

# SPECIFICATIONS

## WGA-670A

### Models

Function Model	High/ low-limit comparator	Peak-Hold Function	D/A Converter	BCD data output	RS-232C
WGA-670A-0	●	●	●		
WGA-670A-1	●	●	●	●	
WGA-670A-2	●	●	●		●

### Standard Specifications WGA-670A-0

Number of measuring channels: 1

Applicable transducer: Strain gage-type transducer

Applicable bridge resistance:

87.5  $\Omega$  to 10 k $\Omega$   
(Four 350- $\Omega$  transducers can be connected in parallel.)

Measuring range:  $\pm 3.2$  mV/V (Tare included)

Bridge excitation: 10 VDC or 2 V (Selectable via panel key)

Digital-zero function: Same as measuring range (Digital calculation only)

Calibration function: Calibration with input of numeric values  
Calibration with an actual load

Display:  $\pm 19,999$  (Decimal point can be set arbitrarily)  
Character height: 14 mm, red LED  
Mode: Normal/Hold mode  
Speed: 15.6 times/sec  
(In Normal display mode)

Sampling period: 2,000 times/sec

Frequency response range:  
DC to 100 Hz (Within -3 dB at 100 Hz)

Nonlinearity: Within  $\pm(0.03\% \text{ FS} + 1 \text{ digit})$

Stability: Zero point: Within  $\pm 0.25 \mu\text{V}_{\text{RMS}}/^\circ\text{C}$   
Sensitivity: Within  $\pm 0.01\%/^\circ\text{C}$

High/low-limit comparison function:  
Number of setting points: 2 (High and low limits)  
Setting range:  $\pm 19,999$   
Hysteresis width: Can be set from 0 to 19,999.  
Output format: Open collector  
Load capacity: 30 VDC, 20 mA (Resistance load)  
(Relay type also manufacturable)  
Comparison mode: Normal/Hold mode  
Comparison rate: 500 times/sec

Smoothing function: Min. scale: 1, 2, 5, 10, 20, 50, and 100 counts  
Average movement: 8, 16, 32, 64, 128, 256, 512,  
1,024, and 2,048 times

Zero-correction function:  
Auto-zero correction: Indication is set to zero within  
the setting range

Addition function: Setting range:  $\pm 19,999$

Original-value measurement function:  $\pm 3.200$  mV/V

Measurement function: Selectable from five types:

Normal measurement:

Always indicates measured values.

Arbitrary-point hold measurement:

Holds the value measured at an arbitrary point.

Peak-hold measurement:

Holds the peak value (maximum value) during measurement.

Block-specified peak-hold measurement:

Holds the peak value (maximum value) within the specified block.

Time-specified peak-hold measurement:

Holds the peak value (maximum value) for the specified time.

Control input: Number of inputs: 3  
Type: Hold command, reset command  
(hold-reset), and balance command  
Input format: No-voltage contact signal or  
open-collector signal  
(Must be able to apply a 12 VDC  
voltage and 5 mA current)

D-A Output: 2  
Voltage output:  $\pm 10$  V (Load: 2 k $\Omega$  or more)  
(Any scaling factor is selectable.)  
Current output: 4 to 20 mA (Load: 500 $\Omega$  or less)  
(Outputs 4 to 20 mA when voltage output is 0 to 10 V.)

Isolation from main circuit:

Withstand voltage: 250 VAC for 1 minute  
(Not isolated between output voltage and current output)

Resolution: 13 bits  
Nonlinearity: Within  $\pm 0.1\% \text{ FS}$   
Conversion speed: 500 times/sec  
Stability: Zero point: Within  $\pm 150 \mu\text{V}/^\circ\text{C}$   
Sensitivity: Within  $\pm 0.01\%/^\circ\text{C}$

Settings: Value indicated when output is 0 V ( $\pm 19,999$ )  
Value indicated when output is 10 V ( $\pm 19,999$ )

Checking function: Self-check

Input and output terminal block:

M3 screw fastening-type terminal block  
(Compatible with applicable crimping terminals 1.25-3A  
and 1.25-3B)

