SPECIFICATIONS

Accuracy
100% accurate for any count setting between 1 and 99

Count Speed
600 pulses per minute
Pulse must have minimum 40 ms ON and 60 ms OFF

Reset Time
50 ms

Cycle Progress
Pilot light ON during "COUNT" cycle

Voltage/Frequency
120 VAC (+10 -15%) 50/60 Hz or 120 VDC (+10 -15%)
240 VAC (+10 -15%) 50/60 Hz or 240 VDC (+10 -15%)

Burden

	Relay Output
120 VAC or DC	1.9 VA Max.
240 VAC or DC	2.5 VA Max.

Output Rating
Relay - 10 amp steady state
Mechanical Lifetime - Over 20 million operations
Electrical Lifetime - Contingent on load characteristics

Power Interruption
Line voltage interruptions of 16 ms or less will not reset unit

Power On Response
30ms max. after application of line voltage to pins A and B

Operating Temperature
0° to 60°C (+32° to +140°F)

Transient Voltage Immunity
Unaffected by 50 microseconds, 600 V peak transients
superimposed on the line input

Vibration
Unaffected by 2.5G sinusoidal vibration magnitudes in
both directions of three perpendicular mounting axes
imposed from 10 to 1000 Hz.
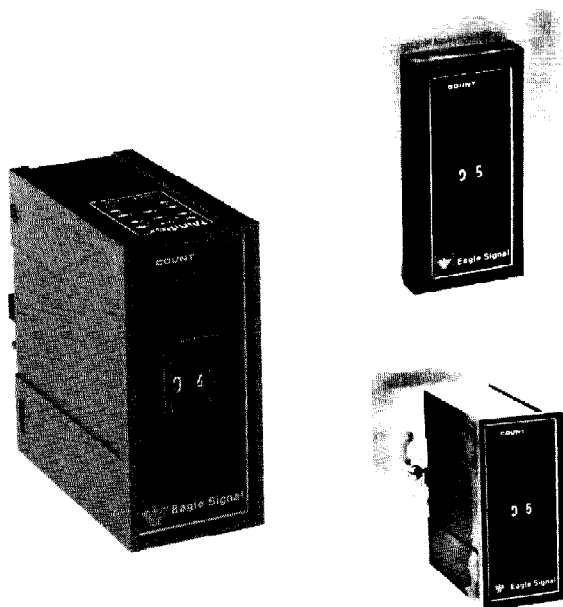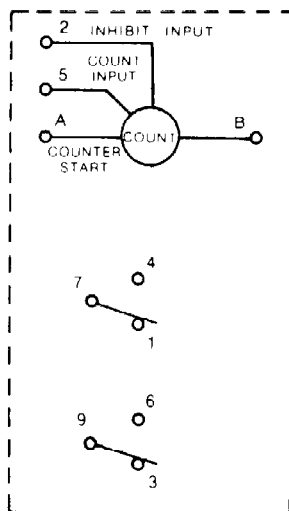
Laboratory Testing
U.L. Recognition E96337
C.S.A. Certification L26861

The DZ100 is a solid-state counter housed in a 1/8 DIN molded NORYL® case. The counter uses CMOS integrated circuits for the counting function. Counter output action occurs when the count total indicated by front mounted thumbwheel switches is reached. Standard units have an isolated double pole - double throw relay output. Factory assembly options provide "interval" or "delay" output sequences.

All connections to the DZ100 Series Counter are made through a standard square base relay socket. Accessories are available to convert the standard surface mounted into a panel mounted configuration, including a version with plug-in capability.

OPERATION

The DZ100 sets to the selected thumbwheel setting when power is applied to terminals A and B. Counts are applied to a count input terminal, and each count is registered on contact opening. When the registered counts equal the setpoint, the output changes state. The output remains in this state as long as line voltage is applied to terminals A and B. The unit resets when line voltage is removed from either terminal A or B.

A count inhibit input is available with the DZ100 Series Counter. When line voltage is applied to the count inhibit input, from either terminal A or B, incoming count pulses are not counted. The counter remembers count total at the time the inhibit is applied, and resumes counting from that point after the inhibit voltage is removed. The count inputs may be applied from either side of the power line.

3
PREDETERMINING COUNTERS

DZ100 TERMINAL ASSIGNMENTS

NOTE
RELAY OUTPUTS AND TRIAC OUTPUT
ARE NOT AVAILABLE SIMULTANEOUSLY.

