

General Specifications

Model DQ0 Analog to Pulse Converter (Free Range Type)

JUXTA

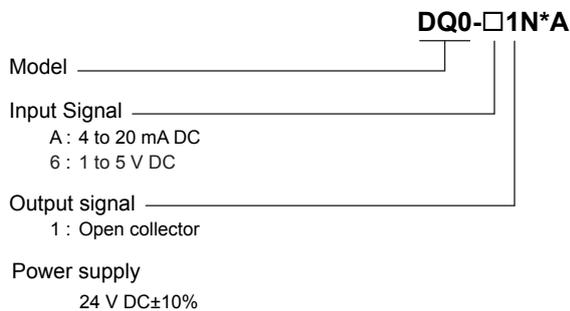
GS 77J05Q10-01E

■ 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.

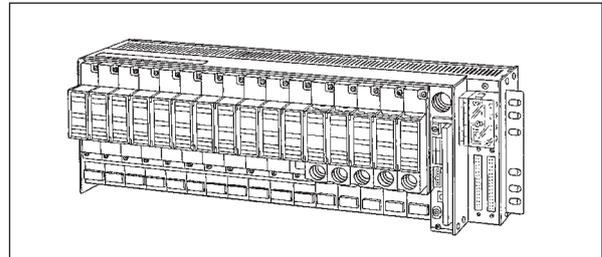
- Model and suffix codes: e.g. DQ0-61N*A
- Output range: e.g. 0 to 10 Hz
- Low output cut point: e.g. 0.02 Hz
(If not specified, the factory default is set to 0.0001Hz)
- Pulse width: e.g. ON pulse width 50 ms

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:

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

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)

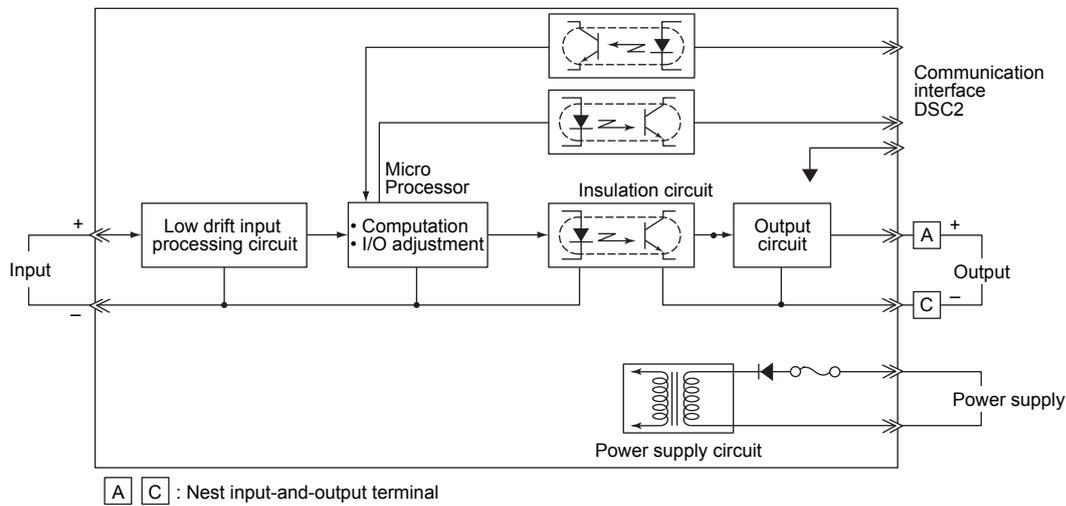
External dimensions: 130.6(H)×23.6(W)×126(D) mm

Weight: Approx. 120 g

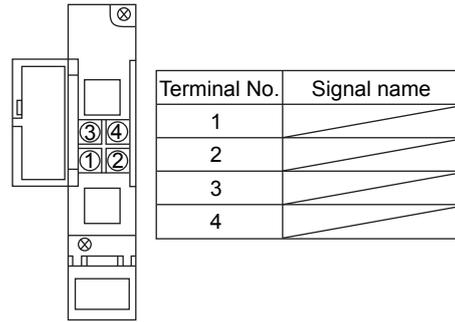
■ Standard Accessories

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

