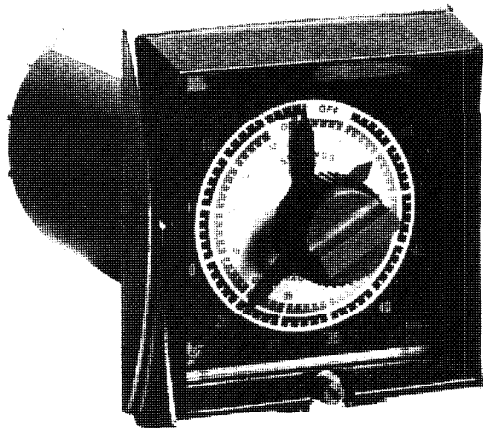


TIME CONTROL



HG1 FLEXOPULSE® SERIES REPEAT CYCLE TIMER



... **ON-OFF Repeat Cycle Timer** engineered with the same features as the rest of the plug-in **CYCL-FLEX®** family.

The HG1 FLEXOPULSE® Series is a repeat cycle, two circuit timer, housed in the popular Cycl-Flex® plug-in case. The HG1 has a separate dial scale for "ON" time and "OFF" time. Both "ON" and "OFF" time intervals are individually adjustable by concentric knobs on the front of the unit. The combination of the "ON" plus the "OFF" time equals the total time cycle of the unit.

OPERATION

A cycle progress pointer oscillates between the "ON" and "OFF" time set points. As this pointer crosses the zero point on the dial, two internal 10 amp S.P.D.T. output switches transfer. The transfer point of the output switches is adjustable to allow a make before break (overlap) or a break before make (dwell) switch action. The overlap or dwell time interval is limited to 1.5% of the total ("ON" plus "OFF") time cycle.

A synchronous uni-directional motor drives the unit through precision gearing. Instant reversing of the progress pointer is accomplished by positive mechanical action.

SPECIFICATIONS

Time Ranges

Symbol	Dial Range	Minimum Setting	Maximum Dwell or Overlap
00	30 Sec	.5 Sec	5 Sec
01	60 Sec	1 Sec	1 Sec
02	150 Sec	2 Sec	2 Sec
03	5 Min	5 Sec	5 Sec
04	10 Min	10 Sec	10 Sec
05	30 Min	30 Sec	30 Sec
06	60 Min	1 Min	1 Min
07	150 Min	2 Min	2 Min
08	5 Hrs	5 Min	5 Min
09	10 Hrs	10 Min	10 Min
10	30 Hrs	30 Min	30 Min

Repeat Accuracy

½ of 1% of Dial

Voltage/Frequency

120 Volt 60 Hz

240 Volt 60 Hz

Burden

2.5 VA @ 120 Volt AC

Output Ratings

10 Amp 120 VAC, 5 Amp 240 VAC (Resistive).

Mechanical life 10,000,000 operations.

Switch life 250,000 under 10 Amp 120 VAC resistive load
1,000,000 under 5 Amp, 120 VAC resistive load.

Temperature Range

-20° to +140°F

Enclosures and Accessories

Refer to Bulletin 2500

Dimensions

Refer to Back Page of this Bulletin.

Laboratory Testing

U. L. Recognition E-61735

C.S.A. Certification LR-26861



Eagle Signal Controls

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TIME CONTROL



WIRING DIAGRAMS

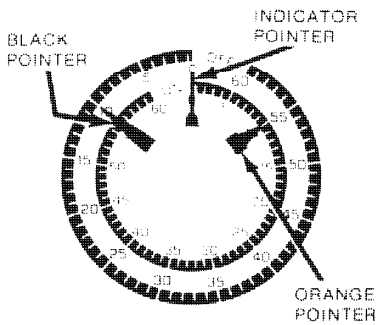


Figure 1

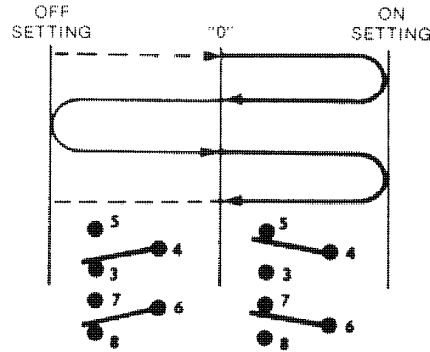
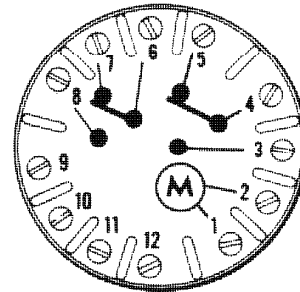


