INSTRUCTION MANUAL

2-WIRE TRANSMITTER LIMIT ALARM

model **MP1100** through **MP1123**

Thank you for choosing us. Before use, check specifications on the unit label.
If you have any problems or questions with the product, please contact our sales office or representatives.

General Description

The M-PAC Model MP1100 through MP1123 supply excitation voltage to 2-wire transmitter in providing relay contact closure(s) at a preset input level. The MP1100 Series reflects three styles of output selection:

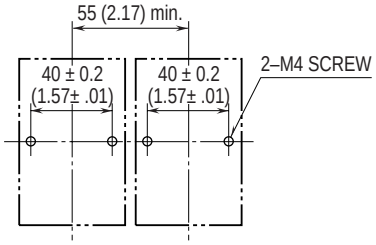
MP1100 – MP1103 Single (Hi) trip, non-latching (DPDT, 3A)
MP1110 – MP1113 Single (Hi) trip, latching (DPDT, 3A)
MP1120 – MP1123 Dual (Hi/Lo) trip, non-latching (SPDT, 3A)

•Failsafe operation available
•Deadband adjustable from 1 to 100%
•Indicator LED provided

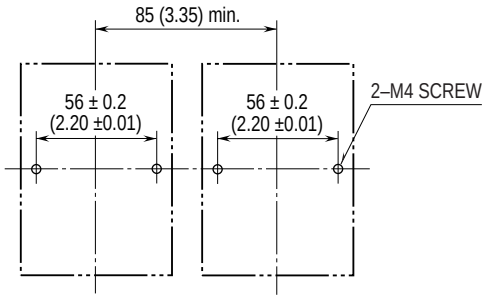
Installation [Scale: mm(inch)]

•Operating temperature: -5 to +60°C (23 to 140°F)
•Operating humidity: 30 to 90% RH (non-condensing)
Keep away from water, corrosive gas, dust and vibration. DIN rail mounting available for 11-pin-base modules. Use DIN rail of 35 mm width.

•11-Pin Base



•20-Pin Base



Terminal Connections

Make wiring to terminals as shown in the Tables in Page 2 through 3. Use the socket provided with the module.

Adjustments

•Setpoint The MP1100 Series has five styles of setpoint adjustment:
MP11X0 Top-accessed, 3-turn screw(s)
MP11X2 Remote dial connection(s), 1k to 100k ohms
MP11X3 DC-programmable, 0 to 1V
The setpoint is adjustable over the entire input span.

A) Set deadband at its minimum (fully counterclockwise) before adjusting the setpoint.
B) With the specified trip current input applied, adjust setpoint until the relay trips. For Hi trip calibration, start with the setpoint above the desired trip. For Lo trip calibration start below the desired trip.

•Deadband The deadband is independently adjustable for both setpoints in dual alarms.

A) Set deadband at its minimum (fully counterclockwise). Set setpoint to desired trip.
B) Adjust current input until relay trips.
C) Re-adjust deadband to 100% (fully clockwise).
D) Set current input to desired deadband position.
E) Slowly adjust deadband until relay untrips.

•Transmitter Output (Option T)

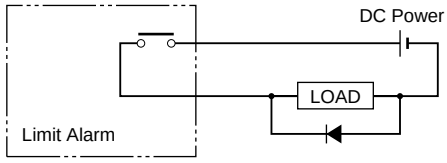
A) With the specified minimum input applied, adjust Zero for 0.00V at the transmitter output.
B) With the specified maximum input applied, adjust Span for 1.00V. Repeat A) to B) for best accuracy.

Relay Protection

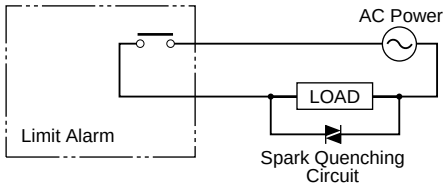
•Output Relay Rating 30V DC @3A (resistive load) or
120V AC @3A (cosø=1)

For maximum relay life with inductive loads, external protection is recommended. Refer to the Figures below.

•DC Line Powered Loop Place a diode across the load.



•AC Line Powered Loop Place a varistor or CR spark killer across the load.



