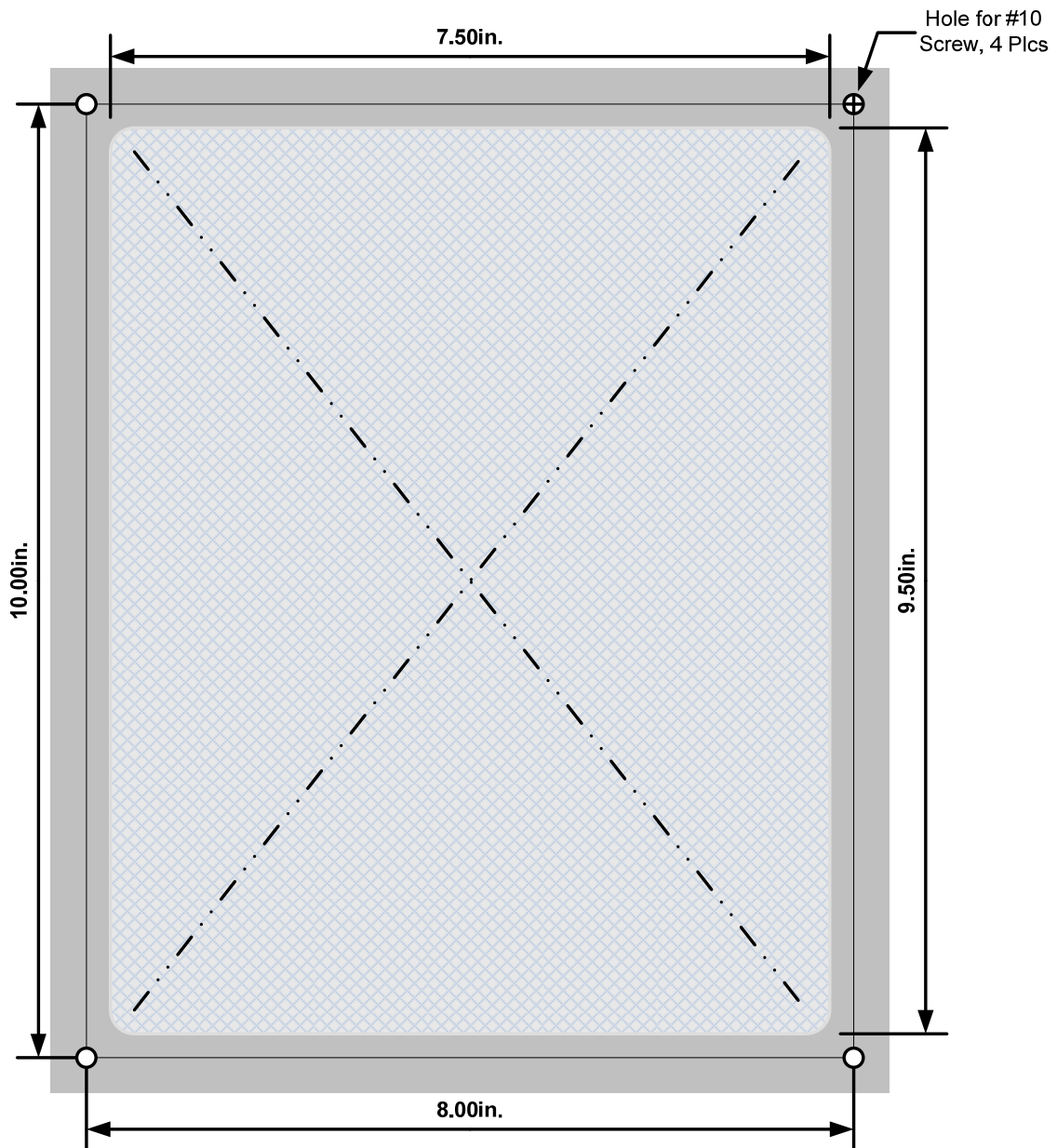
- A completely programmed ICS (TA 5300-1 (or) TA5300-2) with a customized Operator Interface Panel - "System Start-up Ready"
- Digital I/O panel(s) (PP 9313)
- Analog I/O panel(s) (PP 9316)
- Ribbon cable with "plug-in" connectors for connection from the ICS back panel to the digital (# PLD 9961-10) and analog I/O boards (# PLD 9961-14)
- Power Supply, 115/220 VAC to 12 VDC, 3 Watts (# 3149)
- Knowledge Map (Includes Overview, Wiring List and Operating Instructions)

