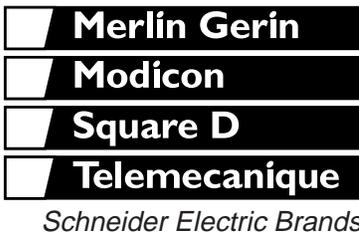


Pneumatic Timers

Types A, B, C and H

Class 9050



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Pneumatic Timers

9050A – AC Operated Coils



Type AO10E

Number of Contacts				Complete Timer		Replacement Timer Head	Replacement Snap Switch
Time Delay		Instantaneous		On-Delay	Off-Delay		
N.O.	N.C.	N.O.	N.C.				
1	1	0	0	9050AO10E*	9050AO10D*	9050G35	9007AO104
		1	1	9050AO11E*	9050AO11D*		9007AO104 & 9007AO104
		2	2	9050AO12E*	9050AO12D*		9007AO104 & 9007CO3
2	2	0	0	9050AO20E*	9050AO20D*	9050G36	9007CO3
		1	1	9050AO21E*	9050AO21D*		9007AO104 & 9007CO3
		2	2	9050AO22E*	9050AO22D*		9007CO3 & 9007CO3
1 Per Head	1 Per Head	0	0	9050AO110DE*		(2) 9050G35	(2) 9007AO104
2 Per Head	2 Per Head	0	0	9050AO220DE*		(2) 9050G35	(2) 9007CO3

* Voltage code must be specified to order this product. Refer to the Replacement Coil table below for the appropriate voltage code and add it to the end of the catalog number.

Modification Kits

Class	Type	For Timing Relay	Description
9991	UE6	Type A (single headed) Type H	Separate NEMA Type 1 Enclosure
9999	R33●	Type A	SPDT Instantaneous Contact Kits (1 N.O., 1 N.C.)
9999	R34●	Type A	DPDT Instantaneous Contact Kits (2 N.O., 2 N.C.)

● Instantaneous contact kits contain a snap switch, mounting bracket, and screws for field installation.

Characteristics

Timing Mode	On-Delay or Off-Delay convertible. On-Delay types can be wired for interval-maintained start or repeat cycle (sequencing using two devices). See wiring diagrams on page 6.
Timed and Instantaneous Output Contacts	SPDT or DPDT snap switches. Contacts of each pole must be used on the same polarity.
Repeat Accuracy	Under constant temperature (per NEMA Standard ICS5-1993) ±10% to 1 minute maximum.
Timing Range	0.1 second to 1 minute
Reset Time	On-Delay: 29ms average; Off-Delay: 27ms average.
Operating Temperature Range	68° to 104°F (20° to 40°C)
Voltage Range	+10% to -15% of nominal
Output Contact Ratings	See table on next page

Replacement Coils

Coil Voltage	Coil Part Numbers and Voltage Codes				Burden (Volt-Amperes)		
	Part Number 60Hz Coil	Voltage Code	Part Number 50Hz Coil	Voltage Code	Inrush 60Hz	Inrush 50Hz	Sealed
12Vac	2959S49W22A	V11	2959S49W22B	V36	89	82	20
24Vac	2959S49W25A	V01	2959S49W25B	V12			
48Vac	2959S49W28A	V18	2959S49W28B	V16	74	68	17
110Vac			2959S49W32A	V02			
120Vac	2959S49W32A	V02					
208Vac	2959S49W34A	V08					
220Vac			2959S49W35A	V03			
240Vac	2959S49W35A	V03					
277Vac	2959S49W35B	V04					
440Vac			2959S49W38A	V06			
480Vac	2959S49W38A	V06					
550Vac			2959S49W39A	V07			
600Vac	2959S49W39A	V07					



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For additional information refer to Instruction Bulletin 30072-007-46C.



Pneumatic Timers 9050H – DC Operated Coils



Type HO10E

Number of Contacts				Complete Timer		Replacement Timer Head	Replacement Snap Switch
Time Delay		Instantaneous		On-Delay	Off-Delay		
N.O.	N.C.	N.O.	N.C.				
1	1	0	0	9050HO10E*	9050HO10D*	9050G37	9007AO104
2	2	0	0	9050HO20E*	9050HO20D*	9050G38	9007CO3

* Voltage code must be specified to order this product. Refer to the Replacement Coil table below for the appropriate voltage code and add it to the end of the catalog number.

