

Limit Alarms M-PAC
2-WIRE TRANSMITTER LIMIT ALARM
MODEL MP1100-1123
MODEL & SUFFIX CODE SELECTION
MP11□□-A-□/□
MODEL _____

INPUT TYPE _____

1 : 2-wire transmitter

RELAY CONTACT OUTPUT _____

0 : Single (Hi) trip, non-latching

1 : Single (Hi) trip, latching

2 : Dual (Hi/Lo) trip, non-latching

SETPOINT CONTROL _____

0 : Front-accessed three-turn screwdriver adjust.

2 : Remote dial connections (total resistance 1k – 100kΩ)

3 : DC programmable (0 – 1V)

INPUT RANGE _____

A : 4 – 20mA DC (2-wire transmitter)

POWER INPUT _____

F : 120V AC

J : 240V AC

R : 24V DC

S : 12V DC

OPTIONS _____

H : Latching operation for dual trip (112X only);
Reset at power off (5 seconds min.)

R : Reversed relay sense

T : Transmitter output (0 – 1V DC)

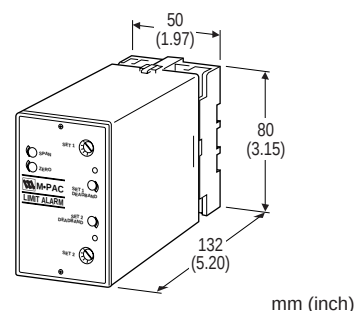
V : Relay drive voltage output

X : Lo-trip sense for single trip; Lo/Lo for dual trip

Y : Hi/Hi-trip sense for dual trip (112X only)

ORDERING INFORMATION

Specify code number. (e.g. MP1100-A-F/T/X)


Functions & Features

- Supplying power to 2-wire current loop and providing relay contact closure(s) at a preset input level
- Single, latching or dual setpoint • Failsafe operation available • Deadband adjustable from 1 to 100%
- Indicator LED provided

Typical Applications

- Annunciator • Various alarm applications

GENERAL SPECIFICATIONS
Construction: plug-in

Connection: M3.5 screw terminals on base socket

Housing material: flame-resistant resin (black)

Isolation: input to output to power
(non-isolated between I/O with Option V)

Zero/span adjustments: ±5% (front)

Setpoint adjustments: front accessed three-turn screwdriver, remote dial potentiometer or DC input

Deadband adjustments: front accessed single-turn screwdriver; 1 – 100%

Front LEDs: red lights turn on at a tripped condition

Power ON timer: relays de-energized for approx. 2 seconds after power is turned on.

INPUT & OUTPUT**■SUPPLY OUTPUT****Output voltage:** 24 – 28V DC with no load**Current rating:** 22mA DC maximum**•Shortcircuit Protection****Current limited:** 35mA maximum**■INPUT:** 4 – 20mA DC**Input resistance:** 250Ω**■REMOTE SETPOINT INPUT****MP11X2:** potentiometer; any value of 1k – 100kΩ;
excitation 4V**MP11X3:** 0 – 1V DC**■RELAY CONTACT OUTPUT****•Single/Latching:** isolated DPDT relay; de-energized
at trip**•Dual:** isolated SPDT relay; energized at trip**Rating:** 120V AC @3A ($\cos\phi=1$)
30V DC @3A (resistive load)**Relay life****Electrical:** 10^5 cycles**Mechanical:** 10^7 cyclesFor maximum relay life with inductive
loads, external protection is recommended.**■VOLTAGE OUTPUT (Option V):** 24V DC average;
Drives 1.2kΩ or greater coil impedance**■TRANSMITTER OUTPUT (Option T):** 0 – 1V DC;
1mA max. (setpoint and process input)**INSTALLATION****Power input****AC:** operational voltage range: rating $\pm 10\%$,
50/60 ± 2 Hz, approx. 2.5VA**DC:** operational voltage range: rating $\pm 10\%$
(ripple 10% p-p max.)
90mA at 24V, 180mA at 12V**Operating temperature:** -5 to +60°C (23 to 140°F)**Storage temperature:** -20 to +85°C (-5 to +185°F)**Operating humidity:** 30 to 90% RH (non-condensing)**Mounting:** surface (DIN rail available for 11-pin base)**Dimensions****11-pin base:** W50×H80×D132 mm
(1.97"×3.15"×5.20")

See General Spec. Sheet Figure A.

