

# VIBRATION SELECTION GUIDE

**Robertshaw**

**Industrial Products Division**

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**Robertshaw Vibration Instruments can be used on rotating or reciprocating machines. To select the proper instrument for your machine refer to the chart on page three (3) and/or follow the steps shown below:**

1. Select the unit that meets the environmental conditions that your machine is located in [hazardous area (Explosion Proof or I.S) or non-hazardous; temperature range].
2. Select the Power Supply and/or Remote Reset Voltage required.
3. Select the unit that provides you with the required measurement type/range and frequency for your machine. The type would be acceleration (G's) or velocity (IPS). The range would be the G range or IPS range. The frequency would be in Hertz (RPM of machine ÷ 60).
4. If you require time delays (Start, Monitor or Start & Monitor – **see note below**), select the instrument that offers that feature. Models 375A/376A series offer **fixed** time delays; Model 566 offers **adjustable** Monitor Delay; Model 563A MUST BE used with Vibraswitches Model 366 or 365 and provides **adjustable** time delay for the units that are connected to the 563A Monitor. **If time delay is not required proceed to step 5 below.**
5. Select the function that you desire:
  - a. Alarm or shutdown only by:
    - (1) Electrical SPDT or DPDT Switch Operation (Models 365/366, Model 375A/376A with Start Delay Only).
    - (2) Solid State Triac Switch Operation (Models 375A/376A except for Start Delay ONLY Model which has SPDT Switch Contacts).
    - (3) Pneumatic Operation (Model 368).
  - b. 4-20 mA output only (Models 570B/571A).
  - c. 4-20 mA output with alarm and/or shutdown contacts, triac outputs (Model 566).
6. Check to see if the Model selected above has a mounting configuration suitable for your application. **All units are surface mount except for the following:**
  - a. Models 570B/571A are stud mount.
  - b. Model 563A Monitor is used with the surface mount 365/366 Vibraswitches to provide adjustable start and monitor time delays.
7. After you have made your selection, review the complete Product Specification Sheet to verify your selection is correct.

**NOTE:**

**Start, Monitor, or Start & Monitor Delays** are used to prevent unwanted shutdown or alarm during startup or normal operation of your machine.

- (a) **Start Delay:** Prevents unwanted shutdown when excessive vibration exists (which exceeds the set-point of the vibration switch or monitor) during the start-up of the machine.
- (b) **Monitor Delay:** Prevents unwanted shutdown when short excessive vibration spikes occur (which exceed the set-point of the vibration switch or monitor) during normal operation of the machine. This can be from various reasons including detonation, cavitation, other machinery in the immediate area, etc.

MODEL	VIB RANGE	FREQ RANGE (Hz)	TEMP RANGE DEG F	SUPPLY					RESET COIL VOLTAGE					OUTPUT			TIME DELAY	ENCLOSURE (See Note 1)		I.S.	MTG
				LOOP POWERED	24 VDC	48 VDC	120 VAC	240 VAC	120 VAC	240 VAC	120 VDC	24 VDC	48 VDC	SWITCH CONTACTS		4-20 mA		EXPROOF	NEMA 4		
														SPDT	DPDT						
365-A2 or -D2	0-4.5 G	0-300	-40 to 140									X		365-A2	365-D2		(Note 1 & 2)		Surface		
365-A3 or -D3	0-4.5 G	0-300	-40 to 140							X				365-A3	365-D3		(Note 1)		Surface		
365-A4 or -D4	0-4.5 G	0-300	-40 to 140										X	365-A4	365-D4		(Note 1 & 2)		Surface		
365-A7 or -D7	0-4.5 G	0-300	-40 to 140								X			365-A7	365-D7		(Note 1 & 2)		Surface		
365-A8 or -D8	0-4.5 G	0-300	-40 to 140						X					365-A8	365-D8		(Note 1 & 2)		Surface		
365-G SERIES	0-4.5 G	0-300	-40 to 140							(See Note 13)				365-G			(Note 1, 2 & 13)		Surface		
366-A2 or -D2	0-4.5 G	0-300	-40 to 200									X		366-A2	366-D2			(Note 1)	Surface		
366-A3 or -D3	0-4.5 G	0-300	-40 to 200							X				366-A3	366-D3			(Note 1)	Surface		
366-A4 or -D4	0-4.5 G	0-300	-40 to 200										X	366-A4	366-D4			(Note 1)	Surface		
366-A7 or -D7	0-4.5 G	0-300	-40 to 200								X			366-A7	366-D7			(Note 1)	Surface		
366-A8 or -D8	0-4.5 G	0-300	-40 to 200						X					366-A8	366-D8			(Note 1)	Surface		
366-G Series	0-4.5 G	0-300	-40 to 200							(See Note 14)				366-G				(Note 1)	Surface		
EURO366 Ser.	0-4.5 G	0-300	-22 to 185							(See Note 15)								(Note 15)	IP65	Surface	
368R	0-4.5 G	0-300	-40 to 200	<b>PNEUMATIC SUPPLY</b>			<b>PNEUMATIC 15-50 PSI</b>					<b>PNEUMATIC OUTPUT</b>						(Note 1)	X	Surface	
375A-A1-X0	0-4.5 G	0-300	-20 to 140	(See Note 3)			X							X			Fixed	(Note 1 & 4)		Surface	
375A-AX-XX	0-4.5 G	0-300	-20 to 140	(See Note 5)			X							Solid State TRIAC			Fixed	(Note 1 & 4)		Surface	
376A-A1-X0	0-4.5 G	0-300	-20 to 140	(See Note 3)			X							X			Fixed		(Note 1)	Surface	
376A-AX-XX	0-4.5 G	0-300	-20 to 140	(See Note 5)			X							Solid State TRIAC			Fixed		(Note 1)	Surface	
563A (Note 6)	0-4.5 G	0-300	-40 to 160		Opt	Opt	X	Opt									Adj.	Optional	(Note 7)	Surface	
566-A1	(Note 8)	8-1k	-40 to 176				X							2 Solid State TRIACS		X	Adj.	(Note 10)	X	Surface	
566-B1 (Note 9)	(Note 8)	8-1k	-40 to 176					X						2 Solid State TRIACS		X	Adj.	(Note 10 & 11)	X	Surface	
566-A2	(Note 8)	8-1k	-40 to 176				X							2 Solid State TRIACS		X	Adj.	(Note 10)	X	Surface	
566-B2 (Note 9)	(Note 8)	8-1k	-40 to 176					X						2 Solid State TRIACS		X	Adj.	(Note 10 & 11)	X	Surface	
570B-A	0-5 G	2-2k	-40 to 185	10-30 VDC												X			4X/IP68	Stud	
570B-B	0-10 G	2-2k	-40 to 185	10-30 VDC												X			4X/IP68	Stud	
570B-C	0-20 G	2-2k	-40 to 185	10-30 VDC												X			4X/IP68	Stud	
570B-D	0-0.5 IPS	2-2k	-40 to 185	10-30 VDC												X			4X/IP68	Stud	
570B-E	0-1 IPS	2-2k	-40 to 185	10-30 VDC												X			4X/IP68	Stud	
570B-F	0-2 IPS	2-2k	-40 to 185	10-30 VDC												X			4X/IP68	Stud	
571A SERIES	(Note 12)	2-2k	-40 to 185	14-30 VDC												X			4X/IP68	X Stud	

