Product Specification Sheet   Model: MS3929

Chassis-Mount Analog/Frequency Converter with Isolated Dual Output

DESCRIPTION

The MS3929 is a chassis-mount analog to frequency converter that converts DC input signals into mutually isolated dual channel pulse train signals.

▽ A multi-slot chassis provides ease of maintenance and high-density mounting.

▽ Input, output 1, output 2, and power circuits are all isolated from each other.

▽ Equipped with a fuse on the DC power line as standard.

19.5
53
82 (mm)
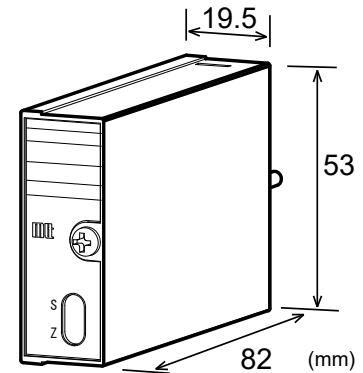
ORDERING INFORMATION

Ordering Code
MS3929-1□□-2(□–□)-6□□-7□□-T□□_
[1]   └[2]┘   [3]   [4]   [5] [6]

SPECIFICATIONS

POWER SECTION

Power Requirement	24V DC±10%
Power Sensitivity	Better than ±0.1% of span per 10% change in supply voltage
Power Line Fuse	160mA fuse
Current Consumption	45mA max. at 24V DC

INPUT SECTION

Input (Specify a code in the field [1].)	■ 4–20mA DC ·····················C1 ■ 2–10mA DC ·····················C3 ■ 1–5mA DC·······················C4 ■ 10–50mA DC·····················C5 ■ Other DC current signals ··············· ···························· CY(□–□) Specify a DC current range in parentheses. The ranges available are from 0–100μA to 0–100mA and from ±100μA to ±100mA. ■ 1–5V DC ·······················V1 ■ 0–1V DC ·······················V4 ■ 0–5V DC ·······················V5 ■ 0–10V DC ······················V6 ■ Other DC voltage signals ··············· ······························ X2(□–□) Specify a DC voltage range in parentheses. The ranges available are from 0–200mV to 0–300V and from ±200mV to ±300V.
Input Resistance	Voltage input: 1MΩ min. with or without power Current input: 250Ω (Standard for 4–20mA)

Allowable Input Voltage	Voltage input: 30V DC max., continuous. (Standard for a span up to 10V) Current input: 40mA DC max., continuous (Standard for 4–20mA)

OUTPUT SECTION

Output Frequency Range (Specify a range in the field [2].)	Specify an output frequency range between 0–0.001Hz and 0–5kHz.
Output (Specify a code in each of the fields [3] & [4].)	■ TTL level ·····························TT ■ Open collector······················· OP
Allowable Output Load	TTL level: Maximum output 10mA @ 3.5V
Maximum Rating	Open collector: Maximum rating 30V, 100mA (Resistive load)
Zero Adjustment	Approx. ±2% of span. (Adjustable by front-accessible trimmer)
Span Adjustment	Approx. ±2% of span. (Adjustable by front-accessible trimmer)
Output Duty Ratio w/o Pulse Hold Function	40 to 60%
Pulse Hold Time (Optional) (Specify a value in the field [5].)	Specify a pulse width between 200μs and 200ms. When a pulse hold time is specified, the maximum possible output frequency is determined by: $Hz = 1 / (T \times 1.2 + 10\mu s*)$ * 10μs: Output pulse Lo level for TTL and voltage pulse outputs or output pulse ON for open collector output.

ADDITIONAL

Option [6]	■ Polyurethane conformal coating···· /H

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PERFORMANCE

Accuracy Rating	Better than ±0.1% of span (at 25°C±5°C).
Pulse Hold Time Accuracy	Better than ±20% of a customer specified value.
Temperature Effect	Better than ±0.2% of span per 10°C change in ambient.

Response Time	Output frequency	0–90% with a step input at 100%
	0.5Hz	3.1s max.
	5Hz	310ms max.
	50Hz	65ms max.
	Over 500Hz	35ms max.

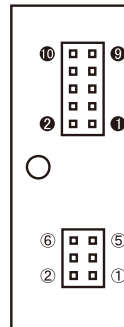|	
Isolation	4-way isolation between input, output 1, output 2, and power.
Insulation Resistance	100MΩ min. (@ 500V DC) between input, output 1, output 2, and power.
Dielectric Strength	Input / [Output 1, Output 2, Power]: 1500V AC for 1 minute (Cutoff current: 0.5mA) Output 1 / Output 2 / Power: 500V AC for 1 minute (Cutoff current: 0.5mA)
Surge Withstand Capability	Tested as per ANSI/IEEE C37.90.1-1989.
Operating Environment	Ambient temperature: 0 to 55°C Humidity: 5 to 90% RH (non-condensing)
Storage Temperature	−10 to 60°C

PHYSICAL

Installation	Mounted in an optional chassis (RC3900A-□□AI or RS3900-01TB).
Wiring	Wired to an optional chassis (RC3900A-□□AI or RS3900-01TB).
External Dimensions	W19.5 × H53 × D82 mm
Weight	80g max.

MATERIAL

Housing	ABS resin
PC Board	Glass fabric, epoxy resin (FR-4: UL 94V-0)

PIN	SIGNAL	PIN	SIGNAL
①	+ INPUT	❶	+ OUTPUT 1
②	− INPUT	❷	− OUTPUT 1
③	N. C.	❸	+ OUTPUT 2
④	N. C.	❹	− OUTPUT 2
⑤	N. C.	❺	+ POWER DC24V
⑥	N. C.	❻	−
		❼	N. C.
		❽	N. C.
		❾	F. G.
		❿	N. C.

BLOCK DIAGRAM