Characteristics

Timing Mode	On-Delay or Off-Delay convertible. On-Delay types can be wired for interval-maintained start or repeat cycle (sequencing using two devices). See wiring diagrams on page 6.
Timed and Instantaneous Output Contacts	SPDT or DPDT snap switches. Contacts of each pole must be used on the same polarity.
Repeat Accuracy	Under constant temperature (per NEMA Standard ICS5-1993) $\pm 10\%$ to 1 minute maximum.
Timing Range	0.15 second to 1 minute
Reset Time	On-Delay: 50ms average; Off-Delay: 70ms average.
Operating Temperature Range	68° to 104°F (20° to 40°C)
Voltage Range	+10% to -20% of nominal

Contact Ratings for Types A and H

Contacts	Volts	AC Ratings						Volts	DC Ratings		
		Inductive 35% Power Factor				Continuous Amperes	Resistive 75% Power Factor Make, Break and Continuous Amperes		Inductive and Resistance		
		Make		Break					Single Throw	Double Throw	Continuous Amperes
		Amperes	VA	Amperes	VA						
SPDT Timed or Instantaneous	120	40	—	15	—	15	115	2.0	0.5	15	
	240	20	—	10	—	15		230	0.5	0.2	15
	480	10	—	6	—	15		600	0.1	0.02	15
	600	8	—	5	—	15		—	—	—	—
DPDT Timed or Instantaneous	120	30	3600	3	360	10	115	1.0	0.2	10	
	240	15	3600	1.5	360	10		230	0.3	0.1	10
	480	7.5	3600	0.75	360	10		600	0.1	—	10
	600	6	3600	0.6	360	10		—	—	—	—

Replacement Coils

Coil Voltage	Part Number	Voltage Code	Burden
6Vdc	4491S1W21	V50	12 Watts Average
12Vdc	4491S1W24	V51	
24Vdc	4491S1W27	V53	
36Vdc	4491S1W29	V69	
48Vdc	4491S1W30	V56	
115Vdc	4491S1W34	V61	
230/250Vdc	4491S1W37	V66	

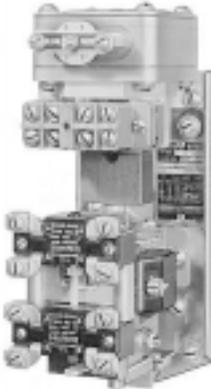


For additional information refer to Instruction Bulletin 30072-002-53B.



Pneumatic Timers

9050B – AC Operated Coils



Type BO23D

Number of Contacts				With Standard Dial				With Micrometer Dial			
Time Delay		Instantaneous		Complete Timer		Replacement Timer Head	Replacement Snap Switch	Complete Timer		Replacement Timer Head	Replacement Snap Switch
N.O.	N.C.	N.O.	N.C.	On-Delay	Off-Delay			On-Delay	Off-Delay		
1	1	0	0	9050BO1E*	9050BO1D*	9050G23	9007AO102	9050BO4E*	9050BO4D*	9050G25	9007AO105
		1	1	9050BO2E*	9050BO2D*		9007AO102 & 9007BO3	9050BO5E*	9050BO5D*		9007AO105 & 9007BO3
		2	2	9050BO3E*	9050BO3D*		9007AO102 & (2) 9007BO3	9050BO6E*	9050BO6D*		9007AO105 & (2) 9007BO3
2	2	0	0	9050BO21E*	9050BO21D*	9050G24	9007CO3	9050BO24E*	9050BO24D*	9050G26	9007CO3
		1	1	9050BO22E*	9050BO22D*		9007CO3 & 9007BO3	9050BO25E*	9050BO25D*		9007CO3 & 9007BO3
		2	2	9050BO23E*	9050BO23D*		9007CO3 & (2) 9007BO3	9050BO26E*	9050BO26D*		9007CO3 & (2) 9007BO3

* Voltage code must be specified to order this product. Refer to the Replacement Coil table below for the appropriate voltage code and add it to the end of the catalog number.

