MAX *jr*
Count
Totalizer and
Preset Counters

PGM PST
D.P. OUT
CAL #1
INP #2

12345

INC / ON   DEC / OFF   RUN / PGM   RST / CLR

DYNAPAR   **MAX** *"* Count 3

MAXjr is a family of powerful counters. **MAXjr** features guided programming using English prompts for easy setup and operation. Human engineering, high performance, and advanced packaging make **MAXjr** the best value for counting and control applications.

MAXjr Family Features:
- On-the-fly Preset Programming
- Guided programming by English prompts
- Tactile response keyboard
- Large, bright LED display
- Sealed front panel, NEMA 4 rated
- Add/Subtract or quadrature inputs
- Programmable calibration
- Reset and Stop Count control inputs
- Count values retained with power off
- Programmable Preset Lock
- Built-in diagnostics
- Extruded aluminum DIN enclosure
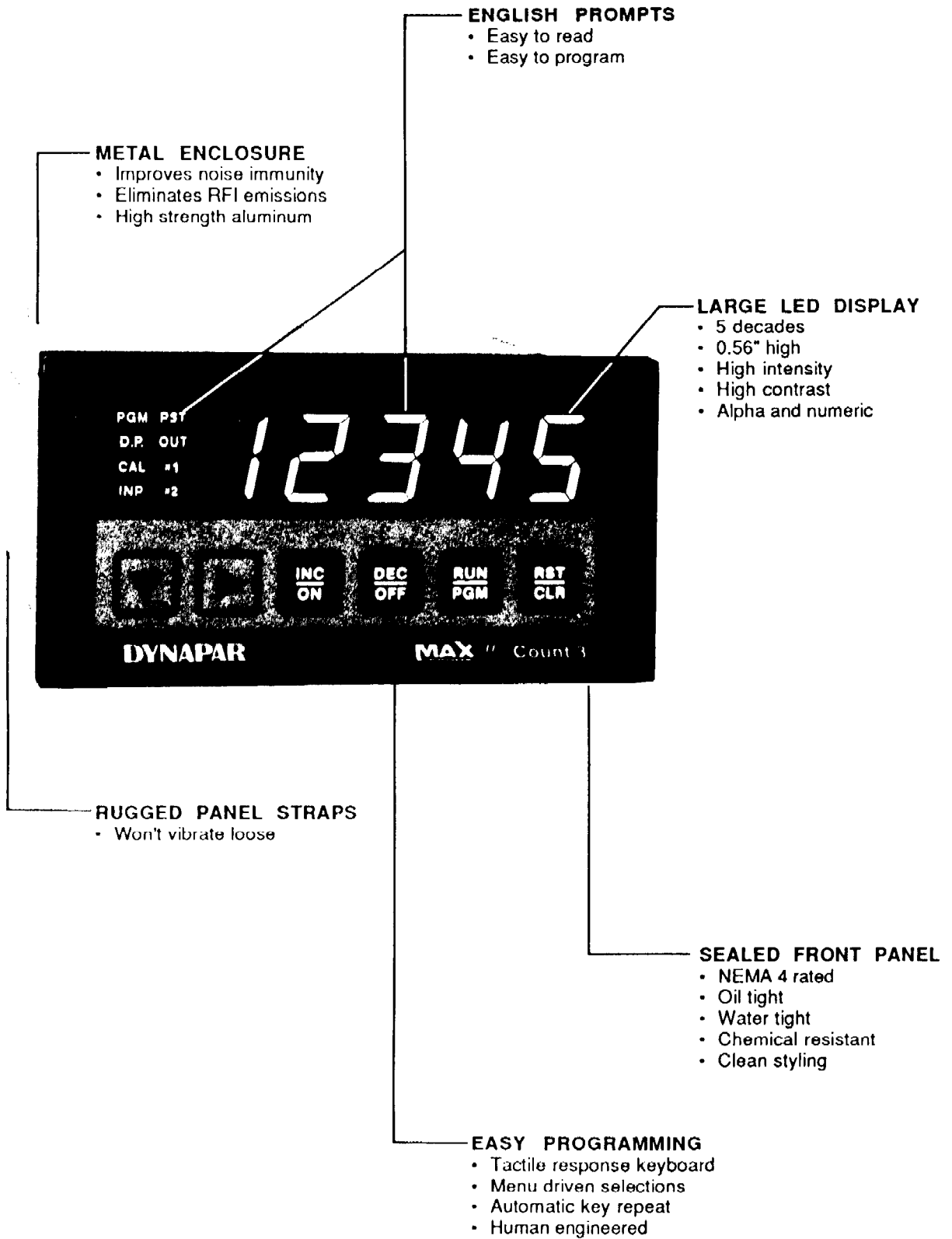
MAXjr Family Models:
MAXjr Count 1 - 8 Digit Totalizer
MAXjr Count 2 - 5 Digit, 2 Preset Counter
MAXjr Count 3 - 5 Digit, 2 Preset Counter with
4 Digit Batch Counter or background Totalizer

KEY SPECIFICATIONS:
- Eight Decade Totalizer
- Five Decade Counter with 2 Presets
- Four Decade Batch Counter with Preset
- Five Digit Calibrator
- 10 kHz count rates
- +12 VDC accessory supply
- Two solid state outputs
- Output hold time from 0.01 to 99.99 sec
- 117 VAC, 234 VAC, and 12 VDC versions

INDEX TO CONTENTS:

DYNAPAR CORP.

