

SystempaK (Analog Type) Pulse Conversion Module Model J-SPM 60

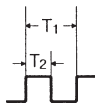
Introduction

The Pulse Conversion Module (J-SPM60) converts voltage pulses, current pulses, and contact pulses transmitted by various types of flowmeters (PD Meters, turbine meters, etc.) into open-collector signals. The power supply, input, and output circuits are perfectly isolated from each other. The power to these flowmeters is supplied through this module.

Specifications

Input signal

- Voltage current pulse:
 - Frequency; 5 kHz or less, or 1 kHz or less (The time constant of the filter is determined to fit to the input pulse.)
 - Voltage; $3V^{P-P}$ to $24V^{P-P}$
 - Pulse duty;



At 5 kHz or less ... $T_1 \geq 0.2$ ms, $T_1 - T_2 \geq 70$ μ s, $T_2 \geq 70$ μ s

At 1 kHz or less ... $T_1 \geq 1$ ms, $T_1 - T_2 \geq 0.2$ ms, $T_2 \geq 0.2$ ms

Input impedance; 20 k Ω or more (Voltage pulse)

200 Ω /510 Ω /1 k Ω /2 k Ω (Current pulse)

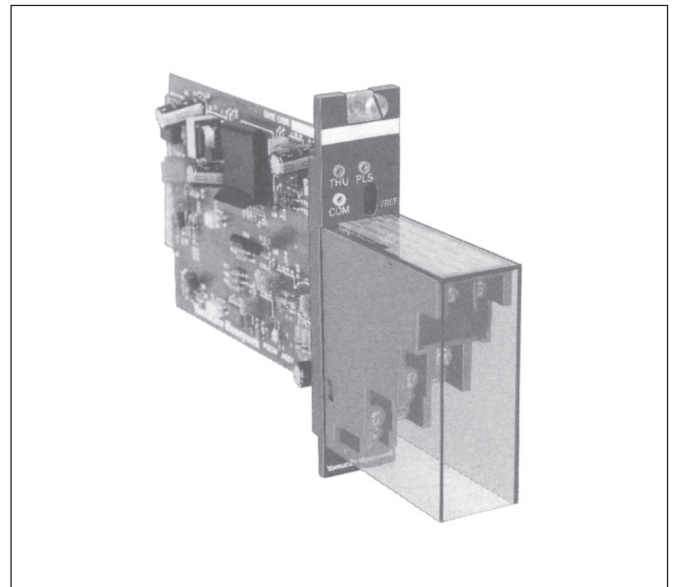
- Contact pulse:
 - Frequency; 20 Hz or less
 - Contact resistance; 0.2 k Ω or less at ON, 50 k Ω or more at OFF
 - Pulse duty; $T_1 \geq 50$ ms, $T_1 - T_2 \geq 15$ ms, $T_2 \geq 15$ ms
 - Input impedance; 20 k Ω or more
- Open collector:
 - Pulse frequency; 5 kHz or less, or 1 kHz or less (The time constant of the filter is determined to fit to the input pulse.)
 - Contact resistance; 0.2 k Ω or less at ON, 50 k Ω or more at OFF
 - Pulse duty; At 5 kHz or less ... $T_1 \geq 0.2$ ms, $T_1 - T_2 \geq 70$ μ s, $T_2 \geq 70$ μ s
 - At 1 kHz or less ... $T_1 \geq 1$ ms, $T_1 - T_2 \geq 0.2$ ms, $T_2 \geq 2$ ms
 - Input impedance; 20 k Ω or more

Output signal

- Pulse output:
 - Type; Open-collector (external power supply)
 - Rated voltage; 30V DC or less
 - Rated current; 30 mA or less
 - Voltage drop at ON; 1V or less (for the load current of 30 mA)
 - Current leak at OFF; 50 μ A or less (for the load voltage of 30V)
 - Isolation; Photocoupler

Transmitter power supply

- Voltage; 12, 15, or 24V DC (Selective by the jumper)
- Current capacity; 40 mA or less w/ protection for short-circuiting load