20-pin base: W80×H101×D136 mm
(3.15"×3.98"×5.35")

See General Spec. Sheet Figure B.

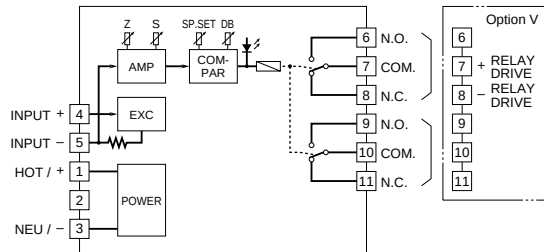
Weight: 400 g (0.88 lbs)**PERFORMANCE in percentage of span****Repeatability:** $\pm 0.2\%$ **Temp. coefficient:** $\pm 0.05\%/^{\circ}\text{C}$ ($\pm 0.027\%/^{\circ}\text{F}$)**Response time:** 100 milliseconds, typical**Common mode rejection****60 Hz:** greater than 120 dB**DC:** greater than 140 dB**Line voltage effect:** $\pm 0.1\%$ over voltage range**Insulation resistance:** $\geq 100\text{M}\Omega$ with 500V DC**Dielectric strength:** 1000V AC @1 minute
(input to output to power)

2000V AC @1 minute (output to ground)

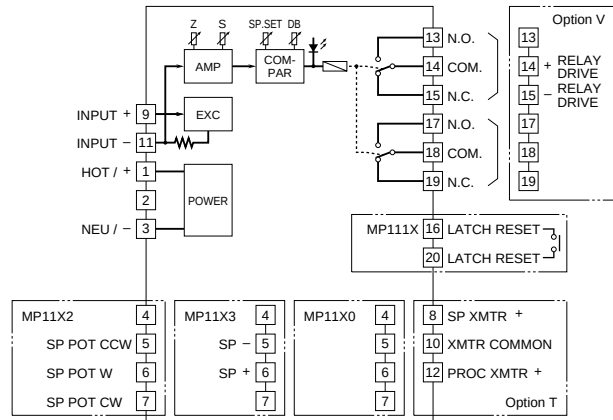
BLOCK DIAGRAM

■ SINGLE / LATCHING OUTPUT

•11-pin Base

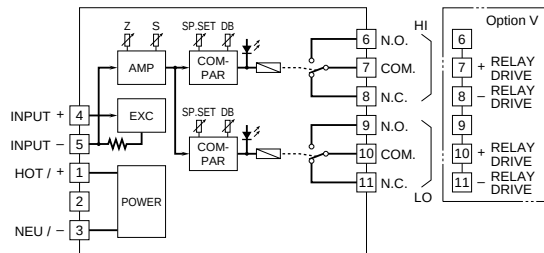


•20-pin Base

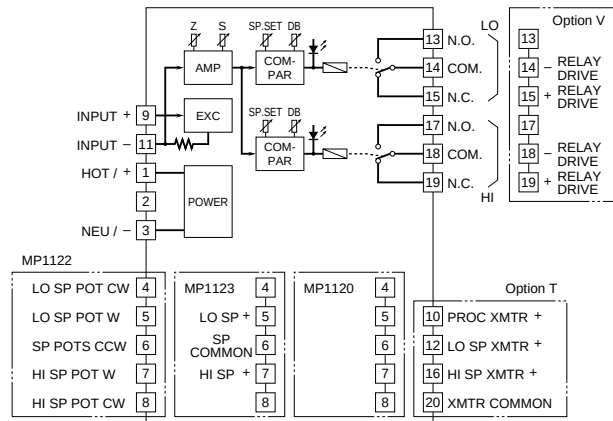


■ DUAL OUTPUT

•11-pin Base



•20-pin Base



TERMINAL ASSIGNMENT**■SINGLE OUTPUT**

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

■LATCHING OUTPUT

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

KEYS

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***Pins used for Option V**

20-pin = 14(+) - 15(-)

■DUAL OUTPUT

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

KEYS

N.O. = Normally Open
COM = Common
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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(-)