Figure 2



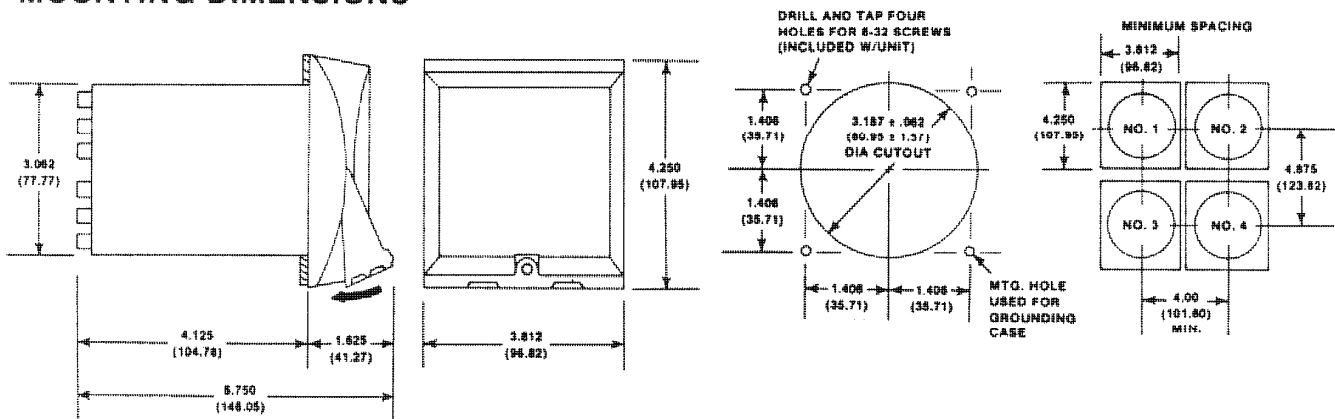
TERMINAL ARRANGEMENT

Figure 3 CONTACTS SHOWN IN "ON" POSITION

OPERATION

To set: Move the black pointer to the desired OFF setting and the orange pointer to the desired ON setting. The sum of these ON and OFF intervals cannot exceed the total time of one scale. Switch contacts are tripped open or closed each time the indicator pointer passes 0. When the indicator pointer is in the OFF scale to the left of 0 contacts 4-3 and contacts 6-8 are closed and 4-5 and 6-7 are open. When the indicator pointer is in the ON scale to the right side of 0 contacts 4-5 and 6-7 are closed and 4-3 and 6-8 are open. The indicator pointer must travel to the preset limit and back to 0 to complete the total ON or OFF interval. The two switches can operate together or be set to allow a break before make (dwell) interval or make before break (overlap) between ON-OFF switching. Refer to the standard time range chart under specifications for the maximum dwell or overlap interval for each time range. Figure 2 illustrates the path of the indicator pointer and the switch action each time the zero point is passed. Figure 3 illustrates the terminal location on the rear of the unit case.

MOUNTING DIMENSIONS



ORDERING INFORMATION

Consult Eagle for availability of other time ranges, voltages, and frequencies.

HG1 01 A6 05

TIME RANGE

See Specifications for Time Range Catalog Symbol

VOLTAGE & FREQUENCY

SYMBOL	DESCRIPTION
A6	120 VAC 60 Hz
B6	240 VAC 60 Hz

FEATURES

SYMBOL	DESCRIPTION
05	Revised for Mounting in Explosion Proof Housing
07	Dial Lock
92	Enclosed in HN388 Explosion Proof Housing

Request Bulletin 321E for timer parts list or Bulletin 321C for dwell-overlap switch adjustment.



HG100 SERIES DWELL-OVERLAP SWITCH ADJUSTMENTS

Instructions for adjusting cams of HG100 Series FLEXOPULSE® Timers for dwell or overlap.

For purposes of standardization, dwell and overlap will be as follows:

Dwell

3-4-5 switch will transfer from 4-5 to 4-3 before 6-7-8 switch transfers from 6-7 to 6-8 as red cycle progress pointer moves counter-clockwise from "ON" scale to "OFF" scale.

Overlap

6-7-8 switch will transfer from 6-7 to 6-8 before 3-4-5 switch transfers from 4-5 to 4-3 as red cycle progress pointer moves counter-clockwise from "ON" scale to "OFF" scale.