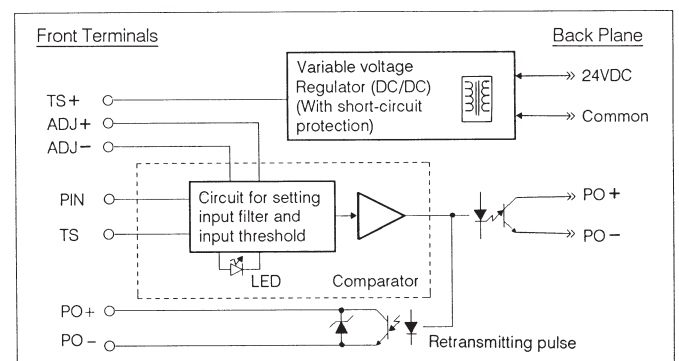
General specifications

- Power supply; 24V DC $+10$ %
 -15 %
- Power consumption; 100 mA max. (at 24V)
- Ambient temperature; -5 to +55 $^{\circ}$ C
 - Normal operating condition; 5 to 45 $^{\circ}$ C
 - Operation limit; -5 to 55 $^{\circ}$ C
- Ambient humidity; 0 to 90%RH
- Mounting; File
- Front mask color; Black
- Weight; 300 g

Theory of operation

The input pulse goes through the Filter circuit where its threshold is adjusted to obtain the specified pulse height, and then enters the comparator.

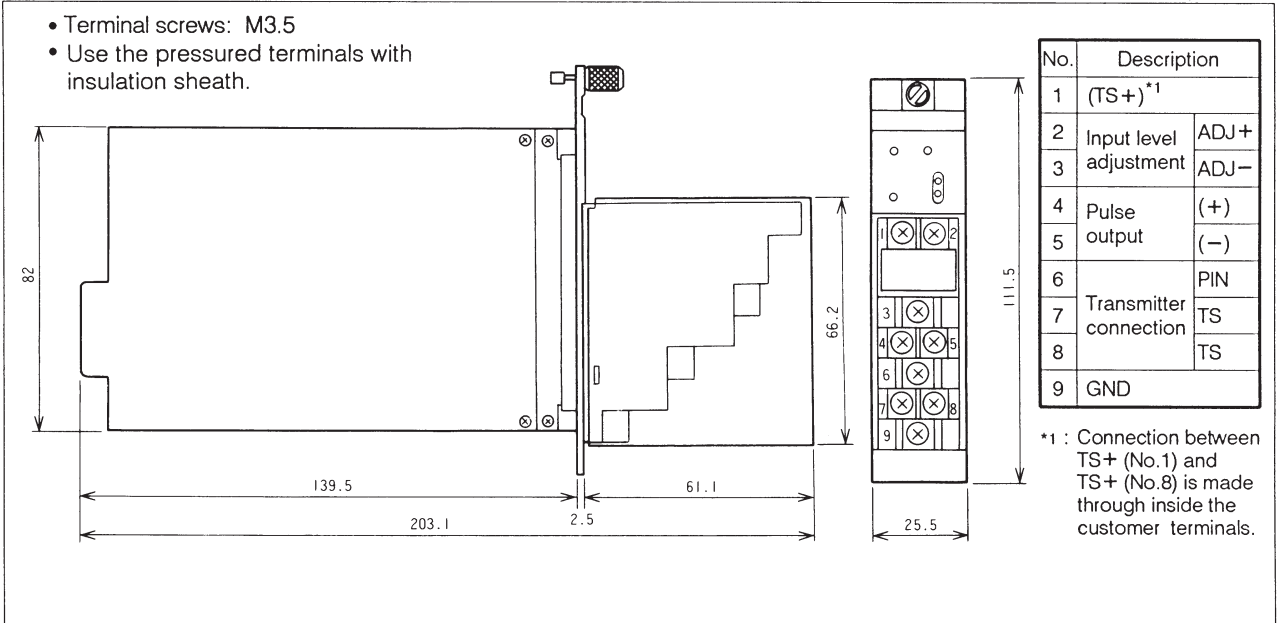
Thus two outputs, the pulse output and the retransmitting pulse, are taken out.



Model Number Table

Basic Model Number	Selections		Additions	Description
	I	II	I	
J-SPM60				Pulse conversion module
	X			No varnish coated
	C			Varnish coated
		-0		No selection
			0	No selection
			-0	Without test report
			-1	With test report

Dimensions and Wirings



Terminal Connection (Transmitter connection)

Transmitter connection	Transmitter power supply
Two-wire connection TS \oplus } PIN }	12V DC (R : 2k Ω , Contact) 12V DC (R : 200 Ω) 24V DC (R : 510 Ω) 12V DC (R : 1k Ω)
Three-wire connection TS \oplus } PIN } TS \ominus }	12V DC 15V DC 24V DC
Open-collector connection PIN } TS \ominus }	12V DC (R : 2k Ω) 15V DC (R : 2k Ω) 24V DC (R : 2k Ω)

Please read the "Terms and Conditions" from the following URL before ordering or use:

<http://www.azbil.com/products/bi/order.html>

Specifications are subject to change without notice.

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