General Specifications

GS 77J09D01-01E

Models WD1A, WD1V Tachogenerator Converter

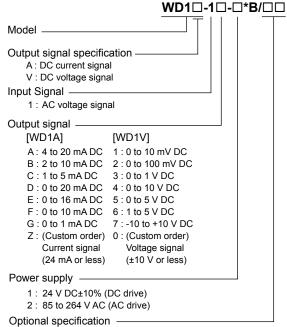


General

The WD1A/WD1V is a compact, front terminal connection type tachogenerator converter that converts AC voltage signals from electrical tachometers (tachogenerators) into isolated DC current or DC voltage signals.

- AC/DC conversion is made by mean value.
- Dual output and 2000 V AC withstand voltage specifications are available upon requests

Model and Suffix Codes



D0 : Dual output (1 to 5 V DC)

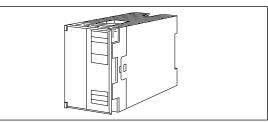
Ordering Information

Specify the following when ordering.

- Model and suffix codes: e.g. WD1V-1A-2*B
- Input range: e.g. 0 to 150 V AC

Input/Output Specifications

Input signal: 0 to V_{100} V AC (V_{100} =100% input voltage) 16 \leq $V_{100} \leq$ 150 V AC Input frequency: 15 Hz \leq $F_{100} \leq$ 1 kHz (F_{100} =100% input frecuency) Maximum allowable input: 120% (continuous) Output signal: DC current or DC voltage signal



Allowable load resistance:

DC current output	Allowable load resistance	DC voltage output	Allowable load resistance
4 to 20 mA	750 Ω or less	0 to 10 mV	$250 \text{ k}\Omega \text{ or more}$
2 to 10 mA	1500 Ω or less	0 to 100 mV	$250 \text{ k}\Omega \text{ or more}$
1 to 5 mA	3000 Ω or less	0 to 1 V	2 kΩ or more
0 to 20 mA	750 Ω or less	0 to 10 V	10 kΩ or more
0 to 16 mA	900 Ω or less	0 to 5 V	$2 k\Omega$ or more
0 to 10 mA	1500 Ω or less	1 to 5 V	$2 k\Omega$ or more
0 to 1 mA	$15 \text{k}\Omega$ or less	-10 to 10 V	10 kΩ or more

Zero adjustment: -5 to 5% Span adjustment: 95 to 105%

Standard Performance

Accuracy rating: ±0.3% of span

- There is an accuracy limit when the frequency becomes 30 Hz or less at 100% input.
- Moreover, the accuracy is not guaranteed when the input level is 10% or less.
- Dual output (optional): Relative error between output 1 and 2 is within ±0.2%. These outputs are not insulated.

Response speed: 2.4 s, 63% response (10 to 90%) Insulation resistance:

 $100~M\Omega$ or more at 500 V DC between input and output, input and power supply, input and ground, output and power supply, output and ground, and power supply and ground.

Withstand voltage:

- DC drive 1500 V AC/min. between input and (output and power supply). 500 V AC/min. between output and power supply.
- AC drive 1500 V AC/min. between input and output, input and power supply, input and ground, output and power supply, output and ground, and power supply and ground.

Environmental Conditions

Operating temperature range: 0 to 50°C Operating humidity range: 5 to 90% RH (no condensation)

Power supply voltage: 85 to 264 V AC, 47 to 63Hz or 24 V DC \pm 10%



Yokogawa Electric Corporation 2-9-32, Nakacho, Musashino-shi, Tokyo, 180-8750 Japan Tel.: 81-422-52-7179 Fax.: 81-422-52-6619 Effect of power supply voltage fluctuations: ±0.1% of span or less for fluctuation within the operating range of power supply voltage specification. Effect of ambient temperature change: ±0.2% of span or less for a temperature change of 10°C.

Current consumption: 24 V DC 90 mA (WD1A-1), 60 mA (WD1V-1) Power consumption: 100 V AC 7 VA (WD1A-2),

Power consumption: 100 V AC 7 VA (WD1A-2), 6 VA (WD1V-2)

Mounting and Dimensions

Material: ABS resin (Case body) Mounting method: Rack, Wall or DIN rail mounting Connection method: M4 screw terminals External dimensions: 72 (H) × 48 (W) × 127 (D) mm Weight: DC; Approx.150g, AC; Approx.300g

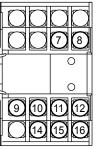
Standard Accessories

Tag number label: 1 Mounting block: 2 Mounting screw: M4 screw x 4

Custom Order Specifications

	Current signal	Voltage signal
Input range (AC)		0 to 150 V
Span (AC)		16 to 150 V
Zero elevation		0% only
Output range (DC)	0 to 24 mA	-10 to +10 V
Span (DC)	1 to 24 mA	10 mV to 20 V
Zero elevation	0 to 200%	-100 to +200%

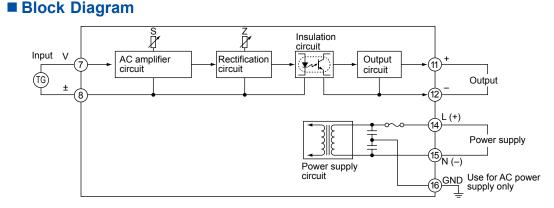
Terminal Assignments



7	Input	(V)
8	Input	(±)
9	Output 2	(+)
10	Output 2	(-)
11	Output 1	(+)
12	Output 1	(-)
14	Supply	(L+)
15	Supply	(N–)
16	Ground	(GND)*

*: Use for AC power supply only

Terminals (9) – (10) are used for Output 2 only when the dual output is specified.



External Dimensions

