



Standard Specifications Type: MS3773 (Single Output) MS3700
Slim-shaped Plug-in mV Signal Conditioner with an Isolated Single Output
(Programmable Model)

Overview

MS3773 is a slim-shaped plug-in mV signal conditioner with an isolated single output to convert mV signals of various types of sensors into standard measurement signals. This is a programmable model which allows a user to set the input and output signal levels from his/her PC.

Ordering Format

MS3773 - - -

Type _____

Power Supply _____

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

Input Range...(Measurement Range) _____

1 : 20mV ... (Specify within the span ranging 5~18mVDC)
 2 : 40mV ... (Specify within the span ranging 19~36mV DC)
 3 : 80mV ... (Specify within the span ranging 37~72mV DC)
 4 : 160mV ... (Specify within the span ranging 73~144mV DC)
 5 : 320mV ... (Specify within the span ranging 145~288mV DC)
 6 : 640mV ... (Specify within the span ranging 289~576mV DC)
 7 : 1V ... (Specify within the span ranging 577~999mVDC)
 8 : 2V ... (Specify within the span ranging 1~2V DC)

*Optional linearization based on 6th order polynomial is applicable by software configuration.

Output _____

A : 4~20mA DC*1
 4 : 0~10V DC*2
 5 : 0~5V DC*2
 6 : 1~5V DC*2

*1 Fixed output. Output mode setting is not allowed. To be specified upon ordering.
 *2 Output mode setting is allowed.

Option

No entry: None. (Burn-out: Downscale unless otherwise specified.)
 /U : Burn-out Protection = Upscale
 /D : Burn-out Protection = Downscale
 /X : Custom Order. ... Additional cost required.
 *Contact us for special spec. other than the above.

Please specify upon ordering

-Product Model Number (Measurement Range)
(Example) MS3773-A-54 (Measurement range 0~200mV)
 *Please specify from the followings:

Input Range Code	Unique Name for Software	Max. measurement range	Span
1	"Input Range 20mV"	±9mV	Within range of 5~18mV
2	"Input Range 40mV"	±18mV	Within range of 19~36mV
3	"Input Range 80mV"	±36mV	Within range of 37~72mV
4	"Input Range 160mV"	±72mV	Within range of 73~144mV
5	"Input Range 320mV"	±144mV	Within range of 145~288mV
6	"Input Range 640mV"	±288mV	Within range of 289~576mV
7	"Input Range 1.28V"	±499mV	Within range of 577~999mV
8	"Input Range 2.56V"	±1V	Within range of 1~2V



Specifications

Power Supply Section

Power Supply	AC85~264V (Rating 100V~240V) 47~63Hz DC24V ±10% DC85~264V (Rating 100V~240V)
Power Sensitivity	Within ±0.1% of Span for each power supply voltage.
Power Supply Fuse	160mA Fuse
Maximum Power Consumption	AC85~264V DC24V DC85~264V 5.0VA max. / 1.1W max. / 4.8W max.

Input Section

Input Resistance	1MΩ min. (Without excitation: 1MΩ @Rated input)
Allowable Input Voltage	25V DC continuous
Factory Default Setting	Input Range Code 5, Measurement Input Range: 0~100mV unless otherwise specified

Output Section

Maximum Output Load	
Voltage Output (DC)	2mA max.
Current Output (DC)	4~20mA 750Ω max.
Burn-out Protection	Selectable Upscale, Downscale or Not Specified. (Detection current: Approx. 55nA)
Burn-out Time	80 sec. max. 160 sec. max in case of 1V range, 480 sec. max in case of 2V range.
Factory Default Setting	Output Code : 6 (1~5V DCV DC / 1~5V DC), Burn-out Protection is downscale for voltage output type unless other specified.

Software Settings

Software Configurable Items	<ul style="list-style-type: none"> • Addition of Factor Setting function (6th order polynomial) • ADC Range (Input Range) • Measurement input range • Burn-out Protection • Output signal range • PAUSE state • Zero point/Span Adjustment (Approx. ±4% of Span) (The above can be configured with PC via RS-232C.)
------------------------------------	---

mt Slim-shaped Plug-in mV Signal Conditioner with an Isolated Single Output(Programmable Model)

● Standard Performance

Conversion Accuracy

(Input accuracy + Output accuracy)

Input Accuracy Range ÷ Span × 0.02%

Optional linearization accuracy is excluded.

Output Accuracy ±0.04% max.

Temp. Characteristics 100ppm/°C max.

Response Time 260msec max.(0~90%)@100% step input

CMRR 100dB min.(500V AC, 50/60Hz)

Signal Isolation Between Input-Output-Power Supply-Ground

Isolation 100MΩ min. (@500V DC)

Resistance Between Input-Output-Power Supply-Ground

Dielectric Strength Between [Input, RS-232C port for setting]-
Output-[Power Supply, Ground]

:2000V AC Shut Down Current 0.5mA for 1min.

