

General Specifications

Model DQ0 Analog to Pulse Converter (Free Range Type)

JUXTA

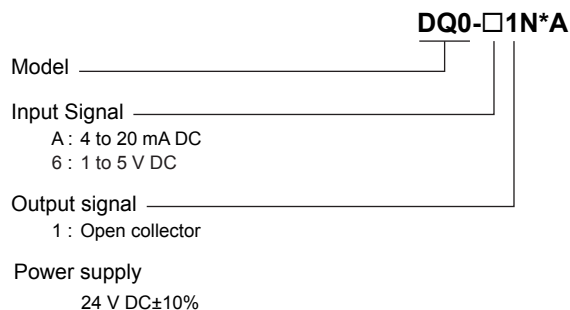
GS 77J05Q10-01E

■ General

The DQ0 is a nest-mounting type DCS-supported analog-to-pulse converter that receives DC current or DC voltage signals, and converts them into pulse-train signals.

- Output range, output pulse width and low cut point setting, zero/span adjustment, and I/O monitoring can be easily performed from the host system or the parameter setting tool (VJ77) via the communication interface card.

■ Model and Suffix Codes



■ Ordering Information

Specify the following when ordering.

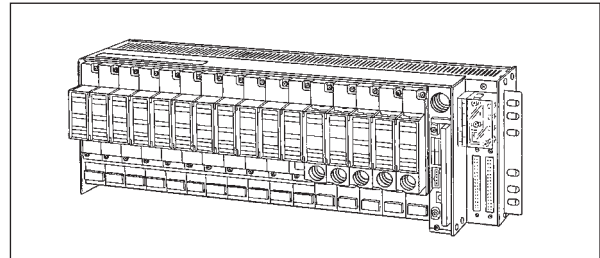
- Model and suffix codes: e.g. DQ0-61N*A
- Output range: e.g. 0 to 10 Hz
- Low output cut point: e.g. 0.02 Hz
(If not specified, the factory default is set to 0.0001Hz)
- Pulse width: e.g. ON pulse width 50 ms

Note: If analog integration is used in the following cases, the MXD-Q (JUXTA M series universal computing unit) is recommended instead.

- For integration counter use
- For the conversion from DC to pulse; a repeat of "steady inputs" and "inputs near 0%"

■ Input/Output Specifications

Input signal: 4 to 20 mA DC or 1 to 5 V DC
Input resistance: 4 to 20 mA DC: 250 Ω
1 to 5 V DC: 1 MΩ during power on, 100 kΩ during power off
Output signal: Open collector
Output frequency: F_0 to F_{100} Hz
($0 \text{ Hz} \leq F_0 \leq (F_{100}/2) \text{ Hz}$)
($0.001 \text{ Hz} \leq F_{100} \leq 1000 \text{ Hz}$)
 $F_0=0\%$ output frequency
 $F_{100}=100\%$ output frequency
Maximum permissible load:
Open collector; 30 V DC/200 mA
Low output cut point: 0.0001 to F_{100} Hz
Low cut point: 0.0001 to F_{100} Hz
In the case where the output is less than low output cut point, 0 Hz is outputted.



Output pulse width: Either 50% duty, fixed on-state pulse width, or fixed off-state pulse width is selectable.

Pulse width setting range (fixed pulse width):
0.1 to 500 ms

Note that the frequency which can be outputted with the fixed pulse width is to:

$$\frac{1}{\text{Fixed pulse width set value (sec)} \times 2} \quad [\text{Hz}]$$

If the frequency exceeds this level, it will be cutoff automatically.

Zero adjustment: ±1%

Span adjustment: ±1%

■ Standard Performance

Accuracy rating: ±0.1% of span

Response speed: 200 ms (Span is 100 Hz or more)
or 1.5 s (Span is less than 100 Hz),
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 output and (input and power supply.)
500 V AC/min. between input 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±5% (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 60 mA

■ Mounting and Dimensions

Mounting method: Nest-mounting to the DCE and DMP (Signals and power supply are connected through back board and connector)

Note: DQ0 cannot be mounted to DME and DMP which are dedicated nests for control output.

