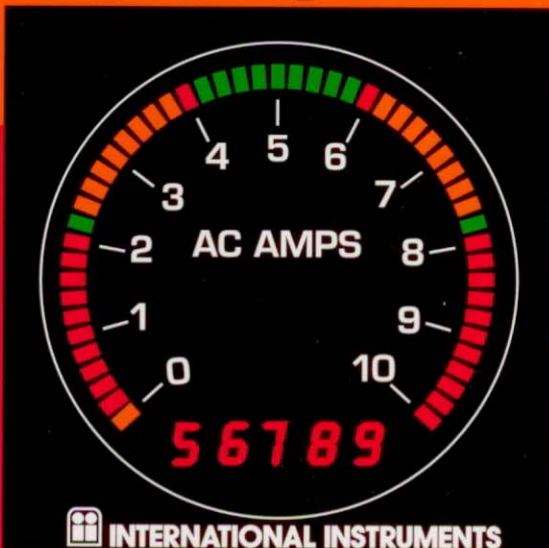


organizes color stresses color clarifies color warns color color color
color color color color color color color color color color color
color color color color color color color color color color color
warns color coordinates color separates color soothes color ex-



Alpha 1 Tri-Color Bargraph Systems





Alpha 1 Tri-Color Bargraph Systems

The ultimate in tri-color bargraph technology ...
from International Instruments, the "Meter People"

Alpha ① is astonishing in its simplicity ... and in the flexibility it brings to panel design, both in new construction and in the upgrading of existing facilities.

Alpha ① quite simply offers annunciation innovations and communication capabilities previously unattainable.

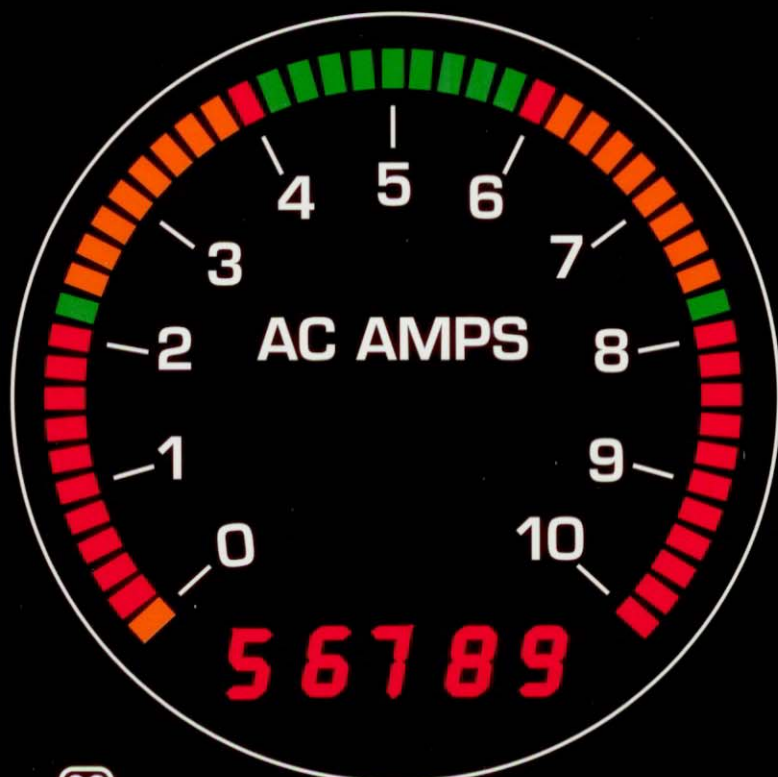
Whatever you want ... however unusual your control requirements ... however sophisticated your overview program ... Alpha ① almost certainly has the answer for you. If you don't see exactly what you want, just ask for it.

Alpha ① can be redesigned, in size or performance, to fit your application.

98765



 INTERNATIONAL
INSTRUMENTS



 INTERNATIONAL
INSTRUMENTS

Just color...but how much it can do to make your control panel a more effective one.

Now ... with the Alpha¹ Bargraph System ... you have the ultimate in color capability.

Now you can have three colors working for you ... each of a **purity and brilliance** that is an immediate attention-grabber. The bargraph itself is **visible from virtually any angle**. Each large LED has clear transparent sides ... producing bars that are readable from *across the control room and from the side*. You no longer have to get in *front* of the bargraph and peer *into* it to see what is going on. Flashing bars catch your eye even when you aren't looking for trouble. Tri-Color technology represents a dramatic step up from pre-packaged 101-bar LED stack units.

