Severe Duty Limit Switches

9007 Mill and Foundry Switches Conforming to NEMA A600 and UL508

Description

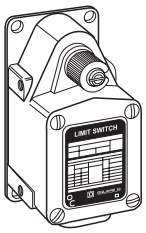
9007T Mill Switches
Use the 9007T Mill switches instead of other limit switches in the following applications:

1. *Where the current load exceeds the typical heavy duty limit switch contact rating of 10 A and falls within the range of up to 20 A continuous.*
2. *Where an operating sequence is required that is not possible on other limit switches. Fifteen sequences are available. Universal type has twelve different operating sequences with CW only, CCW only and neutral position. Standard type has three operating sequences with CW and CCW operation.*
3. *Where higher reset forces are required due to foreign material interfering with lever arm operation, or where long heavy arms must reset against gravity.*

9007FT Foundry Switches
The 9007FT Foundry switches are for use in foundries or mills where the applications described above are required, and where falling foundry sand or similar material could build up and jam the operating mechanism. The shaft has a dust boot and extends from the switch case, preventing sand build up around the shaft. The devices can withstand hot falling sand up to 300° F (149° C.).

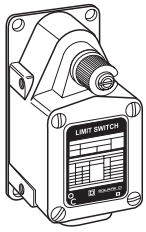
9007 (convertible sequence)

9007T Mill Switches



Pages 8 and 9

9007FT Foundry Switches



Pages 10 and 11

Application Information

Type T — Ideal for applications requiring extra heavy duty contact ratings, or higher operating and reset forces. Rugged mechanical construction with several different operating sequences in one basic switch.

Type FT — Designed specifically for rough foundry application. The shaft is entirely beyond the switch case to prevent jamming of the lever arm due to build up of sand. A dust boot is furnished as standard to further prevent sand packing and allow free movement of the lever arm. An extra long shaft bearing makes the switch extremely rugged and able to handle the rough applications encountered in foundries, mills, machine tool and similar industries. The switch will withstand hot falling sand up to 300° F (149° C).

Type T and FT

Enclosure — Oil-tight, dust-tight, water-tight, drip-tight meets NEMA 2, 4, and 13 requirements. Die cast zinc construction.

Operating Sequences — Fifteen sequences available. Universal type has 12 different operating sequences with CW only, CCW only, and neutral position operation. Standard type has three operating sequences with CW and CCW operation. Various sequences will give quick make and break, spring return with maintained contact, or slow make and break. Most sequences are convertible by removing the base plate and adjusting the positioning plate and/or latches

Ambient Temperature Range — 10° F (-12.2° C) to 185° F (85° C) ambient at full rated load, up to 220° F (104° C) ambient with single coil load.

Lever Arm — Die cast zinc construction with hardened, oil-impregnated, sintered iron rollers.

Conduit — 0.5" standard / 20 mm optional - Form M11

Mounting — Four baseplates provide end or side mounting holes and/or manifold mounting. All mounting holes are 0.25" (6.35 mm) diameter. Two tapped holes on each side of switch allows side mounting.

Contacts — SPDT, double break and three point double throw single break. Silver contact tips. Phenolic contact block. Nylon liner. Polarity must be same on double throw contacts.

Interpretation of Reference Numbers:
pages 31

Severe Duty Limit Switches

9007T Mill and 9007FT Foundry Switches Conforming to NEMA A600 and UL508

Environment characteristics

Conforming to standards	UL508
Product certifications	UL Listed, CSA Certified, CE Marked
Protective treatment	Corrosion resistant gray paint
Ambient air temperature	- 10 °F to + 185 °F (-23 °C to + 85 °C)
Vibration resistance	10G (10 - 55 Hz)
Shock resistance	30G
Electric shock protection	Class O
Degree of protection	NEMA Type 1, 2, 4, 12, 13, IP65, 66, 67
Cable entry or connector	0.5" NPT (metric available)
Materials	Cast zinc ◕

Contact block characteristics

Rated operational characteristics hard contacts	**AC Voltage**	NEMA A600 Ithe = 20 A
		20 A Resistive and continuous
Rated operational characteristics hard contacts	**DC Voltage**	NEMA P 600 Ithe = 20 A
		20 A Resistive and continuous
Rated insulation voltage		600 V
Rated impulse withstand voltage		2,500 Vac for 1 minute for CE, 2,200 Vac for 1 minute for UL, and 2,640 Vac for 1 minute for CSA
Positive opening		No
Short circuit protection		20 A Bussmann Class CC KTK-R-20 fuse, non time delay
Terminal wire sizes (Cabling/Screw Clamp)		12 – 22 AWG (3.31 mm^2 – 0.326 mm^2) wire max.
Maximum actuation speed		15.2 mpm / 27.4 mpm (50 fpm / 90 fpm) with 45 ° Cam angle, levers only
Electrical durability		N/A (future availability)

Maximum current ratings for control circuit contacts

Contacts	Volts	AC							Volts	DC		
		Inductive 35% Power Factor					Resistive 75% Power Factor			Inductive and Resistive		
		Make		Break		Con-tinuous Carrying Amperes	Make, Break and Continuous Carrying Amperes			Make and Break Amperes		Con-tinuous Carrying Amperes
		Amperes	VA	Amperes	VA					Single Throw	Double Throw	
SPDT Quick Make and Break	120	150	18,000	20	2400	20	20		120	5.0	º	20
	240	75	18,000	12.5	3000	20	20		250	1.0	º	20
	480	37.5	18,000	6.25	3000	20	20		600	0.2	º	20
	600	30	18,000	5	3000	20	20					
All Slow Make and Break	120	60	7200	6	720	20	10	20	…	…	…	…
	240	30	7200	3	720	20	10	20	…	…	…	…
	480	15	7200	1.5	720	20	10	20	…	…	…	…
	600	12	7200	1.2	720	20	10	20	…	…	…	…