Modification Kits

Class	Type	Description
9991	BCG	Separate NEMA Type 1 General Purpose Enclosure
9999	R4 R5	Instantaneous Contact■ Instantaneous Contact■

■ Instantaneous contact kits contain a snap switch, mounting bracket, and screws for field installation. A second instantaneous contact kit can be added to a timing relay with only one instantaneous contact.

Characteristics

Timing Mode	On-Delay or Off-Delay convertible. On-Delay types can be wired for interval-maintained start or repeat cycle (sequencing using two devices). See wiring diagrams on page 6.
Timed and Instantaneous Output Contacts	SPDT or DPDT snap switches. Contacts of each pole must be used on the same polarity.
Repeat Accuracy	Under constant temperature (per NEMA Standard ICS5-1993) ±10% to 3 minute maximum.
Timing Range	Standard Dial: 0.05 second to 3 minutes; Micrometer Dial: 0.2 second to 3 minutes
Reset Time	34ms average
Operating Temperature Range	68° to 104°F (20° to 40°C)
Voltage Range	+10% to -15% of nominal
Output Contact Ratings	See table on next page

Replacement Coils

Coil Voltage	Coil Part Numbers and Voltage Codes				Burden (Volt-Amperes)		
	Part Number 60Hz Coil	Voltage Code	Part Number 50Hz Coil	Voltage Code	Inrush 60Hz	Inrush 50Hz	Sealed
12Vac	31017-400-24	V11			198	NA	32
24Vac	31017-400-33	V01					
48Vac	31017-400-42	V18					
110Vac			31017-400-54	V02	165	155	27
120Vac	31017-400-54	V02					
208Vac	31017-400-61	V08					
220Vac			31017-400-63	V03			
240Vac	31017-400-63	V03					
277Vac	31017-400-65	V04					
440Vac			31017-400-72	V06			
480Vac	31017-400-72	V06					
550Vac			31017-400-75	V07			
600Vac	31017-400-75	V07					



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CCN 3211 03

For additional information refer to Instruction Bulletins 290AS and 295AS.

Pneumatic Timers 9050C – DC Operated Coils



Type CO1E

Number of Contacts				With Standard Dial				With Micrometer Dial			
Time Delay		Instantaneous		Complete Timer		Replacement Timer Head	Replacement Snap Switch	Complete Timer		Replacement Timer Head	Replacement Snap Switch
N.O.	N.C.	N.O.	N.C.	On-Delay	Off-Delay			On-Delay	Off-Delay		
1	1	0	0	9050CO1E*	9050CO1D*	9050G27	9007AO104	9050CO3E*	9050CO3D*	9050G29	9007AO104
		1	1	9050CO2E*	9050CO2D*		9007AO104 & 9007BO4	9050CO4E*	9050CO4D*		9007AO104 & 9007BO4
		2	2	9050CO5E*	9050CO5D*		9007AO104 & (2) 9007BO4	9050CO6E*	9050CO6D*		9007AO104 & (2) 9007BO4
2	2	0	0	9050CO21E*	9050CO21D*	9050G28	9007CO3	9050CO23E*	9050CO23D*	9050G30	9007CO3
		1	1	9050CO22E*	9050CO22D*		9007CO3 & 9007BO4	9050CO24E*	9050CO24D*		9007CO3 & 9007BO4
		2	2	9050CO25E*	9050CO25D*		9007CO3 & (2) 9007BO4	9050CO26E*	9050CO26D*		9007CO3 & (2) 9007BO4

* Voltage code must be specified to order this product. Refer to the Replacement Coil table below for the appropriate voltage code and add it to the end of the catalog number.

Modification Kits

Class	Type	Description
9991	BCG	Separate NEMA Type 1 General Purpose Enclosure
9999	R4 R5	Instantaneous Contact■ Instantaneous Contact■
9999	K5	Parts required to change Type C timing relay from Off-Delay to On-Delay
9999	K6	Parts required to change Type C timing relay from Off-Delay to On-Delay

■ Instantaneous contact kits contain a snap switch, mounting bracket, and screws for field installation. A second instantaneous contact kit can be added to a timing relay with only one instantaneous contact.

