General Specifications

Model WRUA/V
Ultra Low Temperature RTD Transmitter

JUXTA

1. GENERAL

Model WRUA/V Ultra Low Temperature RTD Transmitter performs high accuracy measurement from super low temperature to normal temperature combining with 4-wire (platinum & thin cobalt alloy) super low temperature RTD (Yokogawa J263*B) and converts them into isolated current or voltage signal.

2. SPEIFICATIONS

Input/Output Specifications	
Input signal	Yokogawa J263*B RTD (platinum & thin cobalt alloy)
Measuring range	As per Yokogawa J263*B RTD Standard Table
Input resistance	1MΩ (3KΩ when power off)
Zero elevation	Within 5 times of span
Span	Standard span is more than 10 deg.C
Input conductor resistance	Less than 50Ω per wire (resistance value of each wire should be equal)
Output signal	Direct current or voltage signal
Zero point adjustment range	±1% of span (input adjust), ±10% of span (output correction)
Span adjustment range	±1% of span (input adjust), ±10% of span (output correction)
Standard Performance	
Accuracy rating	Within ±0.1% of span or 0.3℃ whichever greater(incl. linearized error)
Response Speed	200ms 63% response (10～90%)
Burnout	Designate Yes (up, down) or No. Burnout time is less than 60 sec.
Insulation resistance	100MΩ/500V DC between input～output～power source (DC Drive) and input～output～power source～ground (AC Drive)
Withstand Voltage	1500V AC/1 minute between input～output～power source 500V AC/1 minute between output～power source (DC Drive) 1500V AC/1 minute between input～output～power source～ground (AC Drive)
Ambient temperature & humidity	Normal operating condition: 0～50°C, 5～90%RH Possible operating limit: -10～60°C, 5～95%RH Transport storing condition: -40～70°C, 5～95%RH (no condensation)
Power source voltage	85～264V AC 47～63Hz or 24V DC±10%
Effect of wire resistance	Unbalance of wiring resistance Error per 10Ω : 0.01℃
Effect of power source voltage fluctuation	Less than ±1% of span or 0.3℃ for 85～264V AC or 24V DC±10%
Effect of ambient temperature change	Less than 0.2% of span or 0.6℃ for change of 10°C
Current dissipation	24V DC 90mA(WRUA), 60mA(WRUV)
Power dissipation	100V AC 7VA (WRUA), 6VA (WRUV)
Mounting & Shape	
Materials	ABS plastic case
PCB	Glass epoxy both sides substrate
Mounting method	Rack, wall mounting, DIN rail
Connecting method	M4 screws terminal connection
External dimension	72x48x127mm (HxWxD)
Weight	Abt. 150g (DC Drive), Abt. 300g (AC Drive)
Accessories	
Tag number label ... 1 Range label ... 1 Mounting block ... 2 Mounting screw M4 4	

WRU□-□□-□*A/B□

Type

Output Specifications
A : Current V : Voltage

Input Specifications
1 : 4-wire type low temperature RTD (J263*B)
0 : Other 4-wire types

Output Signal

[WRUA]	[WRUV]
A : 4～20mA DC	1 : 0～10mV DC
B : 2～10mA DC	2 : 0～100mV DC
C : 1～ 5mA DC	3 : 0～ 1V DC
D : 0～20mA DC	4 : 0～10V DC
E : 0～16mA DC	5 : 0～ 5V DC
F : 0～10mA DC	6 : 1～ 5V DC
G : 0～ 1mA DC	7 : -10～+10V DC
Z : (CUSTOM) Current Signal (Within 24mA)	0 : (CUSTOM) Voltage Signal (Within ±10V)

