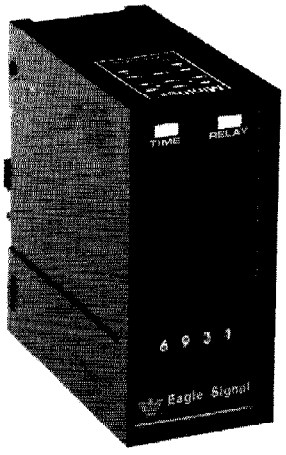
DG200 SERIES MINIFLEX® DIGITAL SET RESET TIMER



The DG200 Series Timer is a microprocessor based four digit reset timer housed in a 1/8 DIN style enclosure. Four pushbutton switches on the front of the unit provide exact setting of the time setpoint. There are four time ranges from 99.99 seconds to 99 hours: 99 minutes.

There are two versions of this timer series. The DG201 has six basic output operating modes. The DG203 has the six output modes of the DG201, but it also has a control input for Delay-On-Release and Single Shot operation. In the other modes the DG200 control input can be used for a time inhibit function which stops the timing cycle without resetting the unit.

Rocker switches located on the side of the unit are used to program the time ranges and operating modes.

The DG200 Timer can be mounted in three ways for use in most any application. The terminal connections for the unit are 3/16 inch terminals for use with a square base relay socket. This provides a means of mounting the unit within a panel. The DG200 timer can also be mounted through the front of the panel using either an economical fixed bezel kit, or a unique plug-in housing which allows easy removal for programming changes and replacement.

DG200 timer features include:

- 5 amp SPDT relay output.
- Separate LED indicators to show timing and relay output operation.
- Recessed programming rocker switches with a protective cover to help prevent accidental switch changes.
- 0.01 second setting resolution for fast time cycles and easy to use minute:second and hour:minute time ranges.
- Optically isolated control input on the DG203 version.
- Time inhibit function on the DG203 version.

SPECIFICATIONS

Time Ranges

SYM.	MAXIMUM RANGE	MINIMUM SETTING
1	99.99 Sec	.01 Sec
2	999.9 Sec	.1 Sec
3	99 Min:99 Sec	1 Sec
4	99 Hr:99 Min	1 Min

Setting Accuracy
.01% of setting or 35 milliseconds, whichever is larger.

Repeat Accuracy
.01% of setting or 35 milliseconds, whichever is larger.

Reset Time
35 milliseconds

Power On Response Time
35 milliseconds

Operating Voltage and Frequency

Symbol	Voltage & Frequency
A6	120 VAC, 50/60 Hz

The control input on the DG203 also operates at this voltage.

Operating Temperature
+32° to +122°F (0° to 50°C)

Output Rating
5 amp, 10-240 VAC resistive.

Vibration
Unit function is unaffected by 2.5G sinusoidal vibration magnitude in both directions of the perpendicular mounting axes imposed from 20 to 100 Hz.

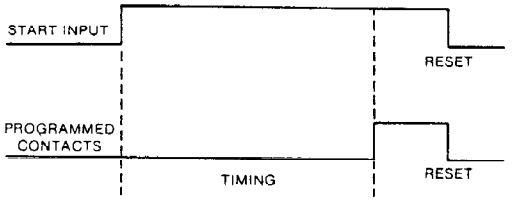
Static Discharge
Unit function is unaffected by a constant 3600 volt peak. 60 Hz discharge applied to the front plate at a relative humidity of less than 25%.

Transient Protection
Immune to 2500 volts peak transients up to 50 microseconds in duration.

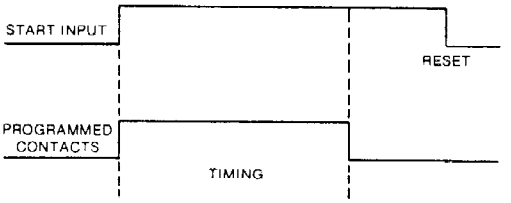
OPERATING MODES

The operating modes for the DG200 series are programmed using switches 1-3 as is described in the switch programming section of this bulletin. In the following diagrams the Start input indicates when voltage is applied to terminals A and B. The Control input is used only on the DG203 version, and is a line voltage input. The high and low states of the Output indicate when the relay is energized and deenergized. This would also indicate when the normally open contacts on the output relay are closed.

