General Specifications

Model DB1
CT Converter (RMS)

JUXTA

GS 77J05B01-01E

■ General

The DB1 is a nest-mounting type DCS-supported CT converter that converts AC current signals into isolated DC current or DC voltage signals.

- AC/DC conversion is made by root mean square value

■ Model and Suffix Codes

DB1-□6□*A

Model

Input Signal
- A : 0 to 1 A AC
- B : 0 to 5 A AC
- Z : (Custom order) Current 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.

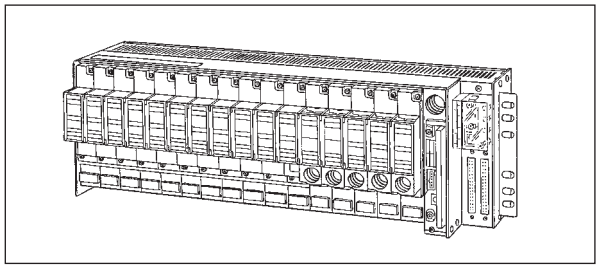
- Model and suffix codes: e.g. DB1-B6A*A

■ Input/Output Specifications

Input signal: 0 to 1 A AC or 0 to 5 A AC
Input loss: 0.5 VA or less
Input frequency range: 40 Hz to 10 kHz
Maximum allowable input:
200% (continuous); 500% (one minute)
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: ±0.5% of span
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: 250 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: 2600 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: ±0.1% 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 95 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

■ Standard Accessories

Tag number label: 1

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

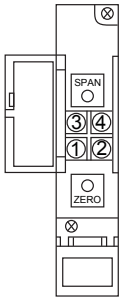
GS 77J05B01-01E

2nd Edition Mar.25, 2022(YK)

■ Custom Order Specifications

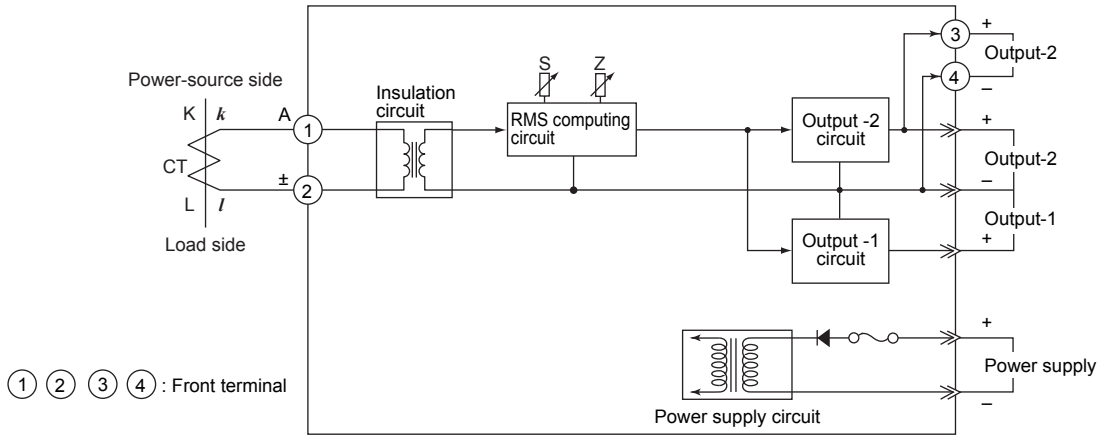
	Current signal	Voltage signal
Input range (AC)	0 to 5 A	----------
Span (AC)	0.1 to 5 A	----------
Zero elevation	0%	----------
Output range (DC)	0 to 24 mA	-10 to +10 V
Span (DC)	1 to 24 mA	10 mV to 20 V
Zero elevation	0 to 200%	-100 to +200%

■ Terminal Assignments



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

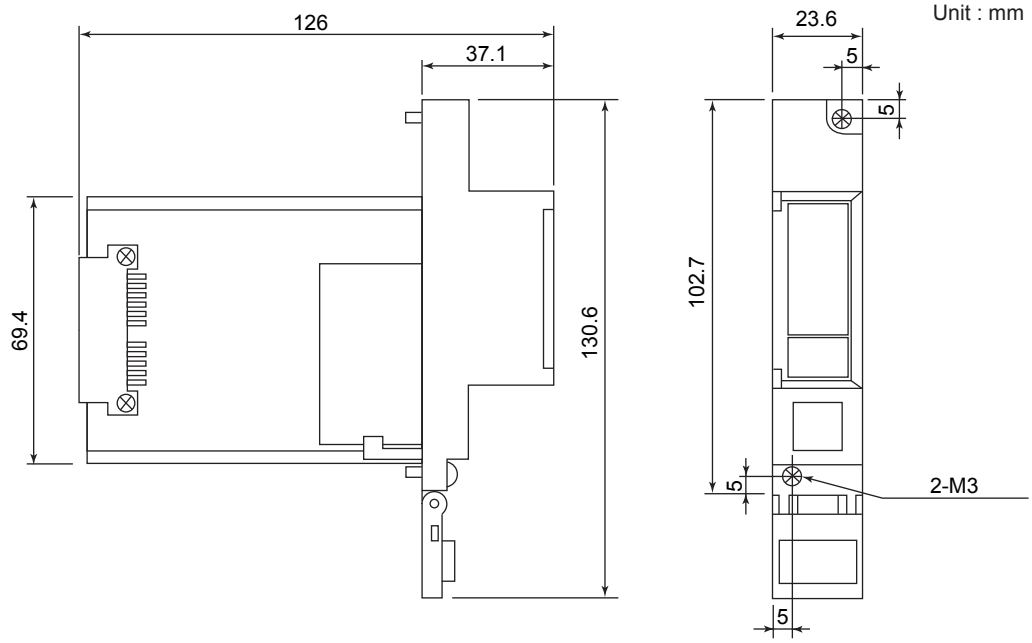
■ Block Diagram



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



■ 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.

• 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.