Characteristics for material and ratings comparisons — standard switches ◕

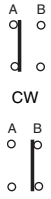
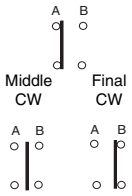
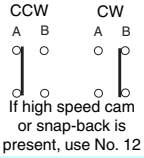
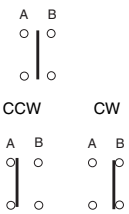
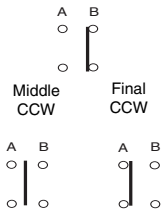
	9007 Type T/FT	Type L (R. B. Denison Lox Switch)
Body material	Cast zinc	Cast aluminum
Cover material	Cast zinc	Aluminum
Base plate material	Steel with zinc plating	Steel with chromate plating
Shaft seal material	Nitrile	PVC
Contact block material	Phenolic	Glass filled nylon
Moveable contact material	Fine silver on copper backing	Coin Silver on steel backing
Stationary contact material	Fine silver on copper backing	90/10 AgCdO on copper backing
Low ambient temperature rating	-10° F	0° F
High ambient temperature at full rating ♦	180° F	200° F
Enclosure rating	NEMA Types 1, 2, 4, 12 and 13	NEMA Types 1, 4 and 13
Vibration resistance	10G (10 - 150 Hz)	40G max (10-150 Hz)

♦ Many switches are available with higher or lower temperature limits by selecting special versions or special options. See page 29.

Severe Duty Limit Switches
9007T Mill Switches
Universal operating sequences

Universal References

Base Plate

Surface Mounted	**A**	**9007TUA1**	**9007TUA2**	**9007TUA3**	**9007TUA4**	**9007TUA5**	**9007TUA6**
	B	**9007TUB1**	**9007TUB2**	**9007TUB3**	**9007TUB4**	**9007TUB5**	**9007TUB6**
	C	**9007TUC1**	**9007TUC2**	**9007TUC3**	**9007TUC4**	**9007TUC5**	**9007TUC6**
	D	**9007TUD1**	**9007TUD2**	**9007TUD3**	**9007TUD4**	**9007TUD5**	**9007TUD6**
		**No. 1** Single Pole Double Throw Spring Return CW Only Initial position and CCW 	**No. 2** Single Pole Double Throw Spring Return CW Only Initial position and CCW 	**No. 3** ④ Single Pole Double Throw Maintained Contact Spring return of arm to initial pos. Contact pos. maintained until operated in reverse direction 	**No. 4** Single Pole Double Throw Spring Return Neutral Position Initial position 	**No. 5** Single Pole Double Throw Spring Return CCW Only Initial position and CW 	**No. 6** Single Pole Double Throw Spring Return CCW Only Initial position and CW 

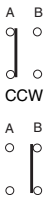
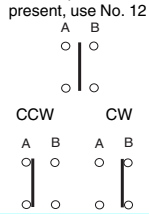
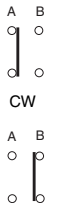
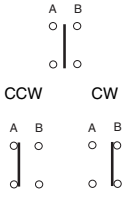
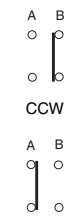
Characteristics

Nominal Operating Data

Pre-travel ①	14°	Int. Pos. 9°, Final 16°	7°	6°	14°	Int. Pos. 9°, Final 16°
Total travel	88°	88°	81°	81°	88°	88°
Differential	12°	5°	7°	5°	12°	5°
Operating torque	12 lb-in (1.35 N•m)	12 lb-in (1.35 N•m)	12 lb-in (1.35 N•m)	12 lb-in (1.35 N•m)	12 lb-in (1.35 N•m)	12 lb-in (1.35 N•m)
Repeat accuracy ②	± 0.004" (0.10mm)	± 0.004" (0.10mm)	± 0.004" (0.10mm)	± 0.004" (0.10mm)	± 0.004" (0.10mm)	± 0.004" (0.10mm)
To convert sequences, remove base plate, position plate and latches. Reassemble positioning plate and latches as shown.						
						
Weight lb (kg)	2.35 lb. (0.18 kg)	2.35 lb. (0.18 kg)	2.35 lb. (0.18 kg)	2.35 lb. (0.18 kg)	2.35 lb. (0.18 kg)	2.35 lb. (0.18 kg)

Universal References (continued)

Base Plate

Surface Mounted	**A**	**9007TUA7**	**9007TUA8**	**9007TUA9**	**9007TUA10**	**9007TUA11**	**9007TUA12**
	B	**9007TUB7**	**9007TUB8**	**9007TUB9**	**9007TUB10**	**9007TUB11**	**9007TUB12**
	C	**9007TUC7**	**9007TUC8**	**9007TUC9**	**9007TUC10**	**9007TUC11**	**9007TUC12**
	D	**9007TUD7**	**9007TUD8**	**9007TUD9**	**9007TUD10**	**9007TUD11**	**9007TUD12**
		**No. 7** Single Pole Double Throw Maintained If high speed cam or snap-back present, use No. 12 	**No. 8** ④ Single Pole Double Throw Maintained Neutral Position Initial position If high speed cam or snap-back is present, use No. 12 	**No. 9** Single Pole Double Throw Spring Return Slow Make Slow Break Initial position and CCW 	**No. 10** Single Pole Double Throw Spring Return Slow Make Slow Break Initial position 	**No. 11** Single Pole Double Throw Spring Return Slow Make Slow Break Initial position and CW 	**No. 12** Single Pole Double Throw Maintained 

