

PNEUMATIC TIMING RELAYS

AC RESISTANCE WELDER CONTROL

TYPE ATO

CLASS
8991

The Class 8991 Type ATO is an individual, flush mounting, pneumatic timing unit with a large adjusting dial calibrated in cycles. A range of from 3 to 120 cycles is standard for 60 cycle frequency

except for Weld Interval timers which are calibrated from 8 to 360 cycles.

25-60 HERTZ		CLASS 8991		600 VOLTS MAX.			
Description	Nameplate Marking	† Calibration in Cycles	Time Delay After:	*Interlocks		Open Type	
				Provision For	Number Installed	Type	Price
Individual flush mounting timer units for installation in Safront timer panels	Squeeze Time	3-120	Energization	No	0	ATO-8	\$316.
	Weld Time	3-120	Energization	No	0	ATO-9	316.
	Hold Time	3-120	Energization	No	0	ATO-10	316.
	Off Time	3-120	De-energization	No	0	ATO-11	316.
	Weld Interval	8-360	Energization	No	0	ATO-12	316.
	Heat Time	3-120	Energization	No	0	ATO-13	316.
	Cool Time	3-120	De-energization	No	0	ATO-14	316.
	Weld Time	3-120	Energization	Yes	1	*ATO-15	352.
	.....	3-120	★ Energization	Yes	0	ATO-16	316.
	.....	3-120	★ De-energization	Yes	0	ATO-16-S1	316.
	.....	3-120	Energization	Yes	1	ATO-17	352.
	.....	8-360	De-energization	Yes	1	▲ATO-18	352.

† Timers for 50 or 60 cycles are calibrated on 60 cycle basis. For 50 cycle devices, multiply dial reading by 5/6 to obtain actual time in cycles. Timers for 25 cycles are calibrated 2 to 50 cycles (or 4 to 150 cycles) on 25 cycle basis.

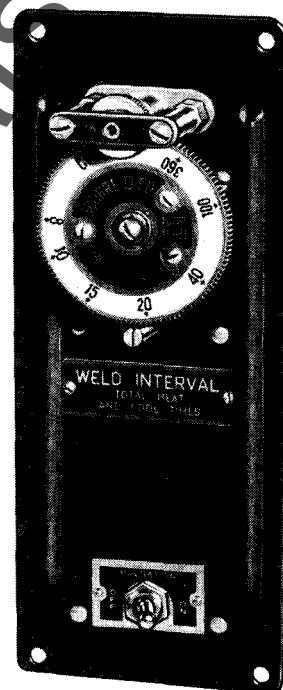
For special calibrations to a maximum range of 360 cycles, add \$44. list. For calibration beyond 360 cycles, consult Square D Field Office.

* A maximum of two 9007 BO-3 snap switch interlocks (S.P.D.T.) can be mounted on timers which have provision for interlocks. Order parts kit 9999-R4 for field installation of each interlock. On timers without provision for interlocks, provision can be made by changing the armature lever and armature lever guide. One interlock, factory installed, \$36. Two interlocks, factory installed, \$58.

★ Invertible magnet for time delay after energization or de-energization.

▲ Includes OFF-ON toggle switch.

NOTE: Timed Contacts are S.P.D.T. (9007 AO-102). For 2 P.D.T. (9007 CO-3) Timed Contacts, Factory Installed on Any ATO Timer, Add \$66. Specify Form W63.



Class 8991 TYPE ATO-18

ELECTRICAL CONTACT RATINGS

TIME DELAY CONTACTS										INTERLOCK CONTACTS					
Types AO-102 (S.P.D.T.)*					Types CO-3 (2 P.D.T.)*					Type BO-3 (S.P.D.T.)			Type BO-4 (S.P.D.T.)		
Volts	AC Pilot Duty Amperes†		DC Pilot Duty Amperes‡		Volts	AC Pilot Duty †		Volts	DC Pilot Duty Amps.‡	Volts	AC Pilot Duty Amperes†		Volts	DC Pilot Duty Amperes‡	
	Make	Break	Double Throw	Single Throw		Make	Break				Make	Break		Double Throw	Single Throw
120	40	15	0.25	0.5	0-115	30 Amps.	3 Amps.	115	1.0	0.2	120	60	6	0.25	1.1
240	20	10	0.1	0.25	115-600	3450 VA	345 VA	230	0.3	0.1	240	30	3	0.1	0.25
480	10	6	▲	.....				600	0.1	▲	480	15	1.5	▲	0.05
600	8	5	▲	0.05							600	12	1.2		

* AC continuous ampere rating is 15 amperes based on a 75% power factor.

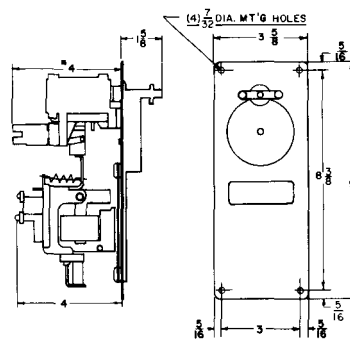
† AC continuous ampere rating is 10 amperes based on a 75% power factor.

‡ AC pilot duty rating is based on a 35% power factor.

▲ DC pilot duty rating is based on inductive loads such as coils and solenoids.

▲ Double throw switches rated 250 volts dc maximum.

APPROXIMATE DIMENSIONS



* 4 7/32 ON ATO 16

2100-D678

ORDERING INFORMATION REQUIRED

1. Specify class and type number.
2. If special features are desired, order "Class 8991 similar to Type . . . except . . ." describing clearly the modification.
3. Give control circuit voltage and frequency.