Supply Power
1 : 12～ 48V DC
2 : 85～264V DC

Burnout
U : UP
D : DOWN
N : OFF

Output Resistance & Allowable Load Resistance

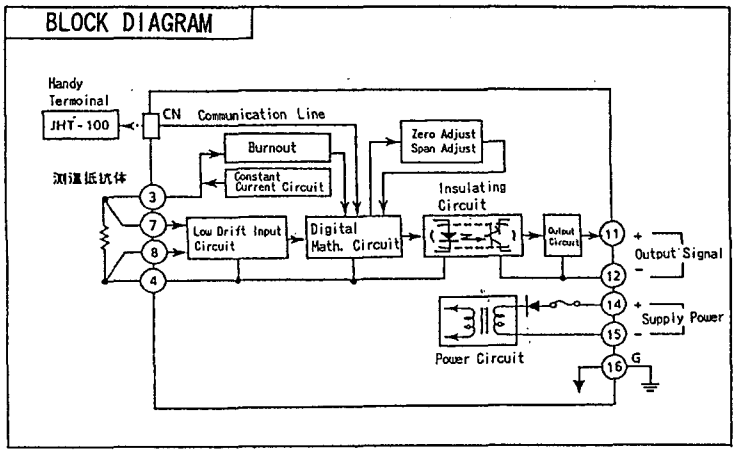
DC Current Output Type		
Output Signal	Output Resistance	Allowable Load Resistance
4～20mA DC	More than 5MΩ	0～ 750Ω
2～10mA DC		0～1500Ω
1～ 5mA DC		0～3000Ω
0～20mA DC		0～ 750Ω
0～16mA DC		0～ 900Ω
0～10mA DC		0～1500Ω
0～ 1mA DC		0～ 15Ω
Others, I_{oo}=less than 2mA		Less than (15/I_{oo})Ω

I_{oo}=100% output current value

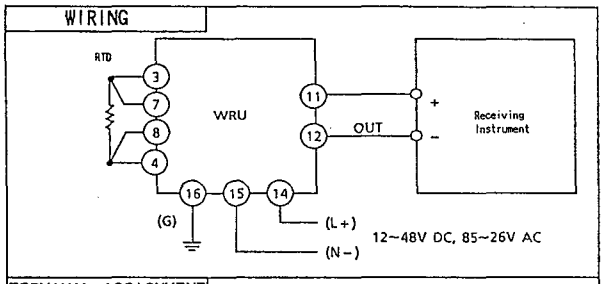
DC Voltage Output Type			
Output Signal		Output Resistance	Allowable Load Resistance
0～10mV DC		Less than 100Ω	More than 250K
0～100mV DC			
0～1V DC		Less than 1Ω	More than 2KΩ
0～10V DC			" 10KΩ
0～5V DC			" 2KΩ
1～5V DC			" 2KΩ
-10～+10V DC			" 10KΩ
Others,	V_{oo}≦100mV	Less than 100Ω	" 250KΩ
I_{oo}=less than 10V	V_{oo}>100mV	Less than 1Ω	" 10KΩ

V_{oo}=100% output voltage value

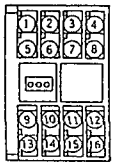
BLOCK DIAGRAM



WIRING

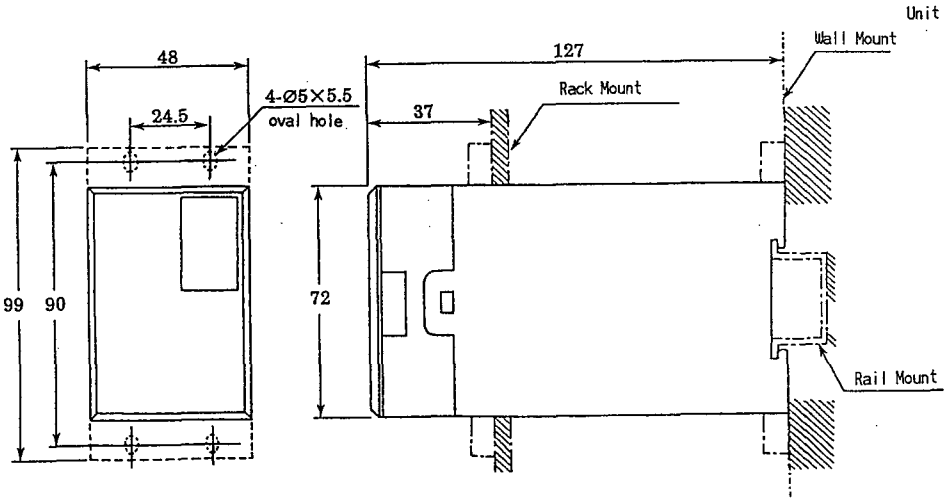


TERMINAL ASSIGNMENT



3	INPUT	(A)
4	INPUT	(B)
7	INPUT	(A)
8	INPUT	(B)
9		
10		
11	OUTPUT	(+)
12	OUTPUT	(-)
13		
14	SUPPLY	(L+)
15	SUPPLY	(N-)
16	GND	(G)

Unit : mm



Subject to change without notice for grade up quality and performance