RELAY OUTPUTS — STANDARD

START INPUT   CLOSE TO START,
                 OPEN TO RESET
COUNT INPUT   COUNTS ON
                 SWITCH OPENING
INHIBIT INPUT — CLOSE TO STOP
                 COUNT PROGRESS,
                 OPEN TO RESTART
                 COUNT PROGRESS

D.C. APPLICATIONS REQUIRE A
POSITIVE (+) POLARITY ON COUNT
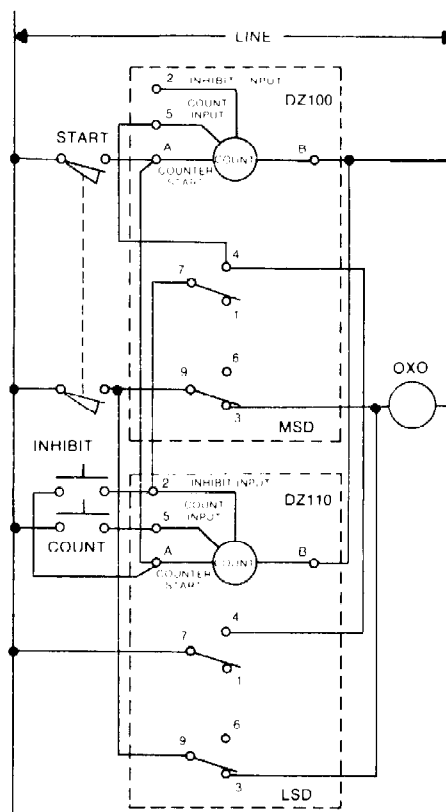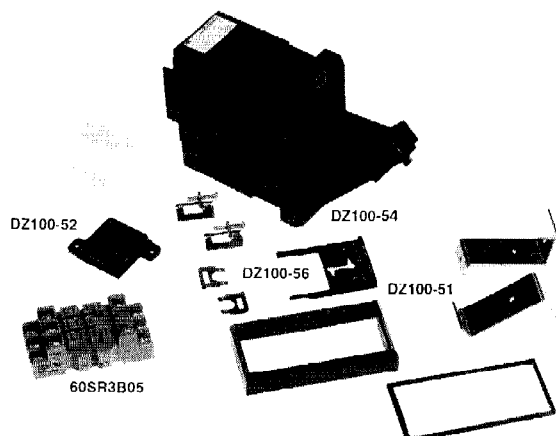INPUT AND INHIBIT LINES.

ACCESSORIES

DZ100-51 BEZEL KIT for panel mounting. Kit includes bezel, bezel gasket, brackets and mounting hardware.

DZ100-52 STRAIN RELIEF KIT provides cable connection to panel mounted unit. Includes H11496 strain relief and 4270-0621 socket and hardware.
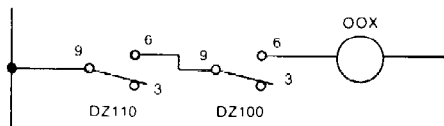
DZ100-54 PLUG-IN HOUSING for panel mounting units with plug-in convenience. Kit includes housing and mounting brackets.

DZ100-56 LATCH AND LATCH RELEASE KIT for surface mounting. Kit includes latch, spacer, latch release and mounting hardware (Use with 60SR3BO5 Relay Socket).

60SR3BO5 SQUARE BASE RELAY SOCKET

DZ100 OUTPUT SEQUENCES

The three output status conditions for a Reset Counter are RESET - COUNTING - and COUNTED OUT. Output status for each condition is indicated by an "X" or an "O", where "X" means the output is ON or energized, and "O" indicates the output is OFF or de-energized. Thus, an output which is OFF in RESET; ON during COUNTING; and OFF at COUNT-OUT is indicated by the notation OXO.

Four usable counter output sequences are available - OOX, XXO, OXO and XOX. The wiring diagrams shown in this product bulletin will reference the resultant output sequences in this manner. Certain operational modes cause the counter to RESET immediately after COUNTING. For these cases, the COUNT-OUT condition does not exist and is deleted from the output sequence designation.

FOUR DIGIT COUNTING

Two DZ100 Series Counters may be inter-wired to provide counting to 9999. The most significant digit pair is controlled by a DZ100 Counter. The least significant digit pair is controlled by a DZ110 Counter. (See Ordering Information)

For an OXO output sequence, wire the two units exactly as shown below. The start switch is closed to enable the counters to receive counts. Counts are entered into the DZ110 Counter. The standard inhibit function, if required, is also connected to the DZ110 unit. The counters reset when the start switch is opened.

