FC SERIES PT TYPE CALCULATOR

DATA SHEET

PTB

The FC series PT type calculator receives 4 analog inputs, provides four fundamental rules of arithmetic, square root extraction, linearizer, etc., and convert into a signal of 1 to 5V DC or 4 to 20mA DC. In addition, transmission function is avaiable.

Its structure is plug-in style.

SPECIFICATIONS

INPUT SPECIFICATION

Input signal: 4 points

Input type	Voltage	Current
Input signal	1 to 5V DC	4 to 20mA DC
Input resistance	1MΩ or over	250Ω

OUTPUT SPECIFICATION

Output signals: 2 points

Output type	Voltage	Current
Output signal	1 to 5V DC	4 to 20mA DC
Allowable load resistance	15kΩ or over	600Ω or less

TRANSMISSION SPECIFICATION

1. Data transmission

Interface: RS-485

Transmission system:
Start-stop synchronous system

Transmission speed:
2400, 4800, 9600, 19200bps

Connectable units:
31 units (Max.)

Code format: Data length·····8 bits (binary)
Parity bit·····even, odd, none
Stop bit·····one or two bits

Transmission distance:
1 km (Max.)

2. Loader

Interface: RS-232C equivalent

POWER SUPPLY

Power supply: 24V DC (20 to 30V DC)
24V AC, +13%, –10%, (47 to 63Hz)
100V AC (85 to 132V AC / 47 to 63Hz)
200V AC (187 to 264V AC / 47 to 63Hz)
as specified.

Power consumption:
Approx. 3W(at DC power)
Approx. 6VA (at AC power)

OPERATION CONDITION

Ambient temperature:
0 to 50°C

Ambient humidity:
Less than 90%RH (no condensation)

Outline dimension (HxWxD):
96 x 52 x130mm

Mass: Appox. 300g

Housing: Plastic housing (color: black)

Mounting method:
Panel mounting or DIN rail mounting

CHARACTERISCTICS

Accuracy: Less than ±0.1% of full span

Response time: Less than 0.3 sec.

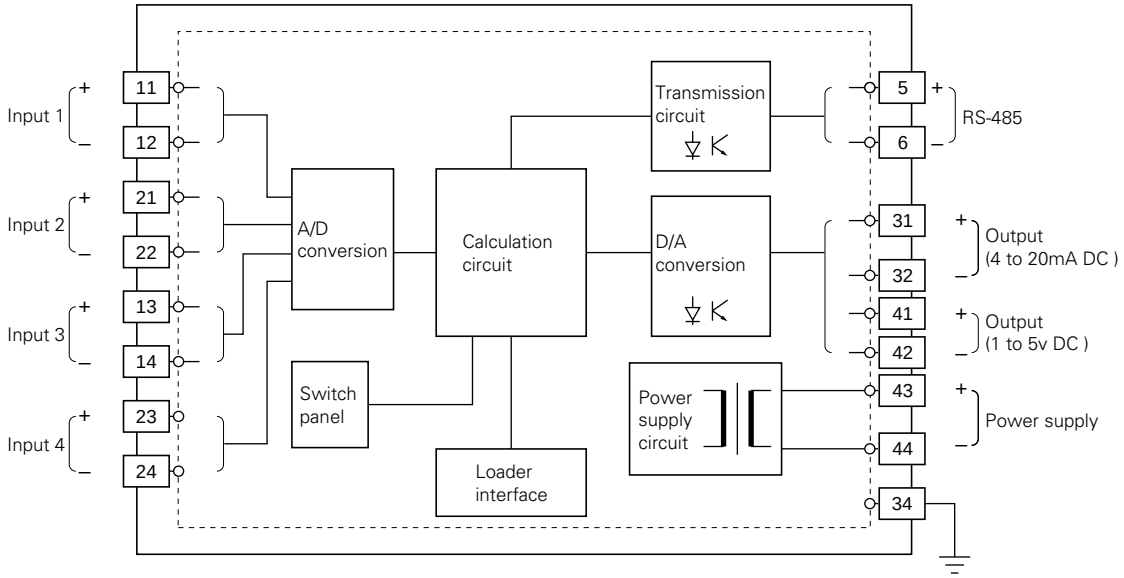
Dielectric strengh:
1500V AC, 1 min.
(Input - Output - Transmission - Power - Ground)

Insulation resistance:
500V DC, 100MΩ or over
(Input - Output - Transmission - Power - Ground)

