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Find the *Kyowa WGA-670B-0* at our website: *Click HERE*

WGA-670B

Instrumentation Amplifiers

●Equipment Incorporated

High-Speed Sampling 2000 times/s | −19999 to 19999 Display | Peak Hold | Incorporated | TEDS Compatible

WGA-670B-7



The WGA-670B series is compact, low-cost instrumentation amplifiers enabling direct reading of physical quantities such as load through high-speed sampling of signals from a strain gage transducer. All operations can be performed with front-panel keys. While all models in this series provide high/low limit comparator, hold function and D-A converted signal output, models with additional BCD or RS-232C output are available. The high-speed sampling capability makes the WGA-670B series suitable for measurement and control of quickly changing variables initiated by press-fitting and pressing.

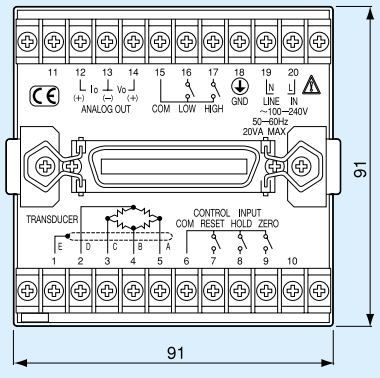
Features

- High-speed sampling at 2000 times/second
- Up to 4 transducers with 350-Ω bridge resistance can be connected in parallel.
- High/low limit comparator and peak hold function are provided standard.
- Continuous peak hold function is provided to indicate the peak of each phenomenal waveform.
- Indication range –19999 to 19999
- DIN size (96 x 96 mm) ensures easy installation.
- Frequency response range 10 Hz or 100 Hz selectable
- TEDS*-compatible model WGA-670B-7 is available.

Function / Model	High/Low Limit Comparator	Peak Hold	D-A Output	BCD Output	RS-232C Output	TEDS Compatible
WGA-670B-0	●	●	●			
WGA-670B-1	●	●	●	●		
WGA-670B-7	●	●	●		●	●

* To let a measuring instrument read a correct value corresponding to a sensor, the measuring instrument should be adjusted based on the calibration data of the sensor. Conventionally, the adjustment task has been made manually. A TEDS-installed sensor has calibration data in its memory and a TEDS-compatible instrument reads the data to automatically perform adjustment, thereby reducing adjustment time and preventing erroneous setting.

Rear View (WGA-670B-1)



Specifications

Standard Model WGA-670B-0

Number of Measuring Channels: 1
Applicable Transducers: Strain gage transducers
Applicable Bridge Resistance: 87.5 Ω to 10 kΩ (Up to 4 transducers with 350-Ω bridge resistance can be connected in pallarel.)
Measuring Range: ±3.2 mV/V (including tare)
Bridge Excitation: 10 VDC/2 VDC, switchable by panel switch
Digital Zero Adjustment Range: Same as measuring range (digital adjustment only)
Calibration: Possible by inputting a numeric value or by applying an actual load
Display: ±19999 (Decimal point can be put anywhere.)
Character height 14 mm, red LED
Mode: Normal/hold
Update: 15.6 times/sec. in normal mode
Sampling Rate: 2000 times/sec.
Frequency Response Range:
DC to 100 Hz (within –3 dB at 100 Hz)
DC to 10 Hz (within –3 dB at 10 Hz)
Nonlinearity: Within ±(0.03% FS + 1 digit)
Zero Stability: ±0.25 μV RTI/°C
Sensitivity Stability: ±0.01%/°C
High/Low Limit Comparator
Number of setting points: 2 (high limit, low limit)
Setting range: ±19999
Max. hysteresis width: Can be set in a range of 0 to 19999
Output: Open collector
Load capacity: 30 VDC, 20 mA (resistive load)
Comparison mode: Normal/hold
Comparison rate: 500 times/sec.
Smoothing
Minimum scale: 1, 2, 5, 10, 20, 50, 100, 200, 500, 1000 counts
Number of moving averaging times: 8, 16, 32, 64, 128, 256, 512, 1024, 2048
Analog filter: 10, 100 Hz
Zero Compensation
Automatic zero compensation: Indication is made zero when the reading is in the setting range for 2 seconds or more.
Approximated zero compensation: Indication is made zero when the reading is in a preset range of 0 to 9.
Adding Function: Setting range ±19999
Original Value Measurement: ±3.200 mV/V

Measurement Mode: Selectable from the following:
Normal: Measured value is normally indicated.
Point-based hold: Value measured at a selected point is held.
Section-based peak hold: Peak in a designated section is held.
Time-based peak hold: Peak in a designated period is held.

Control Input
Number of commands: 3
Kinds: HOLD, HOLD RESET, BALANCE
Input system: No-voltage contact signal or open collector signal (should enable application of 12 VDC and current flow of 5 mA.)