For an OOX output sequence, wire the output as shown below. All other wiring from above is unchanged.
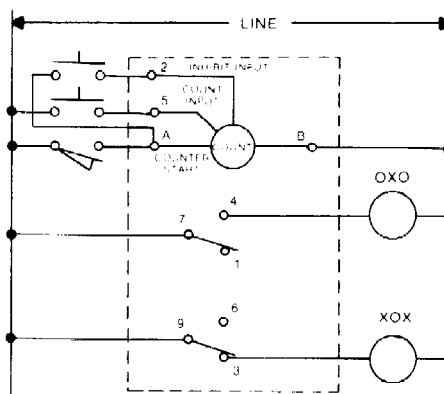
DZ100 WIRING DIAGRAMS
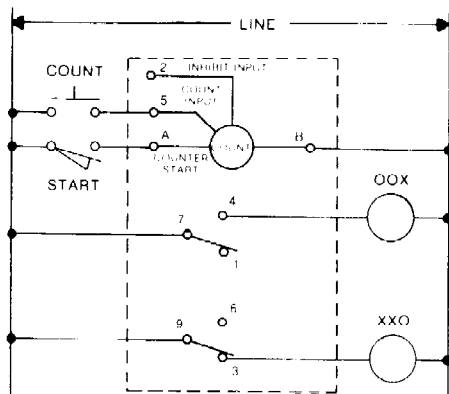
DZ100 Counter (OOX Output)

Closing the start switch enables the counter to receive counts. Counts are registered on the opening of the count input. Opening the start switch resets the counter. Contacts transfer at count-out.
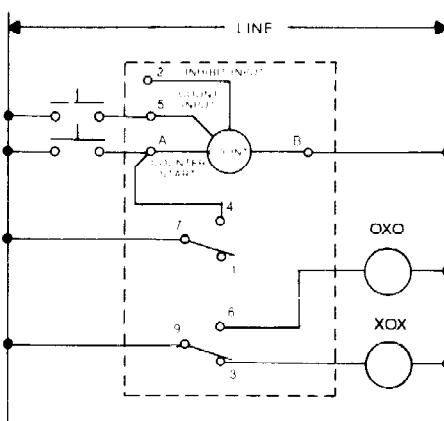

DZ101 Counter (OXO Output)

Start and count characteristics are the same as the figure to the left. Closing the inhibit input halts count progress but does not reset the counter. Inhibit input connect to A or B. D.C. applications require + on inhibit input line.
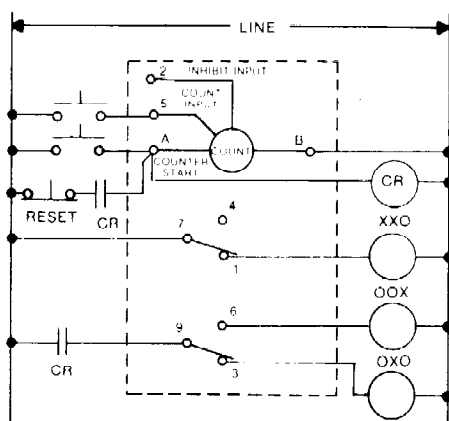

DZ100 Counter (OOX Output)
Momentary Start - Manual Reset

This DZ100 counter circuit uses an external relay CR. This relay establishes the latch circuit and can also be used to help create the OXO output. The counter resets anytime the RESET switch is actuated.

DZ101 Counter (OXO Output)
Momentary Start - Automatic Reset

Contacts 4-7 act as holding circuits when start switch is depressed. Counter resets at count-out.
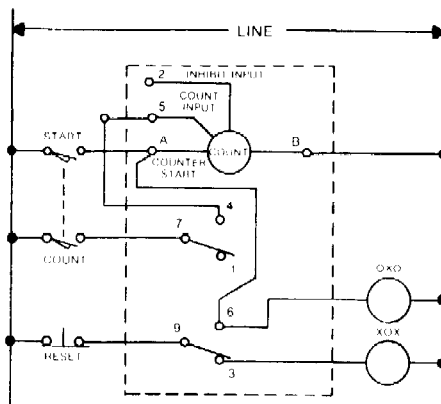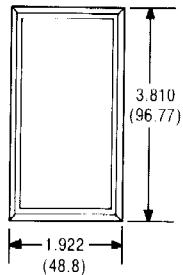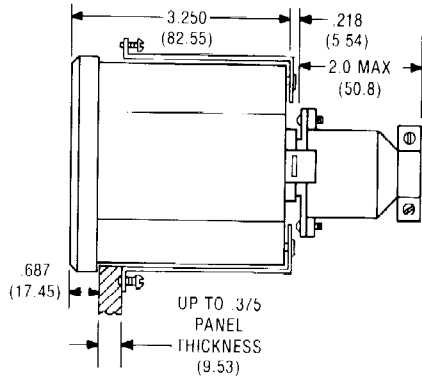