Characteristics

Nominal Operating Data

Pre-travel ①	10°	6°	12°	3°	12°	45°
Total travel	85°	81°	87°	81°	87°	90°
Differential	12°	10°	0°	0°	0°	0°
Operating torque	2.5 lb-in (0.28 N•m)	2.5 lb-in (0.28 N•m)	12 lb-in (1.35 N•m)	12 lb-in (1.35 N•m)	12 lb-in (1.35 N•m)	8 lb-in (0.9 N•m)
Repeat accuracy ②	± 0.004" (0.10mm)	± 0.004" (0.10mm)	± 0.004" (0.10mm)	± 0.004" (0.10mm)	± 0.004" (0.10mm)	± 0.004" (0.10mm)
To convert sequences, remove base plate, position plate and latches. Reassemble positioning plate and latches as shown.						
	 ③	 ③				Not adjustable
Weight lb (kg)	2.35 lb (0.18 kg)	2.35 lb. (0.18 kg)	2.35 lb. (0.18 kg)	2.35 lb. (0.18 kg)	2.35 lb. (0.18 kg)	2.35 lb. (0.18 kg)

Dimensions: pages 14 to 17
Interpretation of Reference Numbers: page 31
Footnotes: page 9
Base Plates: page 13 & 14

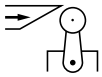
Severe Duty Limit Switches
9007T Mill Switches
Standard operating sequences

Standard References

Base Plate

Surface Mounted	**A**	**9007TSA1**	**9007TSA2**	**9007TSA3**
	B	**9007TSB1**	**9007TSB2**	**9007TSB3**
	C	**9007TSC1**	**9007TSC2**	**9007TSC3**
	D	**9007TSD1**	**9007TSD2**	**9007TSD3**
		**No. 1** Single Pole Double Throw Spring Return CW & CCW Initial position  CW and CCW 	**No. 2** Single Pole Double Throw Spring Return CW & CCW Initial position  CW and CCW Middle  Final 	**No. 3** Single Pole Double Throw Spring Return CW & CCW Slow Make Slow Break Initial position  CW and CCW 

Characteristics (nominal operating data)

Switch actuation	By 30° cam		
Type of actuation			
Pre-travel ①	14°	Int. Pos. 9°, Final 16°	9°
Total travel	89°	89°	89°
Differential	12°	Int. Pos. 5.5°, Final 7.5°	5°
Reverse overtravel	N/A (future availability)	N/A (future availability)	N/A (future availability)
Mechanical durability in millions of operating cycles	N/A (future availability)	N/A (future availability)	N/A (future availability)
Operating torque/force 1 pole & 2 pole	10 lb-in (1.13 N•m)	10 lb-in (1.13 N•m)	10 lb-in (1.13 N•m)
Terminal wire sizes (Cabling/Screw Clamp)	#12 - 22 AWG (3.31 mm^2 - 0.326 mm^2)	#12 - 22 AWG (3.31 mm^2 - 0.326 mm^2)	#12 - 22 AWG (3.31 mm^2 - 0.326 mm^2)
Repeatability ② (linear travel of cam)	± 0.004" (0.10mm)	± 0.004" (0.10mm)	± 0.004" (0.10mm)
Cable entry (metric available)	0.5" NPT	0.5" NPT	0.5" NPT
Weight lb (kg)	2.35 lb. (0.18 kg)	2.35 lb. (0.18 kg)	2.35 lb. (0.18 kg)

① The pre-travel listed may vary up to 5˚ additional for universal switches or up to 2˚ additional for standard switches due to free travel of lever arm at initial position.
② Linear travel of cam on 1.5" (38.1mm) lever arm.
③ Remove spring from the positioning plate.
④ Sequence 3, 7, and 8 devices are available but are not recommended where high speed cams or lever arm snap-back is present. The application should be checked and No. 12 sequences substituted where possible.

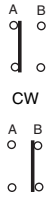
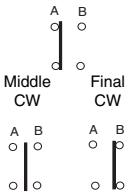
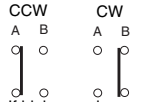
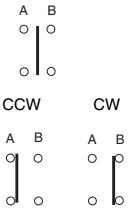
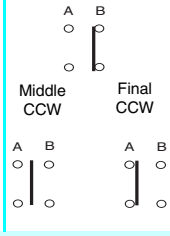
Note: Type FT Foundry Switches are obtained by changing the "T" at the beginning of the equivalent type number above to "FT" (Example: FTUB1).
See pages 10 and 11.

Severe Duty Limit Switches

9007FT Foundry Switches
Universal operating sequences

Universal References

Base Plate

Surface Mounted	**A**	**9007FTUA1**	**9007FTUA2**	**9007FTUA3**	**9007FTUA4**	**9007FTUA5**	**9007FTUA6**
	B	**9007FTUB1**	**9007FTUB2**	**9007FTUB3**	**9007FTUB4**	**9007FTUB5**	**9007FTUB6**
	C	**9007FTUC1**	**9007FTUC2**	**9007FTUC3**	**9007FTUC4**	**9007FTUC5**	**9007FTUC6**
	D	**9007FTUD1**	**9007FTUD2**	**9007FTUD3**	**9007FTUD4**	**9007FTUD5**	**9007FTUD6**
		**No. 1** Single Pole Double Throw Spring Return CW Only Initial position and CCW  CW 	**No. 2** Single Pole Double Throw Spring Return CW Only Initial position and CCW  Middle CW Final CW	**No. 3** ④ Single Pole Double Throw Maintained Contact Spring return of arm to initial pos. Contact pos. maintained until operated in reverse direction  If high speed cam or snap-back is present, use No. 12	**No. 4** Single Pole Double Throw Spring Return Neutral Position Initial position 	**No. 5** Single Pole Double Throw Spring Return CCW Only Initial position and CW 	**No. 6** Single Pole Double Throw Spring Return CCW Only Initial position and CW  Middle CCW Final CCW

