



## PT500 Electro-Mechanical Vibration Switch Introduction

### Introduction

The PT 500 is an economical solution to provide basic vibration protection for your rotating or reciprocating machines. The PT 500 uses an inertia sensitive mechanism which actuates internal micro-switch contacts when the vibration level exceeds the adjustable set point. The PT 500 start-up delay feature prevents the switch from activating during the higher vibration levels present during the start-up of the machine so that the set point may be adjusted closer to the vibration levels present during normal operation or running speed of the machine.

The PT 500 is your “one stop shopping” for all electro-mechanical vibration switch applications. The unique design has all industry required environmental and hazardous area approvals. The E-coat option is suitable for offshore and very corrosive environmental applications. Universal mounting plate will mount in existing mounting holes when replacing older mechanical vibration switches.

### Applications

- ✓ Fans
- ✓ Cooling Motor/Fans
- ✓ Fin Fans
- ✓ Heat Exchangers
- ✓ Engines
- ✓ Reciprocating Compressors
- ✓ Centrifuges
- ✓ Rock or Coal Crushers

### Features

- ✓ Wide operating temperature range of -40°C to 100°C (-40°F to 212°F)
- ✓ All industry environmental ratings
- ✓ Optional NEMA 4X (E-coat) IP65 environmental rating
- ✓ Hazardous area agency approvals CSA, ATEX, CE



- ✓ Universal mounting
- ✓ Local and remote reset
- ✓ Start up delay
- ✓ SPDT, (2) SPDT and gold plated contact options

### Specification

**Function:** Armature mechanism trips on high vibration and operates snap action switch.

**Vibration Range:** See How to Select “C”

**Frequency Range:** 0 to 3600 rpm

**Set Point Adjust:** 0 to 100% of range.  
Internal set point adjustment.

**Local Reset:** Local reset of the switch for field

**Remote reset with Start-up Delay:** Applying reset coil voltage at start up holds mechanism from tripping delay about 20-30 seconds, after which the switch is automatically activated.

**Reset Coil Power Supply:** 95 - 250VAC@100mA,  
50 - 60Hz or  
20 - 30VDC @ 200mA

**Temperature Limit:** -40°C to +100°C

**Enclosure:** Casted Aluminum

**Environmental Rating:** NEMA 4X, IP65

**Switch Contact(s) Rating:**  
15A, 125VAC, 250VAC, 480VAC  
1/8 HP 125VAC 1/4 HP 250VAC  
1/2A, 125VDC; 1/4A, 250VDC

Gold plated contact: 0.1A 125VAC; 0.1A 30VDC

**Hazard Rating:** See order information



## Physical

### Temperature

Operation: -40°C to + 100°C (-40°F to +212°F)

Storage: -50°C to + 120°C (-58°F to +248°F)

### Dimension

See attached drawing

### Weight

PT500	1285g (2.8 lb)
PT500-13	205g (0.45 lb)
PT500-14	279g (0.6 lb)
PT500-15(PT500-17)	440g (0.97 lb)
PT500-20	112g (0.25 lb)

### B: Relay Contact

B = 1: SPDT

B = 2: (2) SPDT

B = 3: SPDT (gold plated contact)

B = 4: (2) SPDT (gold plated contact)

### C: Full Scale

C = 1: 5g

C = 2: 2g

C = 3: 10g

### D: Reset Power with Start-up Inhibit; Local Reset

D = 0: Local Reset only

D = 1: Remote Reset and Inhibit; Local Reset

D = 5: Remote Reset and Inhibit; No Local Reset

### E: Conduit Entries/Mounting Plate or Mounting Stud

E = 1: 3/4" NPT, Mounting Plate PT500-13

E = 2: 3/4" NPT, Mounting Plate PT500-14

E = 4: M20×1.5, Mounting Plate PT500-14

E = 5: M20×1.5, Mounting Plate PT500-13

E = 6: 3/4" NPT, Mounting Stud 3/4" NPT

E = 7: M20×1.5, Mounting Stud M20×1.5

## Order Information

### PT500-ABC-DE

#### A: Hazardous Area

A = 0: CE Mark

A = 1: Multiple Approvals (With Local Reset)

CSA: Class I, Div 1, Groups B, C & D T4, T6

ATEX: II 2G, Ex d II B+ H<sub>2</sub>T4T6

PCEC: Ex d II CT4

CE Mark

A = 5: Multiple Approvals (No Local Reset)

CSA: Class I, Div 1, Groups A, B, C & D, T4, T6

ATEX: II 2G, Ex d II CT4T6

PCEC: Ex d II CT4

CE Mark

A = 6: Multiple approvals (With Local Reset):