The following will show switch contact positions.

Switches Adjusted for:	Contact Positions During "ON" Timing	Contact Positions as Pointer Passes Zero	Contact Positions During "OFF" Timing
Dwell			
Overlap			

Maximum dwell or overlap of approximately 1.6% of total dial range may be obtained by repositioning cams.

Cams should be repositioned as follows, viewing unit from front:

Dwell

Rear Cam — Clockwise
Front Cam — Counter-Clockwise

Overlap

Rear Cam — Counter-Clockwise
Front Cam — Clockwise

Check for a minimum of 0.010" overtravel of switch levers in both directions after adjustment has been made.

Dwell

A time clock may be used to time the dwell interval by bridging terminals 4 and 6 and attaching time clock leads to terminals 3 and 7.

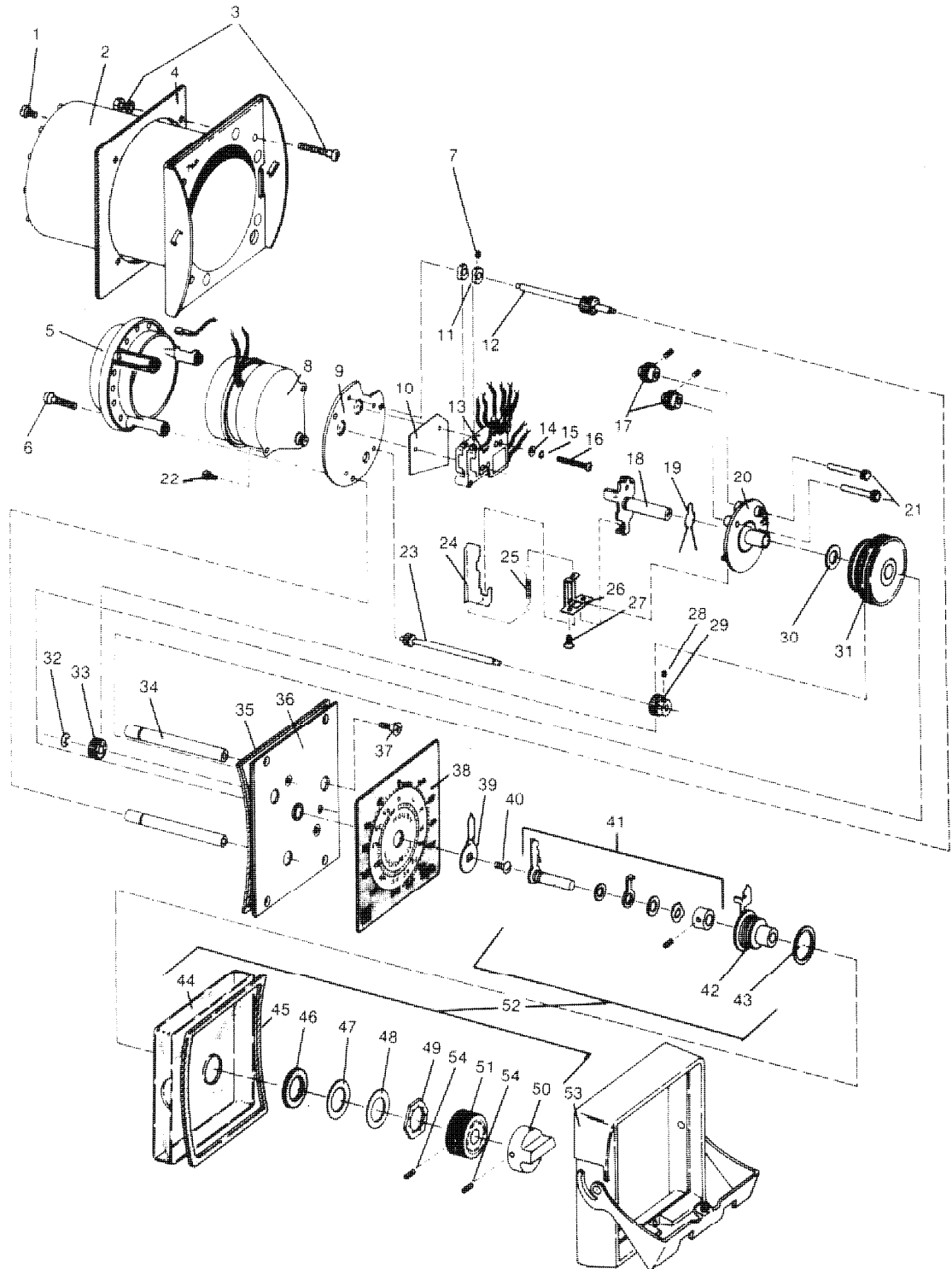
Overlap

To time overlap interval, bridge terminals 4 and 6 and attach time clock leads to terminals 5 and 8.