And, most importantly, new Alpha¹ is as user friendly as a bargraph can get. It is **completely field programmable ... as easy to set up as a digital watch**.

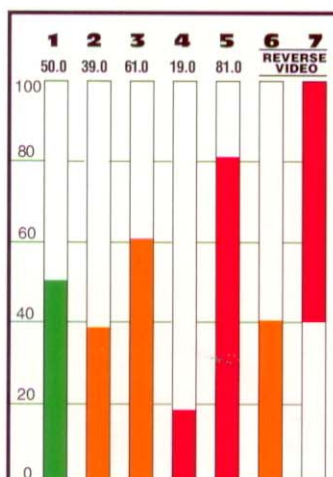
There is only one basic rule to follow in planning your Tri-Color Bargraph System. **Do it your way**. You will find that you have complete control of display color, and, when activated, annunciation color and method of annunciation.

For example. A basic alarm system.

It's as basic as you can get. It is based upon Alpha's **standard 3 colors, 4 alarm setpoints, and total annunciation flexibility**. See Chart below.

BAR

1. **Green** when reading is in "safe" zone (40-60).
- 2&3. **Changes to Orange** when reading drops below 40(Lo 1) or rises above 60(Hi 1)
- 4&5. **Changes to Red** when reading drops below 20(Lo 2) or rises above 80(Hi 2).
- 6&7. Reverse video (See "F" below).



Typical Alarm System: Visual annunciation capabilities

- A. Blink triggered alarm set points
- B. Blink 7 segment digital display
- C. Blink bargraph display
- D. Double-bright bargraph display
- E. Color change bargraph display
- F. "Reverse video"- light unused portion of bargraph display above signal and blink alternately with signal in choice of colors. See bars 6 and 7 at left.

Note: Relay outputs available. See "Options", page 4.

Why Alpha¹ is your key to more effective control panels

- **"Made-to-Order"** option on physical size or performance specifications means that you can design your own instrumentation control panel or retrofit obsolete "non-supportable" existing meters.
- **Brighter colors**, larger LEDs designed for easier reading across the room and from extreme side angles.
- **Superior alarm/annunciation capability**. Four independent alarm systems with complete annunciation flexibility -- flashing setpoints, flashing readouts, flashing bargraphs (color of choice), color intensity control, and reverse video capability.
- **Set-up controls** are pushbutton or computer via serial communication port with on-screen prompts for each parameter in set-up sequence.
- **Expanded scale capability (bargraph only)**. A small portion of the input can be "zoomed" in on and expanded over the entire bargraph.
- **Three-Year Warranty**.

Just remember these simple guidelines:

1. Establish a bar's color zones any way you wish. You have up to 5 operational zones (4 alarms). Zone 1 starts at bottom, ends wherever you want it to. Zone 2 starts at end of Zone 1 and, again, stops wherever you wish. Same for Zones 3, 4 and 5 assuming you opt to use all 5.
2. Each Zone can be any of the three colors.
3. Standard format provides 4 independent alarms--configured however you wish -- 4L, 4H, 3L/1H, 2L/2H, 1L/3H.
4. Note that digital 7-segment display is programmable and can show engineering units.
5. The setpoint "dead zone" is adjustable.

Alpha¹ Replacement Guide

Model 9008 6-in. Edgewise Switchboard Instrument replaces:

Analog

Int'l Instruments 1151/1251
Int'l Inst. 1151LCD/1251LCD
GE/YEW 180
Westinghouse VX252

1st Generation Single Color LED Bargraphs

Int'l Instruments 9004
Dixon BB101/202
Weschler BG/BH252, BI1251

Model 9009 4-1/2-in. Round Switchboard Instrument replaces:

Analog

GE/YEW AM/DB40
Weston 4951

1st Generation Single Color LED Bargraphs

Int'l Instruments 9003
Dixon BEW51, BW051
Weschler BG241

Note: The Tri-Color "read-outs" shown in this brochure have been planned to illustrate the range, flexibility and color brilliance of the Alpha¹ System. They do not relate to specified applications.

SPECIFICATIONS

Series 9008 and 9009 Bargraph

Accuracy

7 seg digital display $\pm 0.01\%$ FS 25°C ambient

Bargraph 9008 (41 bars) $\pm 2.5\%$
9009 (51 bars) $\pm 2.0\%$

Set points Same as 7 seg digital display. (Note set point data is entered and triggered via digital display.)