Connection method:

External wiring; connection to M4 screw terminals of the dedicated nest

Connection to I/O card; via dedicated cable (connector)

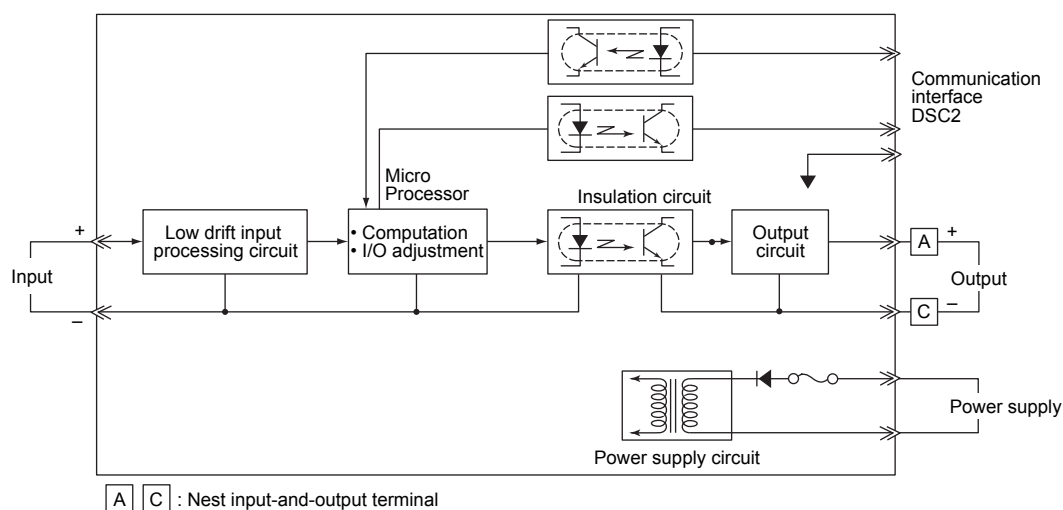
External dimensions: 130.6(H)×23.6(W)×126(D) mm

Weight: Approx. 120 g

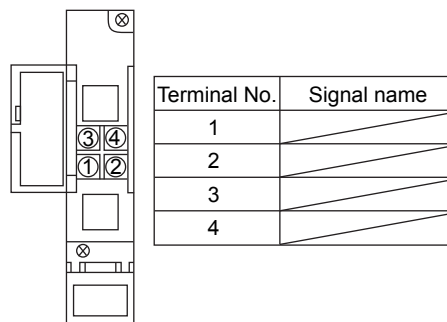
■ Standard Accessories

Tag number label: 1, Range label: 1

■ Block Diagram

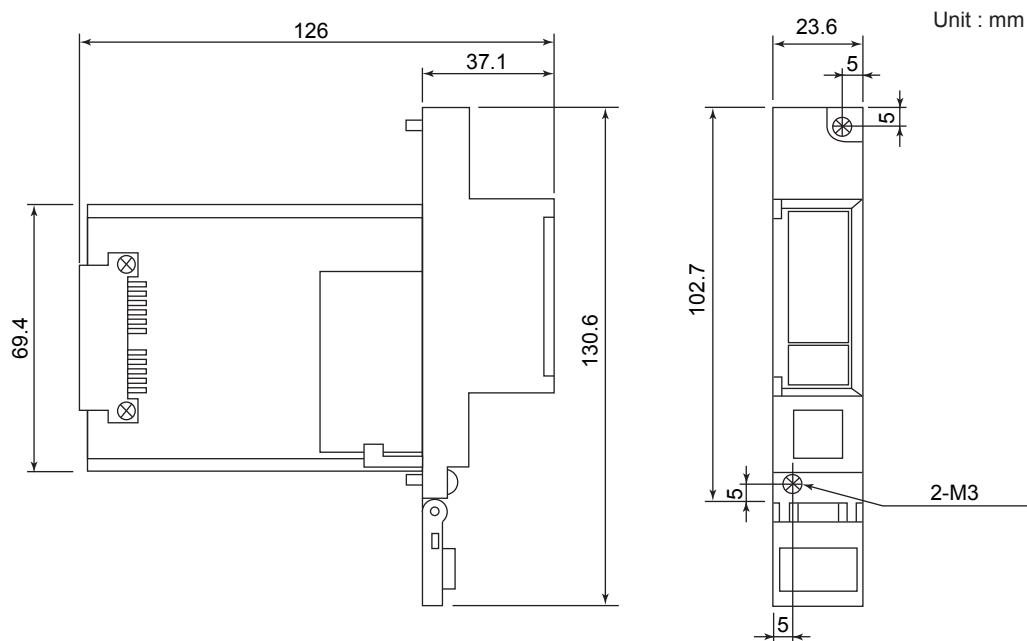


■ Terminal Assignments



Note: When power of DQ0 is turned on/off, one pulse may be counted by the pulse input device which connects to the DQ0.

■ 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.