General Specifications

FP4P
Pulse Rate Scaler

JUXTA

This Pulse Rate Scaler receives contact pulse or voltage pulse from the field and after converting it into setup pulse rate, it outputs isolated transistor contacts.

FP4P-1□-□*B

Model

Input Signal
1 : Pulse signal

Output Signal
1 : Open collector
3 : Dry contact AC switch

Power Supply
24V DC±10%

ORDERING INFORMATION

- Model Code : (Example) FP4P-11*B
- Input Frequency : (Example) 0～3000Hz
- Output Frequency : (Example) 0～10Hz

Input & Output
Input Frequency : 0～Fi_{100}[Hz] (Fi_{100}≦10kHz) Fi_{100} : 100% input frequency
Input Pulse Width : Pulse width of which duty would be within 50±30% when input of Fi_{100}
Voltage Pulse Input : Low level (VL) : -1～+8V High level (VH) : More than 2V VH-VL = 2～50V
Input Resistance : 10kΩ
Output Frequency : 0～Fo_{100}[Hz] (Fo_{100}≦16.6Hz) Fo_{100} : 100% output frequency
Output Type : Open collector or dry contact AC switch
Maximum permissible Load : Open collector : 30V DC/200mA Dry contact AC switch : 100V AC/200mA
Note : This scaler can take out output 0～9999 optional pulses against input of 10000 pulses. However, pulses for input pulses multiplied by pulse rate are not always output equally. Be careful for this point when operating scaler.

Standard Performance
Contact Input Signal Source : 24V DC, 1mA
Pulse Rate Formular : Pulse rate = 100% output frequency/100% input frequency and rounds to 4 decimals. Setting resolution of pulse rate is 0.0001 (Refer Table 1)
Output ON Pulse Width : 30ms±3ms
Insulation Resistance : More than 100MΩ (500V DC) between input～output～power supply～ground
Withstand Voltage : 1500V AC/minute between input～output～power supply 500V AC/minute between output～power supply
Temperature Range : 0～50℃
Humidity Range : 5～90% RH (no condensation)
Power Voltage : 24V DC±10% (ripple content less than 5%p-p)
Effect of Power Voltage Fluctuation : No erroneous movement for fluctuation of 24V DC±10%
Effect of Ambient Temperature Change : No erroneous movement within using temperature range
Current Dissipation : 24V DC 60mA
Mounting, Shape & Accessories
Materials : Case ABS plastic
Mounting Method : Rack, Wall, DIN rail mountings
Connecting Method : M4 screw terminal connection
Outer Dimension : 72x48x127mm(HxWxD)
Weight : 130g
Accessories : Tag Number Label.....1 Mounting Block ..... 2 M4 Screw 4

Table 1 Pulse Rate Setting Limit

Max. Input Frequency	Pulse Rate
0～16.6Hz	No limit
16.7～33.3Hz	Below 0.4000
33.4～83.3Hz	" 0.2000
83.4～166Hz	" 0.1000
167～333Hz	" 0.0400
334～833Hz	" 0.0200
0.834～1.66kHz	" 0.0100
1.67～3.33kHz	" 0.0040
3.34～8.33kHz	" 0.0020
8.34～10.0kHz	" 0.0010

CUSTOM SPECS.

Table 2 Manufacturable Range

Output Frequency	Below 10kHz
Output ON Pulse Width	Over 40μS

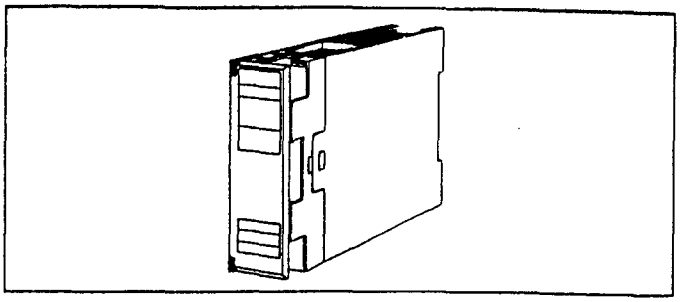
Whereas output pulse width should meet with the conditions below :

$40\mu s \leqq$ Output ON pulse width $\leqq \frac{1}{Fi_{100}} \times 0.5 \times n$

