



Standard Specifications Type: MS3729

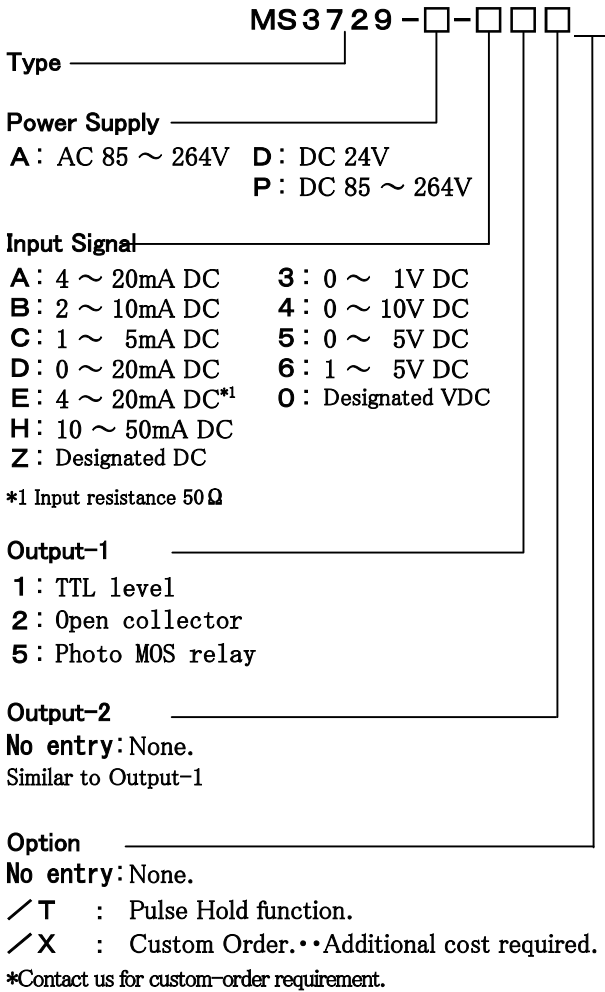
MS3700

Slim-shaped Plug-in Analog to Pulse Signal Converter with Isolated Single/Dual Output

Overview

MS3729 is a slim-shaped plug-in analog to pulse signal converter with isolated single/dual output to convert DC current/ voltage signals into unit pulse signals. (RoHS-conformed)

Ordering Format



Please specify upon ordering

•Product Model Number (Output frequency range)
 (Example) MS3729-A-611(0~4.3kHz)

* Please specify the output frequency range within the range between 0~0.001Hz and 0~5KHz.

(☞ Photo MOS relay: 30Hz max.)

Other items to be specified:
 •For input "0": MS3729-A-011(0~4.3kHz/Input 0.2~1V)
 •For option "T": MS3729-A-611/T(0~4.3kHz/200msec)
 * Regarding pulse hold time for option "T", please specify any pulse width within the range of 200 μ sec~500msec.
 •For more than one option: Enter Option Codes in succession. (/TX)



Specifications

●Power Supply Section

Power Supply	AC85~264V (Rating 100~240V) 47~63Hz DC24V±10% DC85~264V (Rating 100~240V)
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Power Sensitivity	Within ±0.1% of Span for each power supply voltage.
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Power Supply Fuse	160mA Fuse
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Maximum Power Consumption

Power Supply	AC85~264V	DC24V	DC85~264V
Single Output	3.5VA max. / 1.0W max. / 3.6W max.		
Dual Output	4.0VA max. / 1.2W max. / 4.8W max.		

●Input Section

Input Resistance

Voltage Input (DC)	With excitation	1MΩ min.
	Without excitation	1MΩ min.
Current Input (DC)	4~20mA (Standard)	250Ω
	2~10mA	250Ω
	1~5mA	100Ω
	0~20mA	250Ω
	10~50mA	10Ω

Input Voltage Allowable

Voltage Input	30V DC max. continuous (Span 10V max.)
Current Input	40mA DC max. continuous (4~20mA)

Range of Products Available

	Current Signal	Voltage Signal
Input Range(DC)	-100~100mA	-300~300V
Input Span(DC)	100 μ A*1~200mA	200mV*2~600V
Input Bias	-100~100%	-100~100%

*When negative input is contained, the span becomes *1)200 μ A~, *2)400mV~. (e.g.) -5~0V⇒Input span 5V, Bias -100%

●Output Section

Zero Adjustment Range	Approx. ±5% of Span (Adjustable by Trimmer on front panel)
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Span Adjustment Range	Approx. ±5% of Span (Adjustable by Trimmer on front panel)
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Max. Output Load	TTL level: Max. output 10mA@3.5V
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Max. Output Rating

Open Collector √	Max. rating: 30V, 100mA (Resistance load)
Photo MOS Relay	Max. load voltage: 400V (Peak AC) Max. continuous load current: 0.15A (Peak) Peak load current: 0.5A@100ms (1shot) DC load Max. output loss: 360mW ON resistance: 16Ω max. Lead current when open: 1 μ A max.

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● **Output Section**

Without Pulse Hold function

Output frequency range Within the range from 0~0.001Hz to 0~5KHz.

* The range is 0~0.001Hz to 0~30Hz when Photo MOS relay is selected.