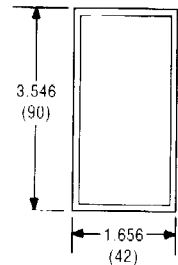
DZ101 Counter (OXO Output)
Repeat Cycle Mode

Closing the combined Start-Count switch enables the counter to receive counts. Opening the switch enters the count. Counter automatically resets at count-out, and is prepared to start a new count cycle. Reset switch is optional to reset counter during counting.
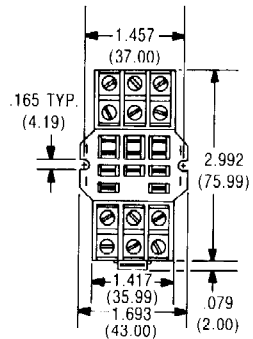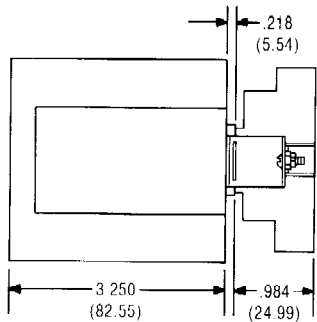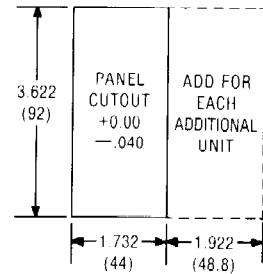
MOUNTING DIMENSIONS

Panel Mount

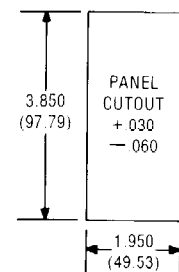3.250 (82.55) .218 (5.54) 2.0 MAX (50.8) .687 (17.45) UP TO .375 PANEL THICKNESS (9.53)

3.810 (96.77) 1.922 (48.8)

BEZEL

3.546 (90) 1.656 (42)

FRONT DIMENSIONS

Surface Mount

.218 (5.54) 3.250 (82.55) .984 (24.99)

1.457 (37.00) .165 TYP. (4.19) 2.992 (75.99) 1.417 (35.99) 1.693 (43.00) .079 (2.00)

RELAY SOCKET

3.622 (92) PANEL CUTOUT +0.00 −.040 ADD FOR EACH ADDITIONAL UNIT 1.732 (44) 1.922 (48.8)

Plug-In Mount

3.860 (98.04) UP TO .375 PANEL THICKNESS (9.53) .980 (24.82) 3.812 (96.82)
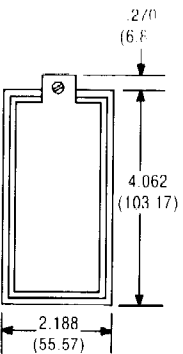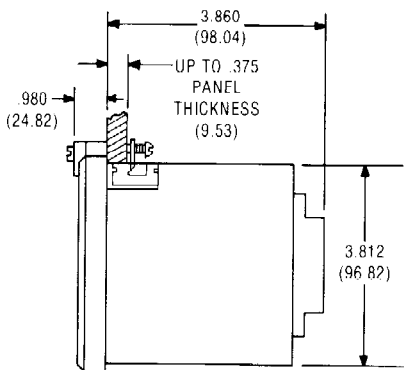
NOTE: PANELS THICKER THAN .140" REQUIRE ENLARGEMENT OF CORNERS TO ALLOW POSITIONING OF CORNER MOUNTING BRACKETS.

.270 (6.8) 4.062 (103.17) 2.188 (55.57)

3.850 (97.79) PANEL CUTOUT +.030 −.060 1.950 (49.53)

ORDERING INFORMATION

DZ1 0 1 A3

Symbol	Type
0	Standard

Symbol	Output Sequence
0	OOX
1	OXO

Symbol	Voltage/Frequency
A3	120 VAC 50/60 Hz or 120 VDC
B3	240 VAC 50/60 Hz or 240 VDC