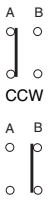
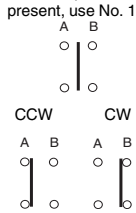
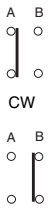
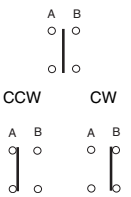
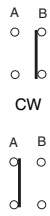
Characteristics

Nominal Operating Data

Pre-travel ①	14°	Int. Pos. 9°, Final 16°	7°	6°	14°	Int. Pos. 9°, Final 16°
Total travel	88°	88°	81°	81°	88°	88°
Differential	12°	5°	7°	5°	12°	5°
Operating torque	12 lb-in (1.35 N•m)	12 lb-in (1.35 N•m)	12 lb-in (1.35 N•m)	12 lb-in (1.35 N•m)	12 lb-in (1.35 N•m)	12 lb-in (1.35 N•m)
Repeat accuracy ②	± 0.004" (0.10mm)	± 0.004" (0.10mm)	± 0.004" (0.10mm)	± 0.004" (0.10mm)	± 0.004" (0.10mm)	± 0.004" (0.10mm)
To convert sequences, remove base plate, position plate and latches. Reassemble positioning plate and latches as shown.						
						
Weight lb (kg)	2.57 lb (0.96 kg)	2.57 lb (0.96 kg)	2.57 lb (0.96 kg)	2.57 lb (0.96 kg)	2.57 lb (0.96 kg)	2.57 lb (0.96 kg)

Universal References (continued)

Base Plate

Surface Mounted	**A**	**9007FTUA7**	**9007FTUA8**	**9007FTUA9**	**9007FTUA10**	**9007FTUA11**	**9007FTUA12**
	B	**9007FTUB7**	**9007FTUB8**	**9007FTUB9**	**9007FTUB10**	**9007FTUB11**	**9007FTUB12**
	C	**9007FTUC7**	**9007FTUC8**	**9007FTUC9**	**9007FTUC10**	**9007FTUC11**	**9007FTUC12**
	D	**9007FTUD7**	**9007FTUD8**	**9007FTUD9**	**9007FTUD10**	**9007FTUD11**	**9007FTUD12**
		**No. 7** Single Pole Double Throw Maintained If high speed cam or snap-back present, use No. 12 	**No. 8** ④ Single Pole Double Throw Maintained Neutral Position Initial position If high speed cam or snap-back present, use No. 12 	**No. 9** Single Pole Double Throw Spring Return Slow Make Slow Break Initial position and CCW 	**No. 10** Single Pole Double Throw Spring Return Slow Make Slow Break Initial position 	**No. 11** Single Pole Double Throw Spring Return Slow Make Slow Break Initial position and CW 	**No. 12** Single Pole Double Throw Maintained CCW 

Characteristics

Nominal Operating Data

Pre-travel ①	10°	6°	12°	3°	12°	45°
Total travel	85°	81°	87°	81°	87°	90°
Differential	12°	10°	0°	0°	0°	0°
Operating torque	2.5 lb-in (0.28 N•m)	2.5 lb-in (0.28 N•m)	12 lb-in (1.35 N•m)	12 lb-in (1.35 N•m)	12 lb-in (1.35 N•m)	8 lb-in (0.9 N•m)
Repeat accuracy ②	± 0.004" (0.10mm)	± 0.004" (0.10mm)	± 0.004" (0.10mm)	± 0.004" (0.10mm)	± 0.004" (0.10mm)	± 0.004" (0.10mm)
To convert sequences, remove base plate, position plate and latches. Reassemble positioning plate and latches as shown.						
	 ③	 ③				Not adjustable
Weight lb (kg)	2.57 lb (0.96 kg)	2.57 lb (0.96 kg)	2.57 lb (0.96 kg)	2.57 lb (0.96 kg)	2.57 lb (0.96 kg)	2.57 lb (0.96 kg)

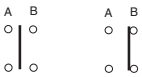
Dimensions: pages 14 to 17
Interpretation of Reference Numbers: page 31
Footnotes: page 11

Severe Duty Limit Switches

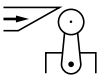
9007FT Foundry Switches
Standard operating sequences

Standard References

Base Plate

Surface Mounted	**A**	**9007FTSA1**	**9007FTSA2**	**9007FTSA3**
	B	**9007FTSB1**	**9007FTSB2**	**9007FTSB3**
	C	**9007FTSC1**	**9007FTSC2**	**9007FTSC3**
	D	**9007FTSD1**	**9007FTSD2**	**9007FTSD3**
		No. 1	**No. 2**	**No. 3**
		Single Pole Double Throw Spring Return CW & CCW Initial position  CW and CCW 	Single Pole Double Throw Spring Return CW & CCW Initial position  CW and CCW Middle Final 	Single Pole Double Throw Spring Return CW & CCW Slow Make Slow Break Initial position  CW and CCW 

Characteristics (nominal operating data)

Switch actuation	By 30° cam		
Type of actuation			
Pre-travel ①	14°	Int. Pos. 9°, Final 16°	9°
Total travel	89°	89°	89°
Differential	12°	Int. Pos. 5.5°, Final 7.5°	5°
Reverse overtravel	N/A (future availability)	N/A (future availability)	N/A (future availability)
Mechanical durability (in millions of operating cycles)	N/A (future availability)	N/A (future availability)	N/A (future availability)
Operating torque/force 1 pole & 2 pole	10 lb-in (1.13 N•m)	10 lb-in (1.13 N•m)	10 lb-in (1.13 N•m)
Terminal wire sizes (Cabling/Screw Clamp)	#12 - 22 AWG (3.31 mm^2 - 0.326 mm^2)	#12 - 22 AWG (3.31 mm^2 - 0.326 mm^2)	#12 - 22 AWG (3.31 mm^2 - 0.326 mm^2)
Repeatability ② (linear travel of cam)	± 0.004" (0.10mm)	± 0.004" (0.10mm)	± 0.004" (0.10mm)
Cable entry (metric available)	0.5" NPT	0.5" NPT	0.5" NPT
Weight lb (kg)	2.57 lb. (0.96 kg)	2.57 lb. (0.96 kg)	2.57 lb. (0.96 kg)

