

Model 550, 550M, 550-X, 550-X-M Vibration Switch

Features:

Monitors Vibration Velocity in/sec (user adjustable)
Automatic Alarm and/or Shutdown Limits
Adjustable Time Delays (prevents nuisance trips)
LED Limit and Power indicators
Self diagnostic Test button (verifies operation)
Solid State Reliability
Metric Versions (mm/sec): 550M, 550-X-M
Explosion Proof 550-X, 550-X-M versions
Replaces RIS VT Series Switches

Applications

Fans, Cooling Towers
Motors, Pumps
Blowers, Compressors
Crushers, Shredders, Hammer Mills
Rotating Machinery Monitoring

Specifications:

LIMITS: Limit #1 (alarm) 10 - 100% of Limit #2
Limit #2 (shutdown) setting range of
0.1 to 2.75 in/sec peak

VELOCITY
RANGE: 550/550-X - 0.1 to 2.75 in/sec peak
550M/550-X-M - 2.5 to 70 mm/sec peak

FREQUENCY
RANGE: 2 to 1000 Hz (120 to 60,000 RPM)

TIME DELAY: 1 to 30 sec (user adjustable)

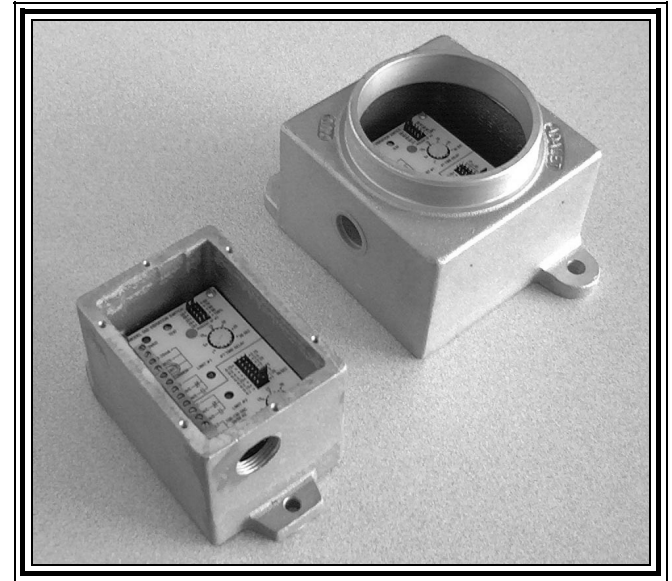
LIMIT OUTPUT: (2) Form-C Relay SPDT - 5A @ 125 VAC;
5A @ 28 VDC

ANALOG
OUTPUT: 4 - 20 mA DC. Optional remote panel
meters available (P/N - A11347).

REMOTE RESET: Circuit closure between latch and common
terminals will reset limits. An open circuit
maintains (latches) the limit relays. Short
latch and common terminals for non-
latching operation (jumper supplied).

MUTE: Circuit closure between MUTE and
COMMON disables limits.

AXIS SENSITIVITY: Perpendicular to base
Omni-directional mounting



ACCURACY: 5% of setting

INPUT POWER: 100 - 130 VAC, 0.02 VA
190 - 250 VAC 50/60 Hz optional

ENCLOSURE: 550/550M - NEMA 3, 4, 12 water-
dust-tight cast aluminum
550-X/550-X-M - Explosion-
proof box

WEIGHT: 550/550M: 3.75 lbs (1.7 kg)
550-X/550-X-M: 5.5 lbs (2.5 kg)

MOUNTING: 550/550M: 1/4" hardware 3
mounting bosses
550-X/550-X-M: 1/4" hardware 2
mounting bosses

TERMINALS: Accepts #12 AWG wire

TEMPERATURE: -30°F to 165°F (-34°C to 74°C)

SIZE: 550; 550M 5.94" x 3.44" x 4"
(15.09 x 8.74 x 10.16 cm)
550-X; 550-X-M 6.75" x 4.81" x 4.5"
(17.15 x 12.22 x 11.43 cm)

Note: Model 550-X and 550-X-M explosion-proof housings are listed
Class I, Groups C, D; Class II, Groups E, F, G; Class III; NEMA 7CD,
9EFG.

