

STRAIN GAUGE METER

ASG-151

*Load Cell Direct Input



■ Specifications

Accuracy:	0.1% F.S.±1 digit
Conversion Rate:	2.5/sec
Normal Mode Rejection:	40dB(Typ.)(50/60Hz)
Sensor:	Strain gauge sensor(350Ω)
Excitation Supply:	DC5V±5% 20mA or less
Display:	LED, 14.2mm 3 1/2 digits
Polarity:	A "-" is displayed automatically
Decimal Point:	Settable to any digit position
Overrange Indication:	When input exceeds the maximum display, 1999 flashes
Power Supply:	AC90~132V, AC180~264V
Operating Temperature:	0~50°C, 35 to 85%RH
Power Consumption:	Approx. 2.2VA
Dimensions:	48(H) × 96(W) × 95(D)mm DIN Size
Weight:	Approx. 270g
Dielectric Strength:	Between earth and common, DC±500V Between common and photo common, DC±500V Between power supply terminal and common, earth, AC1500V/1 min.
Insulation Resistance:	DC500V 100MΩ at above terminals
Zero Adjustment:	±0.3mV/V
Gain Adjustment:	Available input 1.0mV~3.0mV/V to fullscale 1999.
Calibration Value:	1mV/V at 1000
Zero Drift:	0.02% F.S./°C or less
Gain Drift:	0.02% rdg/°C or less
Analog Output:	1mV/digit
Control System:	Analog comparator System
Setting Range:	0~+1999
Setting Method:	By Switch
Comparator Output:	Photo Coupler Voltage : 30V Sink current:More than 5mA
Hold System:	Analog Hold
Peak Hold Pulse Width:	DC~1ms
Drop Speed:	0.025% F.S./sec or less
Accuracy:	0.5% F.S. or less
Reset Time:	100μs or less

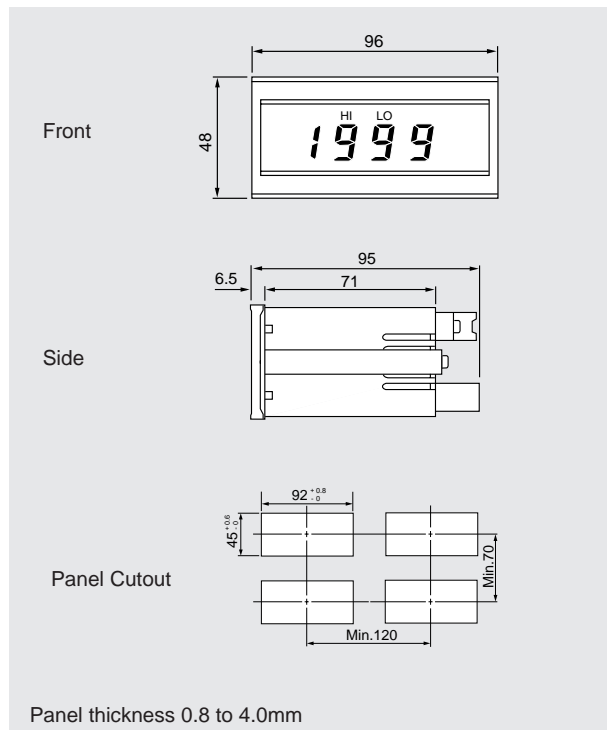
■ Features

- With Analog peak hold
- HI, LO Set points
- With Analog output
- Bright LED, 14.2mm(Red)
- Excitation Supply 20mA at DC5V