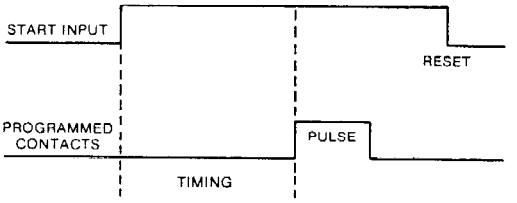
ON DELAY OPERATION — The output contacts are energized at the end of the timing cycle and remain energized until the unit is reset.



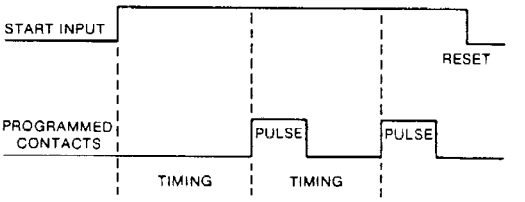
INTERVAL OPERATION — The output contacts are energized during the timing cycle and de-energized at the end of the cycle.



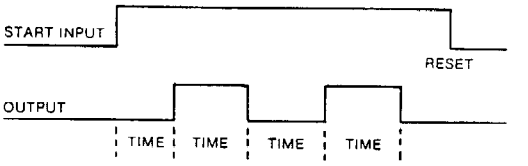
TIMED PULSE OUTPUT OPERATION — The output contacts are energized at the end of the timing cycle for a 100 millisecond pulse output.



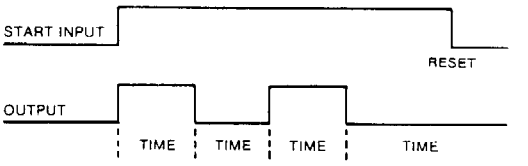
TIMED PULSE AND REPEAT OPERATION — The output contacts are energized at the end of the timing cycle for a 100 millisecond pulse. At the same time that the cycle is completed and the pulse output begins, the timing cycle resets and begins again. This repeat operation continues as long as the start circuit is energized.



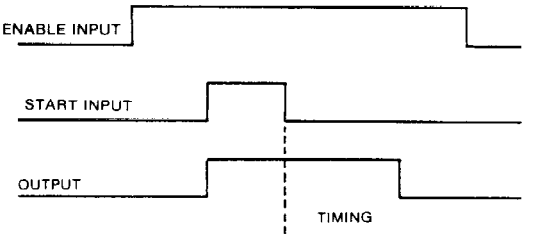
REPEAT CYCLE - OFF FIRST — The output contacts are energized for repeating OFF and ON periods. The OFF and ON time periods are the same length.



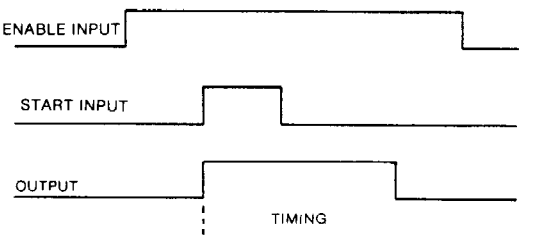
REPEAT CYCLE - ON FIRST — The output contacts are energized for repeating ON and OFF periods. The ON and OFF time periods are the same length.



DELAY ON RELEASE (DG203 Only) — The output contacts are energized when power is applied to the start input. The time delay cycle begins when the start input is opened.