① The pre-travel listed may vary up to 5° additional for universal switches or up to 2° additional for standard switches due to free travel of lever arm at initial position.
② Linear travel of cam on 1.5" (38.1mm) lever arm.
③ Remove spring from the positioning plate.
④ Sequence 3, 7, and 8 devices are available but are not recommended where high speed cams or lever arm snap-back is present. The application should be checked and No. 12 sequences substituted where possible.

Note: Type FT Foundry Switches are obtained by changing the "T" at the beginning of the equivalent type number to "FT" (Example: FTUB1).

Severe Duty Limit Switches

9007 Mill and Foundry Switches
Lever Arms for 9007T and FT

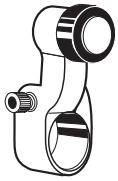


Standard Roller

Standard Roller

Arm Length Inches (mm)	Steel roller Diameter Inches (mm)	Roller Position	Width Inches (mm)	Reference	Weight lb (kg)
1.5 (38.1)	0.75 (19)	Optional	0.25 (6.3)	**9007B1**	0.17 (0.063)
1.5 (38.1)	1.0 (25.4)	Optional	0.25 (6.3)	**9007B2**	0.19 (0.071)
1.5 (38.1)	1.38 (35)	Optional	0.25 (6.3)	**9007B3**	0.23 (0.085)
2.5 (63.5)	0.75 (19)	Optional	0.25 (6.3)	**9007B7**	0.25 (0.093)
2.5 (63.5)	1.0 (25.4)	Optional	0.25 (6.3)	**9007B8**	0.25 (0.093)
2.5 (63.5)	1.38 (35)	Optional	0.25 (6.3)	**9007B9**	0.27 (0.100)
1.5 (38.1)	0.75 (19)	Optional	0.5 (12.7)	**9007B12**	0.34 (0.126)
1.5 (38.1)	1.0 (25.4)	Optional	0.5 (12.7)	**9007B13**	0.34 (0.126)
1.5 (38.1)	1.38 (35)	Optional	0.5 (12.7)	**9007B14**	0.42 (0.156)
5 (127)	0.75 (19)	Optional	0.25 (6.3)	**9007B19**	1.0 (0.373)
2.88 (73.1)	0.75 (19)	No roller	—	**9007B21**	0.20 (0.074)
2.5 (63.5)	0.75 (19)	Optional	0.5 (12.7)	**9007B22**	0.22 (0.082)
2.5 (63.5)	1.0 (25.4)	Optional	0.5 (12.7)	**9007B23**	0.28 (0.104)
2.5 (63.5)	1.38 (35)	Optional	0.5 (12.7)	**9007B24**	0.36 (0.134)
(1) Adjustable	0.75 (19)	Optional	0.25 (6.3)	**9007R18**	0.50 (0.186)
(1) Adjustable	1.0 (25.4)	Optional	0.25 (6.3)	**9007R19**	0.50 (0.186)
(1) Adjustable	1.38 (35)	Optional	0.25 (6.3)	**9007R20**	0.50 (0.186)

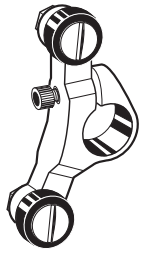
(1) Does not include lever arm clamp or rod. If lever arm clamp is required, use 9007R16 or R17.



Offset Type

Offset Type (used to obtain different cam track dimensions)

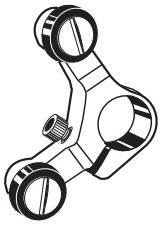
Arm Length Inches (mm)	Steel roller Diameter Inches (mm)	Roller Position	Width Inches (mm)	Reference	Weight lb (kg)
1.5 (38.1)	0.75 (19)	Inside offset	0.25 (6.3)	**9007C1**	0.50 (0.186)
1.5 (38.1)	1.0 (25.4)	Inside offset	0.25 (6.3)	**9007C2**	0.50 (0.186)
1.5 (38.1)	1.38 (35)	Inside offset	0.25 (6.3)	**9007C3**	0.50 (0.186)
1.5 (38.1)	0.75 (19)	Outside offset	0.25 (6.3)	**9007D1**	0.18 (0.067)
1.5 (38.1)	1.0 (25.4)	Outside offset	0.25 (6.3)	**9007D2**	0.18 (0.067)
1.5 (38.1)	1.38 (35)	Outside offset	0.25 (6.3)	**9007D3**	0.18 (0.067)
1.88 (48)	0.75 (19)	Outside offset	0.25 (6.3)	**9007**E4	0.20 (0.074)
1.88 (48)	1.0 (25.4)	Outside offset	0.25 (6.3)	**9007E5**	0.27 (0.100)
1.88 (48)	1.38 (35)	Outside offset	0.25 (6.3)	**9007E6**	0.27 (0.100)
1.88 (48)	0.75 (19)	Inside offset	0.25 (6.3)	**9007F4**	0.30 (0.112)
1.88 (48)	1.0 (25.4)	Inside offset	0.25 (6.3)	**9007F5**	0.30 (0.112)
1.88 (48)	1.38 (35)	Inside offset	0.25 (6.3)	**9007F6**	0.30 (0.112)



120° Forked

120° Forked (used with maintained contact lever arm type switches)