PARTS LIST HG1 FLEXOPULSE® Repeat Cycle Timer

BULLETIN 341-E



1. 0123214 6-32 x 1/4 Screw
2. HP50-130 Housing Assembly
3. 0196403 Mounting Screw Package
4. PBG-58 Gasket
5. PDM-590 Terminal Ring
6. 0128717 6-32 x 7/16 Screw
7. 0135307 2-56 x 3/32 Set Screw
8. Motor (See Chart)
9. H-11430 Motor Plate
10. PZA-360 Switch Insulator
11. H-11431 Cam
12. HG 100-51 Shaft & Pinion
13. PAS-560 Switch Module
14. 0155601 #2 Flat Washer
15. 0158102 #2 Lockwasher
16. 0116013 2-56 x 13/16 Screw
17. H-8993 Ratchet & 0135307 Set Screw
18. HG100-44 Trip Lever Assembly
19. PES-343 Spring Clip
20. H-11614 Trip Disc
21. H-10012 Pinion
22. 0144930 4-40 x 1/4 SEMS
23. HG100-36 Drive Shaft
24. H-10712 Pawl Spring
25. PES-350 Trip Spring
26. H-10714 Pawl Spring Bracket
27. 0133912 4-24 x 3/8 Screw
28. 0135416 5-40 x 3/32 Set Screw
29. H-10262 Pinion
30. H-6611 Shim Washer
31. HG100-49 Gear Set Assembly
32. PER-1 Retaining Ring
33. H-8907 Pinion
34. H-7621 Post
35. 1105-0281 Gasket
36. HG100-4 Front Plate
37. 0118817 6-32 x 3/16 Screw
38. Dial (See Chart)
39. H-10459 Progress Pointer
40. 0123212 6-32 x 3/16 Screw
41. HG100-138 ON Pointer Assembly
42. HG100-37 OFF Pointer Assembly
43. 0158633 Washer
44. PDM-440 Window
45. PBG-83 Gasket
46. PBG-18 Gasket
47. 0158634 Washer
48. H-6556 Washer
49. 0154315 Pal Nut
50. PBK-84 Knob
51. PBK-85 Knob
52. HG100-139 Window, Knob & Pointer Assy.
53. HP50-290 Bezel and Handle Assembly
54. 0135417 5-40 x 1/8 Set Screw

MOTOR (Ref 8) and DIAL (Ref 38) CHART

Symbol	Time Range	Motor RPM	MOTORS			DIALS	
			120V 50 or 60 Hz	240V 60 Hz	240V 50 Hz *	60 Hz	50 Hz
00	30 Sec.	20	PMM-1	PMM-2	PMM-2	PAN-1030	PAN-1052
01	60 Sec.	10	PMM-17	PMM-18	PMM-18	PAN-1031	PAN-1053
02	150 Sec.	4	PMH-278	PMH-279	PMH-279	PAN-1032	PAN-1033
03	5 Min.	2	PMH-70	PMH-72	PMH-72	PAN-1034	PAN-1035
04	10 Min.	1	PMH-79	PMH-82	PMH-82	PAN-1036	PAN-1037
05	30 Min.	1/3	PMH-91	PMH-94	PMH-94	PAN-1038	PAN-1039
06	60 Min.	1/6	PMH-97	PMH-100	PMH-100	PAN-1040	PAN-1041
07	150 Min.	1/15	PMH-115	PMH-118	PMH-118	PAN-1042	PAN-1043
08	5 Hr.	1/30	PMH-127	PMH-130	PMH-130	PAN-1044	PAN-1045
09	10 Hr.	1/60	PMH-133	PMH-136	PMH-136	PAN-1046	PAN-1047
10	30 Hr.	1/180	PMM-48	PMM-49	PMM-49	PAN-1048	PAN-1049
11	60 Hr.	1/360	PMM-50	PMM-51	PMM-51	PAN-1050	PAN-1051

* Permanent magnet motor (Mallory) requires PGR-204 MOV (GE #V275LA20 or equivalent) across motor for 240V 50 Hz applications.

Eagle Signal Controls

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