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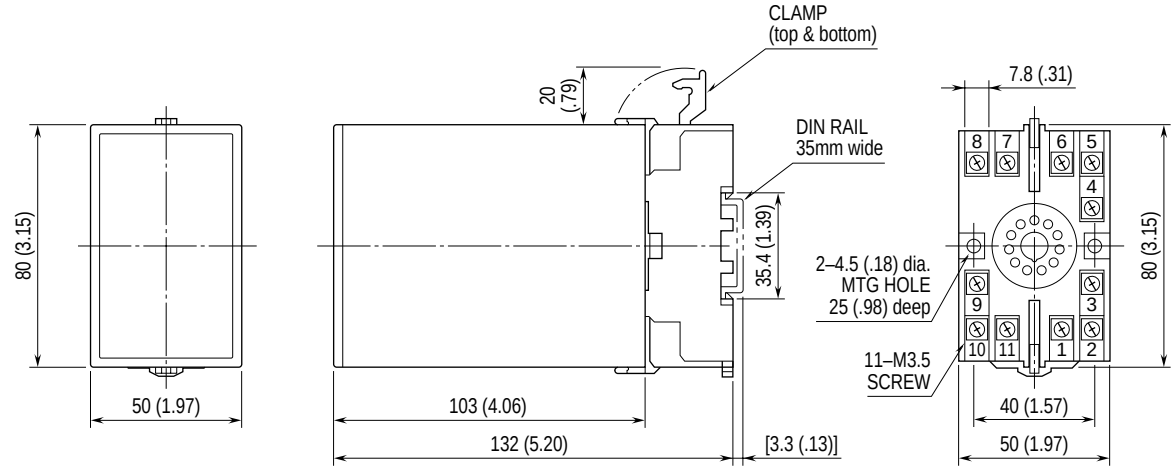
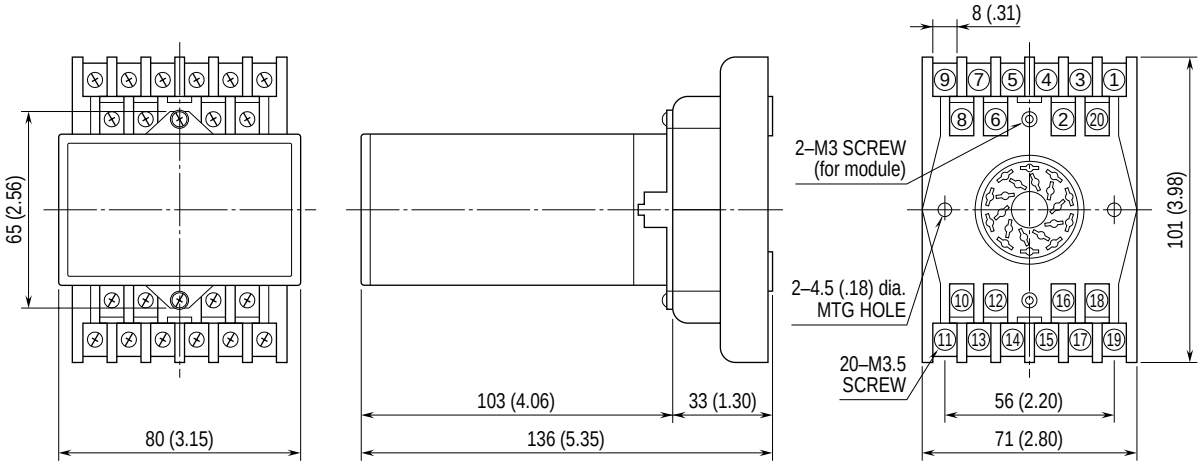
External Dimensions [Scale: mm(inch)]