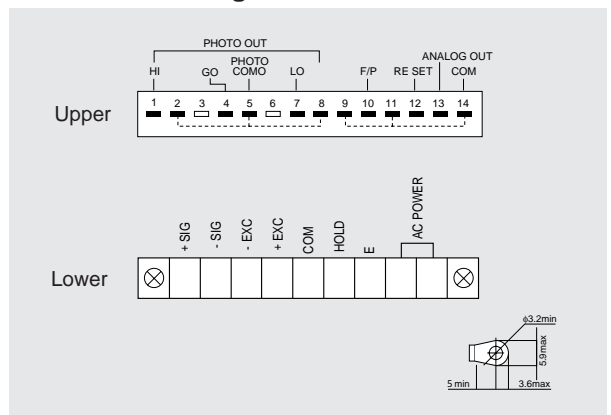
■ Ordering Code

ASG-151-□
Power Supply { 1. AC90~132V
2. AC180~264V

■ Dimension



■ Connection Diagram



STRAIN GAUGE METER

ASG-156A

*BCD, ANALOG Option



■ Specifications

● Measuring Section

Accuracy:	0.1%FS ± 1 digit (23°C ± 5 °C)
Conversion Rate:	2.5 times/sec, 12.5times/sec(50Hz) or 15times/sec(60Hz)
Display:	LED, 10mm (Red)
Max. Display:	0 to ± 4999
Polarity:	A "-" is display automatically
Overrange Indication:	When input exceeds the maximum display, flashing just before overflow number
Decimal Point:	Settable to any digit position (By DIP switch on the display board)
Zero Display:	Leading zero suppression
Monitor Display:	Peak hold, Digital zero
Sensor:	Strain gauge sensor 350 Ω
Excitation Supply:	5VDC $\pm 5\%$ less than 60mA 10VDC $\pm 5\%$ less than 30mA
Zero Adjustment:	± 0.3 mV/V
Gain Adjustment:	1mV/V to 3mV/V (to the fullscale 4999)
Calibration Value:	1mV/V (By CAL switch on the display board)
Frequency Coefficient:	Approx. 2Hz (-3dB)
Temperature Coefficient:	Zero: $\pm 0.02\%$ FS/°C Gain: $\pm 0.02\%$ rdg/°C

External Control: Hold; COM terminal and HOLD terminal shorted or 0V
Start: 0V to +5V pulse (20mS to 45mS) or contact signal

● Comparator Section

Control System:	Microcomputer
Setting Range:	-9999 to +9999 with polarity
Comparative Condition:	HI setpoint < Indication \rightarrow HI HI setpoint \geq Indication \geq LO setpoint \rightarrow GO Indication < LO setpoint \rightarrow LO
Hysteresis:	No hysteresis (Option; 10digits)
Relay Contact Capacity:	250VAC 0.1A resistive load 120VAC 0.5A resistive load 28VDC 1A resistive load
Photo Coupler Capacity:	Sink current Max. 20mA (less than 30V) Saturation voltage=less than 1.2V at 20mA

● Common Section

Operating Temperature:	0 to 50 °C, 35 to 85% RH
Power Supply:	90 to 132VAC 180 to 264VAC
Power Consumption:	5VA (at 100V)
Dimensions:	48(H) \times 96(W) \times 144(D) mm DIN size
Weight:	Approx. 450g (unit only)
Dielectric Strength:	Input(-SIG) and earth, COM, 500VDC Power supply and input, earth, COM, case, relay output, 1500VAC/1min
Insulation Resistance:	500VDC more than 100M ohms at the above terminals
Accessories:	Screw terminal (10P) 2pcs, Instruction Manual

■ Features

- Built-in Microcomputer
- Peak Hold, Digital Zero, Tracking Zero
- HI and LO setpoints
- Bright LED, 10mm (Red)
- Excitation supply 5VDC, 10VDC
- Analog Peak Hold
- BCD output
- Direct connect strain gauge sensor

■ Output

● BCD data output (Isolated input (-SIG))

At Open collector (NPN)	
Measured Data:	Negative logic Transistor "ON" at logic 1
Polarity Signal:	Transistor "ON" at minus input
Over Signal:	Transistor "ON" at overflow input
Printing Command Signal:	Transistor "ON" during a period for approx 1mS at every measurement completion

Transistor Output Capacity:

Applied voltage, 30V max. Current 10mA max Saturated output voltage less than 1.2V at 10mA