CODE SYMBOLS

1	2	3	4	5	6	7	8		9	10	11	Description
P	T	B		W			1	-	Y			
				1								**Input signal** 1 to 5V DC
				2								4 to 20mA DC
				W								**Output signals** 1 to 5V DC/4 to 20mA DC
					A							**Calculating specification** Basic specification
					B							Linearizer + root square
					C							Deviation
					D							Selector 1
					E							Selector 2
					F							Multiplication/Division
					G							Flow rate compensation
					P							Programmable
						1						**Power supply** 24V DC/24V AC (50/60Hz)
						2						100V AC (50/60Hz)
						3						200V AC (50/60Hz)
									R			**Transmission function** With RS-485
										Y		**Loader interface** Without

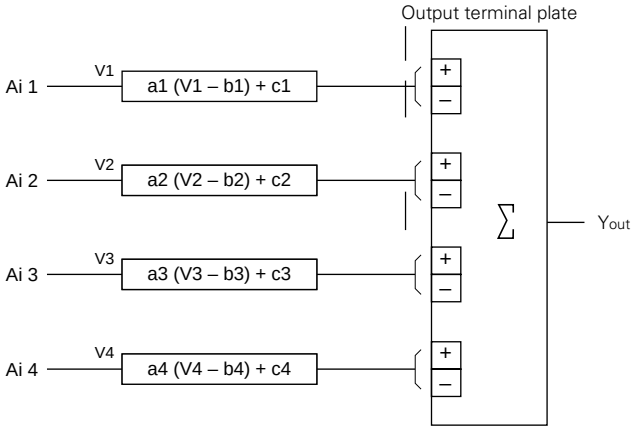
FUNCTIONAL DIAGRAM



CALCULATING FUNCTIONS

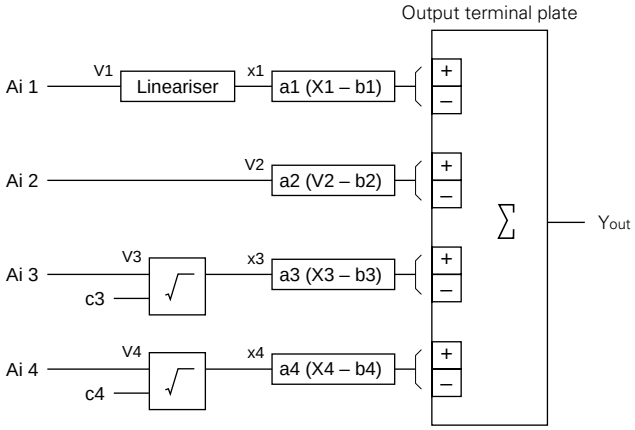
There are 7 types of standard computation block.

1. Basic calculation (The 6th digit: A)



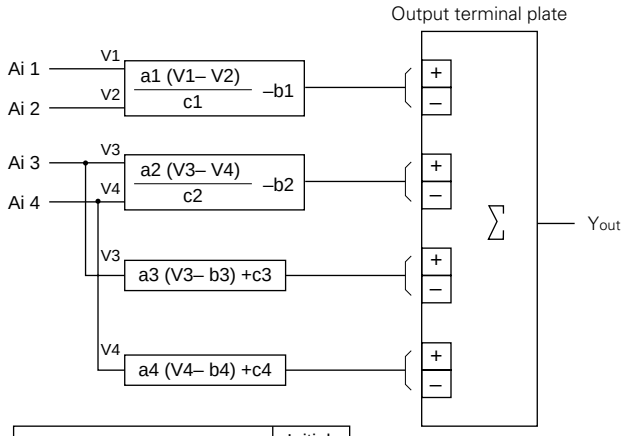
Constants	Initial value
a1 ~ a4 : (– 200 ≦ a ≦ 200%)	0%
b1 ~ b4 : (– 200 ≦ b ≦ 200%)	0%
c1 ~ c4 : (– 200 ≦ c ≦ 200%)	0%

2. Linealizer + Root square calculation (The 6th digit: B)



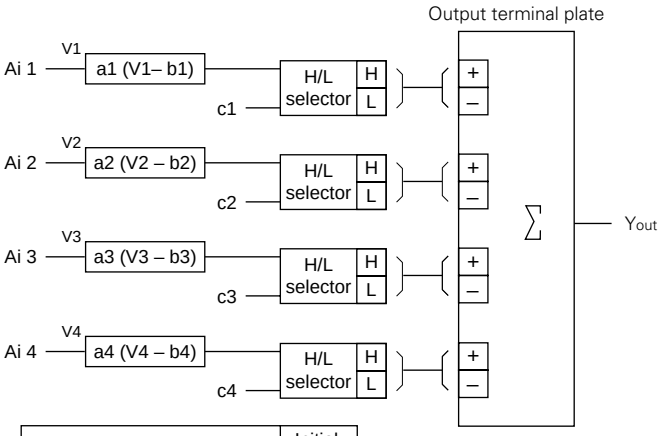
Constants	Initial value
a1 ~ a4 : (– 200 ≦ a ≦ 200%)	0%
b1 ~ b4 : (– 200 ≦ b ≦ 200%)	0%
c3 ~ c4 : (0 ≦ c ≦ 200%)	7%

