

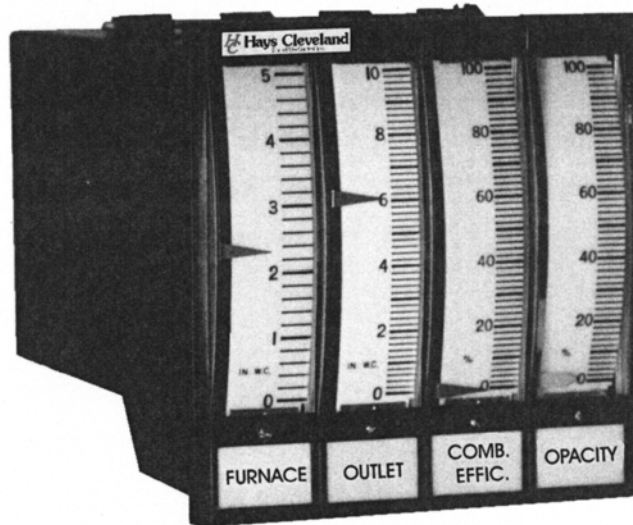
# Model D-03600-00 V-5A VERTICAL SCALE INDICATORS

The **Hays Cleveland V-5A SERIES** presents a complete line of compact instruments for direct measurement and indication of vacuum, pressure, and differential pressure. The **V-5A INDICATORS** are also available as receivers for pneumatic and electronic transmitters for indicating flow, liquid level, density, high pressure, and other process variables.

Pneumatic, electronic, and direct units can be combined in a single case and arranged in any order. These small-size indicators match the performance of larger gauges, yet require only a quarter of the panel space. The full five-inch illuminated scales are easy to read even at a distance, and full-sized diaphragms and bellows are used to assure big-gauge accuracy and sensitivity.

Each indicator unit is installed in a case. Up to eight units can be stacked together in a single mounting. Each **V-5A INDICATOR** is a complete unit independent of the case. The indicator slides into the case on a track and is securely fastened in place. Units may be easily removed from either the front or rear of the case for calibration or maintenance without disturbing the mounting or operation of the remaining indicators.

The full selection of **diaphragm, bellows, and electronic indicators** are of one standard size. Any one type may be substituted for another without modifying the panel, the mounting case, or the unit itself. The front of each unit is a solid piece of clear plastic, which may be removed for cleaning and bulb replacement. The rear of each unit is enclosed by sheet steel that is easily removable. Both front and rear are gasketed to seal out dust.



## MOUNTING

Mounting requires only a panel cut-out – no other panel drilling is required. The assembled case, comprised of one to eight units, is inserted from the front of the panel and held tightly against a flange. Clamps are furnished for use with panel thickness up to ½ inch. The front of the case may be mounted vertically or tilted to 75 degrees from vertical. (Tilt is limited to 15 degrees with diaphragm units.)

All adjustments may be made without removing the indicator from the case. Removal of the rear cover allows access to vernier adjustments of pointer alignment, zero-setting, and calibration. Individual terminal blocks, with female pipe connections in the back and at the base of each pneumatic unit, are attached to the rear underside of the case.

## SCALES

**Full five-inch scales** are easy to read even from a distance. Each scale is made of white translucent plastic with

black markings, and is securely held in an accurately curved arc conforming to the pointer arm, thus minimizing parallax problems. Light is diffused through the scale by a specially-designed lamp housing. The illumination is provided by a standard 117-volt incandescent bulb that may be replaced easily from the front of the case. A standard three-foot cord with polarized plug is furnished. Legends are available in white. Reverse-action pointer motion is available. And, if desired, pointer motion can be reversed in the field.

**Hays Cleveland** maintains a large library of standard scales to fit almost every application. Standard scales are available with 15, 20, 25, 30, 35, 40, or 50 divisions. Up to four digits may be marked at the major division points with decimal placement as desired. For example, the 0 to 1.5 scale can be furnished as 0 to 15, 150, or 1500. Special scales can be supplied where standard scales do not meet process requirements.

