V434-0000 (no options)
V434-1000 (2 relay outputs)
V434-2000 (4-20mA output)
V434-3000 (4-20mA and 2 relay outputs)

VISIPAK^{tm} V434

Bridge/Strain Gauge Input, Digital Indicator

Provides a Digital Display from
Bridge & Strain Gauge mV Inputs

- Field Configurable Input Accepts 0-30mV, 0-200mV, ± 15mV and ±100mV
- Field Configurable Excitation Source 5V, 10V & 24VDC
- 4-1/2 Digit Display for up to ±199990 Count Spans
- 4 Visual Alarm Points with Front Panel LED Status
- NEMA 4 Front Panel
- Optional 2 Relay Output & 4-20mA Transmitter Output
- Programmable Tare and Peak Hold Functions

Description

The V434 is a 1/8 DIN, field configurable, bridge and strain gauge input LED indicator. Four visual setpoint alarms are annunciated via individual front panel LEDs and are a standard feature of the V434. Programmable tare and peak hold functions are incorporated for weight and pressure measurement applications. The unit has a front panel NEMA 4X rating.

Two form C relays are available as optional outputs for the first two setpoints. They can be configured as high or low, failsafe or non-failsafe. Each setpoint has a 100% adjustable deadband (or reset point) which can be effectively used in on/off control applications or as a latching alarm. An isolated 4-20mA transmitter output is also available as an option.

The V434 accepts 0-30mV, 0-200mV, ±15mV, and ± 100mV inputs, which can be scaled as desired between ±199990 with a programmable decimal point (minimum span is 501 counts). The unit includes an isolated, field configurable 5V, 10V or 24V excitation source to power a bridge or strain gauge, or the optional two-wire transmitter output.

Field configuration of the input range, alarm function, and analog transmitter output scaling is simple. The indicator is factory calibrated to rated accuracy and can be field adjusted as necessary.

The programmable tare function can accept a measured value by using the TARE button or a tare value can be input via the display, using the ENTER button. Terminals are provided for remote alarm acknowledgment.

A lockout jumper is used to limit access to configuration functions. When the lockout mode is enabled, only tare, peak, alarm setpoints and output scaling functions are displayed and, except for the tare, cannot be altered without moving the jumper.

Application

The V434 is ideal for indication, control and alarming of any bridge or strain gauge signals. It can be used to display whatever process measurement is required for weight, pressure, tension and compression applications.

The tare function and setpoint alarms can be used for weight control on a scale; tare function can zero the container weight and the setpoints can be used for fast and slow fill rates. Alarms are useful as annunciators for a critical process variable such as excessive pressure in a vessel or weight on a conveyor.

An 11 point-pair custom curve can be user entered for non-linear sensors.

In all applications, the highly visible 0.56 inch, eight-segment LEDs provide a clear reading of the measured variable. Constructed to withstand corrosion and moisture, the NEMA 4X rated V434 can be used in most industrial control panels under harsh environmental conditions.

The field configurable design and wide selection of input and output types makes the V434 an excellent choice as a standard pressure display, weight display and alarm. The versatility of the V434 makes it a cost effective solution.

Table 1: V434 Input Ranges

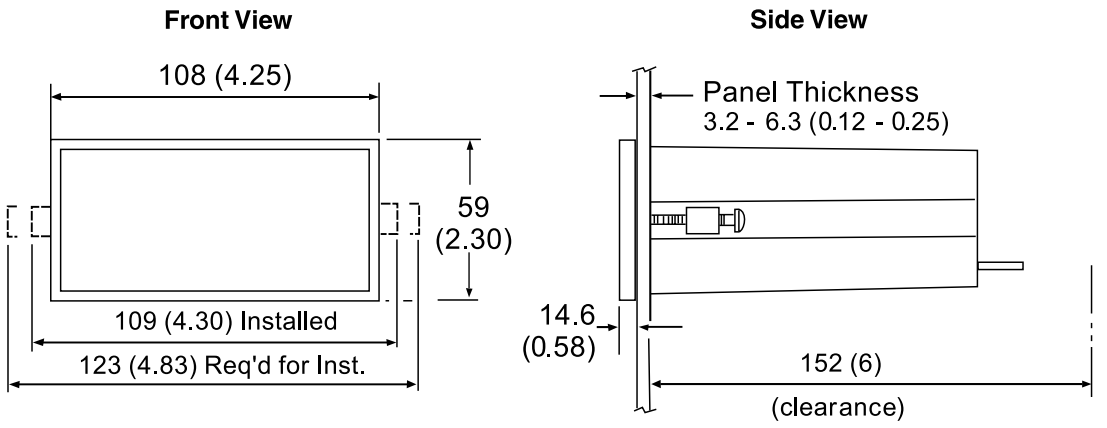
Input	Minimum Span
0 to 30mV	1.0mV
0 to 200mV	5.0mV
-15 to 15mV	1.0mV
-100 to 100mV	5.0mV

Set the configuration Switch (SW1) for the desired Input and Excitation per the chart below. The Configuration Switch is located at the rear of the instrument next to the screw terminal block. Set switch 8 to the OFF position to disable the Lockout feature.