2) Technical Data

Installation and Checkout

A) ICS

1. Locate
 - i. Determine where the ICS is to be installed
 - ii. Allow for both Front and Rear clearance
2. Cut Out Panel

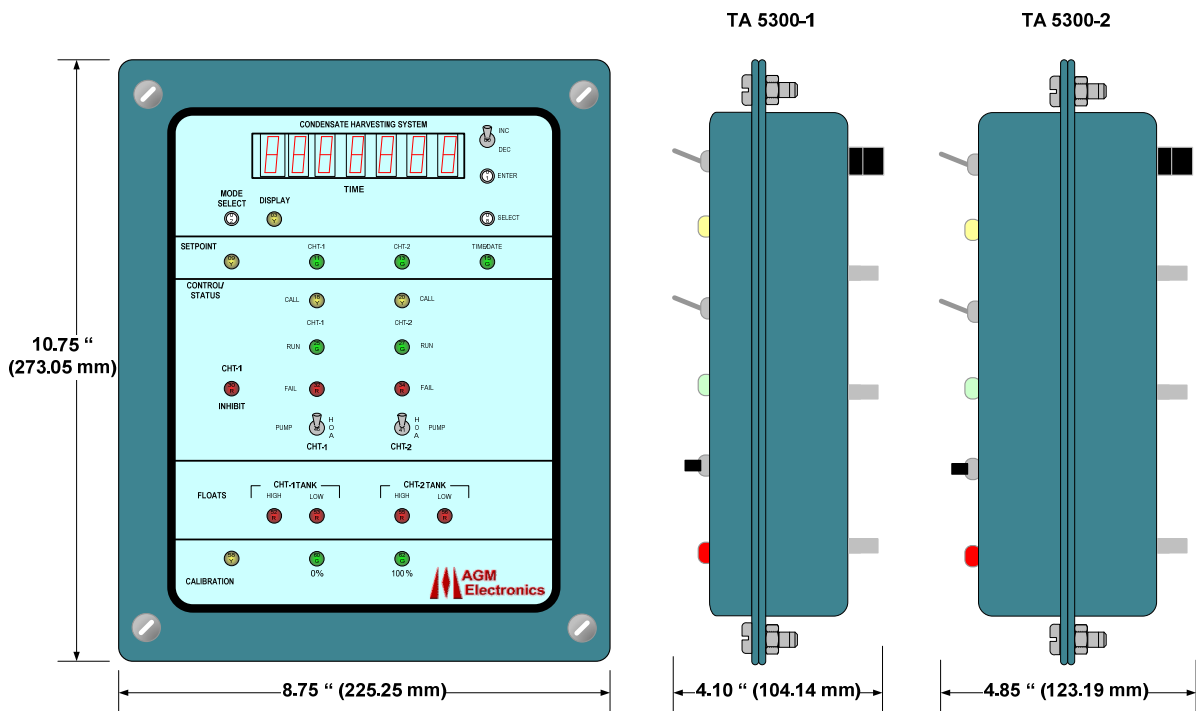


3. Install

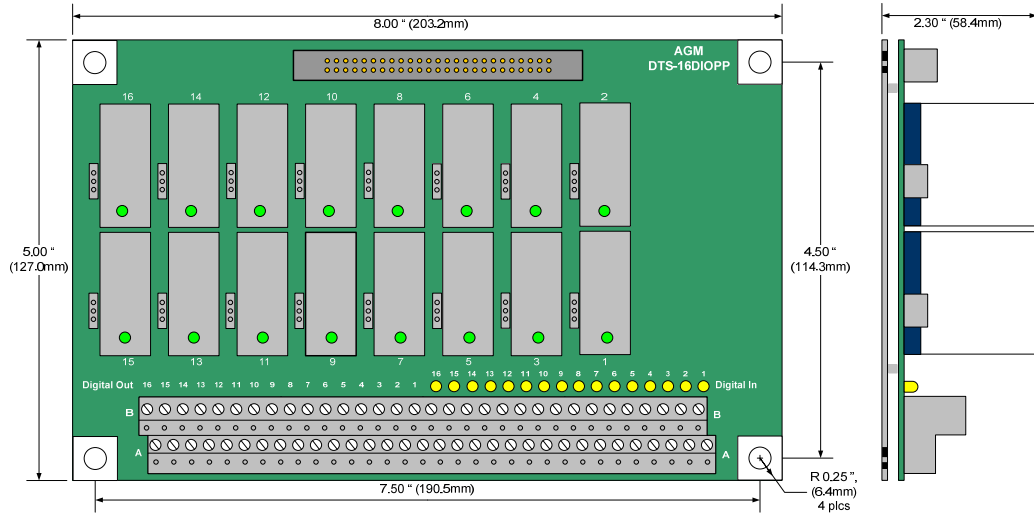
- i. Remove 4 each #10 Nuts for screws at each corner of the ICS
- ii. Install ICS in to Cut Out
- iii. Re-attach screws and tighten