Arm Length Inches (mm)	Steel roller Diameter Inches (mm)	Roller Position	Width Inches (mm)	Reference	Weight lb (kg)
1.5 (38.1)	0.75 (19)	Same side	0.25 (6.3)	**9007J1**	0.31 (0.115)
1.5 (38.1)	1.0 (25.4)	Same side	0.25 (6.3)	**9007J2**	0.40 (0.149)
1.5 (38.1)	0.75 (19)	LH on opp. side	0.25 (6.3)	**9007K1**	0.50 (0.186)
1.5 (38.1)	1.0 (25.4)	LH on opp. side	0.25 (6.3)	**9007K2**	0.50 (0.186)
1.5 (38.1)	0.75 (19)	RH on opp. side	0.25 (6.3)	**9007N1**	0.66 (0.246)
1.5 (38.1)	1.0 (25.4)	RH on opp. side	0.25 (6.3)	**9007N2**	0.70 (6.261)



90° Forked

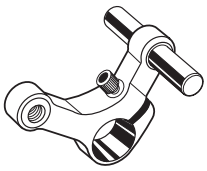
90° Forked (used with maintained contact lever arm type switches)

Arm Length Inches (mm)	Steel roller Diameter Inches (mm)	Roller Position	Width Inches (mm)	Reference	Weight lb (kg)
1.5 (38.1)	0.75 (19)	Same side	0.25 (6.3)	**9007X1**	0.30 (0.112)
1.5 (38.1)	1.0 (25.4)	Same side	0.25 (6.3)	**9007X2**	0.40 (0.149)
1.5 (38.1)	0.75 (19)	RH on opp. side	0.25 (6.3)	**9007Y1**	0.50 (0.186)
1.5 (38.1)	1.0 (25.4)	RH on opp. side	0.25 (6.3)	**9007Y2**	0.50 (0.186)
1.5 (38.1)	0.75 (19)	LH on opp. side	0.25 (6.3)	**9007Z1**	0.66 (0.246)
1.5 (38.1)	1.0 (25.4)	LH on opp. side	0.25 (6.3)	**9007Z2**	0.70 (0.261)

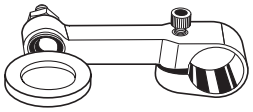
Dimensions:
pages 14 to 17

Severe Duty Limit Switches

9007 Mill and Foundry Switches
Lever Arms and Replacement Parts

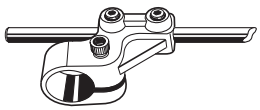


With Reset

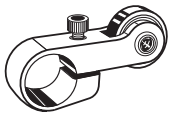


With Spring

Cable Operated



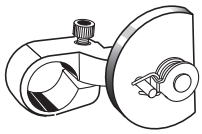
Rod Type



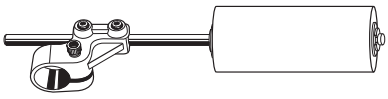
Ball Bearing Type



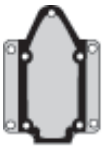
Weld-On Type



1-Way Roller Type



Conveyor Side Guide



Style C



Style D



Style B

Base Plates

Cable operated

Arm Length Inches (mm)	Steel roller Diameter Inches (mm)	Roller Position	Width Inches (mm)	Reference	Weight lb (kg)
1.5 (38.1)	0.75 (19)	None	None	**9007Y3**	–
2.5" (63.5mm) long with eyebolt 0.25 (6.3mm) I.D. instead of roller.				**9007B27**	–
Rod Type (used on conveyor systems or where unusual shapes are required)					
Adjustable	0.75 (19)	*(1) 0.19 (4.8)*	None	**9007R16**	0.18 (0.067)
Adjustable	0.75 (19)	*(2) 0.25 (6.3)*	None	**9007R17**	0.18 (0.067)
Ball Bearing Type (for abrasive dust areas or with high speed cams)					
1.5 (38.1)	0.75 (19)	Center	0.28 (7.1)	**9007B16**	0.15 (0.055)
Weld-On Type (used where a special operator is required to weld to lever)					
3.5 (89)	0.75 (19)	None	None	**9007G10**	0.50 (0.186)
One Way Roller Type (used with reversible cams for one way operations)					
1.5 (38.1)	0.75 (19)	Outside offset	0.25 (6.3)	**9007D4**	0.64 (0.238)
Conveyor Side Guide					
8.44" (214.3) long with 1.5" (38.1) dia. 3.75" (95.2) Delrin roller				**9007R21**	1.63 (0.608)
8.44" (214.3) long with 0.88" (22.3) dia. 3.75" (95.2) Delrin roller				**9007R22**	1.42 (0.530)

(1) Rod not included
(2) Key stock not included

Separate Base Plates *(2)*

Style	Mounting Holes	Reference	Weight lb (kg)
A	None *(1)*	**2934D32G1**	
B	End	**2934D14G1**	0.34 (0.126)
C	Side	**2934D33G1**	0.42 (0.156)
D	End	**2934D34G1**	0.36 (0.134)

(1) No mounting holes in base plate. Side mounting holes in switch case must be used.
(2) Acceptable wire sizes 14 – 18 AWG (2.08 – 0.823 mm²); recommended terminal clamp torque 13 – 16 lb-in. (1.46 – 1.80 N•m).

Optional Conduit Threads

Description Metric	Reference	Weight lb (kg)
M20 - 20mm (per B.S. 4568)	**M11**	

Example: 9007TUB4M11

Three Point Contacts — Ordering Information

Select Type number of desired contact operating sequence for standard contact switch.
Change the letter following "T" or "FT" as shown below.