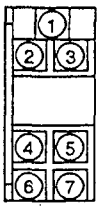
n varies according to pulse rate

Table 3

Pulse Rate $\frac{Fo_{100}}{Fi_{100}}$	n
0.9999～0.4001	1
0.4000～0.2001	2
0.2000～0.1001	5
0.1000～0.0401	10
0.0400～0.0201	20
0.0200～0.0101	50
0.0100～0.0041	100
0.0040～0.0021	200
0.0020～0.0011	500
0.0010～0.0005	1000
0.0004～0.0003	2000
0.0002	5000
0.0001	10000

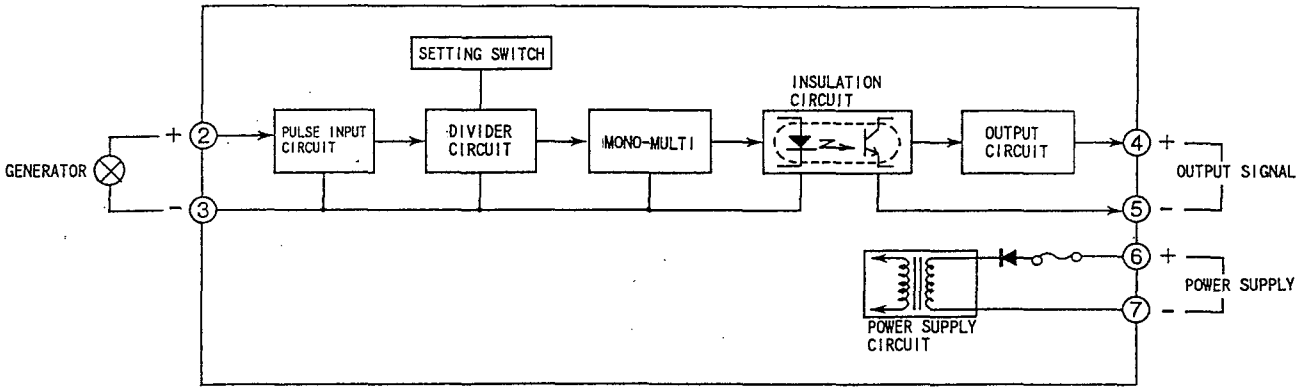


TERMINAL ARRANGEMENT



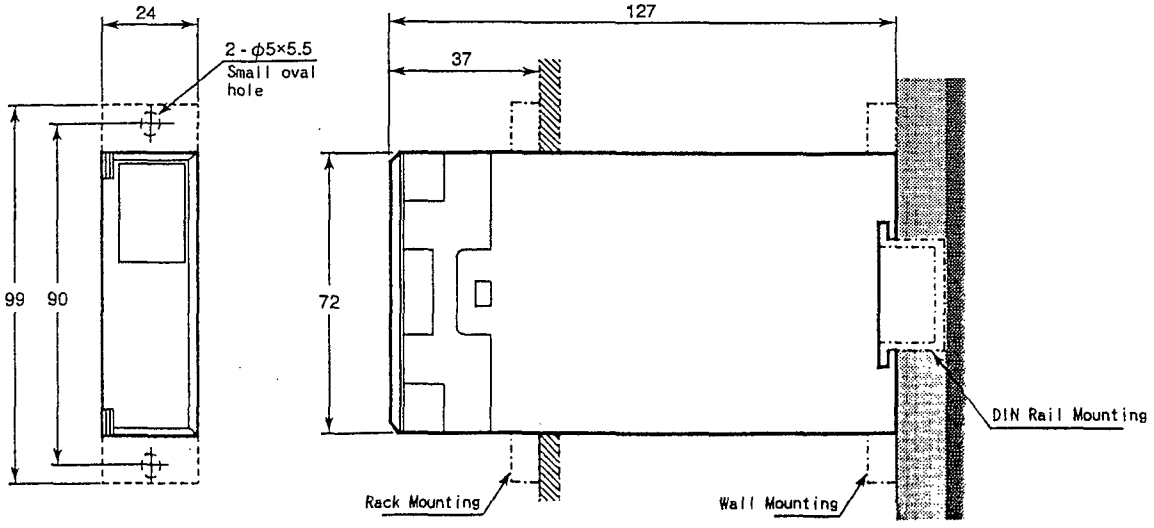
1		
2	INPUT	(+)
3	INPUT	(—)
4	OUTPUT	(+)
5	OUTPUT	(—)
6	SUPPLY	(+)
7	SUPPLY	(—)

BLOCK DIAGRAM



EXTERNAL DIMENSION

Unit : mm



Subject to change without notice for grade up quality and performance