- B) Terminal Panels (Panel Mount)
 1. Locate
 - i. Determine where to locate the I/O Termination Panels
 - ii. They should be located within 3 feet of ICS
 2. Install
 3. Connect Cables between I/O Termination Panels and ICS
- C) Power Supply
 1. Locate
 2. Install
 3. Wire 12 VDC Power to ICS
 4. Wire AC Power to Power Supply
- D) Field and AC Power Wiring
 1. Referencing the Knowledge Map that was supplied with the ICS, wire Field Wiring to I/O Termination Panels
 2. When input is 4/20 mA add 250 ohm resistor in parallel with input
- E) Apply Power
 1. When power is applied the ICS display will scroll "ICS UP"
- F) Calibrate
 1. Referencing the Knowledge Map that was supplied with the ICS, calibrate the analog input signals
- G) Set Operating Parameters and Alarm Setpoints
 1. Referencing the Knowledge Map that was supplied with the ICS, access and set control and alarm setpoints
- H) Verify Operation

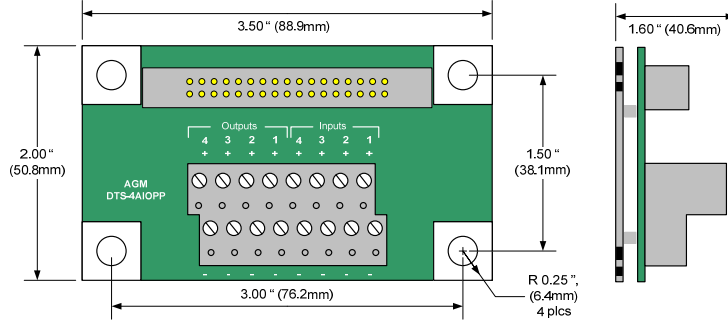
Dimensions - ICS



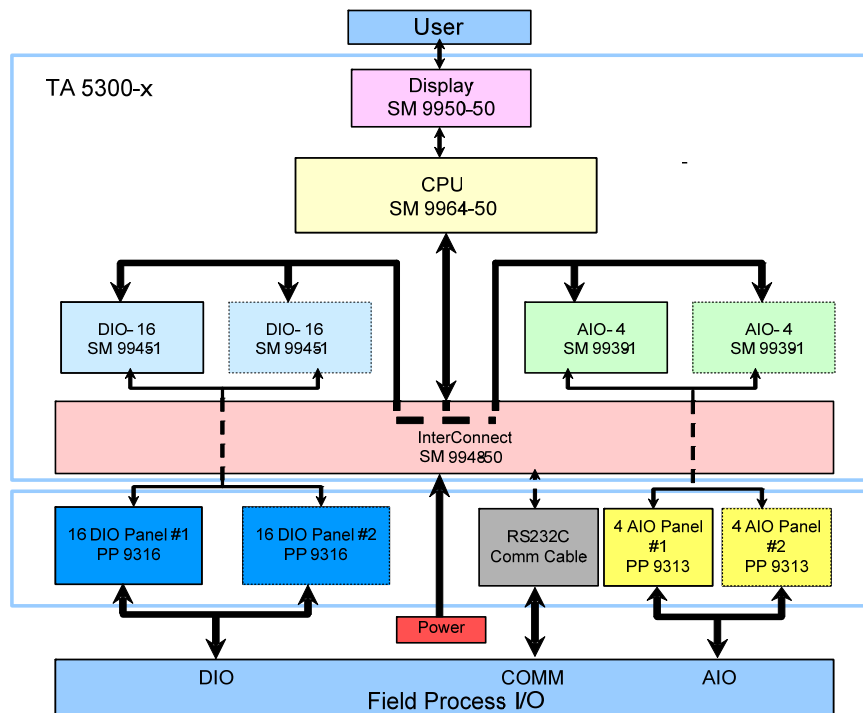
Dimensions - Discrete IO Panel



Dimensions - Analog IO Panel



Simplified Block Diagram



Specifications

Physical -

- **Dimension:**
Control/Operator Interface Panel: 8.75 x 10.5 x 4.85 In.
Digital I/O Termination Panel: 7.5 x 5 x 2.3 in.
Analog I/O Termination Panel: 3 X 2 X 1.5 in.
- **Control/Operator Interface Panel:**
2 each Displays - 4 Digits each for Total of 8 digits
32 each Status/Pointer Lights (LEDS)
Red, Green, Yellow or Blue
Steady or Flashing
16 each Switch contacts
Push button, 2 Position toggle, 3 Position toggle or Momentary
Definable placement of Lights and Switches. 65 positions
Definable Panel text, pictures and colors
- **Mounting:** Through-Panel
- **Connectors:**
Input/Output/Power: Screw terminals
Wire Range: 22 - 12 AWG, Torque: 4kg/Cm
Panel Interface: Plug and Play Cables
RS-232: Male 25 pin Subminiature D

Electrical -

- **Supply Voltage:** 12 VDC.
- **Current draw:** Nominal 1 A
- **CPU's:** 2 each Industrial Hardened Parallel Microprocessors
- **Real Time Clock:** Perpetual
- **Battery:** Internal, rechargeable
- **Inputs:**
Analog: 4/8 Each
Resolution: 12 bits. Successive Approximation
Range: 0 - 5 VDC
Discrete Contact Closure: 16/32 each
- **Outputs:**
Analog: 4/8 Each.
Resolution: 12 bits
Range: 0 - 20 mADC, 500 Ohms
Relay Contact: 16/32 Each (Field Replaceable)
Type: SPST (NO – NC Selectable)
Standard Contacts Rating:
28 VDC @ 7.5 A Max. Resistive
110-115 VAC @ 3.8 A Max. Resistive
220-240 VAC @ 2.2 A Max. Resistive

Software -

- **Diagnostics:**
Built In Self Check
Watch Dog Timer
- **Memory:**