Change: U to Y, S to K

Contact Configuration Changes From:



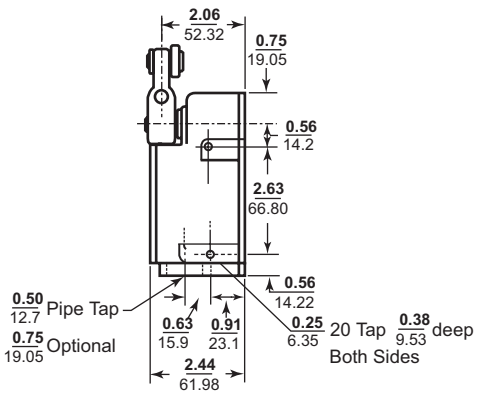
For example:
TUB1 changes to TYB1
TSB1 changes to TKB1

Severe Duty Limit Switches

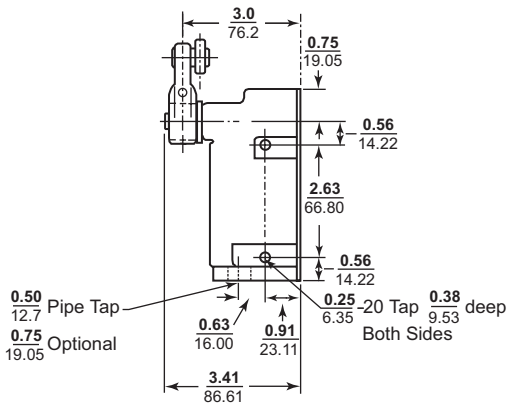
9007 Mill and Foundry Switches

Surface Mounting

Type T

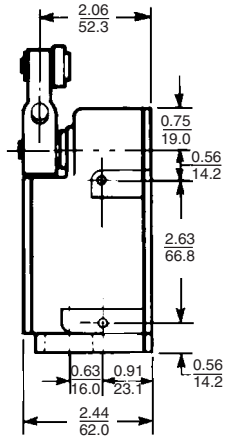


Type FT

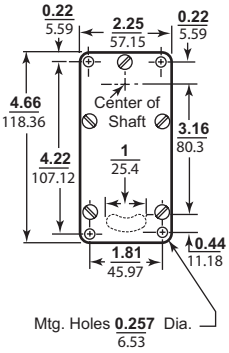


Base Plates

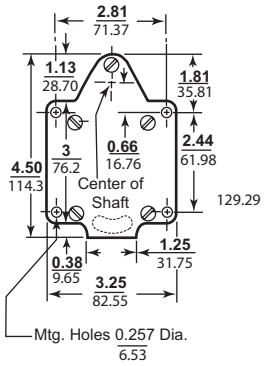
Style A



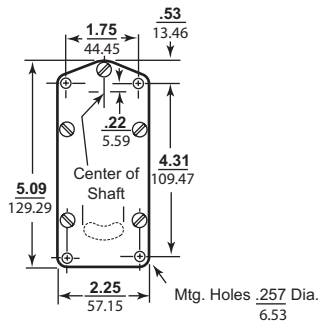
Style B



Style C

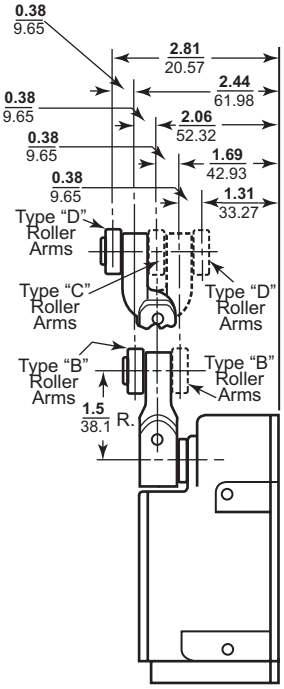


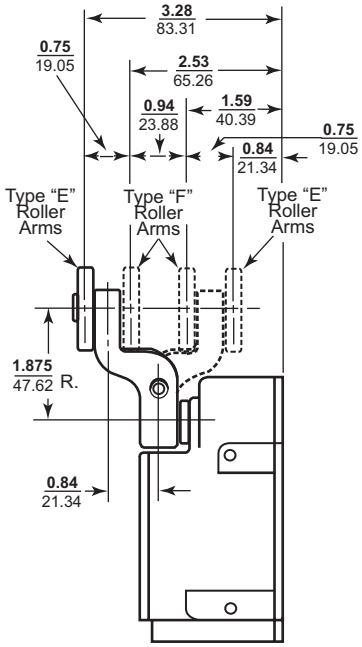
Style D

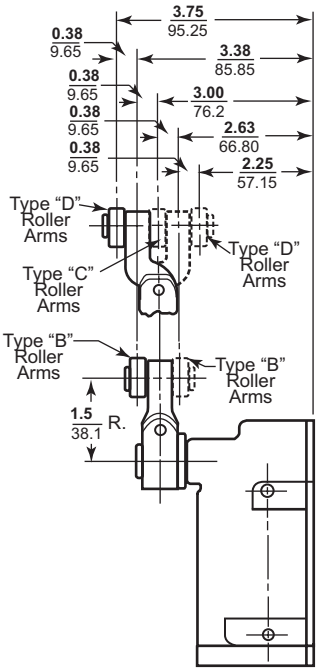


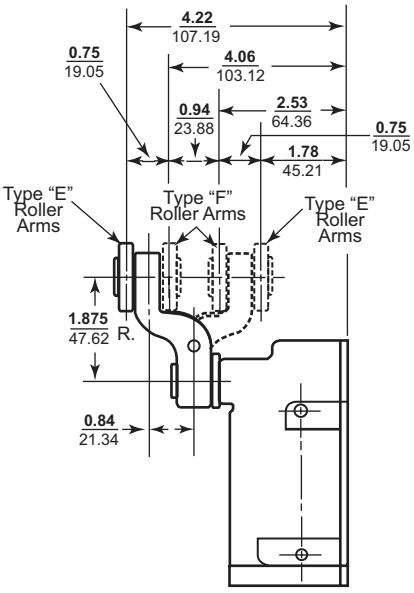
Dual dimensions: inches / mm

CAM Track Dimensions









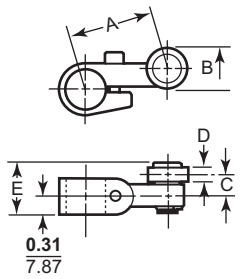
Dual dimensions: inches / mm

Severe Duty Limit Switches

9007 Mill and Foundry Switches
Lever Arms

