Standard Specifications Type: MS3717

MS3700

Slim-shaped Plug-in Distributor with Isolated Single/Dual Output (With Square Root Extractor)

Overview

MS3717 is a slim-shaped plug-in distributor with isolated single/dual output with a square root extractor to supply power to two-wire transmitters and to convert the 4～20mA signal in the feedback loop, extracting its square-root, into one of various DC signals as selected. (RoHS-conformed)

Ordering Format

MS3717 -□-□□

Type

Power Supply

A: AC 85 ～ 264V **D**: DC 24V
P: DC 85 ～ 264V

Input Signal

4～20mA DC from two-wire transmitters.

Output-1

A: 4 ～ 20mA DC
D: 0 ～ 20mA DC
Z: Designated DC

1 : 0 ～ 10mV DC
2 : 0 ～ 100mV DC
3 : 0 ～ 1V DC
4 : 0 ～ 10V DC
5 : 0 ～ 5V DC
6 : 1 ～ 5V DC
3W: ± 1V DC
4W: ±10V DC
5W: ± 5V DC
0 : Designated VDC

Output-2

No entry: None.
Similar to Output-1.

☞When Out-1 is set for Voltage, Out-2 cannot be designated for Current.
☞When both outputs are set for 4～20mA, the Output Load of Out-1 will be less than 550Ω, and that of Out-2 will be 350Ω.

Option

No entry: None.
／K : Fast Response (Faster than 10msec:0～90%)
／X : Custom Order……Additional cost required.
*Contact us for custom-order requirement.

Please specify upon ordering

・Product Model Number
(Example) MS3717-A-66

Other items to be specified:
・For output "0": MS3717-A-60 (Output 2～5V)
・For option "X": MS3717-A-66/X (Response Frequency 50Hz)
・For more than one option: Enter Option Codes in succession(/KX)

Specifications

●Power Supply Section

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

Maximum Power Consumption

Power Supply	AC85～264V	DC24V	DC85～264V
Single Output	7.5VA max. / 2.4W max.	/ 8.5W max.	
Dual Output	7.5VA max. / 2.9W max.	/ 9.0W max.	

●Input Section

Input Signal	4～20mA DC from 2-wire transmitter
Input Resistance	250Ω
Power Supply for Transmitter	Output voltage: 25V (TYP) /without load～18V (TYP) /100% input Max. current: 25mA (TYP)
Current Limit for Short Circuit	26mA (TYP) *Short circuit detection circuit incorporated.
Short Circuit Duration Available	Indefinite.

●Output Section

Maximum Output Load

Voltage Output (DC)	1V Span min.	2mA max.
	10mV	10kΩ min.
	100mV	100kΩ min.
Current Output (DC)	4～20mA Single output	750Ω max.
	4～20mA Dual output	Out-1 550Ω max.
		Out-2 350Ω max.

Zero Adjustment Range	Approx. ±5% of Span (Adjustable by Trimmer on front panel)
Span Adjustment Range	Approx. ±5% of Span (Adjustable by Trimmer on front panel)

Square-root Extraction Function

$X = 10 \times \sqrt{Y}$

(X=Output signal 0～100%) (Y=Input signal 0～100%)
*Output signal X must be 0% when the input signal Y is 1% or less.

Range of Products Available

	Current Signal	Voltage Signal
Output Range (DC)	0～20mA	-10～10V
Output Span(DC)	4～20mA	10mV～20V
Output Bias	0～100%	-100～100%

*For current output smaller than 0.1mA, the accuracy is not guaranteed.
(e.g.1) 4～20mA⇒ Output span 16mA, Bias 25%
(e.g.2) 4～8V⇒ Output span 4V, Bias 100%

Standard Specifications Type: MS3717 Slim-shaped Plug-in Distributor with Isolated Single/Dual Output (With Square Root Extractor)

●Standard Performance

Conversion Accuracy	Within ±0.2%/F.S. (@25℃±5℃ with input 1～100%)
Temp. Characteristics	Within ±0.2% of Span with every 10℃ variation
Response Time	85msec max.(0～90%)@100% step input
CMRR	100dB min.(500V AC, 50/60Hz)
Signal Isolation	Between Input – Out1–Out2–Power Supply–Ground
Isolation Resistance	100MΩ min.(@500V DC) Between Input–Out1–Out2–Power Supply–Ground
Dielectric Strength	Between Input—[Out1,Out2]—[Power Supply, Ground] :2000V AC, Shut Down Current 0.5mA for 1 minute Between Power Supply – Ground :2000V 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℃ Humidity : 5～90%RH(Non-Condensing)
Storage Temp.	-10～60℃

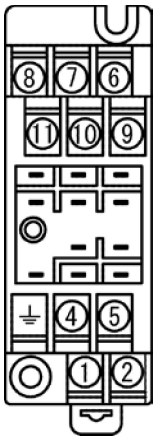
●Installation / Physical Specifications

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	0.2μm / Gold plated
P.C. Board	Glass-Epoxy (FR-4:UL-94V-0)
Moisture-proof Coating	HumiSeal 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	COM	

Block Diagram