• At TTL

Fun out 2, Tri-state parallel BCD, positive logic

• Analog Output

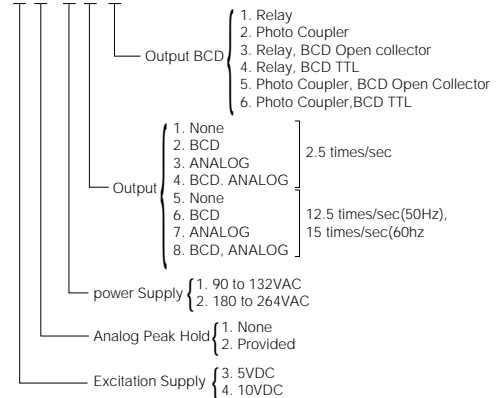
Voltage:	0 to 5V
Accuracy:	0.5% FS (23°C ± 5 °C)
Resolution:	1mV/digit
Resistive Load:	More than 5K Ω

• Analog Peak Hold

Operating speed:	DC~1ms
Accuracy:	0.5% FS
External Control:	P/F terminal

■ Ordering Code

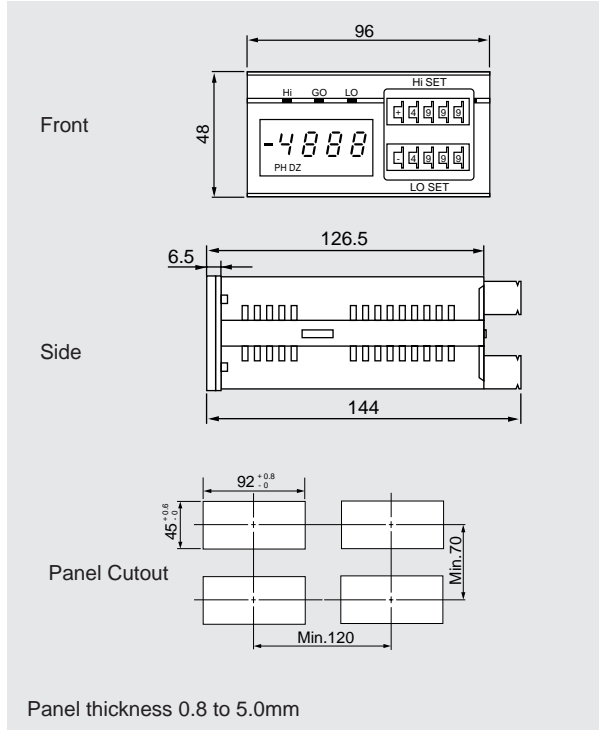
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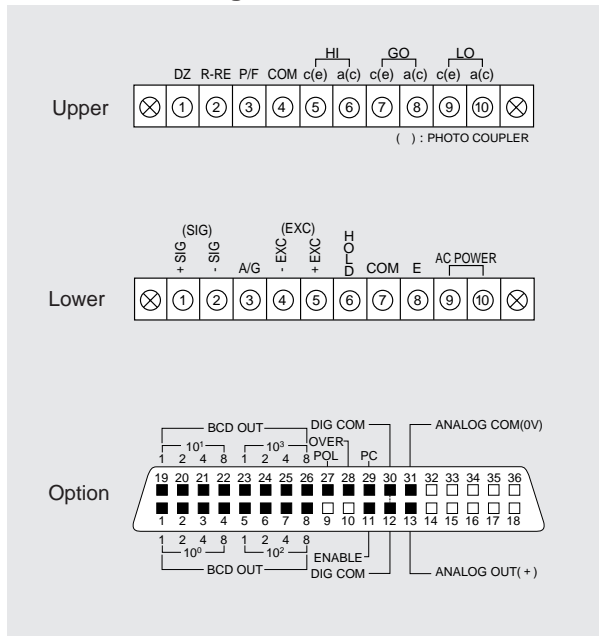
STRAIN GAUGE METER