Output Duty Ratio 40~60%

With Pulse Hold function Output frequency when pulse width is specified.

Max. output frequency $Hz = 1 / (T \times 1.2 + 10 \mu \text{ sec})$

*10 $\mu \text{ sec}$: Level of output pulse is Low@TTL, voltage pulse output, or Output pulse ON @open collector output

(e.g.) When setting 200msec Hold $\Rightarrow 1 / (0.2 \times 1.2 + 0.0001) = 4.166 \text{ Hz}$

● **Standard Performance**

Conversion Accuracy Within $\pm 0.1\% / \text{F.S.} (@25^\circ\text{C} \pm 5^\circ\text{C})$

Pulse Hold Time

Accuracy Within $\pm 20\%$ of specified value

Temp Characteristics Within $\pm 0.2\%$ of Span with every 10°C variation

Response Time

Output Frequency (0~90%) @ 100% step input

0.5Hz 3.1sec max.

5Hz 310msec max.

50Hz 65msec max.

500Hz or more 35msec max.

Signal Isolation Between Input - Out1-Out2-Power Supply-Ground, mutually

Isolation Resistance 100M Ω min. (@500V DC)

Dielectric Strength Between Input - [Out1, Out2] - [Power Supply, Ground]

: 200V AC, Shut Down Current 0.5mA for 1 minute

Between Power Supply - Ground

: 200V AC, Shut Down Current 5mA for 1 minute

Between Out1 - Out2

: 500V AC, Shut Down Current 0.5mA for 1 minute

Measures against SWC Conform to ANSI/IEEE C37.90.1-1989

Operating Environment Temperature: -5~55°C

Humidity : 5~90%RH (Non-Condensing)

Storage Temp. -10~60°C

● **Installation / Physical Specifications**

Installation Wall mounting &/or DIN-rail mounting

Wiring M3.5 screw terminal connection (with P.S. terminal cover & screw drop-protection)

Screw Tightening Torque 0.8~1[N·m] Recommendable

Outer Dimension W29×H86×D125mm (incl. set screws & terminal block)

Mass Main body 120g max., Terminal Block 80g max.

● **Materials**

Housing ABS Resin (UL-94V-0)

Terminal Block ABS Resin (UL-94V-0)

Terminal Screws Iron/Nickel-plated

Terminal Surface Treatment

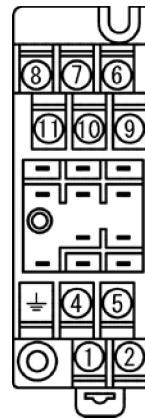
0.2 $\mu \text{ m}$ / Gold plated

P.C. Board Glass-Epoxy (FR-4:UL-94V-0)

Moisture-proof Coating

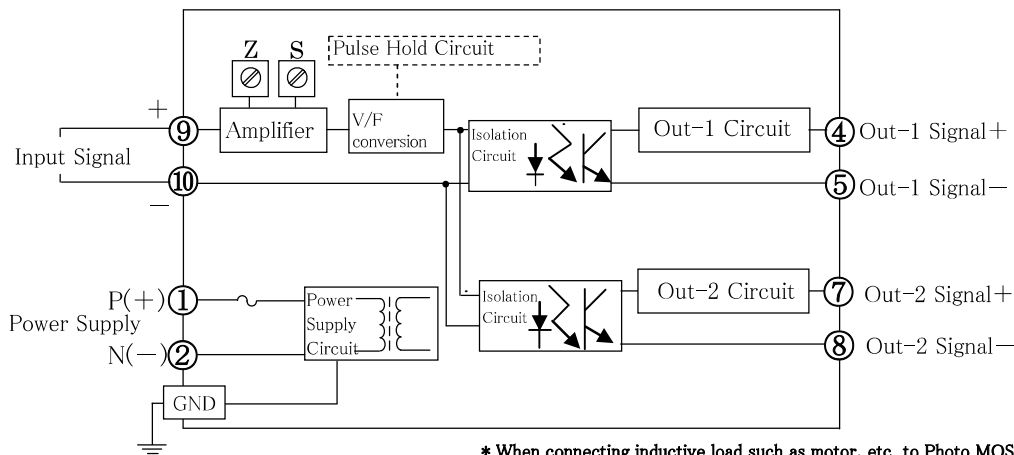
: HumiSeal 1A27NS (Polyurethane Resin)

Terminal Arrangement / Signal Assignment



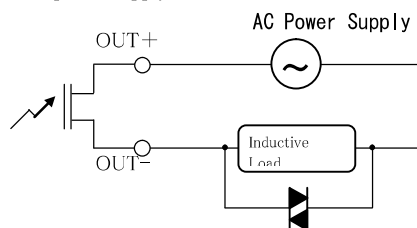
①	P(+)	POWER
②	N(-)	
⊥	GND	
④	+ OUTPUT 1	
⑤	- OUTPUT 1	
⑥	N. C	
⑦	+ OUTPUT 2	
⑧	- OUTPUT 2	
⑨	+ INPUT	
⑩	- INPUT	
⑪	N. C	

Block Diagram



* When connecting inductive load such as motor, etc. to Photo MOS relay output, a protection circuit for relay contact should be provided.

Example of AC power supply connection



Example of DC power supply connection

