



Standard Specifications Type: MS3706

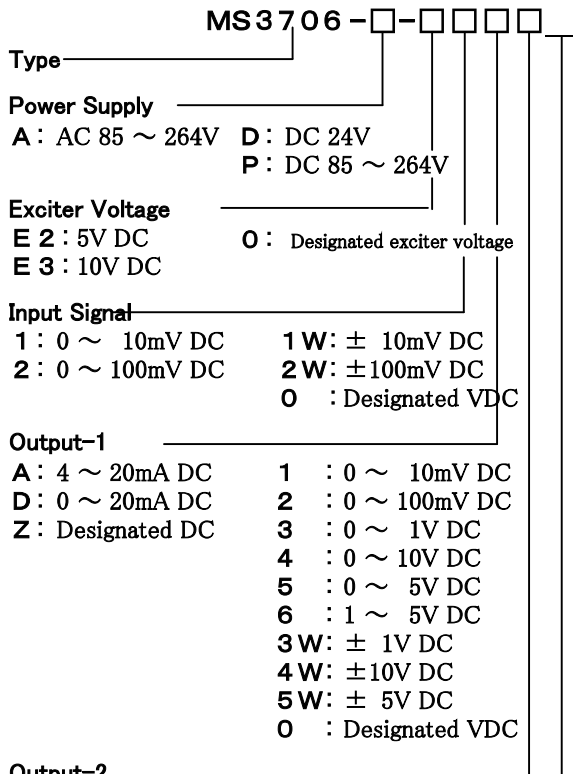
MS3700

Slim-shaped Plug-in Pressure/Load Cell Converter with Isolated Single/Dual Output

Overview

MS3706 is a slim-shaped plug-in pressure/load cell converter with isolated single/dual output to supply excitation power to a bridge sensor (pressure sensor, load-cell, etc.) and convert the output signals into standard measurement signals. (RoHS-conformed)

Ordering Format



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 (Bridge resistance)
 (Example) MS3706-A-E3144 (700Ω)
- Other items to be specified:
 - For exciter voltage "0": MS3706-A-011A (700Ω / Exciter voltage 4V)
 - For input "0": MS3706-A-E20AA (700Ω / Input 0~20mV)
 - For output "Z": MS3706-A-E21Z6 (700Ω / Output 8~20mA)
 - For option "X": MS3706-A-E22A6/X (700Ω / Response Frequency 50Hz)
 - For more than one option: Enter Option Codes in succession(/KX)
 - PIAA/KX (0~150°C / Response Frequency 50Hz)



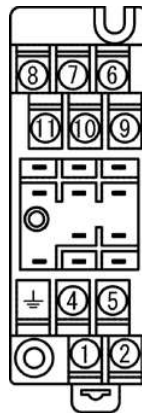
Specifications

●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	7.0V Amax. / 2.1Wmax. / 7.2Wmax.	
Dual Output	7.0V Amax. / 2.4Wmax. / 8.4Wmax.	
●Input Section		
Input Resistance	1MΩ min. with excitation (10kΩ min. without excitation)	
Input Voltage Allowable	30V DC max. continuous	
Exciter Voltage	5V DC @ Bridge resistance 120Ω / Other 10V DC @ Bridge resistance 350Ω / Other	
Range of Products Available		
Input Range (DC)	-200mV ~ 200mV	
Input Span (DC)	-5mV*1 ~ 400mV	
Input Bias	-100 ~ 100%	
Exciter Voltage	-3 ~ 10V	
*When negative input is contained, the span becomes *10mV~. (e.g.) -10~30mV ⇒ Input span 40mV, Bias -25%		
●Output Section		
Maximum Output Load		
Voltage Output (DC)	1V Span min. 10mV 100mV	2mA max. 10kΩ min. 100kΩ min.
Current Output (DC)	4~20mA Single output 4~20mA Dual output	750Ω max. 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)	
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) -1~4V ⇒ Output span 5V, Bias -20%		

● Standard Performance

Conversion Accuracy	Within $\pm 0.1\%$ /F.S. (@25°C $\pm 5^\circ\text{C}$)
Temp. Characteristics	Within $\pm 0.2\%$ of Span with every 10°C 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	100M Ω 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°C Humidity : 5~90%RH(Non-Condensing)
Storage Temp.	-10~60°C

Terminal Arrangement / Signal Assignment



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

● 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 and 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 μm / Gold-plated
P.C. Board	Glass-Epoxy (FR-4:UL-94V-0)
Moisture-proof Coating	HumiSeal Coating :HumiSeal 1A27NS(Polyurethane Resin)

Block Diagram