Function	Configuration Switch SW1							
	8	7	6	5	4	3	2	1
Ratiometric with Internal Excitation		ON	ON					
Ratiometric with External Excitation		OFF	OFF					
0 to 30mV Input				ON	OFF			
0 to 100mV Input				OFF	OFF			
+/-15mV Input				ON	ON			
+/-100mV Input				OFF	ON			
24VDC Excitation						OFF	OFF	ON
10VDC Excitation						ON	OFF	OFF
5VDC Excitation						OFF	ON	OFF
Lockout Features	ON							

Dimensions

Dimensions in millimeters (inches)



Notes:

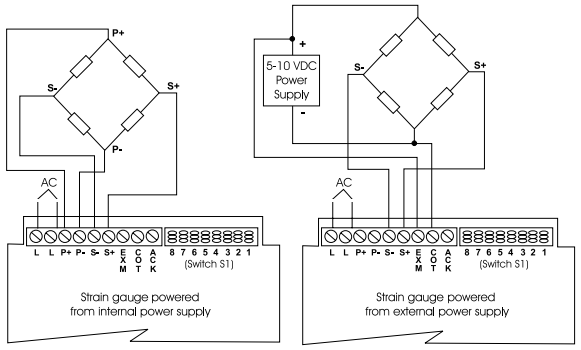
1. Panel cutout required: 45mm x 92mm (1.77" X 3.62") 1/8 DIN
2. Panel thickness: 3.2mm - 6.3mm (0.12" - 0.25")
3. Allow 152mm (6 inches) behind the panel
4. Weight 16oz. (454g)

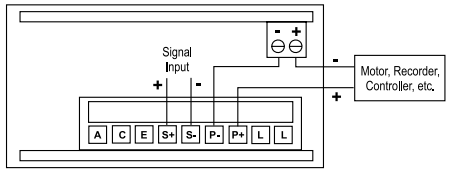
Model V434 Wiring Diagrams

Bridge/Strain Gauge Input, Digital Indicator

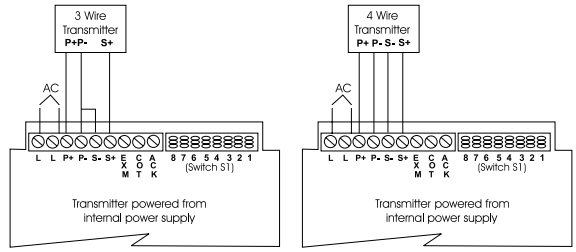
Wiring Instructions

1. All field connections to be made with insulated copper wire, either solid or stranded. Tighten all screw terminals to 7 in/lb. (0.8Nm). Strip length = 1/4 in (7mm). **DO NOT** pre-treat wire with solder.
2. **Terminals L & L:** Use AWG #12-18 wire, 600 volt, 60°C. Only one wire to each terminal.
3. **Terminals P+, P-, S-, S+, EXC, COM & ACK:** Use AWG #12-22 wire, 150 volt, 60°C. If using AWG #20 or smaller wire, up to 2 wires can be connected to each terminal. If using AWG #18 or larger wire, only 1 wire can be connected to each terminal.

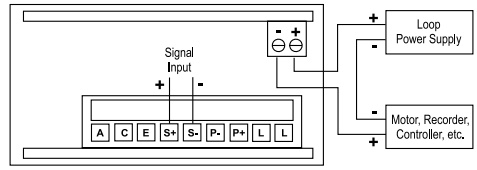




4-20 mA output signal powered by the V434's internal 24V power supply



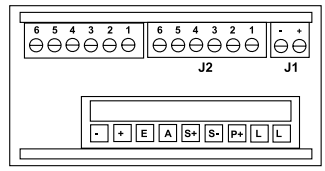
For 2 wire mV signals connect the positive lead to S+ and negative to S-.



4-20 mA output signal powered by an external 24V power supply

Terminal Assignments

PIN	Function	Screw Terminal Block
1	Transmitter	J1
2	Transmitter	J1
1	Relay #1 Common	J2
2	Relay #1 NC	J2
3	Relay #1 NO	J2
4	Relay #2 Common	J2
5	Relay #2 NC	J2
6	Relay #2 NO	J2



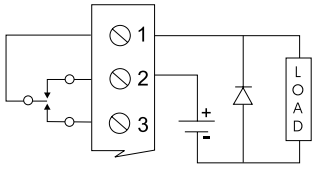
Notes:

1. Alarm acknowledgment terminals (ACK and COM) are located on the meter main board.
2. In the alarm condition, the NC contact is connected to common in the failsafe mode.