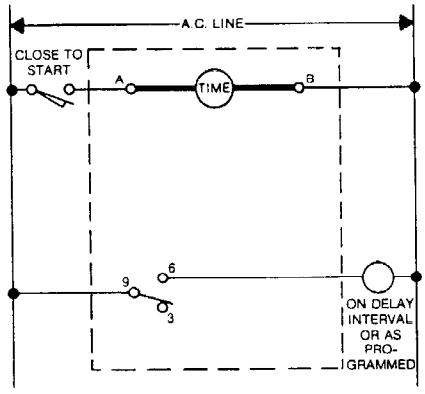


SINGLE SHOT (DG203 Only) — When power is applied to the start input, the output contacts energize and the time delay period starts. The output contacts deenergize at time out.

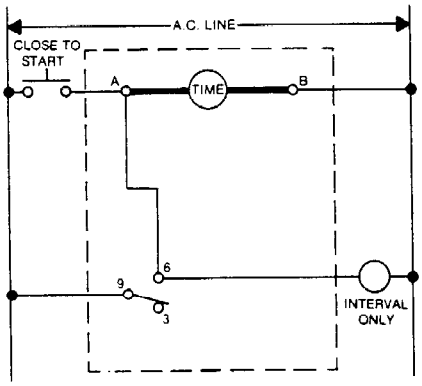


WIRING DIAGRAMS

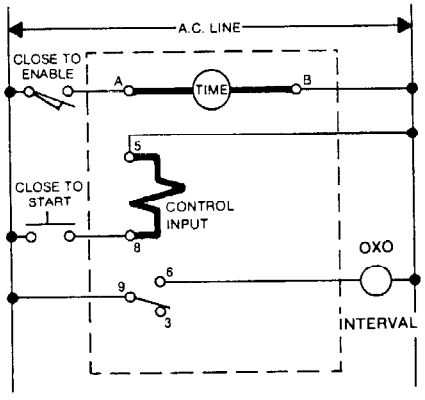
Bold Lines Are Internal Wiring



DG201 — Close start switch to start timing. Open start switch to reset. The output operation depends on the programming of rocker switches 1-3.



DG201 — Momentary Start Switch — Close switch to start timing, 9-6 provides holding circuit. Unit resets automatically. The output must be programmed for interval operation for this wiring arrangement. The output must also be operated at line voltage for the unit. **CAUTION: Duration of start input signal must be less than setpoint of timer.**



DG203 — Single Shot Operating Mode — Enable switch must be closed to enable timer. Momentary or maintained start switch closure starts timing. Timer resets automatically at end of timing. Relay contacts provide interval sequence (OXO, XOX).

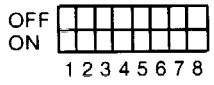
PROGRAMMING PROCEDURE

The DG200 Timer is programmed using a set of DIP rocker switches located on the bottom side of the unit. These switches are protected by a sliding cover when programming is complete.

The following table shows how to program the rocker switches for the various operating modes and time ranges.

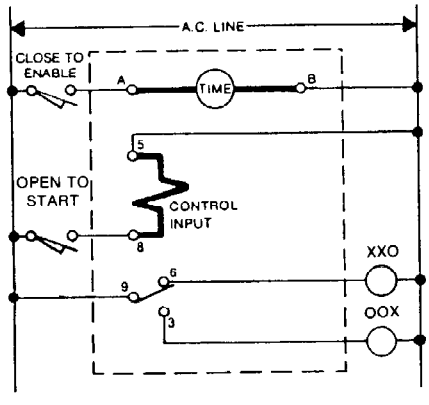
NOTE: SWITCHES 6-8 ARE NOT USED ON THE DG200 TIMER.

X = Switch ON O = Switch OFF Blank = Does Not Apply



OPERATING MODE	SWITCH NUMBER 1	2	3	4	5
OPERATING MODE					
ON Delay	X	X	X		
Interval	O	X	X		
Timed Pulse	X	O	X		
Timed Pulse & Repeat	O	O	O		
Repeat Cycle — ON First	O	X	O		
Repeat Cycle — OFF First	X	O	O		
Delay ON Release (DG203 Only)	X	X	O		
Single Shot (DG203 Only)	O	O	X		
TIME RANGE					
99.99 Seconds				X	X
999.9 Seconds				O	X
99 Min : 99 Sec				X	O
99 Hr : 99 Min				O	O

