

**General**
**Specifications**

Square Root Extractor

**1. GENERAL**

This signal conditioner extracts square roots of 1~5V DC signals and converts them to current or voltage signals.

- Incorporation of one-chip microcomputer provides high efficiency and superior performance.
- Use of Handy Terminal allows easy on-site low-cut point setting, zero and span adjustment, and I/O monitoring.

**2. SPECIFICATIONS**

<b>IO Specifications</b>	
Input signal	1~5VDC
Input resistance	1M $\Omega$ (100k $\Omega$ when power off)
Permissible applied voltage	$\pm$ 9V DC
Input compensation function	Square root computation: $Y=2\sqrt{X-1}+1(V)$ (Y: output signal, and X: input signal)
Output signal	DC current or voltage signal
Zero point adjustment range	$\pm$ 10% of span
Span adjustment range	$\pm$ 10% of span
<b>Standard performance</b>	
Precision rating	$\pm$ 0.1% of span
Response speed	200ms 63% response (10~90%)
Insulation resistance	100M $\Omega$ min (at 500V DC) between input~output~power supply (DC drive) input~output~power supply~ground (AC drive)
Voltage withstand	1500V AC/minute between input~output, input~power supply 500V AC/minute between output~power supply (DC drive) 1500V AC/minute between input~output~power supply~ground (AC drive)
Ambient temperature and humidity	Normal operating condition: 0~50°C, 5~90% RH Operating limit: -10~60°C, 5~95% RH Storage condition: -40~70°C, 5~95% RH (no condensation)
Power supply voltage	85~264V AC 47~63Hz, 24V DC $\pm$ 10%
Effect of power supply voltage fluctuation	$\pm$ 0.1% max of span per 85~264V AC or 24V DC $\pm$ 10% fluctuation
Effect of change in ambient temperature	$\pm$ 0.2% max of span per 10°C change in temperature
Current dissipation	24V DC 85mA (WH5A-1), 50mA (WH5V-1)
Power dissipation	100V AC 9VA (WH5A-2), 5VA (WH5V-2)
<b>Mountings and dimensions</b>	
Material	Case: ABS plastic
Boards	Both sides glass-epoxy
Mounting methods	Rack, wall, or DIN rail
Connection method	M4-screw terminals
External dimensions	72 x 48 x 127 mm (h x w x d)
Weight	DC drive: approx. 150g , AC drive : approx. 300g
<b>Accessories</b>	
Tag number labels: 1	
Mounting blocks: 2	M4 mounting screws: 4

WH5  -6  -  \* B

TYPE NO.

OUTPUT SPECIFICATION

A: Current

V: Voltage

INPUT SIGNAL

6: 1~5V DC

OUTPUT SIGNAL

WH5A

A: 4~20mA DC

B: 2~10mA DC

C: 1~5mA DC

D: 0~20mA DC

E: 0~16mA DC

F: 0~10mA DC

G: 0~1mA DC

Z: (custom) current signal  
(24mA max)

WH5V

1: 0~10mV DC

2: 0~100mV DC

3: 0~1V DC

4: 0~10V DC

5: 0~5V DC

6: 1~5V DC

7: -10~+10V DC

0: (custom) voltage signal  
(±10V max)

POWER SUPPLY

1: 24V DC±10% 2: 85~264V AC

DUAL OUTPUT SPECIFICATIONS

Model	1st Output (selectable)	2nd Output
WH5A	4~20mA DC 2~10mA DC 1~5mA DC 0~20mA DC 0~16mA DC 0~10mA DC 0~1mA DC	1~5V DC
WH5V	0~10mV DC 0~100mV DC 0~1V DC 0~10V DC 0~5V DC 1~5V DC -10~+10V DC	1~5V DC

The JUXTA W Series allows dual output.  
Enter 'DO' after the model code when ordering.

High Voltage Withstand Specifications

The JUXTA W Series is also available in 2000V AC voltage withstand specifications. Contact your dealer for details.

OUTPUT RESISTANCE AND PERMISSIBLE LOAD RESISTANCE

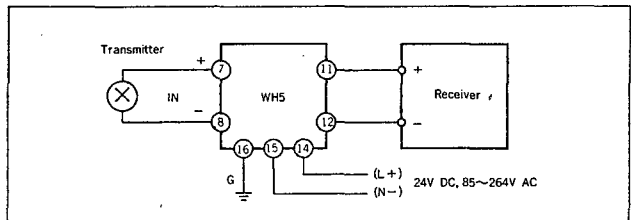
WH5A (DC Current Output)		
Output Signal	Output Resistance	Permissible Load Resistance
4~20mA DC	5MΩ min	0~750Ω
2~10mA DC		0~1500Ω
1~5mA DC		0~3000Ω
0~20mA DC		0~750Ω
0~16mA DC		0~900Ω
0~10mA DC		0~1500Ω
0~1mA DC		0~15kΩ
Others where I <sub>100</sub> =24mA max		

I<sub>100</sub> : 100% output current

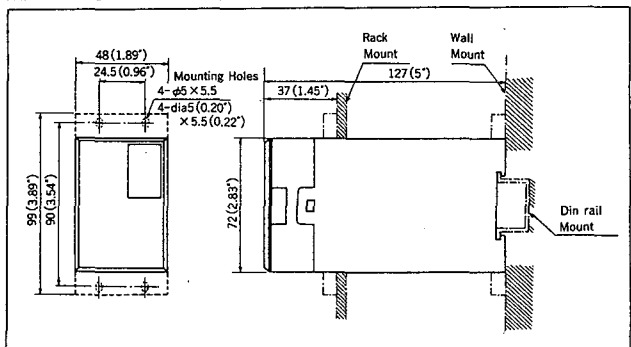
WH5V (DC Voltage Output)		
Output Signal	Output Resistance	Permissible Load Resistance
0~10mV DC	100Ω max	250kΩ min
0~100mV DC		250kΩ min
0~1V DC	1Ω max	10kΩ min
0~10V DC		2kΩ min
0~5V DC		2kΩ min
1~5V DC		2kΩ min
-10~+10V DC		10kΩ min
Others where V <sub>100</sub> ≤100mV	100Ω max	250kΩ min
V <sub>100</sub> =10V max	1Ω max	10kΩ min

V<sub>100</sub> : 100% output voltage

WIRING DIAGRAM



EXTERNAL DIMENSION



Subject to change without notice for grade up quality and performance