Drift & temp stability 0.005% FS $\pm 0.005\%$ of reading per °C ambient

Set point hysteresis Continuously variable to $\pm 25\%$ of alarm value.

Response 450 milliseconds min.

Input power 115/230 VAC $\pm 10\%$
45 to 65 Hz.

Input signal AC & DC currents or voltages.

Current input As required.

Voltage input 1 megohm min.

Operating temp. 0 to +60°C (-14 to 140°F).

Storage temp. -45 to +85°C (-45 to 185°F).

Humidity 0 to 95% RH
non-condensing.

Altitude 1000 ft (0.3km) below to
15,000 ft (4.6km) above
sea level.

7 seg digital display 5 digits: GREEN or RED
0.28-in. high.

Bargraph Individual LEDs 2x5mm.

Display The intensities of both displays are individually adjusted during initial meter "set-up"

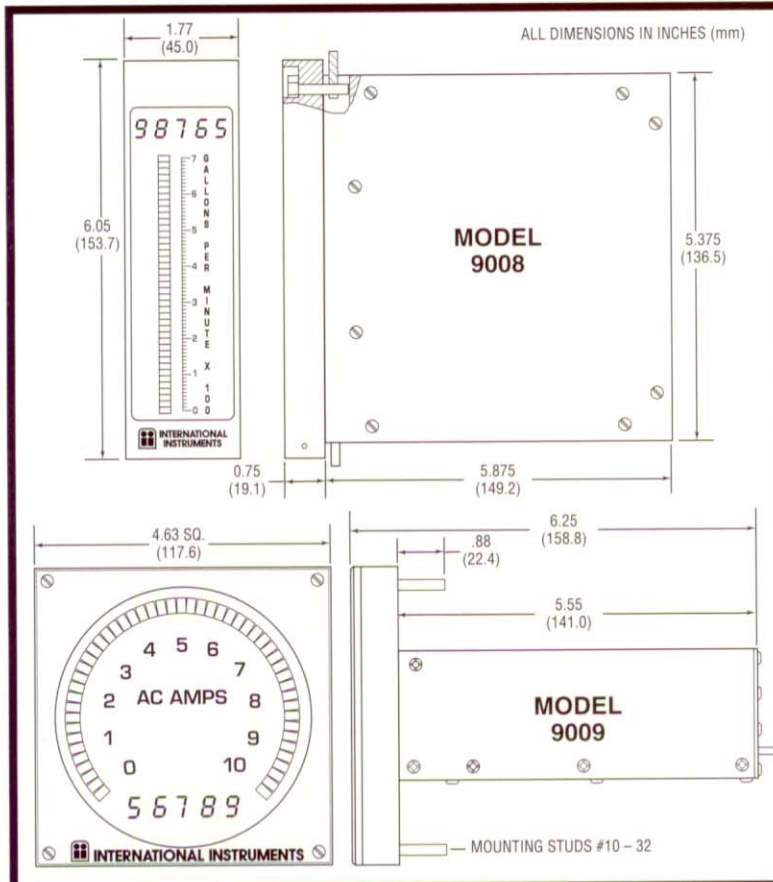
Connections Input/output via barrier strip or connector.

Programming Front panel pushbutton or computer via serial communication port.