Non-volatile Static RAM
Life: 1 Million store cycles. (Store cycles only when power removed)
Data Retention: 100 years
- **Configuration Interface:** Configured via Front Panel or RS-232 and PC

Communications -

- **RS-232C:**
Baud Rates:
Default: 1200
Selectable: 300 - 19200
Bit Format:
Default: 8 Bits, 1 Stop, No Parity.
Selectable: 7 - 8 Bits, 1 - 2 Stop, Even or Odd Parity
- **Protocols:**
Default: ASCII
Optional w/ AGM USW:
Modbus
TCP/IP
Customer specified
- **Connections:**
Default: Computer
Selectable:
Telephone Modem
Radio Modem:
Adjustable RTS Delay
Default: Full-Duplex
Selectable: Half-Duplex

Performance -

- **Accuracy:** 0.1%
(Calibration/Linearity/Hysteresis/Repeatability)
- **Temperature Coefficient:** 0.005 % / Deg C

Environmental -

- **Operating Temperature:** -30 to 80 degrees C operation
- **Operating Humidity:** 5 to 85% Humidity

Warranty -

- 7 years. Transferable

3) Support Apps and Documentation

- The Communicator (Computer application dedicated to interfacing with various AGM products)
- TakeCharge (Control Room Software)
- GeneralInstallInstructions_IC&DH.pdf
- ICSPromInstallInstructions.pdf

4) Variations

The TA 5300-1 is provided when the control system has less than 5 Analog and or 17 Discrete Input/Outputs signals, otherwise the TA 5300-2 is provided

5) Ordering

The Integrated Control Station may be used as a stand-alone controller or be integrated with other AGM and manufacturers' products. The model number is TA 5300-1 or TA-5300-2. Refer to following common approaches to ordering.

Note: Please contact our Domain Engineering staff if you are unsure of how to describe the control and interface requirements for your application. Or email or fax us a block diagram of what you need and we will promptly provide you a Hardware Overview, Knowledge Maps and Proposal. We will also work with you to develop OEM products

Approaches:

1. Use the "Integrated Control Station (ICS) Planning Manual" to describe your general criteria. Domain Engineering will respond accordingly
2. Contact AGM's Domain Engineering staff. Verbally describe your general criteria. You will receive a "Knowledge Map" and a "Front Panel Layout" drawing with a Proposal, "PRO", number. This number will be used for reference until your order is placed. At that time a Sales Order, "SO number", will be assigned for archival purposes and specific control of the ICS equipment.

6) In Case of Difficulties

Contact our Domain Engineering staff and they will work with you to help you resolve any startup and on-going issues you may be experiencing.