Switching Inductive Loads

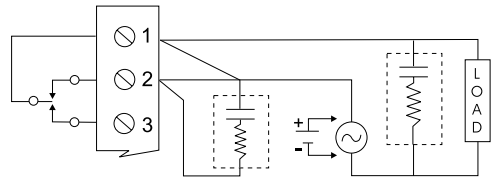
To minimize the effect of electrical noise and also prolong the life of the relay contacts, the use of a suppression network is recommended. RC networks can be purchased as an assembly. Refer to the following circuits for RC network assembly and installation:

Low Voltage DC Loads



Use a diode with a reverse breakdown voltage two to three times the circuit voltage and forward current at least as large as the load current.

AC & DC Loads



Choose R and C as follows

R: 0.5 to 1 Ohm for each volt across the contacts

C: 0.5 to 1 microfarad for each 1A through closed contacts

Notes:

1. Use connectors rated for 240 VAC.
2. Snubbers may affect load release time of solenoid loads, check to confirm proper operational mode.
3. Install the RC network at the V430's relay screw terminals. An RC network can also be installed across the load. Experiment for best results.

Specifications

BASIC METER

Inputs:

Field selectable: 0-30mV, 0-200mV, ± 15mV, and ±100mV

Ratiometric Compensation:

Deviation less than 0.1% of full scale, ±1 count, with ±10% variation in excitation voltage.

Display:

0.56" (14.2mm) high efficiency red LEDs, 4 1/2 digits + extra zero can be switched on to display ±19999(0). Leading zeros blanked.

Calibration Range:

Minimum (0mV) input can be set anywhere in range of the meter. Maximum (200mV) can be set anywhere above or below the minimum (0mV) input.

Isolated Power Supply:

Selectable 5VDC or 10VDC, ± 5% @ 50mA, 24VDC, ± 5% @ 20mA. Noise less than 10mVpp. Available for either signal input or 4-20mA output option (not both). Max. loop resistance of 1200 Ohms.

Peak Hold:

Captures the peak reading and displays it via front panel ENTER button.

Tare:

Capture - Sets current display to zero via front panel TARE button. Programmable - Automatically sets TARE to a preset value.

Accuracy:

0.05% of calibrated span, ±1 count.

Zero Stability:

0.5mV/°C

Span Stability:

0.005% of full scale /°C

Sensitivity:

Max 0.6mV

Lockout:

Switch 8 at rear of instrument restricts modification of calibrated values.

Input Impedance:

20k Ohms

Power:

115 VAC ±10%, 50/60Hz, 10VA

Isolation:

500VDC or peak AC, input to output or input/output to power line.

Common/Normal Mode Rejection:

120dB/60dB at 60Hz

Overload Protection:

30VDC or VAC across inputs or input to gnd

Temperature/Humidity:

Operating range: 0 to 65°C

Storage range: -40 to 85°C

RH: 0 to 90%, non-condensing

Front Panel/Enclosure:

NEMA 4X, panel gasket provided/1/8 DIN, high impact plastic, UL 94V-0.

Connections:

Removable screw terminal block (provided), accepts 24 to 12 AWG.

Alarm Points:

4, any combination of high or low alarms, front panel LED, Indication

Alarm Deadband:

0-100% of full scale, user selectable.

11 Point Linearization:

See Input Spans table. Example, min. span for a 11 point 30mV calibration is 1mV between inputs.

RELAYS (OPTIONAL)

Rating:

2 SPDT (form C); rated 2Amp @ 30VDC or 2 Amp @ 250VAC resistive load; 1/14 HP @ 125/250VAC for inductive loads.

TRANSMITTER (OPTIONAL)

Calibration Range:

The transmitter output (4-20mA) can be calibrated so that a 4mA output is produced for any number displayed on the meter. The 20mA output must correspond to any rate that is at least 501 counts greater than or 501 counts less than the rate corresponding to 4mA (for example, 4mA = 0, 20mA = 501). If the span from 4 to 20mA is less than 501 counts, an error message will appear.

Loop Power:

Isolated, up to 20mA at 24VDC regulated ± 5%, noise less than 10 mV p-p. Use to power the 4-20mA output signal.

Output Loop Resistance:

1500 Ohms max. using external loop power supply. 500 Ohms max. using built-in loop-power supply.

External Loop Power Supply:

35V max.

Accuracy:

± 0.1% F.S., ± .004mA

Ordering Information

Specify:

1. Model Number:
   - **V434-0000** (no options)
   - **V434-1000** (2 relays)
   - **V434-2000** (4-20mA output)
   - **V434-3000** (4-20mA and 2 relays)
2. Power:
   115VAC (standard),
3. Optional Factory Configuration, specify **C620** with the desired configuration information.

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Eurotherm Controls, Inc
741-F Miller Drive
Leesburg, VA 20175-8993
703-443-0000
info@eurotherm.com or www.eurotherm.com/actionio

Factory Assistance

For additional information on calibration, operation and installation contact our Technical Services Group:

703-669-1318

actionsupport@eurotherm.com

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