•11-Pin Base



•20-Pin Base



Terminal Assignment

•Single Output

MP1100	MP1100 w/Option T	MP1102	MP1102 w/Option T	MP1103	MP1103 w/Option T
1 POWER (Hot/+)	1 POWER (Hot/+)	1 POWER (Hot/+)	1 POWER (Hot/+)	1 POWER (Hot/+)	1 POWER (Hot/+)
2 No Connection	2 No Connection	2 No Connection	2 No Connection	2 No Connection	2 No Connection
3 POWER (Neu/–)	3 POWER (Neu/–)	3 POWER (Neu/–)	3 POWER (Neu/–)	3 POWER (Neu/–)	3 POWER (Neu/–)
4 INPUT +	4 No Connection	4 No Connection	4 No Connection	4 No Connection	4 No Connection
5 INPUT –	5 No Connection	5 SP Pot CCW	5 SP Pot CCW	5 SP –	5 SP –
6 N.O.	6 No Connection	6 SP Pot W	6 SP Pot W	6 SP +	6 SP +
7 COM *	7 No Connection	7 SP Pot CW	7 SP Pot CW	7 No Connection	7 No Connection
8 N.C. *	8 SP Xmtr +	8 No Connection	8 SP Xmtr +	8 No Connection	8 SP Xmtr +
9 N.O.	9 INPUT +	9 INPUT +	9 INPUT +	9 INPUT +	9 INPUT +
10 COM	10 Xmtr Common	10 No Connection	10 Xmtr Common	10 No Connection	10 Xmtr Common
11 N.C.	11 INPUT –	11 INPUT –	11 INPUT –	11 INPUT –	11 INPUT –
	12 Proc Xmtr +	12 No Connection	12 Proc Xmtr +	12 No Connection	12 Proc Xmtr +
	13 N.O.	13 N.O.	13 N.O.	13 N.O.	13 N.O.
	14 COM *	14 COM *	14 COM *	14 COM *	14 COM *
	15 N.C. *	15 N.C. *	15 N.C. *	15 N.C. *	15 N.C. *
	16 No Connection	16 No Connection	16 No Connection	16 No Connection	16 No Connection
	17 N.O.	17 N.O.	17 N.O.	17 N.O.	17 N.O.
	18 COM	18 COM	18 COM	18 COM	18 COM
	19 N.C.	19 N.C.	19 N.C.	19 N.C.	19 N.C.
	20 No Connection	20 No Connection	20 No Connection	20 No Connection	20 No Connection

KEYS
N.O. = Normally Open
COM = Common
N.C. = Normally Closed
Proc = Process
Xmtr = Transmitter
SP = Setpoint
W = Wiper
CW = Clockwise
CCW = Counterclockwise

***Pins used for Option V**
20-pin = 14(+) - 15(–)
11-pin = 7(+) - 8(–)

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•Latching Output

MP1110	MP1110 w/Option T	MP1112	MP1112 w/Option T	MP1113	MP1113 w/Option T
1 POWER (Hot/+)	1 POWER (Hot/+)	1 POWER (Hot/+)	1 POWER (Hot/+)	1 POWER (Hot/+)	1 POWER (Hot/+)
2 No Connection	2 No Connection	2 No Connection	2 No Connection	2 No Connection	2 No Connection
3 POWER (Neu/–)	3 POWER (Neu/–)	3 POWER (Neu/–)	3 POWER (Neu/–)	3 POWER (Neu/–)	3 POWER (Neu/–)
4 No Connection	4 No Connection	4 No Connection	4 No Connection	4 No Connection	4 No Connection
5 No Connection	5 No Connection	5 SP Pot CCW	5 SP Pot CCW	5 SP –	5 SP –
6 No Connection	6 No Connection	6 SP Pot W	6 SP Pot W	6 SP +	6 SP +
7 No Connection	7 No Connection	7 SP Pot CW	7 SP Pot CW	7 No Connection	7 No Connection
8 No Connection	8 SP Xmtr +	8 No Connection	8 SP Xmtr +	8 No Connection	8 SP Xmtr +
9 INPUT +	9 INPUT +	9 INPUT +	9 INPUT +	9 INPUT +	9 INPUT +
10 No Connection	10 Xmtr Common	10 No Connection	10 Xmtr Common	10 No Connection	10 Xmtr Common
11 INPUT –	11 INPUT –	11 INPUT –	11 INPUT –	11 INPUT –	11 INPUT –
12 No Connection	12 Proc Xmtr +	12 No Connection	12 Proc Xmtr +	12 No Connection	12 Proc Xmtr +
13 N.O. ┐	13 N.O. ┐	13 N.O. ┐	13 N.O. ┐	13 N.O. ┐	13 N.O. ┐
14 COM * ┤	14 COM * ┤	14 COM * ┤	14 COM * ┤	14 COM * ┤	14 COM * ┤
15 N.C. * ┘	15 N.C. * ┘	15 N.C. * ┘	15 N.C. * ┘	15 N.C. * ┘	15 N.C. * ┘
16 Latch Reset	16 Latch Reset	16 Latch Reset	16 Latch Reset	16 Latch Reset	16 Latch Reset
17 N.O. ┐	17 N.O. ┐	17 N.O. ┐	17 N.O. ┐	17 N.O. ┐	17 N.O. ┐
18 COM ┤	18 COM ┤	18 COM ┤	18 COM ┤	18 COM ┤	18 COM ┤
19 N.C. ┘	19 N.C. ┘	19 N.C. ┘	19 N.C. ┘	19 N.C. ┘	19 N.C. ┘
20 Latch Reset	20 Latch Reset	20 Latch Reset	20 Latch Reset	20 Latch Reset	20 Latch Reset