Between Power Supply-Ground

:2000V AC Shut Down Current 5mA for 1min.

Between Input-RS-232C port for setting

:50V DC Shut Down Current 1.0mA for 1min.

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

Operating Temperature: -5~55°C

Environment 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

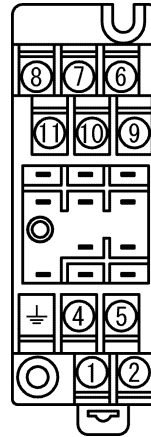
Terminal Surface Treatment 0.2 μm / Gold plated

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

Moisture-proof HumiSeal Coating

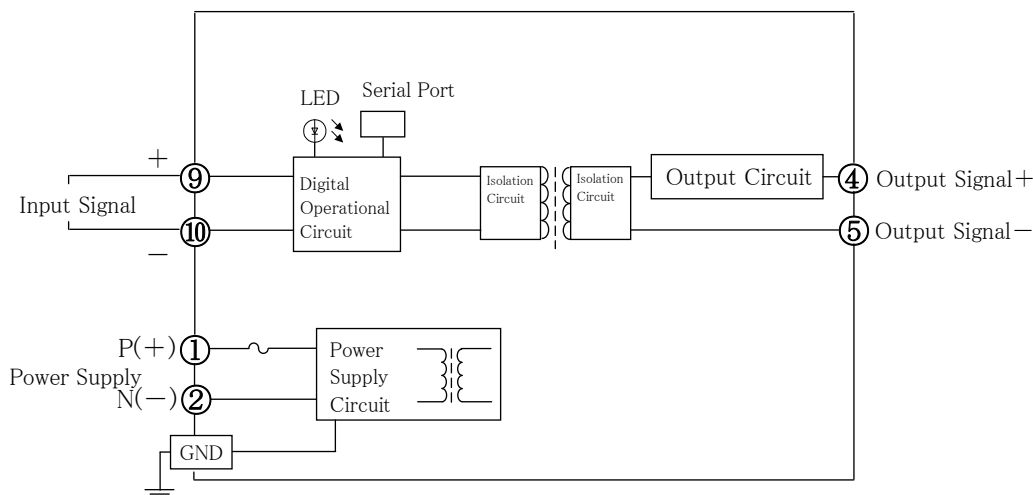
Coating :HumiSeal 1A27NS(Polyurethane Resin)

Terminal Arrangement / Signal Assignment



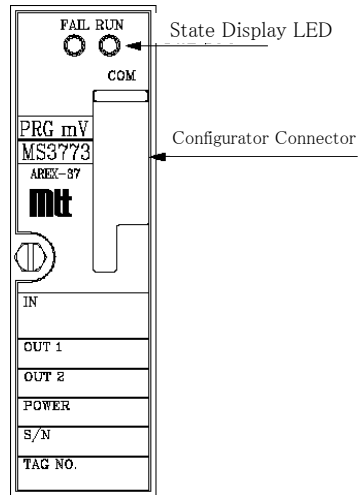
①	P(+)	POWER
②	N(-)	
③	GND	
④	+ OUTPUT 1	
⑤	- OUTPUT 1	
⑥	N. C	
⑦	N. C	
⑧	N. C	
⑨	+ INPUT	
⑩	- INPUT	
⑪	N. C	

Block Diagram



mtt Slim-shaped Plug-in mV Signal Conditioner with an Isolated Single Output(Programmable Model)

Front Drawing



コネクタ、LED

●COM (Configurator Connector)

COM: Connect to PC via serial communication (RS-232C).

Dedicated cable model: MS-CBL01 (Manufacturer: MTT)

(PC side pin: DSub 9 Female)

Connector Pin Assignment

Pin Number	Signal
1	DVdd
2	SHDN
3	N.C.
4	N.C.
5	TX
6	RX
7	ISOCOM
8	ISOCOM

State Display LED

●Display Pattern

Module Status	Description	LED		Remarks
		BLUE (RUN)	RED (FAIL)	
INIT		●	●	
RUN		●	-	
PAUSE	Same for all commands	◎	-	Blinking pattern: ●●●●○○○○
ERROR	ADC error	-	◎	Blinking pattern: ●●●●○○○○●●
	DA output error	-	◎	Blinking pattern: ●●●●○○○○●●●●
	Burnout	-	◎	Blinking pattern: ●●●●○○○○●●●●●●
	Power supply error	-	◎	Blinking pattern: ●●●●○○○○
HALT	WDT	-	●	May light OFF
	Memory	-	●	May light OFF
	Power supply error	-	●	May light OFF

[Notes]

1. Light OFF: - or ○ / Lighting: ● / Blinking: ◎
2. Circles (○, ●) in the Remarks column: Time length of a single circle is 0.25sec.