- NOTES: (1) Epoxy painted (base only for 366/376A) and/or heater options (365/366 only) available, add -E, -H or -EH to Model Number – see Product Specification Sheet or Consult Factory. Models 366 have a NEMA 4 & 12 enclosure [most models are CSA Certified – see Product Specification Sheet].
- (2) CSA Certified/FM Approved for Class I, Division 1, Groups C & D; Class II, Division 1, Groups E, F, G (except Models 365-A7 & -D7 are CSA only).
- (3) X in Model Number denotes options for selecting fixed Start Delay times – see Product Specification Sheet.
- (4) FM Approved for Class I, Division 1, Groups C & D; Class II, Division 1, Groups E, F & G hazardous locations.
- (5) 1st X in Model Number denotes Type of Time Delay (Monitor, or Start & Monitor); last XX denotes delay time desired.
- (6) Monitor to be used with Model 365/366 Vibraswitches; provides adjustable Start (0-999 seconds) and Monitor (0-99 seconds) Time Delay.
- (7) NEMA 4 standard. Optional NEMA 4X (Grey Epoxy Painted Steel) or NEMA 4X (Stainless Steel); External Reset Pushbutton(s) and Alarm Indicators – see Product Specification Sheet.
- (8) Selectable: Velocity 0-1.5 in/sec RMS or 0-3 in/sec RMS; Acceleration 0-5 G's RMS or 0-10 G's RMS.
- (9) Remote Mount Transducer (up to 1000 feet) using ungrounded twisted pair wires.
- (10) FM Approved/CSA Certified Explosion Proof for Class I, Division 1, Groups C & D; Class II, Division 1, Groups E, F & G. CSA Certified for Enclosure 4 (watertight) – equivalent to NEMA 4.
- (11) Remote Transducer Housing FM Approved for Class I, Division 1, Groups B, C & D; Class II, Division 1, Groups E, F & G; NEMA 4. CSA Certified for Class I, Division 1, Groups C & D; Enclosure 4.
- (12) 571A Series is an Intrinsically Safe version of the 570B-A, -B, -C -D, -E & -F. CSA Certified for the USA and Canada for Class I, Division 1 and 2, Groups A, B, C & D. 571A Series is also ATEX Certified for EEx ia IIC T3 and CE Certified for Europe.
- (13) 365-G Series is same as 365-D Series except contacts are gold for low current applications. 365-G not FM Approved or CSA Certified.
- (14) 366-G Series is same as 366-D Series except contacts are gold for low current applications. 366-G not CSA Certified.
- (15) EURO366 Series is explosion proof & weather proof version of 366. ATEX Certified for EEx-d-IIA/B/C-T6 IP65 T85° C for use in Europe – See Product Specification Sheet.

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