Replacement Coils

Coil Voltage	Part Number	Voltage Code	Burden
6Vdc	31018-400-22	V50	14 Watts Average
12Vdc	31018-400-31	V51	
24Vdc	31018-400-40	V53	
36Vdc	31018-400-46	V69	
48Vdc	31018-400-49	V56	
115Vdc	31018-400-61	V61	
230/250Vdc	31018-400-70	V66	

Characteristics

Timing Mode	On-Delay or Off-Delay convertible. On-Delay types can be wired for interval-maintained start or repeat cycle (sequencing using two devices). See wiring diagrams on page 6.
Timed and Instantaneous Output Contacts	SPDT or DPDT snap switches. Contacts of each pole must be used on the same polarity.
Repeat Accuracy	Under constant temperature (per NEMA Standard ICS5-1993) ±10% to 3 minute maximum.
Timing Range	Standard Dial: 0.05 second to 3 minutes Micrometer Dial: 0.2 second to 3 minutes
Reset Time	34ms average
Operating Temperature Range	68° to 104°F (20° to 40°C)
Voltage Range	+10% to -20% of nominal

Contact Ratings for Types B and C

Type	Volts	AC Ratings						Volts	DC Ratings					
		Inductive 35% Power Factor				Continuous Amperes	Resistive 75% Power Factor		Inductive and Resistance				Continuous Amperes	
		Make		Break					Make, Break and Continuous Amperes	Make and Break Amperes		Continuous		
		Amps	VA	Amps	VA	Single Throw	Double Throw			Ind.	Res.			
Type B SPDT Timed Contacts	120	40	—	15	—	15	15	115	0.5	0.5	0.25	0.25	15	
	240	20	—	10	—	15	15	230	0.25	0.25	0.1	0.1	15	
	480	10	—	6	—	15	15	600	0.05	0.05	—	—	15	
	600	8	—	5	—	15	15							
Type C SPDT Timed Contacts	120	40	—	15	—	15	15	115	2.0	2.0	0.5	0.5	15	
	240	20	—	10	—	15	15	230	0.5	0.5	0.2	0.2	15	
	480	10	—	6	—	15	15	600	0.1	0.1	0.02	0.02	15	
	600	8	—	5	—	15	15							
Types B and C DPDT Timed Contacts	120	30	3600	3	360	10	10	115	1.0	1.0	0.2	0.2	10	
	240	15	3600	1.5	360	10	10	230	0.3	0.3	0.1	0.1	10	
	480	7.5	3600	0.75	360	10	10	600	0.1	0.1	—	—	10	
	600	6	3600	0.6	360	10	10							
Type B (AC only) and Type C Instantaneous Contacts	120	60	7200	6	720	10	10	115	1.1	1.1	0.2	0.2	10	
	240	30	7200	3	720	10	10	230	0.25	0.25	0.1	0.1	10	
	480	15	7200	1.5	720	10	10	600	0.05	0.05	—	—	10	
	600	12	7200	1.2	720	10	10							

For additional information refer to Instruction Bulletin 296AS and 297AS.



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File LR60905
CCN 3211 03

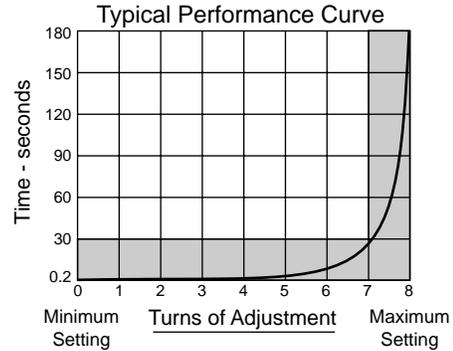
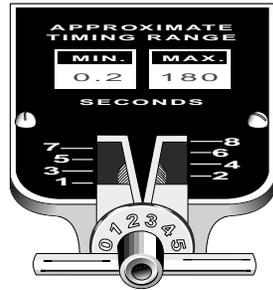