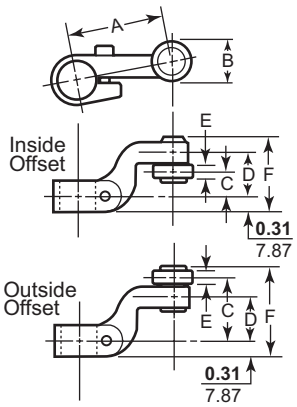
Type T and FT Lever Arms

Standard Roller

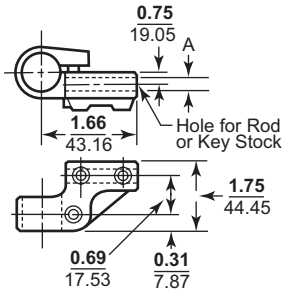


For dimension A refer to page 12.

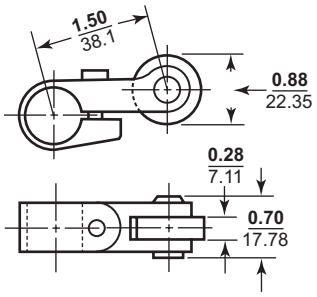
Offset Type



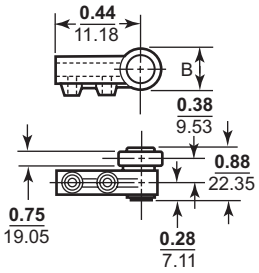
Adjustable Length Rod Type



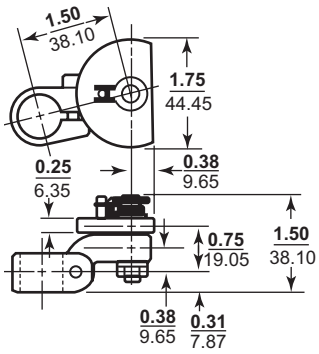
Ball Bearing Roller Type B16



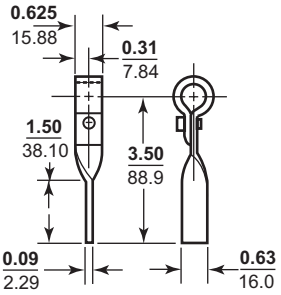
Roller Arm for use with Type R17



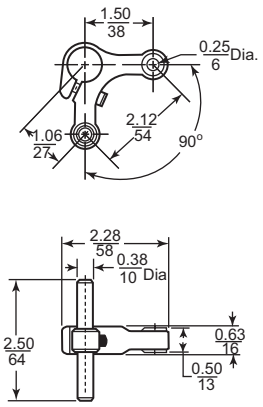
1-Way Roller Type D4



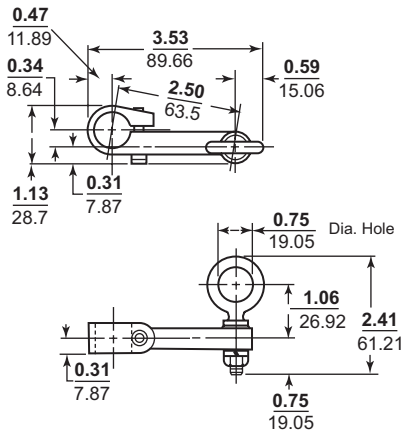
Weld-On Arm Type G10



Cable Operated with Reset Type Y3



Cable Operated Type B27



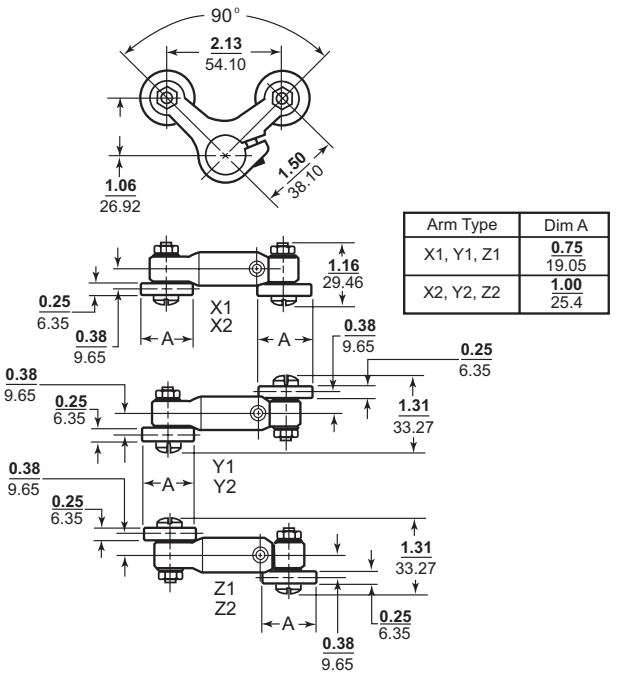
Dual dimensions: inches / mm

Severe Duty Limit Switches

9007 Mill and Foundry Switches
Lever Arms

Type T and FT Lever Arms (continued)

90° Forked



Arm Type	Dim A
X1, Y1, Z1	0.75 19.05
X2, Y2, Z2	1.00 25.4

120° Forked