3. Deviation calculation (The 6th digit: C)



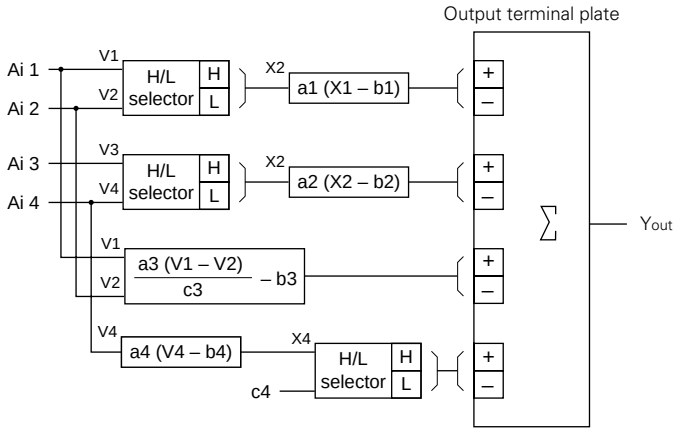
Constants	Initial value
a1 ~ a4 : (– 200 ≦ a ≦ 200%)	0%
b1 ~ b4 : (– 200 ≦ a ≦ 200%)	0%
c1 ~ c2 : (– 200 ≦ b ≦ 200%)	100%
c3 ~ c4 : (– 200 ≦ c ≦ 200%)	0%

4. Selector 1 (The 6th digit: D)



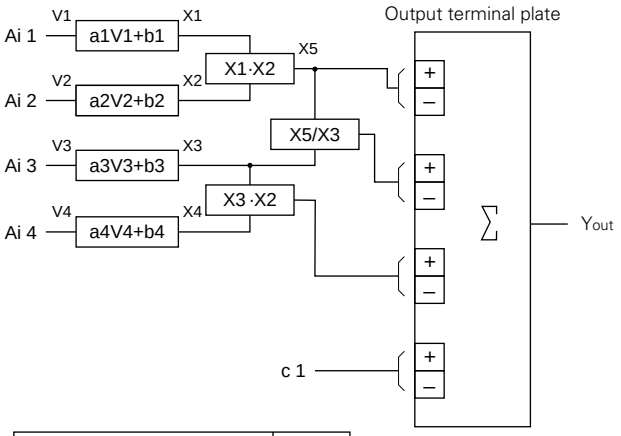
Constants	Initial value
a1 ~ a4 : (– 200 ≦ a ≦ 200%)	0%
b1 ~ b4 : (– 200 ≦ b ≦ 200%)	0%
c1 ~ c4 : (– 200 ≦ c ≦ 200%)	0%

5. Selector 2 (The 6th digit: E)



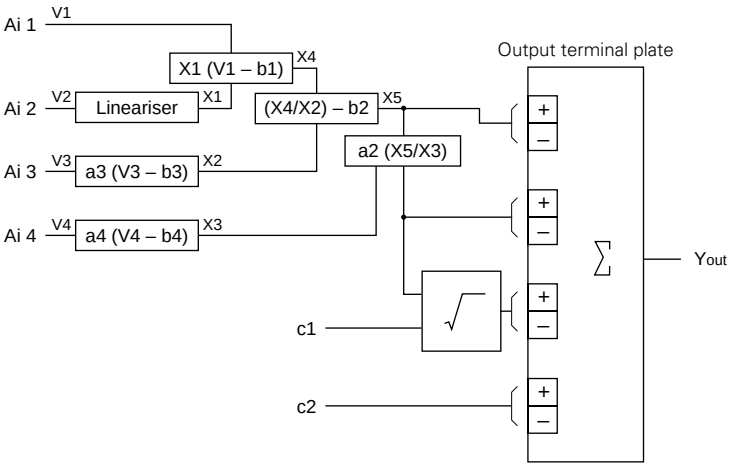
Constants	Initial value
a1 ~ a4 : (– 200 ≦ a ≦ 200%)	0%
b1 ~ b4 : (– 200 ≦ b ≦ 200%)	0%
c3 : (– 200 ≦ c ≦ 200%)	100%
c4 : (– 200 ≦ c ≦ 200%)	0%