Pneumatic Timers

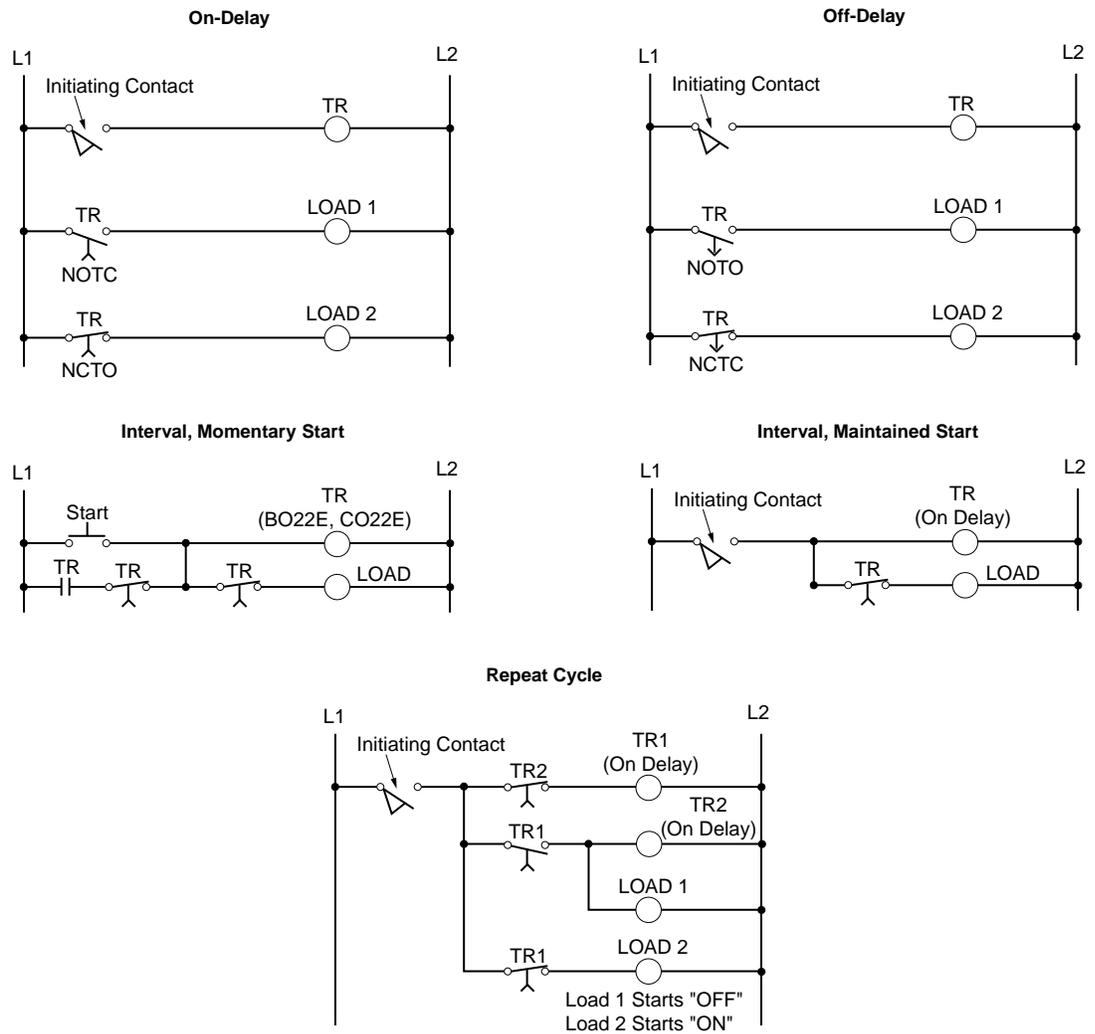
Micrometer Dial Information, Wiring Diagrams

OPTIONAL MICROMETER DIAL FOR 9050B AND 9050C TIMERS

The optional micrometer dial provides an accurate reference setting of the timer to the nearest 1/10 turn of the knob. Eight complete turns, each divided into tenths, provide 80 numbered settings of the dial. Once a time delay has been set up, the dial number can be recorded and the timer returned to that setting for any future machine operation. A typical performance curve is shown below. Calibrated curves are not furnished for individual timers.

