General Specifications

Model DD1
Tachometer Converter

JUXTA

GS 77J05D01-01E

■ General

The DD1, a nest-mounting type DCS-supported tachometer converter, receives AC voltage signals from electrical tachometers (tachogenerators), and converts them into various DC current or DC voltage signals.

• AC/DC conversion is made by mean value.

■ Model and Suffix Codes

DD1-16□*A

Model

Input Signal
1 : AC voltage signal

Output 1 Signal
6 : 1 to 5 V DC

Output 2 signal

A : 4 to 20 mA DC	1 : 0 to 10 mV DC
B : 2 to 10 mA DC	2 : 0 to 100 mV DC
C : 1 to 5 mA DC	3 : 0 to 1 V DC
D : 0 to 20 mA DC	4 : 0 to 10 V DC
E : 0 to 16 mA DC	5 : 0 to 5 V DC
F : 0 to 10 mA DC	6 : 1 to 5 V DC
G : 0 to 1 mA DC	7 : -10 to +10 V DC
Z : (Custom order) Current signal (24 mA or less)	0 : (Custom order) Voltage signal (±10 V or less)

Power supply
24 V DC±10%

■ Ordering Information

Specify the following when ordering.

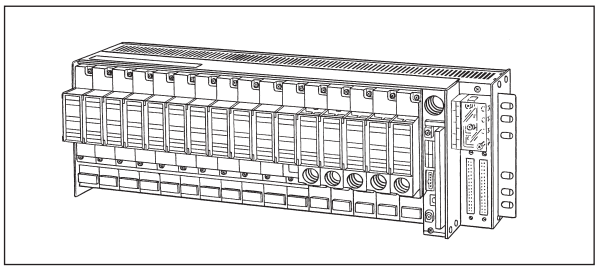
• Model and suffix codes: e.g. DD1-16A*A
• Input range: e.g. 0 to 100 V AC

■ Input/Output Specifications

Input signal: 0 to E_{100} V AC
(E_{100} is 100% input voltage)
16 ≤ E_{100} ≤ 150 V AC
Input frequency range: 15Hz ≤ F_{100} ≤ 1 kHz
(F_{100} is 100% input frequency)
Maximum allowable input:
120% (continuous)
Output 1 signal: 1 to 5 V DC
Output 2 signal: DC current or DC voltage signal
(DC current can be outputted from either the front terminals 3-4 or the connector.)
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 kΩ or more
2 to 10 mA	1500 Ω or less	0 to 100 mV	250 kΩ 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 kΩ or more
0 to 10 mA	1500 Ω or less	1 to 5 V	2 kΩ or more
0 to 1 mA	15 kΩ or less	-10 to +10 V	10 kΩ or more

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



■ Standard Performance

Accuracy rating:
Output 1: ±0.3% of span
There is an accuracy limit when the frequency becomes 30 Hz or less at 100% input.
Output 2: Relative error between output-1 and 2 is within ±0.2%.
Accuracy is not guaranteed for output level less than 0.5% of the span of a 0 to X mA output range type.
Response speed: 2.4 s, 63% response (10 to 90%)
Insulation resistance: 100 MΩ or more at 500 V DC between input and output, output and power supply, and input and power supply.
Withstand voltage: 1500 V AC/min. between input and (output and power supply).
500 V AC/min. between output and power supply.

■ Environmental Conditions

Operating temperature range: 0 to 50°C
Operating humidity range:
5 to 90% RH (no condensation)
Power supply voltage: 24 V DC±10%
(ripple content 5% p-p or less)
Effect of power supply voltage fluctuations: ±0.2% of span or less for the 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 (4 to 20 mA), 60 mA (1 to 5 V)

■ Mounting and Dimensions

Mounting method: Nest-mounting (Signals and power supply are connected through back board and connector)
Connection method:
External wiring; connection to M4 screw terminals of the dedicated nest
Connection to I/O card; via dedicated cable (connector)
External dimensions: 130.6(H)×23.6(W)×126(D) mm
Weight: Approx. 120 g

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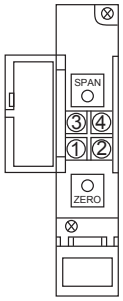
■ Standard Accessories

Tag number label: 1

■ Custom Order Specifications

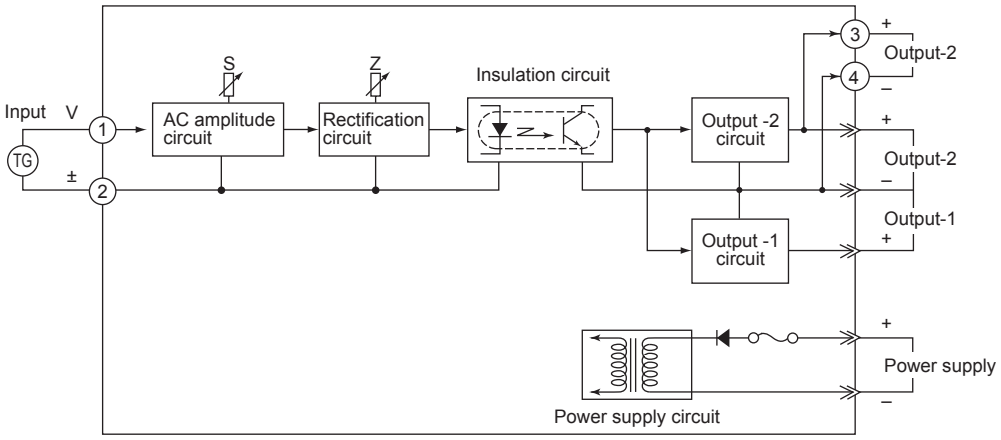
	Current signal	Voltage signal
Input range (AC)	----------	0 to 150 V
Span (AC)	----------	16 to 150 V
Zero elevation	----------	0% only
Output range (DC)	0 to 24 mA	-10 to +10 V
Span (DC)	1 to 24 mA	10 mV to 20 V
Zero elevation	0 to 200%	-100 to +200%

■ Terminal Assignments



Terminal No.	Signal name
1	Input (V)
2	Input (±)
3	Output 2 (+)
4	Output 2 (–)

■ Block Diagram



① ② ③ ④ : Front terminal

Note: Connect the input signal line to converter-front terminals 1 and 2.
An incorrect connection may cause overheating or burning of the nest.

■ External Dimensions

Unit : mm