**Standard Scales -- Linear**

Linear Scale Bottom	Top	Scale Number	Linear Scale Bottom	Top	Scale Number
-1.0	+1.0	9	0	70	38
0.5	1.0	10	0	75	39
0	1.0	11	0	80	40
0	1.5	12	0	100	41
-2.0	+2.0	13	0	120	42
0	2.0	14	0	125	43
0	2.5	15	0	150	44
0	3.0	16	0	175	45
-1.0	+4.0	18	0	200	46
0	4.0	19	0	250	47
-5.0	+5.0	20	0	300	49
0	5.0	21	0	350	50
0	6.0	22	0	400	51
0	7.0	23	0	500	52
0	8.0	24	0	600	54
-10	+10	25	0	700	55
0	10	26	0	800	56
0	12	27	0	1000	57
0	14	28	0	1200	60
-15	+15	29	0	1500	61
0	15	30	0	2000	63
0	20	31	0	2500	65
0	25	32	0	3000	67
0	30	33	0	4000	69
0	35	34	0	5000	70
0	40	35			
0	50	36			
0	60	37			

**Non-Standard Scales - Optional Divisions**

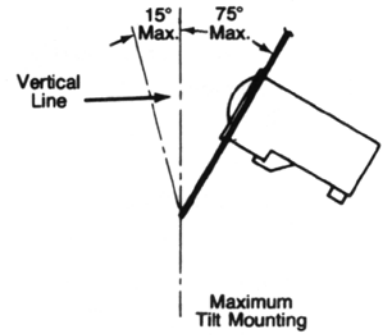
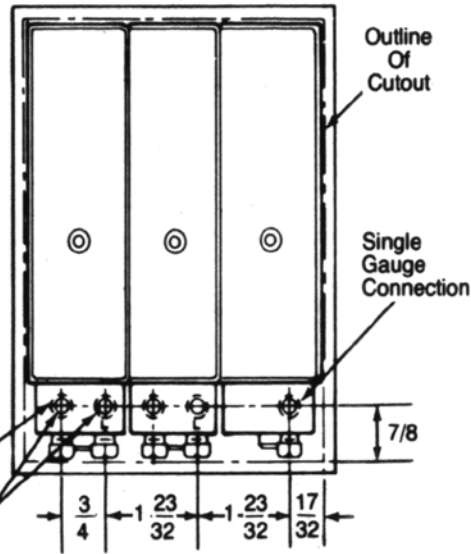
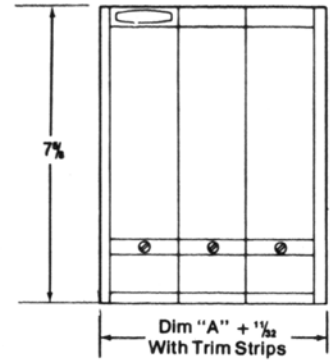
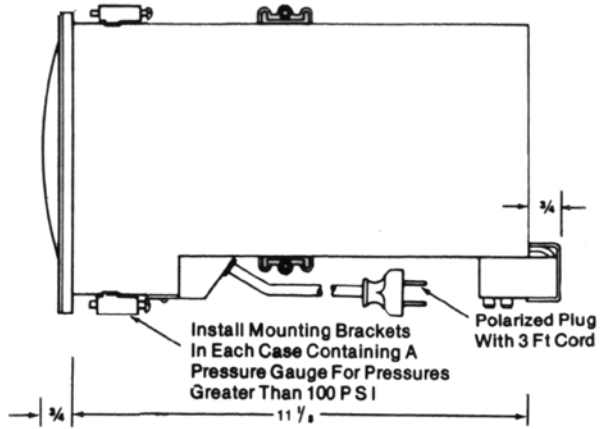
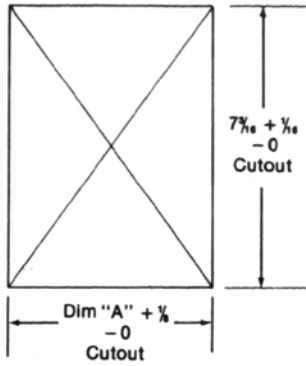
Linear Divisions	Compound Range "Hg v AC - PSIG	Square Root	Scale Number
15	10 to 20	0 to 3.5	090
16	5 to 75	0 to 6.5	091
20	30 to 16	0 to 11.5	092
45		0 to 35	093
55		0 to 65	094
	PSIG - "Hg v AC	0 to 115	095
	5 to 30	0 to 350	096
		0 to 750	097
		0 to 1150	098

