

General Specifications

Model DRU Cryogenic Temperature Converter

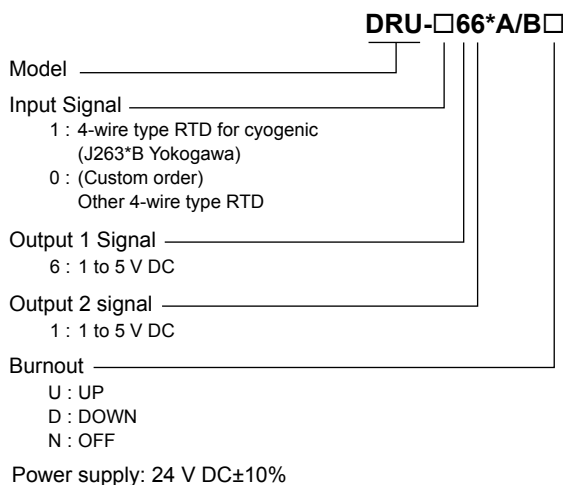
JUXTA

GS 77J05R11-01E

■ General

The DRU is a nest-mounting type DCS-supported cryogenic temperature converter that is used in combination with a four-wire cryogenic RTD (Yokogawa J263*B) and converts high-precision measured values of wide temperature ranges into isolated DC current or DC voltage signals.

■ Model and Suffix Codes



■ Ordering Information

Specify the following when ordering.

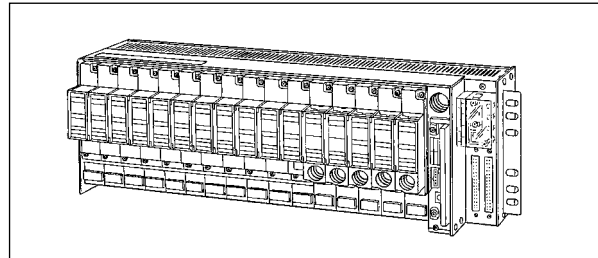
- Model and suffix codes: e.g. DRU-166*A/BU
- Input range: e.g. 10 to 110 K

■ Input/Output Specifications

Input signal: Yokogawa J263*B RTD
(platinum/thin cobalt alloy)
Measuring range: Conform to the Yokogawa J263*B RTD reference resistance table
Input resistance: 1 MΩ during power on, 3 kΩ during power off
Zero elevation: Within 5 times of the measuring span
Measuring span: Standard span is 10°C or more
Allowable leadwire resistance: 50 Ω or less per wire (Each resistance of the 3 lines should be equal.)
Output 1 signal: 1 to 5 V DC
Output 2 signal: 1 to 5 V DC
Allowable load resistance: 2 kΩ or more for both output 1 and output 2
Input adjustment: ±1% (Zero/Span)
Output adjustment: ±10% (Zero/Span)

■ Standard Performance

Accuracy rating:
Output 1: ±0.1% of span or ±0.3°C, whichever is larger (includes linearization error.)
Output 2: Relative error between output-1 and 2 is within ±0.2%.



Response speed: 200 ms, 63% response (10 to 90%)
Burnout: Up, Down or Off; burnout time is 60 sec. or less.

Insulation resistance: 100 MΩ or more at 500 V DC between input and output, output and power supply, and input and power supply. (The output 1 and 2 are not insulated.)

Withstand voltage: 1500 V AC/min. between input and 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 leadwire resistance change: 0.01°C error per resistance unbalance 10Ω

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: 24V DC 70mA

■ Mounting and Dimensions

Material: ABS resin (Case body)

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. 150 g

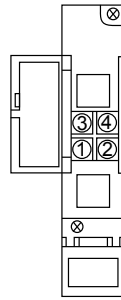
■ Standard Accessories

Tag number label: 1

Range label: 1

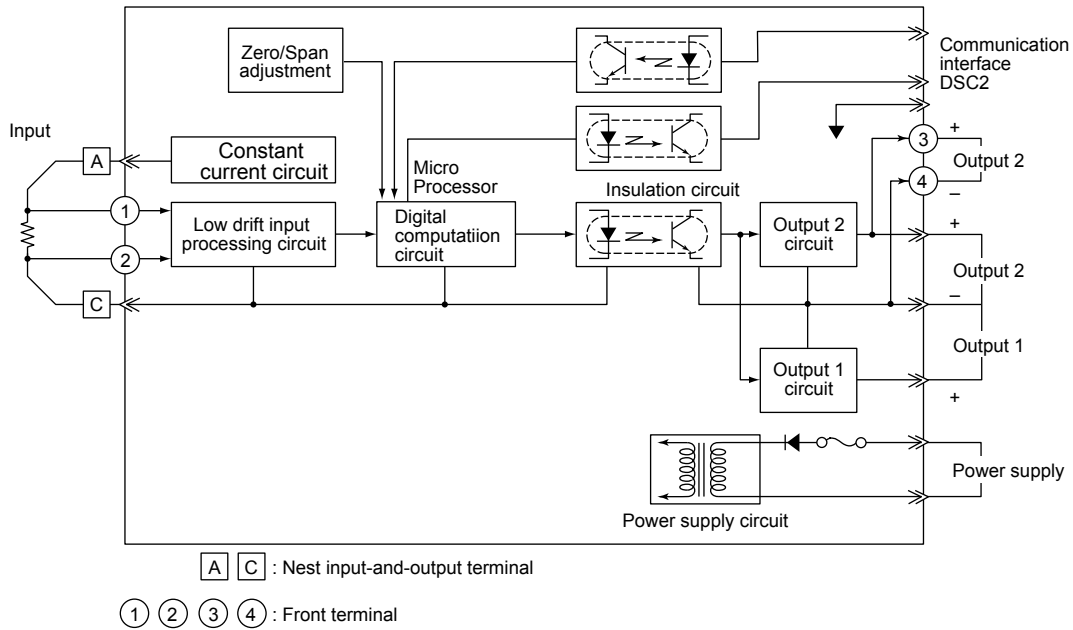
Terminal Assignments

Nest input-and-output terminals			DRU front terminals			
A	B	C	1	2	3	4
+		-	+	-	+	-
					Output 2	



Terminal No.	Signal name
1	Input (+)
2	Input (-)
3	Output 2 (+)
4	Output 2 (-)

Block Diagram



External Dimensions