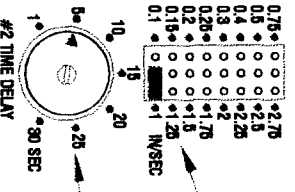
FEATURE	DESCRIPTION
VELOCITY RANGE	0.1 TO 2.75 IN/SEC PEAK (ENGLISH UNITS)
FREQ. RANGE	2 TO 1,000 HERTZ (120 TO 60,000 RPM)
LIMITS	TWO USER ADJUSTABLE LIMITS: LIMIT #1 (WARNING) 10% TO 100% OF LIMIT #2 10, 20, 30, 40, 50, 60, 70, 80, 90, 100 LIMIT #2 (SHUTDOWN) 0.1 TO 2.75 IN/SEC 0.1, .15, .2, .25, .3, .4, .5, .75, 1, 1.25, 1.5, 1.75, 2, 2.25, 2.5, 2.75 IN/SEC
LIMIT OUTPUTS	INDUSTRIAL SEALED FORM-C TYPE RELAY (DRY-CONTACT) SPDT EACH LIMIT HAS ONE NORMALLY-OPEN (NO) & ONE NORMALLY-CLOSED (NC) OUTPUT 5-AMPERE @ 125 VAC, 5-AMPERE @ 28 VDC
LIMIT INDICATOR	LEDS (RED) ENERGIZE ON LIMIT-TRIP (LIMIT #1 AND LIMIT #2)
TIME DELAY	TWO USER-ADJUSTABLE LIMIT-TRIP TIME DELAY OF 1 TO 30 SECONDS. LABELED SELECTIONS: 1, 5, 10, 15, 20, 25, AND 30
LIMIT LATCH (REMOTE RESET) & MUTE	CIRCUIT CLOSURE BETWEEN LATCH AND COMMON TERMINALS WILL RESET THE LIMITS. AN OPEN CIRCUIT MAINTAINS (LATCHES) THE LIMIT RELAYS. SHORT THE LATCH & COMMON FOR NON-LATCHING OPERATION (AUTOMATIC RESET). CIRCUIT CLOSURE BETWEEN MUTE & COMMON DISABLES LIMITS.
ANALOG OUTPUT	4-20 MA DC INTO 500 OHMS. OPTIONAL REMOTE PANEL METER P/N A-11347 PERPENDICULAR TO THE MOUNTING BASE.
SENSITIVE AXIS	OMNI-DIRECTIONAL MOUNTING.
INPUT POWER	L1 & L2: 100-130 VAC 50/60 HERTZ (190-250 VAC OPTIONAL)
ENCLOSURE	CAST ALUMINUM BOX WITH COVER (SIX 6-32 PHILLIPS-HEAD SCREWS) AND GASKET. WATER-TIGHT AND DUST-TIGHT, NEMA 3, 4, AND 12
MOUNTING	1/2" HARDWARE - 3 PLACES MINTG BOLT HOLE LUGS (BOSSSES) 5/16" DIA.
ELECTRICAL	3/4" NPT. CONDUIT FITTING ENTRY; CAPTIVE TERMINALS FOR #12 AWG WIRE
SIZE	3.44" X 5.94" X 4" (8.4 CM X 15.09 CM X 10.16 CM), WT. 3.75 LBS (1.7 KG)
TEMPERATURE	-30° F TO 165° F (-34° C TO 74° C)