ASG-156A

Dimension



Connection Diagram



STRAIN GAUGE METER

ASG-251

Load Cell Direct Input



■ Specifications

Accuracy:	0.1%FS ±1 digit
Conversion Rate:	2.5/sec
Normal Mode Rejection:	NMR 40dB (Typ) (50/60Hz)
Sensor:	Strain gauge sensor (350W)
Excitation Supply:	DC5V±5% 20mA
Display:	LED, 8mm (RED)
Decimal Point:	Settable to any digit position
Overrange Indication:	When input exceeds the maximum display, 1999 flashes
Power Supply:	DC19 to 29V (40mA at DC24V)
Operating Temperature:	0 ~ 50°C, 30 ~ 85%RH
Power Consumption:	Approx. 1W
Dimensions:	24(H) × 48(W) × 87(D) mm DIN Size
Weight:	Approx. 53g (unit only)
Dielectric Strength:	Between power supply/COM DC500V/ 1 min. Between -SIG/case AC1500V/ 1 min.
Insulation Resistance:	DC500V 100MW at above terminals
Accessory:	Instruction manual, connector
Zero Adjustment:	±0.3mV/V
Gain Adjustment:	1mV/V~3mV/V to fullscale 1999
Zero Drift:	0.02% FS/°C
Gain Drift:	0.02% rdg/°C
Analog Output:	1mV/digit 0.5% FS, less than 250ppm more than 100msec, more than 500W
External Control:	Hold

■ Comparator Section

Setting Range:	10~+1999 (HI and LO)
Setting Method:	By Volume
Setting Accuracy:	Setting value ±2 digit (23°C ±5°C) (Typ.)
Relay Contact Capacity:	250VAC 0.1A resistive load 120VAC 0.5A resistive load 28VDC 1A resistive load
Comparative Condition:	HI setpoint%Indication → HI LO setpoint.Indication → LO
Hysteresis:	5~12 digit
Response Time:	less than 100msec

■ Ordering Code

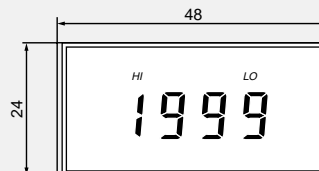
ASG-251

■ Features

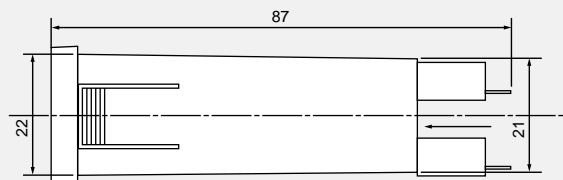
- Hi and Lo Set points
- Bright LED, 8mm (RED)
- Excitation Supply 20mA at DC5V

