**Specifications**

### Input
- Number of input: 1 point (2 points type: Releaved Input)
- Input: RTD (Pt100, Cu50), 0-20mA
- Input range: 0-10000°C
- Sampling time: 0.1 sec
- Influence of input lead: Less than 0.01°C
- Action at input break: Open scale
- Action at input short circuit: Open scale
- PV setting: -19.999 to 19.999°C
- Digital filter: 0.1 to 100 sec

### Performance
- Setting accuracy
  - Temperature: ±0.05°C
  - Integral time: 1 to 1000 sec
  - Derivative time: 0.01 to 100 sec
  - Proportional band: 0.001 to 50.000°C
- Control output
  - Voltage pulse output: 0/12V DC (Load resistance: More than 600Ω)
  - Proportional cycle: 0.1 to 100.0 sec
- Alarm types
  - Deviation low alarm
  - Deviation high / low alarm
  - Band alarm
  - Process low alarm
  - Process high alarm
- Alarm output
  - Relay contact output: 250V AC 1A Form 1a
- Output limiter
  - Possible high and low limit set up.

### Control
- Control method: Brilliant PID control with self-tuning
- Control setting: 0.001°C
- Control type: Medium (Default: Settable)
- Control response parameter: 0(Slow), 1(Medium), 2(Fast)
- Derivative time: 0.1 to 3600.0 sec
- Integral time: 0.1 to 3600.0 sec
- Proportional band: 0.001 to 50.000°C

### Communication function
- Communication protocol: RS-485
- Baud rate: 9600 bps
- Communication method: Half-duplex multidrop connection
- Communication standard: RS-485 Conformity
- Sampling time: 0.1 sec
- Allowable load resistance: 20MΩ
- Communication delay: 0.1 sec
- Output limiting: 13 bit or more

### Analog output
- Number of output: 1 point
- Output type: 4-20mA
- Output range: 0-20mA
- Output limiter: 0.1% of span
- Output scaling: 0-1024
- Output ripple: 0.1% of span

### General specifications
- Supply voltage: 85 to 264V AC (50/60Hz)
- Power consumption: Less than 0.5W
- Power ripple: Less than 0.1W
- Standby voltage: 100V DC
- Maximum load: 600Ω
- Output ripple: 0.1% of span
- Output resolution: 13 bit or more
- Output scaling: High limit and low limit are available.

### Contact input
- Number of point: 1 point
- Contact input type: REO-3 STOP
- Input resistance: Non-voltage contact input
- Output resistance: 250V AC 1A Form 1a

### Analog input
- Number of input: 1 point
- Input resistance: 250Ω
- Input type: 4-20mA
- Input range: 0-20mA

### Semiconductors and related equipment
- Input: RTD (Pt100, Cu50), 0-20mA
- Input range: 0-10000°C
- Sampling time: 0.1 sec
- Influence of input lead: Less than 0.01°C
- Action at input break: Open scale
- Action at input short circuit: Open scale
- PV setting: -19.999 to 19.999°C
- Digital filter: 0.1 to 100 sec

### High resolution temperature controller
- High resolution: 0.001°C
- Input range: 0 to 5000°C
- Sampling time: 0.1 sec
- Influence of input lead: Less than 0.01°C
- Action at input break: Open scale
- Action at input short circuit: Open scale
- PV setting: -19.999 to 19.999°C
- Digital filter: 0.1 to 100 sec

### Brillant PID
- The brillant PID control shows 3 types of the selection of “Responsibility to set point” from among “Fast”, “Medium” and “Slow” according to the application of customer keeping the optimum PID constant for the “responsibility to disturbance”.

### Application
- Semiconductor manufacturing equipment
- In the semiconductor manufacturing, an electric device requires advanced temperature control. The REX-F9000 with high accuracy, high resolution and high stability is most suitable for the temperature control of a stepper.
- Calibration furnace
- For the temperature control of a calibration furnace where the temperature control is important.
- For various type of experiments
- The stability of temperature as one of the important experimental conditions is indispensable to increase the accuracy of experiments.
- The stability of temperature as one of the important experimental conditions is indispensable to increase the accuracy of experiments.

