

# General Specifications

## Model DQ0 Analog to Pulse Converter (Free Range Type)

**JUXTA**

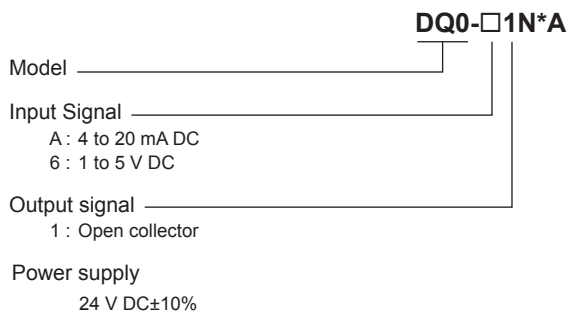
GS 77J05Q10-01E

### ■ 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.

- Ranges, output pulse width, low output cut point, zero points and spans, I/O monitoring can be set and modified using a Handy Terminal (JHT200).

### ■ Model and Suffix Codes



### ■ Ordering Information

Specify the following when ordering.

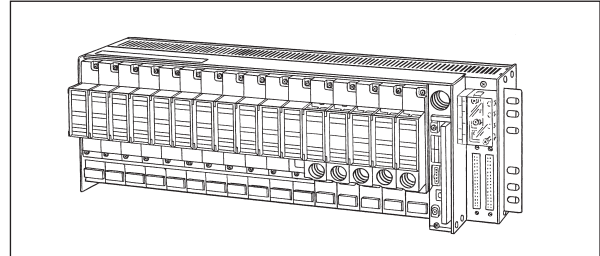
- Model and suffix codes: e.g. DQ0-61N\*A
- Output range: e.g. 0 to 10 Hz
- Low output cut point: e.g. 0.02 Hz  
(If not specified, the factory default is set to 0.0001Hz)
- Pulse width: e.g. ON pulse width 50 ms

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:

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

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)

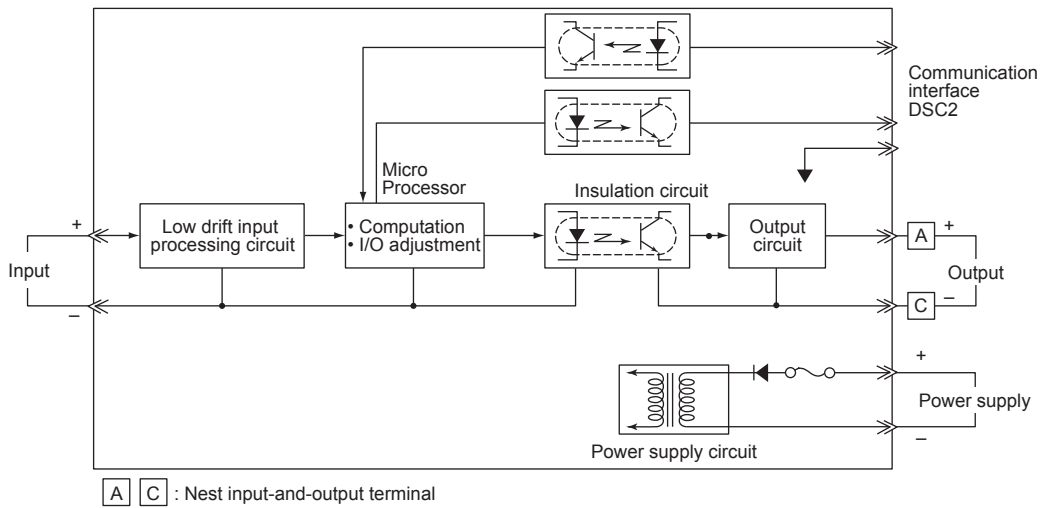
External dimensions: 130.6(H)×23.6(W)×126(D) mm

Weight: Approx. 120 g

### ■ Standard Accessories

Tag number label: 1, Range label: 1

### ■ Block Diagram



### ■ External Dimensions