■ Dimensions

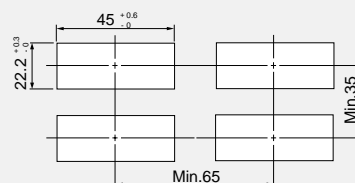
Front



Side

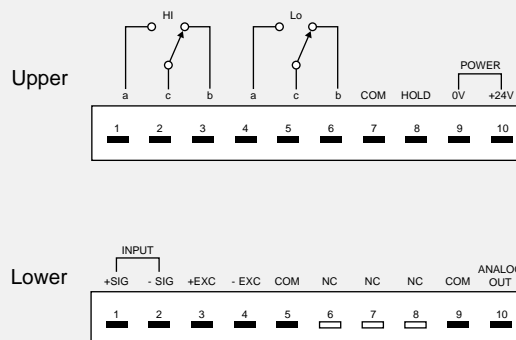


Panel cut



Panel thickness 0.8 to 3.5mm

■ Connection Diagram



STRAIN GAUGE METER

ASG-157

* High Conversion 50/sec



■ Specifications

● Measuring Section

Accuracy: 0.1%FS \pm 1 digit (23°C \pm 5°C)
Conversion Rate: 50, 25, 12.5, 2.5/sec
Display: LED, 14.2mm (Red)
Max. Display: \pm 9999
Polarity: A "-" is display automatically
Overrange Indication: When input exceeds the maximum display, display "oFI" or "-oFI"
Decimal Point: Settable to any digit position (By DIP switch on the display board)
Zero Display: Leading zero suppression
Monitor Display: Peak hold (PH), Digital zero (DZ), Tracking zero (TZ), Remote (RE)
Sensor: Strain gauge sensor 350 Ω
Excitation Supply: 5VDC \pm 5% less than 60mA
10VDC \pm 5% less than 30mA
Zero Adjustment: -0.3~+2.4mV/V
Gain Adjustment: 0.9~3.3mV/V
Min. Input Sensibility: 0.45 μ /digit (at DC5V)
0.9 μ V/digit (at DC10V)
Max. Input Voltage: 3.3mV/V
Frequency Coefficient: Approx. 5Hz (-3dB)
Temperature Coefficient: \pm (0.005% rdg +0.5 digit)/°C
External Control: Hold; COM terminal and HOLD terminal shorted or 0V
Start; 0V to +5V pulse (20mS to 45mS) or contact signal
Digital Zero; COM terminal and DZ terminal shorted or 0V
Peak Hold } COM terminal and PH
Valley Hold } terminal shorted or 0V
Peak-valley hold }
Pattern setting; COM terminal and P.SEL terminal shorted or 0V

● Comparator Section

Control System: Microcomputer
Setting Range: -9999 to +9999 with polarity
Comparative Condition: HI setpoint<Indication \rightarrow HI
HI setpoint \geq Indication \rightarrow GO
Indication<LO setpoint \rightarrow LO
Relay Contact Capacity: 250VAC 0.2A resistive load
120VAC 0.5A resistive load
30VDC 2A resistive load
Photo Coupler Capacity: Sink current Max. 20mA (less than 30V)
Saturation voltage=less than 1.2V at 20mA
Hysteresis: 1~99 digit

● Common Section

Memory Back Up: EEPROM
Operating Temperature: 0 to 50°C, 35 to 85% RH
Power Supply: 90 to 132VAC
180 to 264VAC
Power Consumption: 4VA (at 100V)
Dimensions: 48(H) X 96(W) X 144.5(D) mm DIN size
Weight: Approx. 500g (unit only)
Dielectric Strength: Between Input terminal/COM terminal, relay, photo coupler,
Between Input terminal/COM terminal, DC500/1 min.
Between Input terminal/case, earth,
Between Power supply terminal/COM, case, relay, photo coupler,
Between Power supply terminal/COM, AC1500V/1 min.
Insulation Resistance: 500VDC more than 100M ohms at the above terminals
Accessories: Screw terminal, Terminal cover, Instruction Manual

■ Features

- Built-in Microcomputer
- Peak Hold, Digital Zero, Tracking Zero
- HI and LO setpoints
- Bright LED, 14.2mm (Red)
- Excitation supply 5VDC, 10VDC
- Conversion Rate 50/sec
- BCD, RS-232C, Analog output (option)
- Direct connect strain gauge sensor
- Memory 4 pattern setpoints

■ Output

- BCD data output (Isolated input)
- At Open collector (NPN)
Measured Data: Negative logic Transistor "ON" at logic 1
Polarity Signal: Transistor "ON" at minus input
Over Signal: Transistor "ON" at overflow input
Printing Command Signal: Transistor "ON" during a period for approx 10ms at every measurement completion
Transistor Output Capacity: Applied voltage, 30V max. Current 10mA max
Saturated output voltage less than 1.2V at 10mA
- At TTL
Measured Data: Tri-state parallel BCD positive logic latch output
Polarity: "1" level at minus input
OVER Signal: "1" level at overflow input
Printing Command Signal: A positive pulse of approx 10ms at every measurement completion
TTL level Funout=2, 5V CMOS

• Analog Output (Isolated input)

Output: 4~20mA or 0~10V
Accuracy: 0.5% FS (23°C \pm 5°C)
Resolution: 1/10000
Response Speed: Approx. 0.5sec
Temp. Coefficient: 200ppm/°C
Output Ripple: Less than 50mVp-p (at 0~10V)
Resistive Load: Less than 550 Ω (4~20mA)
Less than 10K Ω (0~10V)

