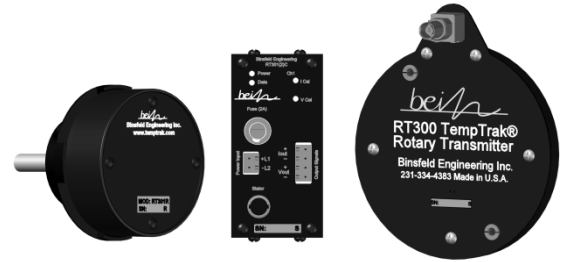


RT301(2) Rotary Temperature Transmitter (850-348)

The RT301(2) rotary temperature transmitter is a digital system designed to accurately transmit temperature data from an RTD sensor embedded in the heated godet roll shell. The system consists of three components: The **RT301R** rotary assembly, the **RT300S** stationary assembly and the **RT301(2)C** controller interface assembly.



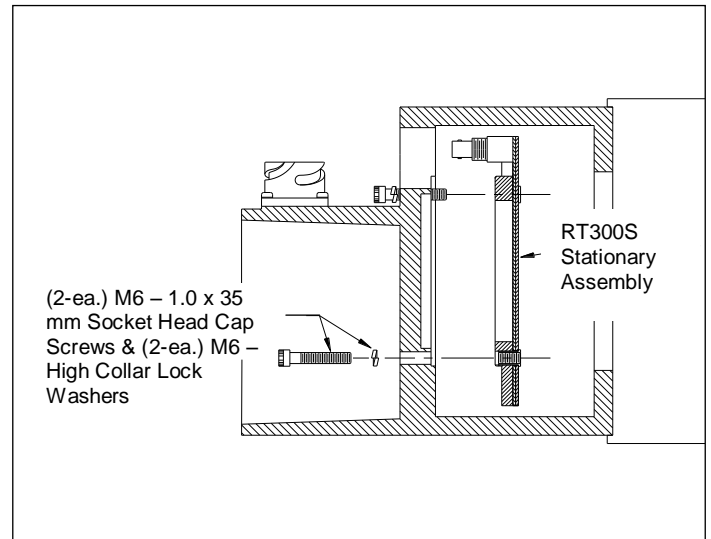
Installation

- Slide the RT301R rotary assembly onto shaft with steel base toward motor until connector engages RTD sensor and/or base hits stop on shaft. Tighten the (2) M6-1 x 25mm compression screws (alternating from one screw to the other) to lock assembly onto shaft.
 - Mount the RT300S stationary assembly to the inside of the rear motor housing with the M6-1 x 35mm long socket head cap screws and lock washers provided. Orient the BNC connector so that it protrudes out of the connector access hole in the rear motor housing.
 - Reinstall the rear motor housing. Verify proper clearance between the rotating and stationary assemblies per the diagram below.
 - Connect BNC plug on the cable provided to the BNC connector on the RT300S stationary housing.
 - DIN rail (35mm) mount the RT301(2)C current controller interface at a convenient location.
- CAUTION: To promote airflow and prevent overheating, the RT301(2)C must have at least 1 inch clearance above and below the enclosure.**

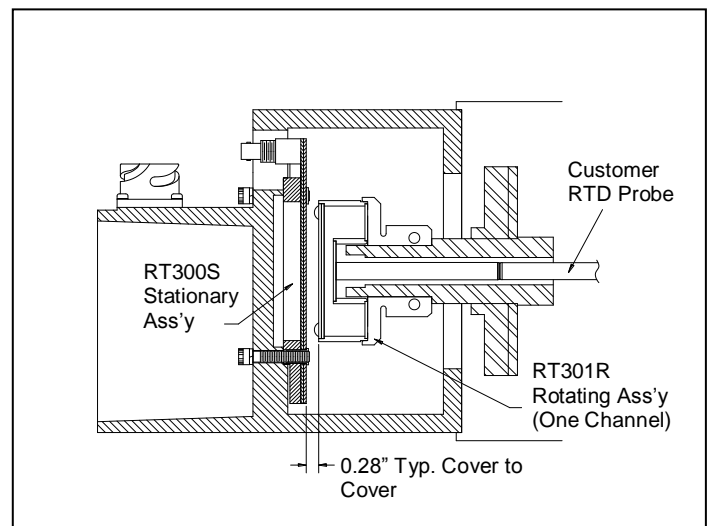
- Connect the coaxial cable (routed from the stationary housing) to the BNC connector on the RT301(2)C.
- Connect the 18VAC power from the existing process controller or other acceptable power source to the Power Input terminals indicated on the RT301(2)C. Acceptable power is 22-35VDC or 17-27VAC. **CAUTION: Power source must be isolated from current output.**
- Connect the frequency output ("Fout") terminals or 4-20mA current loop ("Iout") terminals on the RT301(2)C to the existing process controller. (See Figure 3.)