Operating temperature and humidity ranges:  
-10 to 50 $^\circ\text{C}$  and 85% RH or less (Non-condensing)

Power supply: 100 to 240 VAC  $\pm 10\%$ ,  
50/60 Hz, 20 VA or less

External dimensions: 96 mm (W) x 96 mm (H) x 139 mm (D)  
(Protrusions excluded)

Weight: Approx. 1.3 kg

Panel cut dimensions: 92 mm x 92 mm

EMC standard: EN61326-1 (Class A)

Safety standard: EN61010-1 (Installation category: II, Pollution degree: 2)

Standard accessories: Unit stickers and Instruction manual

Optional items:

- AC power cables  
Round crimping terminals (M3) for the  
side of the unit and power plug (flat type) 2 m  
P-23 for 100 VAC (NOT CE-CERTIFIED)  
P-24 for 100 VAC to 240 VAC (CE-CERTIFIED)
- Input cables U-33 to 36  
Connection cables for transducers equipped with  
NDIS-Standard connectors  
Transducer-side connector plug (NDIS Standard) and  
round crimping terminals (M3) of the WGA-670A side  
U-33 (50 cm), U-34 (1 m)  
U-35 (2 m), U-36 (5 m)

# Specifications by Model

(Please specify when ordering)

## ■ WGA-670A-1 with BCD data output

This model can deliver indicated values in the form of BCD-coded data. When connected to a PC, process controller, sequencer, or printer, the unit comes in handy for performing processes of control, summing, recording, and so on. This output is used for connection to the dedicated printer. The input/output circuits and internal circuit of the unit are electrically isolated from each other with photocouplers.

<b>Output</b>	Data:	18 bits (4 bits x 4 digits + 2 bits)
	Code:	1 bit
	Over:	1 bit
	Print command (EOC):	1 bit
	Output format:	Open collector
	Max. excitation voltage:	30 VDC
	Max. excitation current:	20 mA
<b>Input</b>	Number of inputs:	2
	Input data:	Hold input, low active (Held at L) Output disable input, low active (Output disabled at L)
	Input signal system:	Open collector or no-voltage contact signal (Must be able to apply a 12 VDC voltage and 5 mA current)
<b>Settings:</b>	Switching of data output (codes included) logics	
	Switching of EOC logics	
	Transfer rate: Approx. 16 times/sec., approx. 32 times/sec., approx. 64 times/sec., or approx. 125 times/sec.	
<b>Connector:</b>	57-40360, made by DDK Ltd., or its equivalent	

**Optional items:** BCD output connector BCD-CONNE (57-30360, made by DDK Ltd.) or its equivalent

### ●Dedicated printers (Made by Tsuruga Electric Corporation)

Model		Power supply
With Calendar Clock	Without Calendar Clock	
3402-K01-3	3401-K01-3	100 VAC (90–132 V) 50/60 Hz
3402-K01-5	3401-K01-5	200 VAC (180–264 V) 50/60 Hz
3402-K01-9	3401-K01-9	24 VDC ± 10%

Thermal serial dot-matrix system. Number of print columns: 24

**Standard accessories:**  
Connection cable for WGA-670A and one roll of chart

**External dimensions and weight:**  
96 mm x 96 mm x 170 mm (Protrusions excluded); approx. 850 g

**Chart:** 5860-01, sold in unit quantities of 10 rolls (Optional).



## ■ WGA-670A-2 with RS-232C

This model permits the transmission of indicated values or status information to an external device or the writing of various set values through an external device. When connected to a PC, process controller, or sequencer, the unit enables performance of processes of control, summing, recording, and so on. The input/output circuits and internal circuit of the WGA-670A are electrically isolated from each other with photocouplers.

<b>Signaling system:</b>	RS-232C full-duplex system
<b>Transmission system:</b>	Start-stop synchronization system
<b>Transfer rate:</b>	9,600 bps
<b>Bit configuration:</b>	Data: 7 bits
	Parity: Odd parity
	Stop: 1 bit
<b>Connector:</b>	D-Sub 9-pin, female
<b>RS cross-cable:</b>	KRS-DOSV9C07K, made by Sanwa Supply Inc. or its equivalent (recommended)