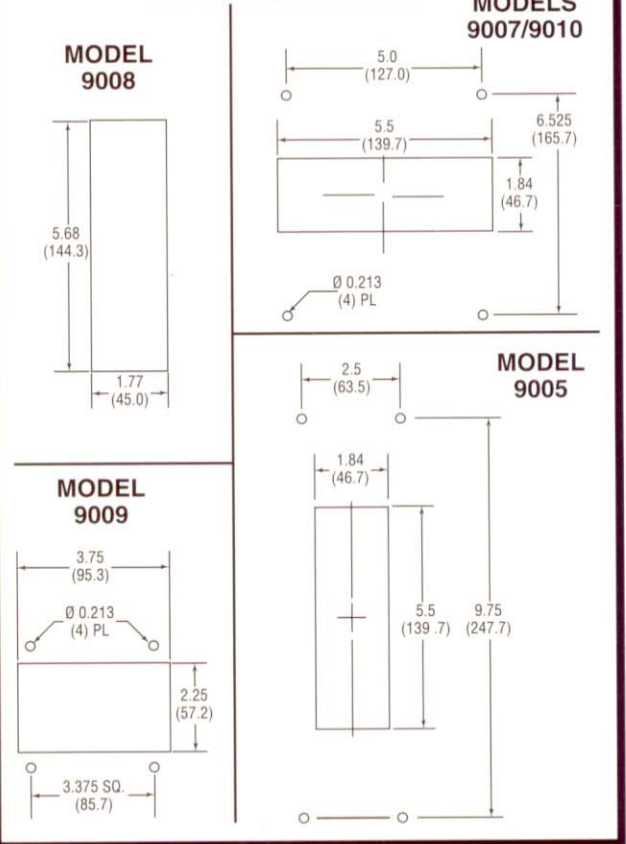
Weight (lbs) 9008 -- 4.5 9009 -- 4.5

OPTIONS

- A** "Steerable" Alarms Indicator: 2 Form C relays switching currents of (1) 0.6 amps 125VAC, (2) 0.6 amps 110VDC, (3) 2.0 amps 30VDC. Relays are activated when set points are tripped.
- B** 2 or 4 Open Collector Outputs (Non-Isolated) Maximum switching current 100mA resistive load (50V). Independent operation of all four outputs.
- C** Voltage Retransmission: 0-5 VDC Scaleable analog output (isolated).
- D** Current Retransmission: 4-20mA Scaleable analog output (isolated): Internal current source can be supplied if required.
- E** Tamperproof Panel: Alpha¹ is doubly secure. It can be supplied with no front panel set-up or access. And, if desired, you can have the additional security of computer access codes.
- F** Serial ASCII Communications: Most common protocols supported: RS 422/485, RS 232.



PANEL CUTOUTS



ii's new Alpha¹ Tri-Color Bargraph System uses color as never before ... to organize, communicate, coordinate and clarify.

Alpha¹ is user friendly ... from initial programming to every day on-the-job performance. Instruments are **pre-programmed by ii's** design engineers so that you can "plug and go" with **little or no on-site programming**. If programming is required, it can be accomplished by using either front panel pushbuttons or the serial communication port. Inputs include measurement of AC and DC currents and voltages, as well as thermocouples and RTDs.

ii's Alpha¹ System (see "life-size" photo on facing page 2).

Both Series 9008 and Series 9009 instruments are **"drop-in" replacements** for the 6-inch edgewise and 4½-inch square meters used in **the majority of control panels**. (See *Replacement Guide* on page 3.)

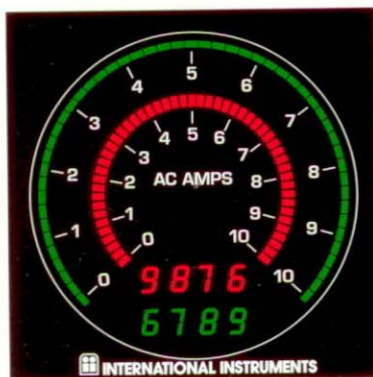
Custom variations upon the Alpha¹ System.

Whatever your panel cutout ... whatever your special requirement ... just tell us what you want. Phone or fax detail on your application. **We can engineer an instrument to meet your specs.**

Detailed below are a few such special instruments designed to satisfy specific customer requirements.

Models 9005 and 9010 --11¼ inch edgewise and 7⅞ inch square -- are 51-bar tri-color units with all of the performance advantages of the Alpha¹ System. They use basically the same "electronic package" as Alpha¹ 9008 and 9009 but with a different "front board." **Model 9007** (dual input) also uses the same basic electronics but provides **two separate concentric 51-bar round monochromatic* displays**, each with its own digital display. Models 9005, 9007 and 9010 all have **4-digit, 7-segment displays with accuracy of ±0.5%**.

*Colors of your choosing--red, green or orange.



9007



9010



9005

↑
**A Big
11¼"
high!**
↓

And...remember...
you can specify

Alpha 1 Tri-Color Barograph Systems

in sizes and performance values
to fit your application.

We will help you do it. Call or fax
and ask to speak to one of our
Alpha ① Specialists. Take advantage
of our tri-color experience. The
units shown below are just a few of
the instruments specially designed for
special customers. Read more about
them on page 5 of this brochure.



Phone: 203/481-5721

Fax: 203/481-8937



INTERNATIONAL INSTRUMENTS
A Prime Technology Company

Twin Lakes Road P.O. Box 185 North Branford, Connecticut 06471