**Standard Scales - Square Root**

Range		Scale Number
Bottom to Top		
0 to 10		78
0 to 100		82

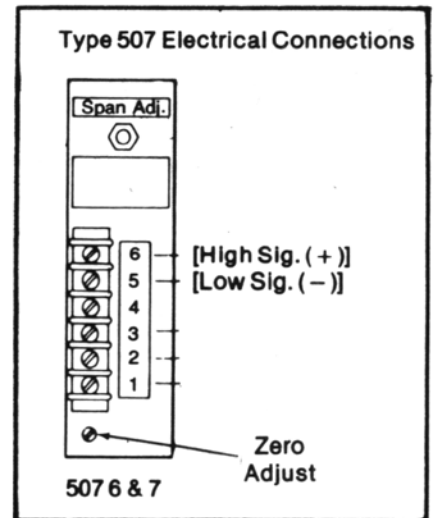
**Standard Scales - Compound Range**

Range		Scale Number
Bottom to Top		
-30"Hg to +15 psig		073
-30"Hg to +30 psig		075



Differential Connections "L" Marks Low Press. Conn. Of Differ. Gauges

Case Size Gauges	Dim "A"
1	1 13/16
2	3 9/16
3	5 5/16
4	7
5	8 3/4
6	10 1/2
7	12 3/16
8	13 15/16



NOTE: All Dimensions In Inches.

### SPECIFICATIONS

MODEL 3600 TYPE	MEASURING ELEMENT	RANGES	CALIBRATED ACCURACY (% OF MAX RANGE)	OVER-RANGE PROTECTION (% OVER MAX RANGE)	ZERO SUPPRESSION (% OF MAX RANGE)	OPTION*
501	Diaphragm	0 – 1.0" H <sub>2</sub> O Min. Span 0 – 60" H <sub>2</sub> O Max. Span	±2%	100%	--	1
502	Bellows	0 – 2.5 psig Min. 0 – 100 psig Max. Press Only	As Pressure Gauge: ±1% As Receiver: ± ½ %	50%	50%	1
507	D Arsonval	0 – 3 ma Min. 0 – 90 ma Max.  0 – 0.8 v DC Min. 0 – 23 v DC Max.	±2%**	Five times rated current for the ma DC version and two times rated voltage for v DC.	±30% of Span External Adj. ±50% of Span Internal Adj.	--

\*\* Of Full Scale

\* Options: 1 = Compound Ranges

#### AMBIENT TEMPERATURE

- Pneumatic: 30° to 125°F
- Electric: 0° to 140°F

#### CONNECTIONS

- Pneumatic/Process: 1/8-inch NPTF
- Electric: Barrier-Type Terminals
- Illumination: 3-ft. Cord with Polarized Plug
- Electrical Requirements: 117 v, 60 Hz, 6 watts per unit
- Electrical Classification: General Purpose
- Service Markings [Legend]: 4 lines of 11 letters & spaces each

#### SHIPPING WEIGHT

- Single Unit: 10 lbs. (approx.)
- Each Additional Unit: 6 lbs. (approx.)

#### HOW TO SPECIFY

- Specify number of units to be stacked.
- Specify range and scale required for each unit.
- Specify service markings in horizontal legend below scale (4 lines of 11 letters & spaces maximum for each unit.)

**Note:** Standard scales have zero at the bottom of the scale for either positive or negative ranges. For compound ranges, the smaller range is at the bottom, or the positive range is at the top for equally divided ranges. Variation from these standards requires a special scale and additional scale price. This applies even for variations that utilize standard divisions and numbers.



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Hays Cleveland Div. of UniControl Inc.  
1903 South Congress Avenue  
Boynton Beach FL 33426  
Telephone: 561.734.9400  
Fax: 561.734.8060  
Email: [salescombustion@unicontrolinc.com](mailto:salescombustion@unicontrolinc.com)

Hays Cleveland Div. of UniControl Inc.  
1111 Brookpark Road  
Cleveland OH 44109  
Telephone: 216.398.4414  
Fax: 216.398.8558  
Email: [salescombustion@unicontrolinc.com](mailto:salescombustion@unicontrolinc.com)