Note: If the 4-20 mA current output is not used, install a short jumper across the + and - Iout screw terminals to eliminate slow blinking of the Ch1 indicator.

- Allow a 30 second start up.



Stationary Assembly Installation Diagram



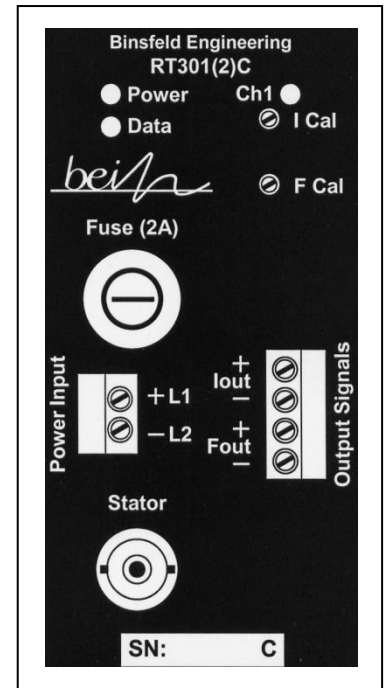
Complete System Assembly Diagram

RT301(2) Rotary Temperature Transmitter (850-348)

Troubleshooting

In normal operating mode the Power status light, the Data status light and the CH status light are all on solid. In error mode, one or more of the LED's on the RT301(2)C Controller Interface will flash and a high temperature signal (approximately 24 mA at Iout and 14,935 Hz at Fout) will be output. Refer to the table below when troubleshooting an error mode event.

<u>Power Status</u>	<u>Condition</u>	<u>Corrective Action</u>
On solid	Stator and rotary power in spec	---
Flash fast (5Hz)	Rotary power out of spec	Check rotor/stator spacing, and coaxial connections
Flash slow (2Hz)	Stationary power out of spec	Check power source
Off	System not powered	Check power source, and power connections
10 sec on/1 sec off [Data light off, RTD light(s) blinking]	Insufficient rotary power or data not received (Rotor Reset mode)	Check rotor/stator spacing, and coaxial connections
<u>Data Status</u>	<u>Condition</u>	<u>Corrective Action</u>
On solid	Digital transmission is error-free	---
Flickering	Intermittent transmission errors	Check rotor/stator spacing, coax connections
Off	Data not received	Check rotor/stator spacing, and coaxial connections
<u>Ch 1 Status</u>	<u>Condition</u>	<u>Corrective Action</u>
On solid	No errors detected	---
Flash fast (5Hz)	Rotary side error: RTD out of range (including open or shorted)	Check RTD, connections
Flash slow (2Hz)	Open circuit in 4-20mA loop	Check connections and continuity of current loop



Status Indicators & I/O Diagram

If the status lights do not agree with conditions listed above, remove power to the RT301C for 5 seconds, and then restore power (to reset the digital circuitry). Go to <http://www.binsfeld.com/temptrak/rt300/> for more trouble shooting aids.

Specifications

Rotor:	Number of sensors	1
	Sensor connection:	Lemo coaxial connector #ERA.OS.650.CTAZ
	Input sensor type:	PT200 RTD (2 PT100 RTDs in series) (200 Ω at 0°C, $\alpha=$.00385, two wire)
	Sensor range:	0 – 300° C
	Speed:	10,000 RPM
Stator:	Connector:	Coaxial interconnect (BNC)
Controller Interface:	Output connection:	Quick connect screw terminal block.
	Output signal:	4-20 mA (Linear with 0 - 300° C), Frequency signal (Rieter curve)
	Power input:	22-35 VDC or 17-27 VAC; 2A max, 0.5A nominal
	Max load resistance	400 Ω
General:	Accuracy (typical error):	\pm 0.30% span over operating temperature range
	Operating temperature:	0 – 100° C
	Humidity:	0 – 90% RH, non-condensing

This document is subject to change without prior notification.

Warranty

Binsfeld Engineering Inc. warrants this product to be free from defective materials and workmanship for a period of five years from the date of delivery to the original purchaser and that this product will conform to specifications and standards published by Binsfeld Engineering Inc. Upon evaluation by Binsfeld Engineering Inc., any product found to be defective will be replaced or repaired at the sole discretion of Binsfeld Engineering Inc. Our warranty is limited to the foregoing. Binsfeld Engineering Inc. disclaims any warranty of merchantability or fitness for intended purpose.