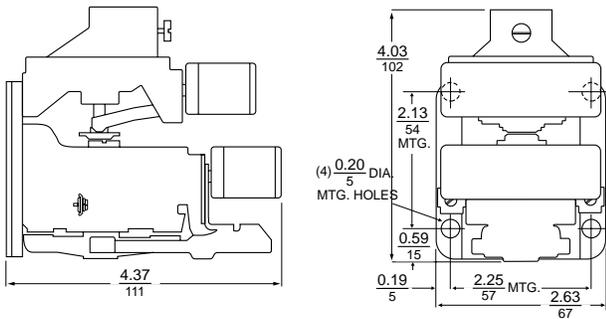


WIRING DIAGRAMS

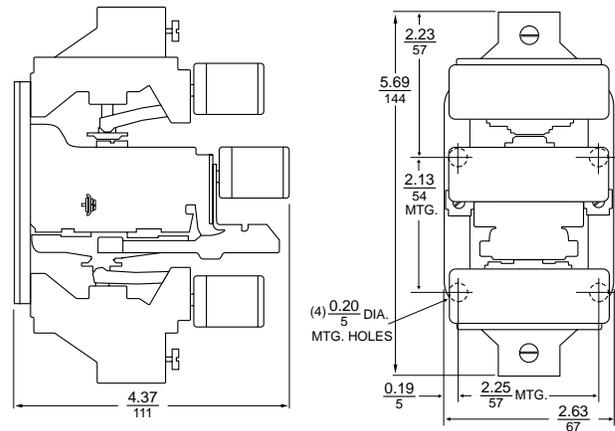


Pneumatic Timers Approximate Dimensions

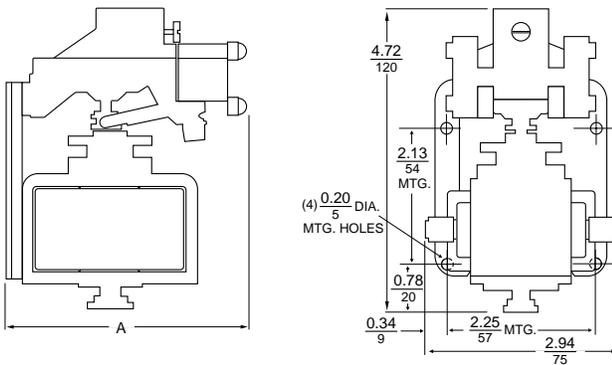
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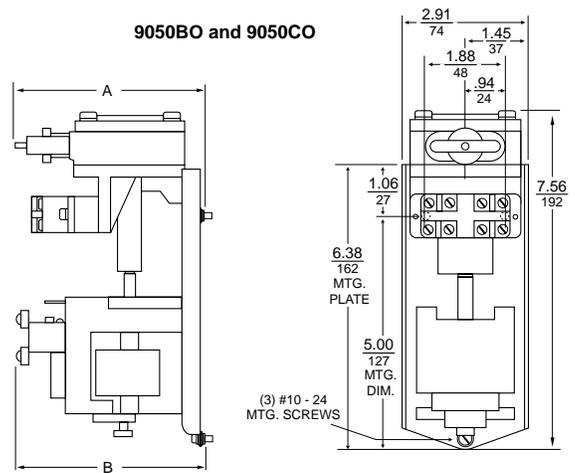
9050AO110 and 9050AO220



9050HO



9050BO and 9050CO



Catalog Number	A
9050HO10	$\frac{4.10}{104}$
9050HO20	$\frac{3.75}{95}$

Catalog Number	A	B
9050BO1, BO2, and BO3	4.25 (1.08)	4.00 (1.02)
9050BO21, BO22, and BO23		
9050BO4, BO5, and BO6	4.88 (1.24)	4.00 (1.02)
9050BO24, BO25, and BO26		
9050CO1, CO2, and CO5	4.19 (1.06)	4.25 (1.08)
9050CO21, CO22, and CO25		
9050CO3, CO4, and CO6	4.88 (1.24)	4.25 (1.08)
9050CO23, CO24, and CO26		

Dual Dimensions: **INCHES**
Millimeters



Pneumatic Timers

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