General Specifications

Model DA5
Distributor (with Square Root Extractor)

JUXTA

GS 77J05A05-01E

■ General

The DA5, a nest-mounting type DCS-supported distributor with square root extractor, is used in combination with a two-wire transmitter to convert the differential pressure flow signal into a linearized signal proportional to the flow.

- With transmitter short-circuit protection and low-cut function
- Zero/span adjustment, I/O monitoring, etc. can be easily performed from the host system or the parameter setting tool (VJ77) via the communication interface card.
- Available for use with safety barriers.

■ Model and Suffix Codes

DA5-A6□*B

Model

Input Signal
A : 4 to 20 mA DC
(Transmitter power supply: 25.25±0.25 V DC)

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.

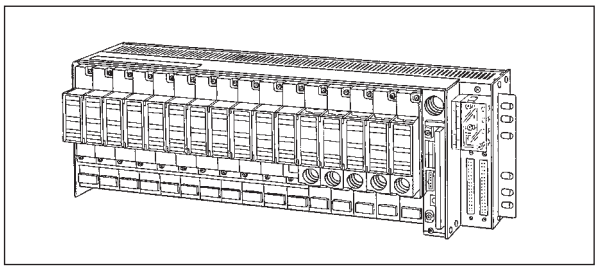
- Model and suffix codes: e.g. DA5-A6A*B
- Low cut point: e.g. 0.5%
  (If not specified, the low cut point is set to 0.6%.)

■ Input/Output Specifications

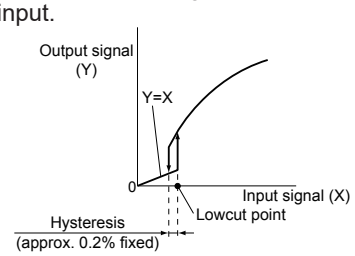
Input signal: 4 to 20 mA DC signal from two-wire transmitter
Input resistance: 250 Ω
Maximum allowable input: 40 mA DC
Transmitter power supply: 25.25±0.25 V DC
(With a current limiting circuit to keep the current between 25 and 35 mA)
Allowable conductor resistance (RL):
Up to [(20 –transmitter's minimum operating voltage) V/0.02 A] Ω
Input-output characteristics:

$$Y=\left(\sqrt{\frac{X-(\text{input 0 \% value})}{\text{input span}}}\right)\times(\text{output span})+(\text{output 0 \% value})$$

X: Input value, Y: Output value



Lowcut point setting range: 0.3 to 100%
Output characteristic: Output for lowcut point or less is cramped with straight line proportional to input.



Output 1 signal: 1 to 5 V DC
Output 2 signal: DC current or DC voltage signal
(In the case of DC current, only either from the front terminals 3-4 or from the connector can be output)
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

Input adjustment: ±1% of span (Zero/Span)
Output adjustment: ±10% of span (Zero/Span)
In the case of the output 2 specification code 7, it is ±5% of span.

■ Standard Performance

Accuracy rating:
Output 1: ±0.1% of span
Accuracy is ±1% for input level 2%or less.
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: 200 ms, 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.

YOKOGAWA

Yokogawa Electric Corporation
2-9-32, Nakacho, Musashino-shi, Tokyo, 180-8750 Japan

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■ 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: ±0.1% 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 110 mA (4 to 20 mA), 80 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: Connection to M4 screw terminals of the exclusive nest
External dimensions: 130.6(H)×23.6(W)×126(D) mm
Weight: Approx. 120 g

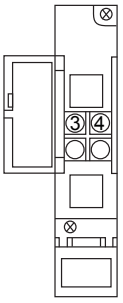
■ Standard Accessories

Tag number label: 1

■ Custom Order Specifications

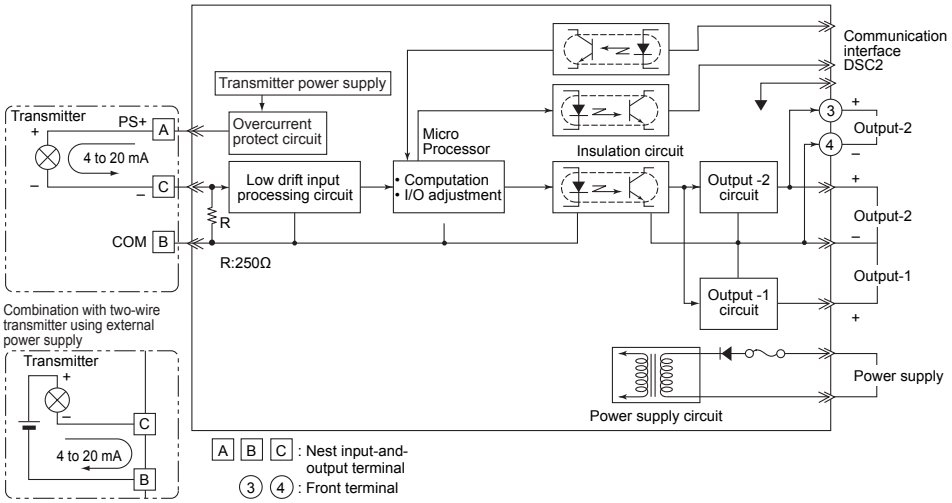
	Current signal	Voltage signal
Output range (DC)	0 to 24 mA	-10 to +10 V
Span (DC)	1 to 24 mA	10 mV to 20 V
Zero elevation	0 to 200%	-100 to +200%

■ Terminal Assignments

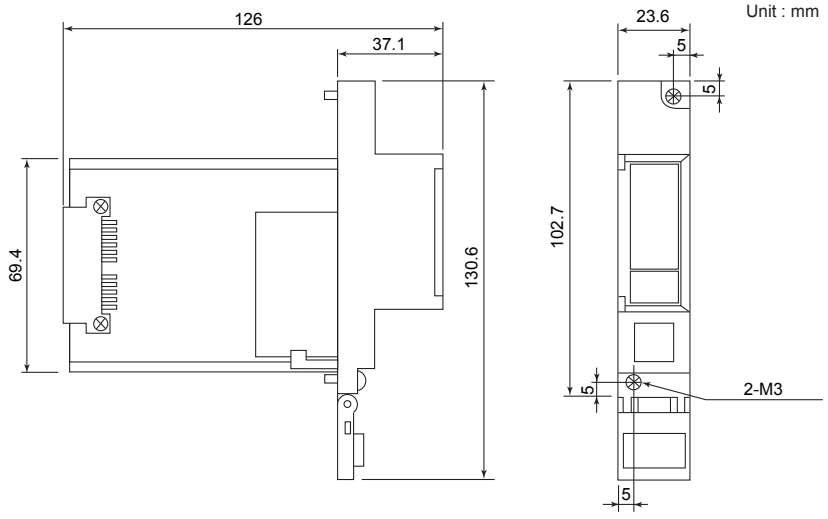


3	Output 2 (+)
4	Output 2 (-)

■ Block Diagram



■ External Dimensions



■ Basic Conditions and Individual Contracts at the Time of Purchase

The warranty for this product is defined in the basic conditions and individual contracts at the time of purchase. The individual conditions are as follows.

• Firmware warranty conditions

The warranty conditions for the firmware installed in this products are same as that of the hardware.

• Handling of non-conforming products

If Yokogawa verifies a non-conformity of the product that is attributable to Yokogawa within the warranty period, we will deliver an equivalent product.

Yokogawa can not provide a free evaluation of non-conforming products. The investigation of the non-conforming products will be performed at the expense of the customer.