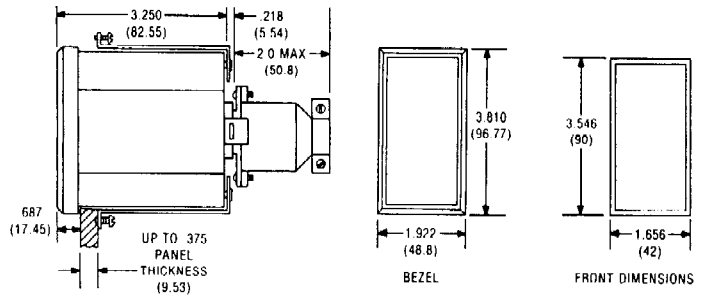
When the timer is programmed for either the Minute:Second or Hour:Minute time ranges, it is possible to set the two right digits to a value that exceeds the conventional limit of 60 seconds or minutes. When this is done, the unit will time the value set by the right two digits, and then time the value set by the left two digits. Example: A setpoint of 02 minutes and 75 seconds (195 seconds) will time for 03 minutes and 15 seconds (195 seconds).



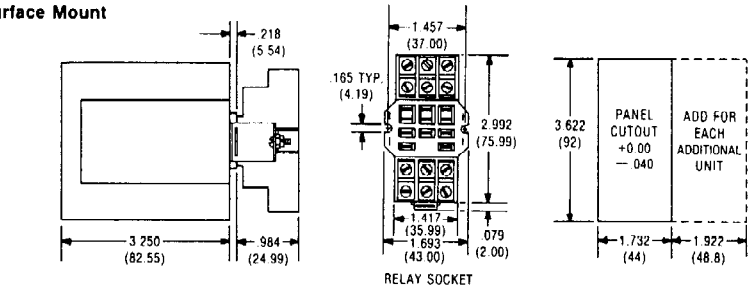
DG203 — Delay on Release Mode — Enable switch must be closed to enable timer. Maintained start switch must be open during timing. Above diagram shows timer in reset condition.

MOUNTING DIMENSIONS

Panel Mount

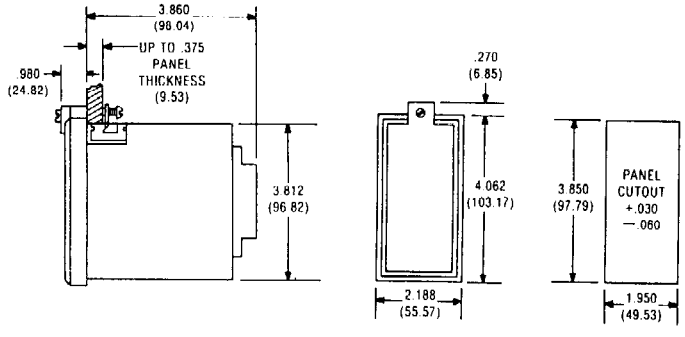


Surface Mount



NOTE: PANELS THICKER THAN .140" REQUIRE ENLARGEMENT OF CORNERS TO ALLOW POSITIONING OF CORNER MOUNTING BRACKETS

Plug-In Mount



ACCESSORIES

PART NUMBER	DESCRIPTION
DZ100-51	Bezel Kit - for panel mounting. Includes (1) Bezel, (1) gasket, (2) brackets and hardware
DZ100-54	Plug-in Housing
DZ100-56	Latch and Release Kit Used with 60SR3B05 Socket
60SR3B05	Surface/Track Mount Square Base Socket

ORDERING INFORMATION

DG2 01 A6

BASIC UNIT

SYMBOL	DESCRIPTION
DG2	5 Amp SPDT Relay Output

INPUT/OUTPUT

SYMBOL	DESCRIPTION
01	6 Operating Modes No Control Input
03	8 Operating Modes With Control Input

VOLTAGE & FREQUENCY

SYMBOL	DESCRIPTION
A6	120 VAC 50/60 Hz