

FC SERIES EMF CONVERTER

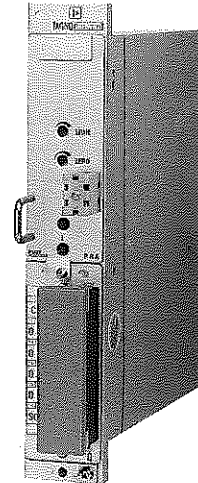
DATA SHEET

PRA

The FC series EMF converter converts microinputs from a thermocouple, resistance bulb, and so on into a signal of 1 to 5V DC while isolating input from output. As optional devices, a linearizer which straightens curved signals, a burnout circuit for protection in the event of thermocouple breakage, and others are provided.

SPECIFICATIONS

- Input signal:** Voltage input of 3mV DC span to 500mV DC span
 Note: In the case of thermocouple, a reference junction compensator is added.
 Resistance bulb input 50°C span or more
 resistance input 20Ω to 2kΩ span
 Note: It is possible to output a temperature difference or mean value between two points.
 Current input of 0.1mA span to 50mA span.
- Input resistance:** More than 1MΩ (voltage input of 3mV to 500mV DC span)
 Note: About 10 to 30kΩ during power stoppage, output saturation, or cutoff.
- Allowable resistance of signal source:**
 1kΩ or less (voltage input)
- Allowable wiring resistance:**
 2 ± 2Ω (per wire at resistance input)
- Allowance:** ±0.5% of full span
 ±0.25% of full span is possible when input is 10mV span or more
 Note: ±0.25% of full span is not possible with a converter with linearizer.
- Reproducibility:** Less than ±0.1% of full span
- Output signal:** 1 to 5V DC (output resistance 250Ω) or 4 to 20mA DC (across C—O₊ terminals) (allowable load resistance 0 to 300Ω) (0 to 550Ω when terminals O₊ and O₋ are shorted)
- Response time:** Approx. 0.4 sec.
- Power supply:** 24V DC (20 to 30V DC), 100V ± 10% 50/60Hz or 24V^{+13%}_{-10%} 50/60Hz
- Power consumption:**
 Approx. 2W (24V DC)
 Approx. 3VA (24V AC)
 Approx. 4VA (100V AC)
- Dielectric strength:**
 500V AC, 1 min.
- Insulation resistance:**
 More than 100MΩ at 500V DC



- Ambient temperature:**
 0 to 45°C
- Ambient humidity:**
 90%RH or less
- Enclosure:** Steel plate case
- Dimensions (H × W × D):**
 247 × 44 × 225mm
- Weight:** Approx. 1kg (for 24V power supply)
 1.5kg (for 100V power supply)
- Finish color:** Case; silver (baked melamine)
 Terminal cover; gray (molded synthetic resin)
- Mounting method:**
 Rack-mounted
- Optional attachments:**
 Reference junction compensator
 Burnout circuit (for thermocouple input only)
 Linearizer (4-dot, 5-dash line)
 Suppression and elevation to ± 100% of full span
 Up to ± 1000% possible when specified.
- Range of delivery:** EMF converter