### Compliance with standards
- CE marked
- UL recognized
- CSA certified

### Natural language description
- The high accuracy, high resolution and high stability of the REX-F9000 meet this requirement.

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**High resolution temperature controller**

The REX-F9000 is a high resolution temperature controller designed for various types of experiments, including calibration furnaces, requiring high accuracy and stability. With its capability to operate within a temperature range of 0 to 5000°C, it ensures precise control with an input resistance of 250Ω. Its features include a sampling time of 0.1 sec, ensuring quick and accurate responses to temperature changes.

- **Accurate Temperature Control**: The REX-F9000 maintains high stability with an accuracy of ±0.05°C, making it ideal for applications requiring precise temperature settings.
- **Communication Function**: Equipped with a communication function that allows for direct communication with a PLC, ensuring real-time control and monitoring capabilities.
- **Alarm and Control Outputs**: The instrument provides a variety of alarm and control outputs, including relay contact outputs, ensuring a wide range of applications and control scenarios.

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**Technical Specifications**

- **Input**:
  - Number of input: 1 point (2 points type: Releaved Input)
  - Input: RTD (Pt100, Cu50), 0-20mA
  - Input range: 0-10000°C
  - Sampling time: 0.1 sec
  - Influence of input lead: Less than 0.01°C
  - Action at input break: Open scale
  - Action at input short circuit: Open scale
  - PV setting: -19.999 to 19.999°C
  - Digital filter: 0.1 to 100 sec

- **Performance**
  - Setting accuracy
    - Temperature: ±0.05°C
    - Integral time: 1 to 1000 sec
    - Derivative time: 0.01 to 100 sec
    - Proportional band: 0.001 to 50.000°C
  - Control output
    - Voltage pulse output: 0/12V DC (Load resistance: More than 600Ω)
    - Proportional cycle: 0.1 to 100.0 sec
  - Alarm types
    - Deviation low alarm
    - Deviation high / low alarm
    - Band alarm
    - Process low alarm
    - Process high alarm
  - Alarm output
    - Relay contact output: 250V AC 1A Form 1a
    - Possible high and low limit set up.

- **Control**
  - Control method: Brilliant PID control with self-tuning
  - Control setting: 0.001°C
  - Control type: Medium (Default: Settable)
  - Control response parameter: 0(Slow), 1(Medium), 2(Fast)
  - Derivative time: 0.1 to 3600.0 sec
  - Integral time: 0.1 to 3600.0 sec
  - Proportional band: 0.001 to 50.000°C

- **Communication function**
  - Communication protocol: RS-485
  - Baud rate: 9600 bps
  - Communication method: Half-duplex multidrop connection
  - Communication standard: RS-485 Conformity
  - Sampling time: 0.1 sec
  - Allowable load resistance: 20MΩ
  - Communication delay: 0.1 sec
  - Output limiting: 13 bit or more

- **Analog output**
  - Number of output: 1 point
  - Output type: 4-20mA
  - Output range: 0-20mA
  - Output limiter: 0.1% of span
  - Output scaling: 0-1024
  - Output ripple: 0.1% of span
  - Output resolution: 13 bit or more

- **Contact input**
  - Number of point: 1 point
  - Contact input type: REO-3 STOP
  - Input resistance: Non-voltage contact input
  - Output resistance: 250V AC 1A Form 1a

- **General specifications**
  - Supply voltage: 85 to 264V AC (50/60Hz)
  - Power consumption: Less than 0.5W
  - Power ripple: Less than 0.1W
  - Standby voltage: 100V DC
  - Maximum load: 600Ω
  - Output ripple: 0.1% of span
  - Output resolution: 13 bit or more