D-A Output
Voltage: ±10 V (load resistance 2 kΩ or more)
Desired scaling possible
Current: 4 to 20 mA (load resistance 500 Ω or less)
Corresponds to voltage output of 0 to 10 V.
Withstand voltage between the output and chassis: 250 VAC for one minute (Circuit between voltage output and current output is not isolated.)
Resolution: 13 bits
Nonlinearity: Within ±0.1% FS
Conversion rate: 500 times/sec.
Zero stability: ±0.25 μV RTI/°C
Sensitivity stability: Within ±0.01%/°C
Setting parameters:
Indication for 0 V output (±19999)
Indication for 10 V output (±19999)

Check Function: Self-check

Input/Output Terminal Board: M3 screw terminal (Applicable crimp-style terminal V1.25-3A, 1.25-3B or the equivalent)

Operating Temperature/Humidity Range: –10 to 50°C, 20 to 85% RH (noncondensing)

Power Supply: AC line, 50/60 Hz, 20 VA or less

Dimensions: 96(W) x 96(H) x 139(D) mm (excluding protrusions)

Weight: Approx. 1.1 kg

Panel Cut Dimensions: 92 x 92 mm

EMC: Conforms to EN61326-1 (class A)

Safety Feature: Conforms to EN61010-1 (installation category II, pollution degree 2)

Standard Accessories
Unit seal
Instruction Manual

Optional Accessories
- AC power cables
  2 m long with round crimp-style terminal (M3) to WGA-670B and flat power plug to wall outlet
  P-23 for 100 VAC
  P-28 for 200 VAC
- Input cables U-33 to U-36
  For connection between WGA-670B and transducer with NDIS connector; NDIS connector to transducer and round crimp-style terminal (M3) to WGA-670B
  U-33 50 cm long, U-34 1 m long, U-35 2 m long, U-36 5 m long

Specify the desired model when ordering.

WGA-670B-1 with BCD Data Output

This model can output the reading in binary coded decimal. Thus, controlling production process or tabulating or recording measured data can be conveniently performed by connecting it to the PC, process controller, sequencer or printer. The input/output circuits and internal circuit are electrically isolated by photo coupler. From the WGA-670B series, the WGA-670B-1 should be selected for connection to the dedicated printer.

Output
Data: 18 bits (4 bits x 4 digits + 2 bits)
Sign: 1 bit
OVER signal: 1 bit
Print command (EOC): 1 bit
Output system: Open collector
Max. applied voltage: 30 VDC
Max. applied current: 20 mA

Input
Number of input signals: 2
HOLD, negative logic (hold at low level)
OUTPUT DISABLE, negative logic (output disable at low level)
Input system: No-voltage contact signal or open collector signal (should enable application of 12 VDC and current flow of 5 mA.)

Setting Items:
Data output logic (including sign)
EOC output logic
Transfer rate from approx. 16, 32, 64 or 125 times/sec.

Connector: 57-40360 (DDK) or the equivalent

Optional Accessories
- BCD output connector BCD-CONNE (DDK 57-30360 or the equivalent)
- Dedicated printer 442B-K01 (Refer to page 4-16.)

WGA-670B-7 with RS-232C, TEDS-Compatible

RS-232C enables this model to transmit data and status signals to external equipment and to receive setting conditions from it. Thus, controlling production process or tabulating or recording measured data can be conveniently performed by connecting this model to PC, process controller or sequencer. The input/output circuits and internal circuit are electrically isolated by photo coupler.
In addition, the TEDS compatibility enables automatic setting of sensitivity and bridge voltage with TEDS-installed sensor connected. If multiple sensors are connected, they should be the same model to effect the TEDS compatibility.

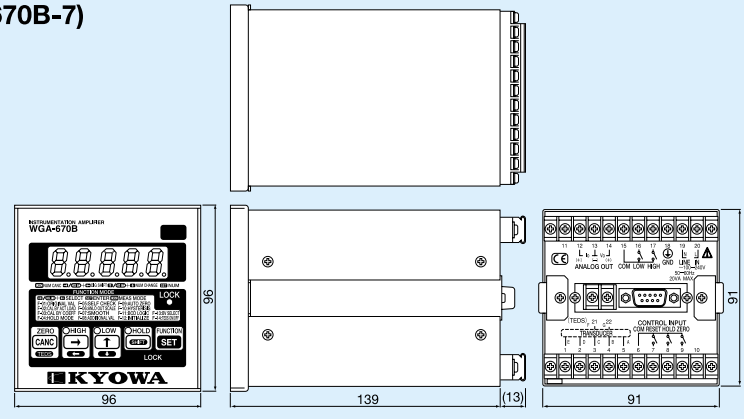
Applicable Transducers: Strain gage transducers (TEDS-installed models connectable)

Calibration: Possible by entering the sensitivity, by applying an actual load or based on TEDS

RS Output
Signal system: RS-232C full duplex system
Transmission system: Start-stop transmission
Transmission speed: 9600 bps
Bit structure:
7 data bits
1 stop bit
Odd parity bit
Flow control: None
Connector D-Sub 9 pins (male)

TEDS Compatibility
Interface: Compatible with IEEE 1451.4 Mixed Mode Transducer Interface Class 2
Applicable transducers: Should have the information according to IEEE template No. 33, cable length should be 30 m or less.

Dimensions (WGA-670B-7)



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