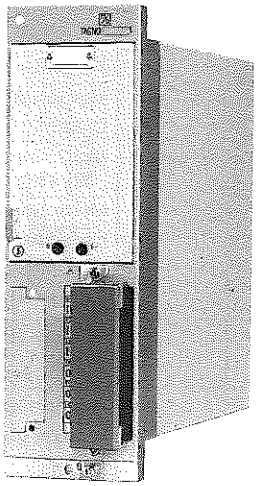
FUJI ELECTRIC

FC SERIES MULTIPLIER

DATA SHEET PRC

The FC series multiplier is designed to carry out multiplication and division of two or three inputs. And its functions are not limited to multiplication and division. Different types of operation are feasible depending on the nature of the particular application.



FEATURES

1) Extensive use of linear ICs and careful selection of components assure higher reliability.
2) High level of accuracy is obtainable as the multiplier section operates in time sharing mode.
3) High density mounting is feasible.

SPECIFICATIONS

Basic operation mode:

A) $M_1 \times M_2$

B) $M_1 \div D$ (where $D \geqq 0.25$)

C) $\dfrac{M_1 \times M_2}{D}$

(where $\dfrac{M_2 \max}{D \min} \leqq 4$ and $D \geqq 0.1$)

D) $M_1 \times (A_1 M_2 + B_1)$

E) $M_1 \div (A_2 D + B_2)$

F) $M_1 \times (A_1 M_2 + B_1) \div (A_2 D + B_2)$

where $\dfrac{A_1 M_2 \max + B_1}{A_2 D \min + B_2} \leqq 4$

and $A_2 D \min + B_2 \geqq 0.1$

$0 \leqq A_1 \leqq 1.7 \quad 0 \leqq B_1 \leqq 1.9$

$0 \leqq A_2 \leqq 1.5 \quad 0 \leqq B_2 \leqq 1.0$

Note 1) M_1, M_2 and D signals are assumed to be between 0to1/1to5V (or4to20mA)

2) A_1, A_2, B_1 and B_2 should be set to the above values.

Allowance: ±0.5% of full span

Reproducibility: Better than ±0.1%

Input signal and input resistance:

1 to 5V DC (bias current: 1μA)

Note) Resistance more than 33kΩ when power is OFF. If specified, the input circuit can be opened when power is OFF.

4 to 20mA DC (250Ω)

Output signal: 1 to 5V DC

Output resistance: 0.5Ω or less

Response time: 90% setting time Approx. 0.6 sec

Note) With 33ms filter at input stage, independent variation.

Power supply: 24V DC (20 to 30V DC)

or $24V^{+13}_{-10}\%$ 50/60 Hz

Power consumption:

Approx. 3W (24V DC)

Approx. 4.5V (24V AC)

Ambient temperature:

0 to 45°C

Ambient humidity:

90% RH (Max)

Enclosure: Steel case

Dimensions (HxWxD):

247x74x225 mm

Weight: Approx. 1.3 kg

Finish color: Case ; Silver (melamine baking)

Terminal cover ; Gray (molded synthetic resin)

Mounting method:

Rack mounting

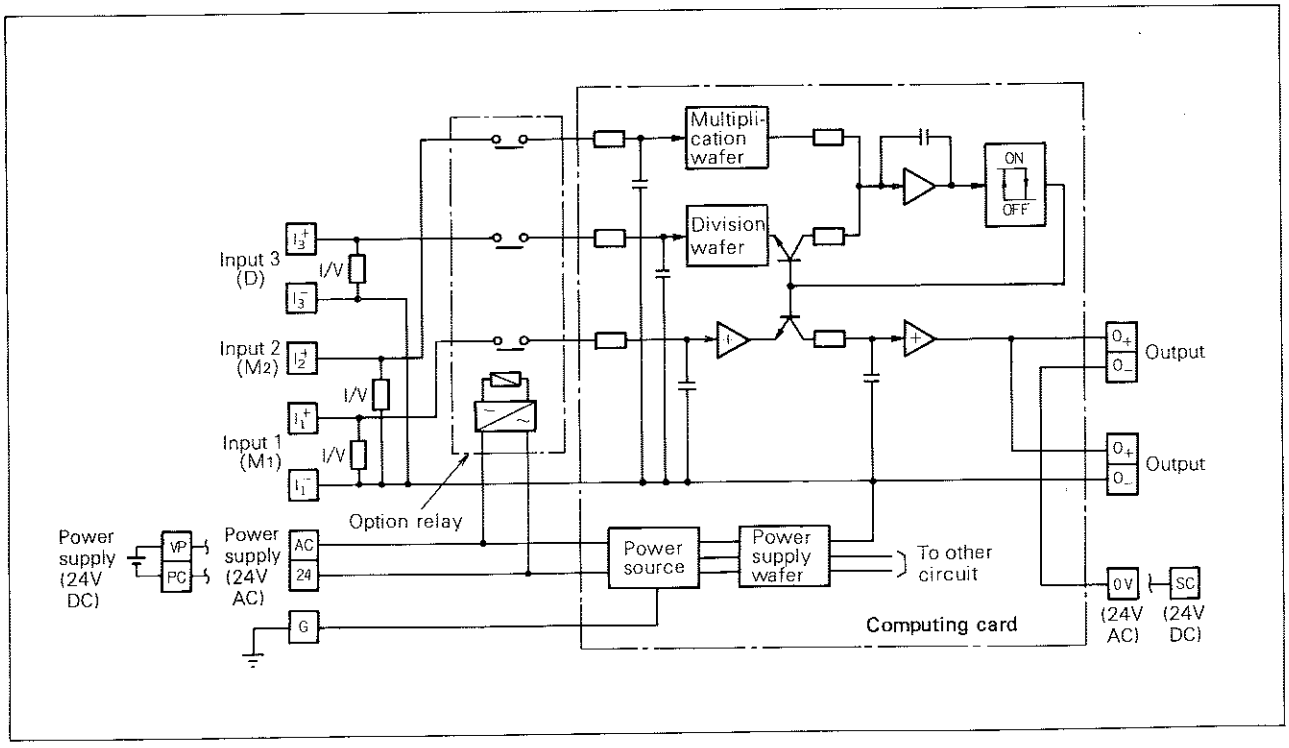
Range of delivery:

Multiplier

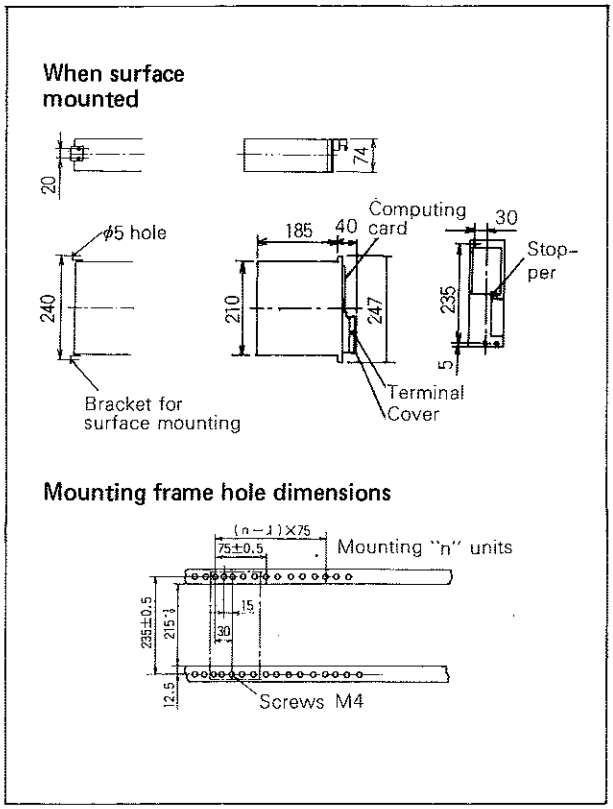
CODE SYMBOLS

1 2 3 4 5 6 7 8	9 10 11 12 13	Description
P R C	1 0 0 0 –	
		Input signal
1		1 to 5V DC
2		4 to 20mA DC
4		1 to 5V DC with option relay
5		4 to 20mA DC with option relay
		Function
A		Multiplication: $M_1 \times M_2$
B		Division: $M_1 \div D$ (where $D \geqq 0.25$)
C		Multiplication and division: $M_1 \times M_2 \div D$ (where M_2 max $\div D$ min < 4)
* D		Multiplication: $M_1 \times (A_1 M_1 + B_1)$
* E		Division: $M_1 \div (A_2 D + B_2)$
* F		Multiplication and division: $M_1 \times (A_1 M_2 + B_1) \div (A_2 D + B_2)$
		Allowance
	1	±0.5%
		Application
	0	General use
		Power supply
	1	24V DC
	7	24V AC 50/60Hz

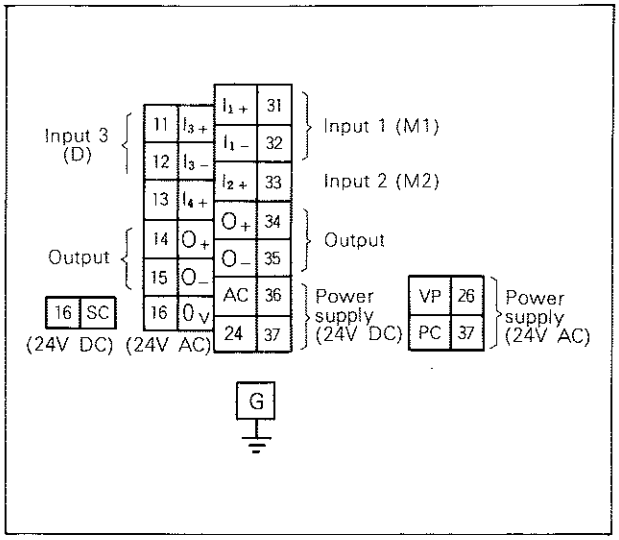
BASIC CIRCUIT DIAGRAM



OUTLINE DIAGRAM (Unit: mm)



CONNECTION DIAGRAM



ORDERING INFORMATION

1. Product name
2. Code symbol
3. Input
4. Operation mode
5. Other requirements