



■ FEATURES

- High speed sampling 2000 times/ second
- Original function "SPC" mounting in the process of very convenient impressing process (caulking).

SPECIFICATIONS

■ General specifications

● Measurement part

- Operating method : sequential comparison method
- Accuracy : $\pm (0.15\% \text{ of FS} + 1 \text{ digit}) (23^\circ\text{C} \pm 5^\circ\text{C})$
- Sampling speed : 2000times / second
- Display : 7 segment LED
character height 14.2mm (RED)
Comparative setup display part height 8mm (Green)
- Temperature characteristic : $\pm (0.005\% \text{ of org} + 0.5 \text{ digit}) / ^\circ\text{C}$
- Polarity display : Display "--" at setting calculation result "negative".
- Over range alarm : o.L. or -o.L. display with regard to the input signal more than display range.
- Zero display : leading zero suppress
- Monitor display : Peak hold (PH), Digital zero (DZ), Digital zero backup (ME)
- Applicable sensor : Strain gauge method each type sensor (350Ω)
- Sensor power supply : DC5V $\pm 10\%$ 60mA or DC10V $\pm 10\%$ 30mA
- Zero adjustment range : $-3 \sim +2.0 \text{ mV/V}$
- Gain adjustment range : $1.0 \sim 3.0 \text{ mV/V}$
- Minimum input sensitivity : $0.5 \mu\text{V/digit}$
(at the sensor power supply DC5V)
 $1.0 \mu\text{V/digit}$
(at the sensor power supply DC10V)
- Maximum input voltage : 3.0 mV/V
- Maximum display : 9999 (full 4 digits)
- Decimal point : Configurable at the arbitrary position
(Switch must be done by key switch.)

● External control

- Hold : Short COM terminal and S/H terminal at logic "0" level
- Start : Open COM terminal and S/H terminal at logic "1" level
- Digital zero : Short COM terminal and DZ terminal, memorize the value and display the display value "0" at preceeding logic "0" level.
- Peak hold/Peak volley hold : The type of peak hold by the each comparative 1~4's setup.(Switch must be done by front key SW)
- Pattern select : Configurable arbitrarily the 4 patterns in the combination of COM terminal and P.SEL terminal 0.1.
- Comparative number : Short the COM terminal and comparative terminal C1,C2, Accessory C3,C4 or "0" LEVEL .
- Clear : Release the comparative result etc. at "0" level and short COM terminal and CLR terminal.

● Comparative part

- Control method : Microcomputer calculation method
- Setup range : Lower setup "-9999~+9999" above including the polarity
- Comparative operation : The continuous comparison by comparative no.1 or one point comparison by comparison NO.1 to 4.

Comparative condition	Comparative condition	Comparative result
	measurement value > upper limit setup value.	HI
	Upper limit setup value \geq measurement value \geq lower setup	GO
	Lower limit setup value >	LO

- Comparative relay : Contact volume AC120V 0.5A Resistive load
Contact volume DC28V 1A Resistive load

- Photocouler output (NPN type) : Voltage MAX 30V electric current MAX 20mA
Less than 1.2V at setting output saturated voltage 20mA

- Hysteresis : Configurable from 1~999 digit in each comparative setup(only comparative No.1)

■ Common specifications

- Memory backup : Keep the setup data for about 10 years at EEPROM
- Operating temperature and humid range : $0 \sim 50^\circ\text{C}$ $35 \sim 85\% \text{RH}$ (Non-condensing)
- Storage temperature and humid range : $-10 \sim 70^\circ\text{C}$, Less than 60%RH
- Power supply : AC100V $\pm 10\%$ or AC 200V $\pm 10\%$ (50/60Hz)
- Consuming power : Approx.7VA (at AC100V)
- External dimensions : $96 \text{ mm(W)} \times 48 \text{ mm(H)} \times 144 \text{ mm(D)}$
Din size
- Weight : Approx.550g
- Dielectric voltage : Between of input terminal/ comparative output Each DC500V per minute
: Between of each output COM / input terminal
(BCD:DCOM,ANALOG OUT:-RS-C:SG)
Each DC500V per minute
: Between of power supply terminal/ input terminal, case, comparative output
Each AC1500V per minute
: Between of power supply terminal/each output COM
(BCD:D.COM, ANALOG OUT:-RS-232C:SG)
Between of each AC1500V per minute (Power supply AC100V specification)
Between of each AC2100V per minute (Power supply AC200V specification)
- Insulated resistance : Between of above mentioned each terminal DC 500V more than 100MΩ
Power supply terminal normal/common mode $\pm 1500 \text{ V}$ rising 1ns square wave noise range 500ns
: Instruction manual / terminal cover
- Input and output specification
- BCD data output (Insulated from the input)
- TTL
- Measurement data : Tristate parallel BCD positive logic latch output
- Polarity signal : 「1」level at minus display
- Over signal : 「1」level at over display
- Printing command signal : positive pulse at a certain period in each measurement completion basis (by sampling speed).
- Above signal : TTL level fan out =2
5V CMOS compatible
negative logic , available.
- Open collector (NPN type)
- Measurement data : At the negative logic "logic 1", transistor "ON".
- Polarity data : At the minus display, transistor "ON".
- OVER signal : At the OVER signal, transistor "ON".
- Printing command signal : After completed the measurement in a certain period, setting transistor "ON" (by the sampling speed.)
- Transistor output volume : Voltage MAX 30V, Electric current MAX 15mA
Less than 1.2V at setting output saturated voltage "15mA".
- Output response : 750 μs