- **Semiconductor manufacturing equipment**
  - Input: RTD (Pt100, Cu50), 0-20mA
  - Input range: 0-10000°C
  - Sampling time: 0.1 sec
  - Influence of input lead: Less than 0.01°C
  - Action at input break: Open scale
  - Action at input short circuit: Open scale
  - PV setting: -19.999 to 19.999°C
  - Digital filter: 0.1 to 100 sec

- **Alarm output**
  - Number of alarm: 2 points
  - Alarm type:
    - Deviation high alarm
    - Deviation low alarm
    - Band alarm
    - Process low alarm
    - Process high alarm
  - Alarm output
    - Relay contact output: 250V AC 1A Form 1a
    - Possible high and low limit set up.

- **Digital communications**
  - Communication standard: RS-485 (Conformity: 2wire)
  - Protocol: Modbus-RTU (4wire)
  - Communication method: Half-duplex multidrop connection
  - ASCII method: Not supported
  - Communication speed: 9600 bps
  - Baud rate: 115200 bps

- **Compliance with standards**
  - CE marked
  - UL recognized
  - CSA certified
### Specifications

<table>
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<tr>
<th>Model and Suffix Code</th>
<th>F9000</th>
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<tbody>
<tr>
<td>Type</td>
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<tr>
<td>1 channel type</td>
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</tr>
<tr>
<td>2 channel type</td>
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<tr>
<td>Control output (CH1)</td>
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<tr>
<td>Voltage pulse output</td>
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<tr>
<td>Current output</td>
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<tr>
<td>Control output (CH2)</td>
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<td>Not supplied (1 channel type)</td>
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<td>Voltage pulse output</td>
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<tr>
<td>Current output</td>
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</tr>
<tr>
<td>Power supply</td>
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<td>0 to 5V DC</td>
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<tr>
<td>1 to 5V DC</td>
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<td>4 to 20mA DC</td>
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<tr>
<td>1 to 5V DC</td>
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<tr>
<td>0 to 20mA DC</td>
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<tr>
<td>4 to 20mA DC</td>
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</tr>
<tr>
<td>Load voltage</td>
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<tr>
<td>Lineage 200V (200 to 240V AC)</td>
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### Analog output

<table>
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<tbody>
<tr>
<td>Not supplied</td>
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<tr>
<td>0 to 5V DC</td>
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</tr>
<tr>
<td>1 to 5V DC</td>
<td>6</td>
</tr>
<tr>
<td>0 to 20mA DC</td>
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<tr>
<td>4 to 20mA DC</td>
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</table>

<table>
<thead>
<tr>
<th>(CH2)</th>
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</thead>
<tbody>
<tr>
<td>Not supplied</td>
<td>N</td>
</tr>
<tr>
<td>0 to 5V DC</td>
<td>4</td>
</tr>
<tr>
<td>1 to 5V DC</td>
<td>6</td>
</tr>
<tr>
<td>0 to 20mA DC</td>
<td>7</td>
</tr>
<tr>
<td>4 to 20mA DC</td>
<td>8</td>
</tr>
</tbody>
</table>

### Load voltage

- Lineage 100V (100 to 120V AC)
- Lineage 200V (200 to 240V AC)

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**Warning:**

Before operating this product, read the instruction manual carefully to avoid incorrect operation.

This product is intended for use with industrial machines, medical equipment test and measuring equipment. It is not designed for use with medical equipment.

If it is possible that an accident may occur as a result of the failure of the product or some other abnormality, an appropriate independent protection device must be installed.

When installing this product, avoid the following:

- Direct exposure to sunlight.
- The ambient temperature is lower than 0°C degrees or higher than 50°C.
- In areas subject to high humidity. Ambient humidity should not be lower than 45% or higher than 85%RH.
- Direct contact with water.
- Corrosive environments.
- Hazardous areas containing explosive or flammable gases.
- Vibration or shock.
- Areas subject to electrical noise caused by inductive interference, static electricity or magnetic fields.

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