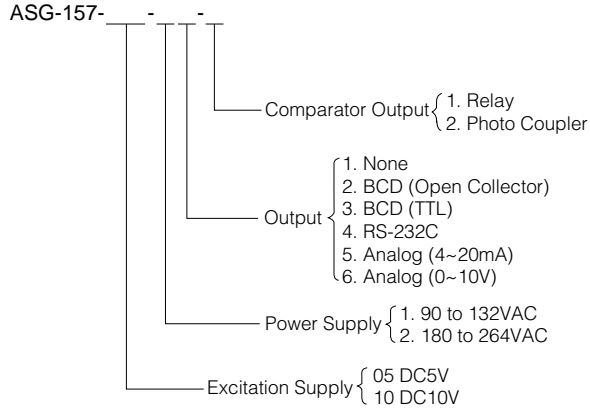
• RS-232C (Isolated input)

Electrical Characteristics: Conforming to EIA RS-232C
Communication Method: Full duplex
Synchronous Method: Start and stop
Transmission Speed: 19200/9600/4800/2400 bps
Start Bit: 1 bit
Data Length: 7 bit
Error Detection: Even parity
Stop Bit: 2 bit
Character Code: ASCII code
Transmission Control: No protocol

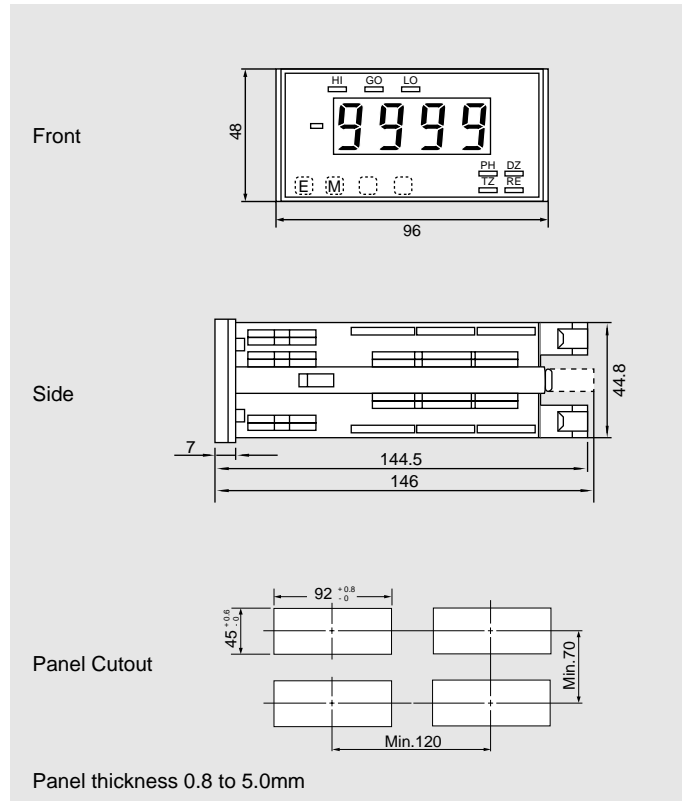
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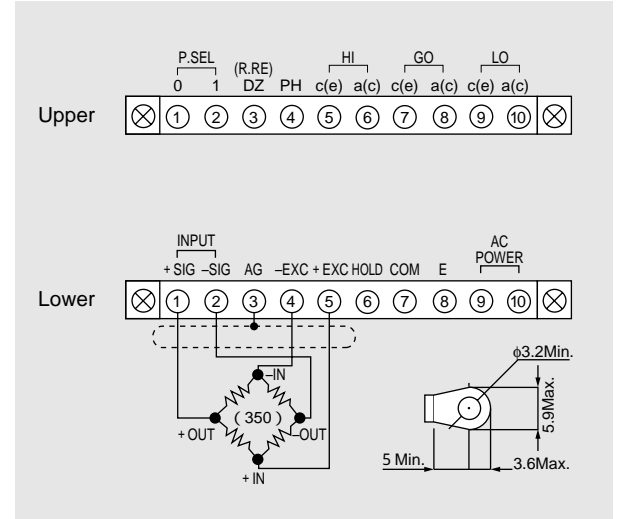
Ordering Code



Dimensions



Connection Diagram



Option