GOST R: II2G Ex d IIB+H<sub>2</sub>T4T6

CE Mark

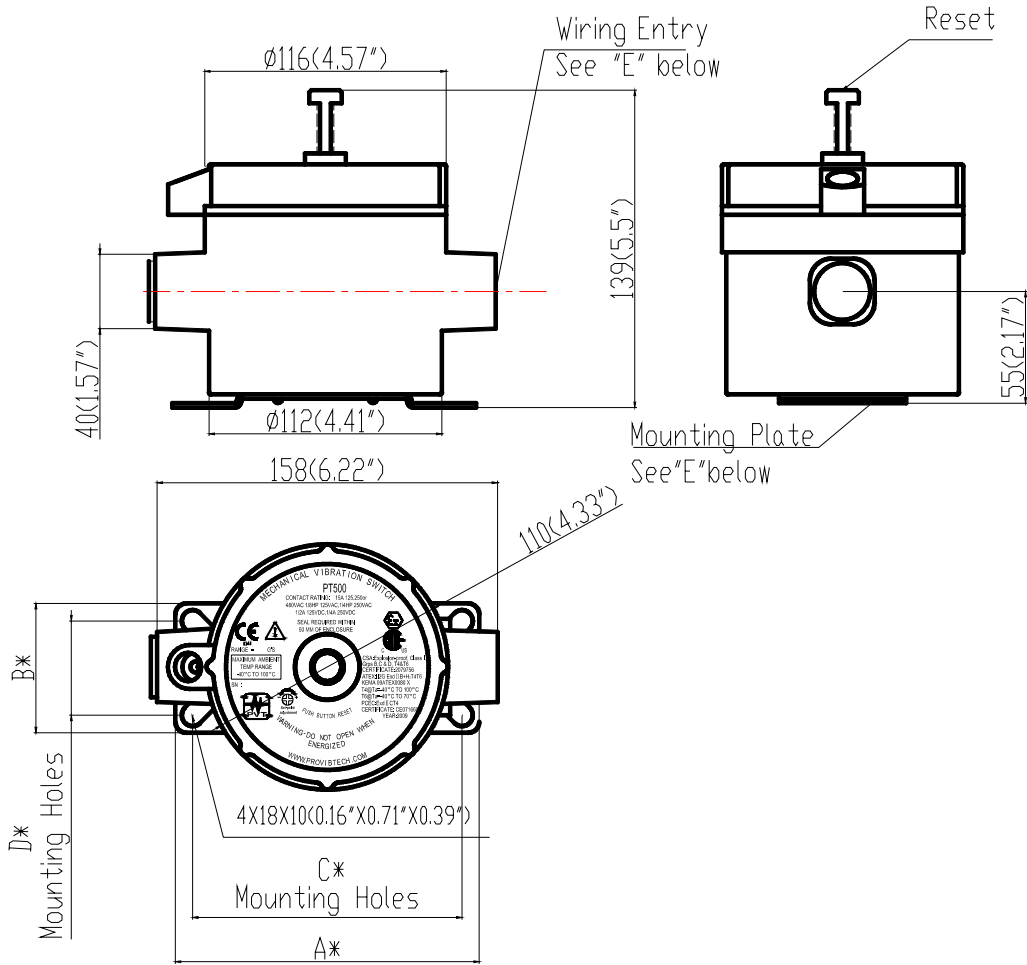
A = 7: Multiple approvals (No Local Reset):

GOST R: II2G Ex d II C T4T6

CE Mark

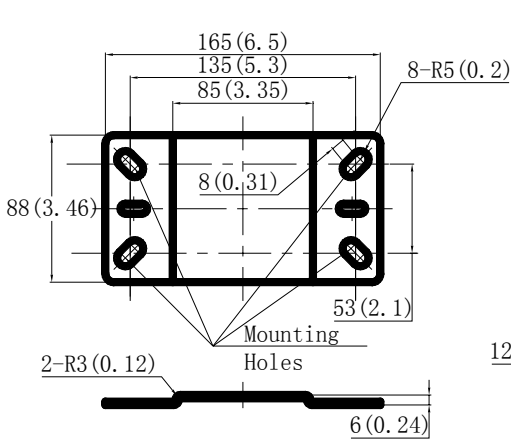


Mechanical Outline Drawings

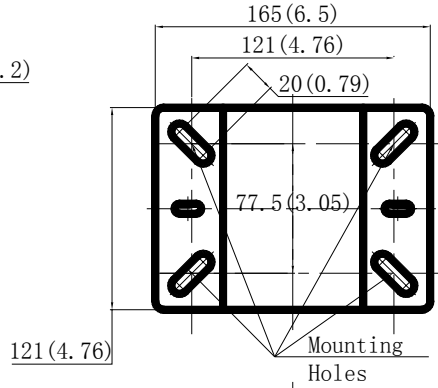




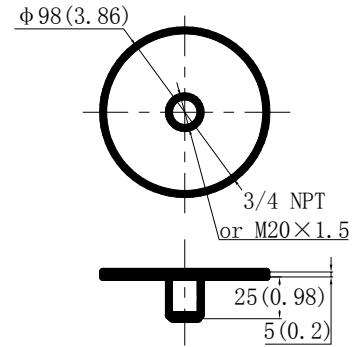
**Mounting Plate and mounting studs:**



**PT500-13**



**PT500-14**



**PT500-15 (3/4' NPT)**

**PT500-17 (M20 x 1.5)**

**Accessories**



**3/4' NPT seal**  
**PT500-18**



**3/4' NPT cable feedthrough**  
**PT500-19**



**Blank cover**  
**PT500-3**



**Remote reset circuit**  
**PT500-20**



**Field-Wiring Diagram**