KEYS
N.O. = Normally Open
COM = Common
N.C. = Normally Closed
Proc = Process
Xmtr = Transmitter
SP = Setpoint
W = Wiper
CW = Clockwise
CCW = Counterclockwise

***Pins used for Option V**
20-pin = 14(+) - 15(–)

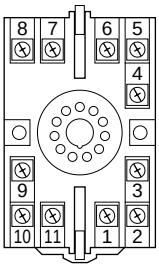
•Dual Output

MP1120	MP1120 w/Option T	MP1122	MP1122 w/Option T	MP1123	MP1123 w/Option T
1 POWER (Hot/+)	1 POWER (Hot/+)	1 POWER (Hot/+)	1 POWER (Hot/+)	1 POWER (Hot/+)	1 POWER (Hot/+)
2 No Connection	2 No Connection	2 No Connection	2 No Connection	2 No Connection	2 No Connection
3 POWER (Neu/–)	3 POWER (Neu/–)	3 POWER (Neu/–)	3 POWER (Neu/–)	3 POWER (Neu/–)	3 POWER (Neu/–)
4 INPUT +	4 No Connection	4 Lo SP Pot CW	4 Lo SP Pot CW	4 No Connection	4 No Connection
5 INPUT –	5 No Connection	5 Lo SP Pot W	5 Lo SP Pot W	5 Lo SP +	5 Lo SP +
6 N.O. ┐	6 No Connection	6 SP Pots CCW	6 SP Pots CCW	6 SP Common	6 SP Common
7 COM * ┤ Hi Set	7 No Connection	7 Hi SP Pot W	7 Hi SP Pot W	7 Hi SP +	7 Hi SP +
8 N.C. * ┘	8 No Connection	8 Hi SP Pot CW	8 Hi SP Pot CW	8 No Connection	8 No Connection
9 N.O. ┐	9 INPUT +	9 INPUT +	9 INPUT +	9 INPUT +	9 INPUT +
10 COM * ┤ Lo Set	10 Proc Xmtr +	10 No Connection	10 Proc Xmtr +	10 No Connection	10 Proc Xmtr +
11 N.C. * ┘	11 INPUT –	11 INPUT –	11 INPUT –	11 INPUT –	11 INPUT –
	12 Lo SP Xmtr +	12 No Connection	12 Lo SP Xmtr +	12 No Connection	12 Lo SP Xmtr +
	13 N.O. ┐	13 N.O. ┐	13 N.O. ┐	13 N.O. ┐	13 N.O. ┐
	14 COM * ┤ Lo Set	14 COM * ┤ Lo Set	14 COM * ┤ Lo Set	14 COM * ┤ Lo Set	14 COM * ┤ Lo Set
	15 N.C. * ┘	15 N.C. * ┘	15 N.C. * ┘	15 N.C. * ┘	15 N.C. * ┘
	16 Hi SP Xmtr +	16 No Connection	16 Hi SP Xmtr +	16 No Connection	16 Hi SP Xmtr +
	17 N.O. ┐	17 N.O. ┐	17 N.O. ┐	17 N.O. ┐	17 N.O. ┐
	18 COM * ┤ Hi Set	18 COM * ┤ Hi Set	18 COM * ┤ Hi Set	18 COM * ┤ Hi Set	18 COM * ┤ Hi Set
	19 N.C. * ┘	19 N.C. * ┘	19 N.C. * ┘	19 N.C. * ┘	19 N.C. * ┘
	20 Xmtr Common	20 No Connection	20 Xmtr Common	20 No Connection	20 Xmtr Common

KEYS
N.O. = Normally Open
COM = Common
N.C. = Normally Closed
Proc = Process
Xmtr = Transmitter
SP = Setpoint
W = Wiper
CW = Clockwise
CCW = Counterclockwise

***Pins used for Option V**
20-pin:
Hi Set = 19(+) - 18(–)
Lo Set = 15(+) - 14(–)
11-pin:
Hi Set = 7(+) - 8(–)
Lo Set = 10(+) - 11(–)

•Terminal No. for 11-Pin Base



•Terminal No. for 20-Pin Base