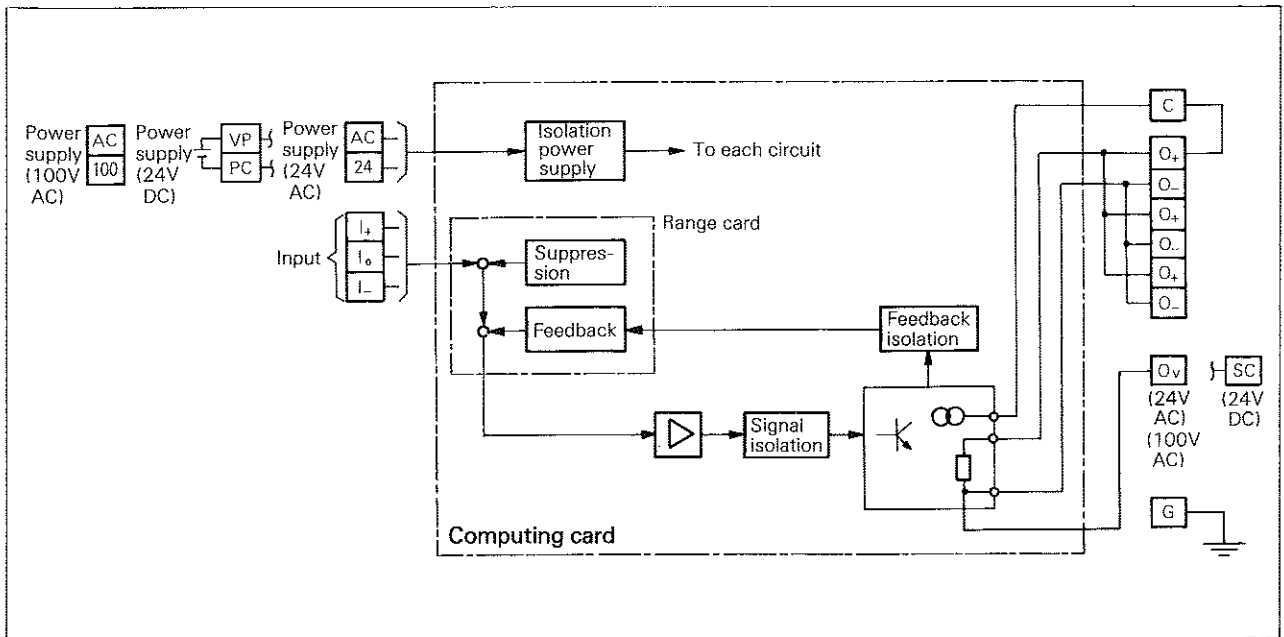
CODE SYMBOLS

1 2 3 4 5 6 7 8 9 10 11 12 13
 P R A 1 | | | | 6 | 0 0 0

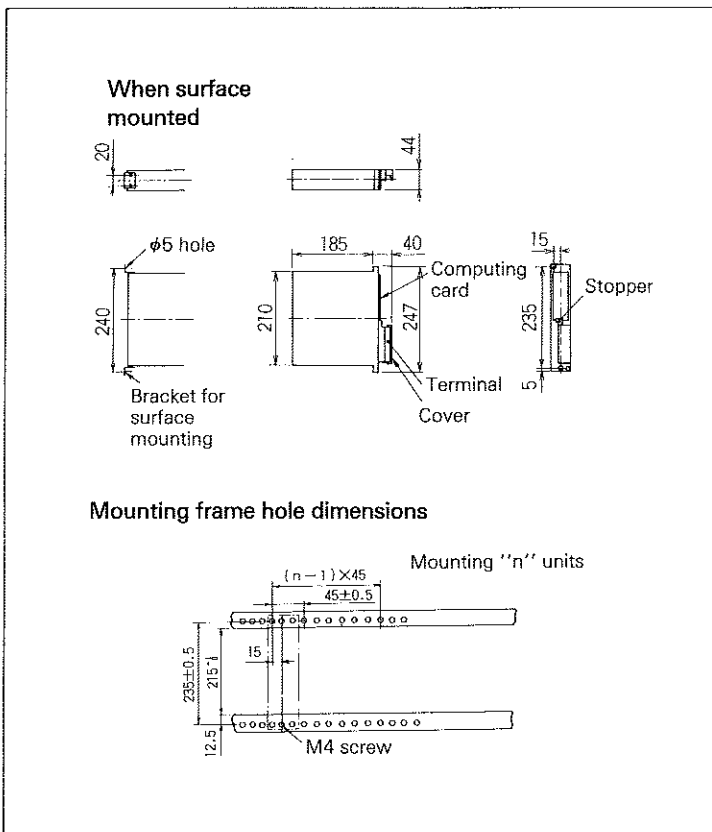
		Description																																											
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Y A B C D E F G		Optional attachment <table border="1"> <thead> <tr> <th rowspan="2">Reference junction compensator</th> <th rowspan="2">Linearizer</th> <th colspan="2">Burnout circuit</th> </tr> <tr> <th>Upscale scaleout</th> <th>Downscale scaleout</th> </tr> </thead> <tbody> <tr> <td>Without</td> <td>Without</td> <td>Without</td> <td>Without</td> </tr> <tr> <td>With</td> <td>Without</td> <td>Without</td> <td>Without</td> </tr> <tr> <td>With</td> <td>Without</td> <td>With</td> <td>—</td> </tr> <tr> <td>With</td> <td>Without</td> <td>—</td> <td>With</td> </tr> <tr> <td>Without</td> <td>With</td> <td>Without</td> <td>Without</td> </tr> <tr> <td>With</td> <td>With</td> <td>Without</td> <td>Without</td> </tr> <tr> <td>With</td> <td>With</td> <td>With</td> <td>—</td> </tr> <tr> <td>With</td> <td>With</td> <td>—</td> <td>With</td> </tr> </tbody> </table> <p>Note: For resistance bulb input, use a converter with linearizer.</p>	Reference junction compensator	Linearizer	Burnout circuit		Upscale scaleout	Downscale scaleout	Without	Without	Without	Without	With	Without	Without	Without	With	Without	With	—	With	Without	—	With	Without	With	Without	Without	With	With	Without	Without	With	With	With	—	With	With	—	With					
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* 2		$\pm 0.25\%$ (possible only with A, B, C, or Y in 5th digit)																																											
1		Power supply 24V DC																																											
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Note: Resistance bulb symbol is as follows;
 JPt100 . . . previous JIS,
 Pt100 . . . new JIS

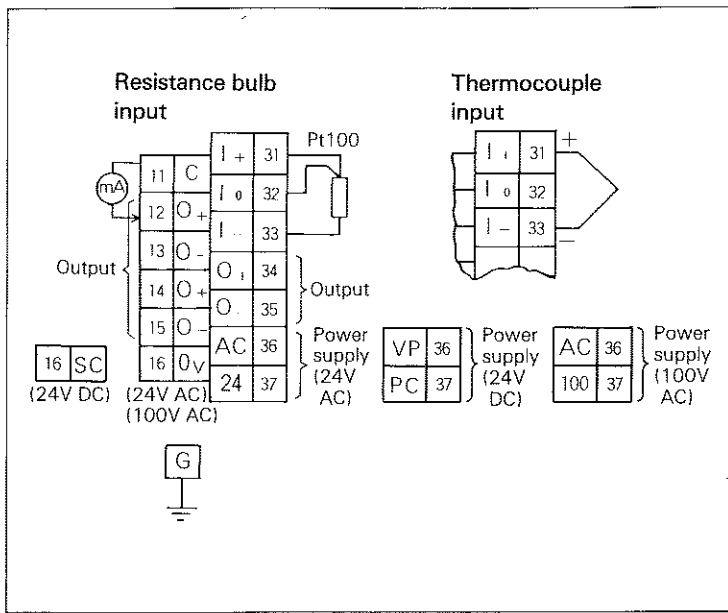
BASIC CIRCUIT DIAGRAM



OUTLINE DIAGRAM (Unit: mm)



CONNECTION DIAGRAM



• Asterisked (*) items; Nonstandard

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