6. Multiplication/Division calculation (The 6th digit: F)



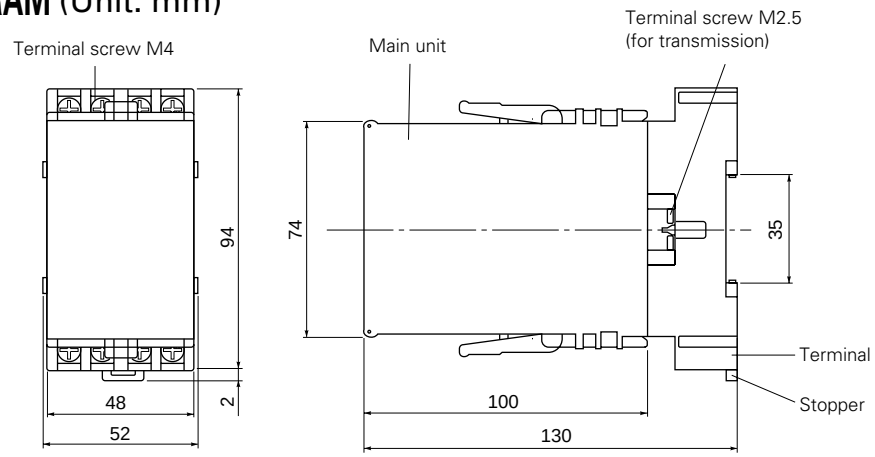
Constants	Initial value
a1 ~ a4 : (– 200 ≦ a ≦ 200%)	0%
b1 ~ b4 : (– 200 ≦ b ≦ 200%)	0%
c1 : (– 200 ≦ c ≦ 200%)	0%

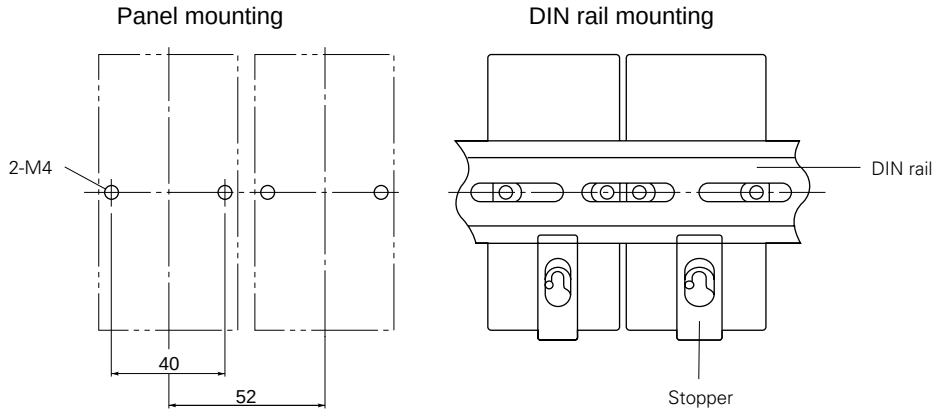
7. Flow rate compensation calculation (The 6th digit: G)



Constants	Initial value
a1 ~ a4 : (– 200 ≦ a ≦ 200%)	0%
b1 ~ b2 : (– 200 ≦ b ≦ 200%)	0%
c1 : (0 ≦ c ≦ 100%)	7%
c2 : (– 200 ≦ c ≦ 200%)	0%

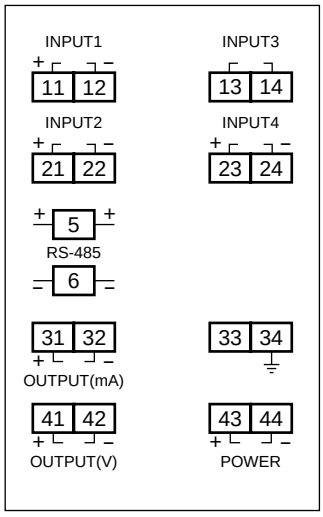
OUTLINE DIAGRAM (Unit: mm)





EXTERNAL CONNECTION DIAGRAM

Voltage • Current input



RANGE OF DELIVERY

Main unit and socket

ORDERING INFORMATION

1. Style or type
2. Calculating constants

⚠ Caution on Safety

*Before using this product, be sure to read its instruction manual in advance.

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