◎ENABLE input

Short between Enable terminal and D.COM terminal or setting "0" level, data output transistor will be "OFF" condition (In case of "TTL", the data output will be high impedance condition)

●RS-232C (Insulated from the input)

- Electric characteristic : In conformity with EIA RS-232C
- Synchronization scheme : Start-stop synchronization method
- Communication system : Full duplex
- Transmission speed : 2400/4800/9600/19200 bps
- Start bit : 1 bit
- Data length : 7 bit
- Error detection : Even parity
- Stop bit : 2 bit
- Delimiter : CR/LF
- Character code : ASCII code
- Transmission control procedure : No procedure

●Analog output (Insulated from the input)

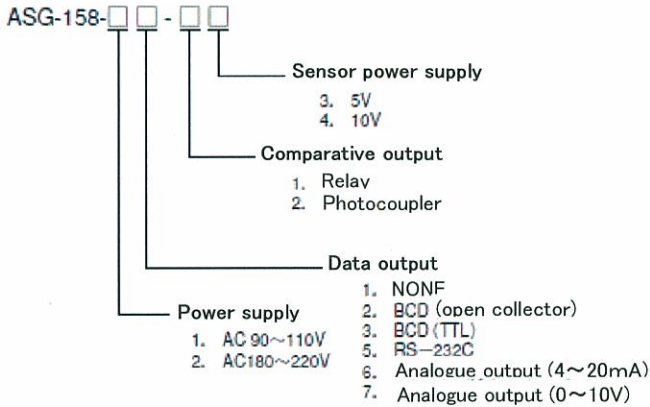
Available to setup arbitrarily about the output display range about the analogue output.

- Resolution : Equivalent to 14 bit
- Temperature coefficient : ±200ppm/°C
- Output response : 700 μs(10%~90%)

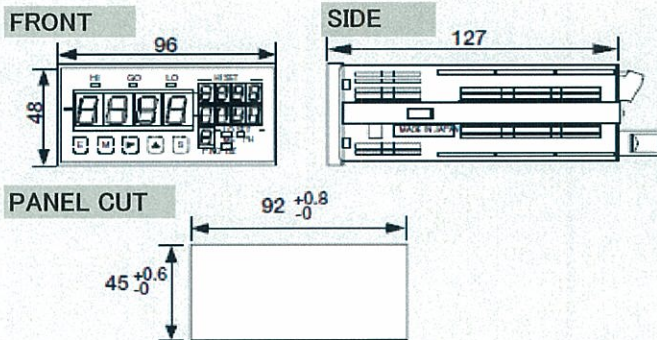
Output	Insulated resistance	Accuracy	Ripple
0~10V	More than 10kΩ	±0.5% of FS	50mV - P
4~20mA	0~270Ω	±0.5% of FS	25mV - P

Set accuracy at (23°C±5°C,45~75%RH)
Set 4~20mA ripple at Insulated resistance 250Ω
electric current 20mA

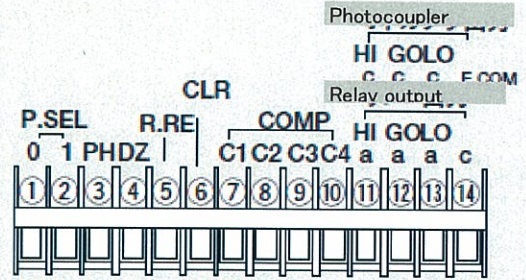
■Type composition



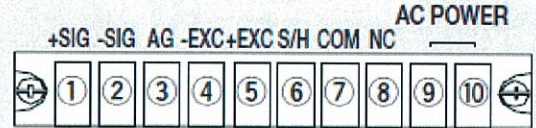
■External dimension diagram



■Upper side screw terminal

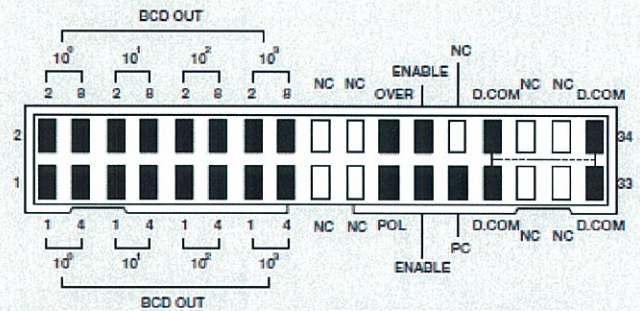


■Lower side screw terminal

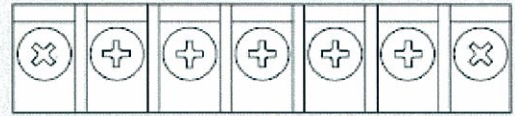


■BCD output connector

(strain relief attached pressure welding connector)

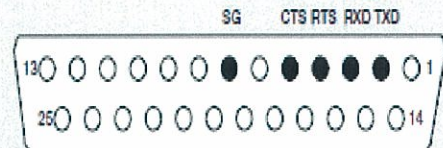


(MIL standard conformity connector) Note: Though NC is an opening terminal, please do not use as intermediate terminal.



Note: Though NC is an opening terminal, please do not use as intermediate terminal. In case analog output specification is 4~20 mA or 0~10 output.

■RS-232C D-sub connector



Applicable connector 17JE-23250-02(OSA)(DDK company made). Note: 0 is an empty terminal, please do not use as intermediate terminal.