SETUP EXAMPLE

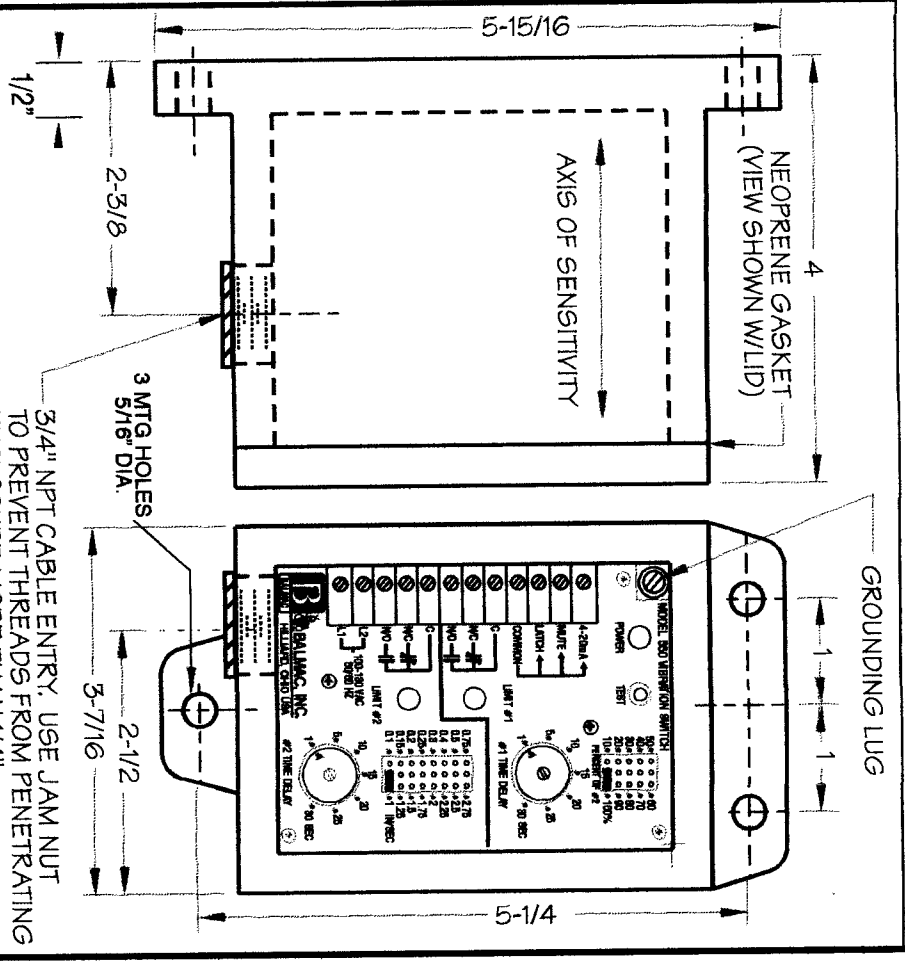
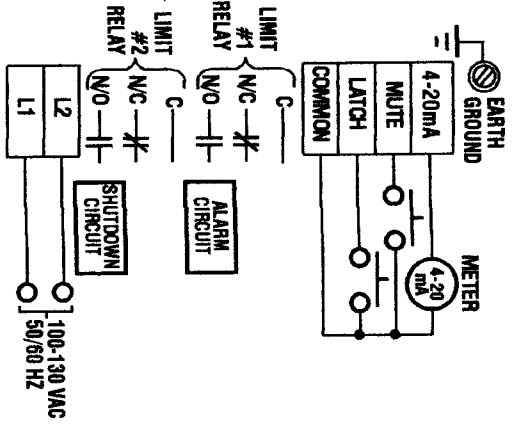
- STEP 2: SET LIMIT #1**
3. USE JUMPER TO SET LIMIT #1 TRIP POINT TO A PERCENTAGE OF LIMIT #2.
EXAMPLE = 50% (OF LIMIT #1
1.00 IN/SEC = 0.50 IN/SEC)
 4. TURN #1 TIME DELAY FOR LIMIT TRIP DELAY.
EXAMPLE = 10 SECONDS.

STEP 1: SET LIMIT #2

1. USE JUMPER TO SET FULL SCALE (20mA) ANALOG OUTPUT & LIMIT #2 TRIP POINT.
EXAMPLE = 1.00 IN/SEC.
2. TURN #2 TIME DELAY FOR LIMIT TRIP DELAY.
EXAMPLE = 5 SECONDS.



SAMPLE WIRING DIAGRAM.



MODEL	550
USED ON	--
CUSTOMER	-
DWG DATA	12682.CDR

DO NOT SCALE DWG	BALMAC
TOLERANCES UNLESS OTHERWISE SPECIFIED	
DIMENSION FRACTION	DECIMAL
UP TO 6"	± 1/64
6" TO 24"	± 1/32
OVER 24"	± 1/16
DRAWN BY	K. Jacobs
CHECKED BY	K. DeLeon
DATE	9/15/98
DATE	10/15/98

SCALE	Production Release.	DESCRIPTION	DATE
REV.	A		9/18/98

TITLE	MODEL 550 VIBRATION SWITCH
DRAWING NO.	SP A-12682
REV.	A

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