ENGLISH PROMPTS
- Easy to read
- Easy to program

METAL ENCLOSURE
- Improves noise immunity
- Eliminates RFI emissions
- High strength aluminum

LARGE LED DISPLAY
- 5 decades
- 0.56" high
- High intensity
- High contrast
- Alpha and numeric

PGM PST
D.P. OUT
CAL #1
INP #2

12345

INC/ON DEC/OFF RUN/PGM RST/CLR

DYNAPAR   MAX " Count 3

RUGGED PANEL STRAPS
- Won't vibrate loose

SEALED FRONT PANEL
- NEMA 4 rated
- Oil tight
- Water tight
- Chemical resistant
- Clean styling

EASY PROGRAMMING
- Tactile response keyboard
- Menu driven selections
- Automatic key repeat
- Human engineered

MAX *jr*

ACCESSORY SUPPLY
- +12 volts DC
- 125 milliamps

SOLID STATE OUTPUTS
- Any preset can pick up or drop out either output
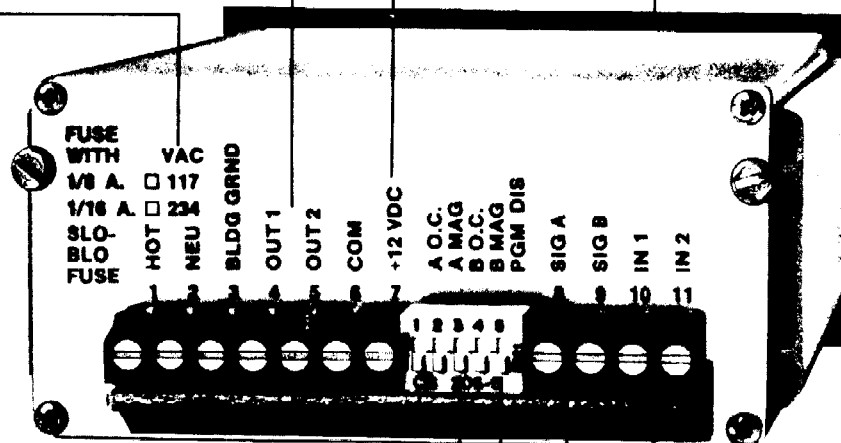- Outputs can latch or have momentary pick up from 0.01 to 99.99 seconds

NEOPRENE GASKET
- Seals unit to panel

POWER INPUT
- 117/234 VAC or 12 VDC as marked on label
- Memory is retained indefinitely during power outages

FUSE WITH VAC
1/8 A. ☐ 117
1/16 A. ☐ 234
SLO-BLO FUSE

HOT NEU BLDG GRND OUT 1 OUT 2 COM +12 VDC A O.C. A MAG B O.C. B MAG PGM DIS SIG A SIG B IN 1 IN 2

1 2 3 4 5 6 7 10 11

COUNT INPUT SELECTIONS
- Contact closures
- Open collector devices
- Solid state transducers
- Magnetic pickups
- Logic output sources

CONTROL INPUTS
- Input 1 is Stop Count (level sensitive)
- Input 2 is Counter Reset (edge sensitive)
- Reset can pick up or drop out either output

PROGRAM DISABLE SWITCH
- Inhibits RUN/PROGRAM key
- Prevents unauthorized changing of programmed data

COUNT INPUTS
- Operate in Add and/or Subtract (A – B) or Bidirectional (A and B in quadrature)
- Can be contact closures or solid state transducers outputs
- Front panel programmed

Input Power:	100 to 125 VAC, 50/60 Hz, 6VA (200 to 250 VAC for 'E' version) (10.2 to 14.4 VDC at 385 mA, incl. Acc. power, for 'A' version)
Accessory Power:	12 VDC ± 25% @ 0 to 125 ma (V_{in}- 0.8 VDC for 'A' version)

Main Counter:

Decades:	5, bidirectional with rollover and rollunder
Presets:	2 individual with 5 decade range
Operation:	Add/Subtract (Input A adds; B subtracts) Bidirectional (Inputs A and B in quadrature)
Direction:	Up (reset to zero) Down (set to a number)
Count Rate:	DC to 10 kHz (see note below)
Calibrator:	0.0001 to 9.9999 common to A and B

Batch Counter:

Decades:	4 with rollover
Presets:	1 with 4 decade range
Operation:	Counts up through detection of Auto Reset

Totalizer:

Decades:	8 with rollover and rollunder viewed as Lower and Upper Total (4 decades each)
Operation:	Add/Subtract (Input A adds; B subtracts) Bidirectional (Inputs A and B in quadrature)
Count Rate:	DC to 10 kHz (see note below)

Signal Inputs, A and B:

Solid State (current sourcing):

Input High:	1.7 min to 20 max VDC
Input Low:	0 min to 0.8 max VDC
Input Impedance:	3 kΩ min
Input Current:	0.6 ma min source
Input Response:	50 µs min high and low time

Open Collector and Contact Closure:

Input High:	open or 1.7 min to 20 max VDC
Input Low:	0 min to 0.8 max VDC
Input Impedance:	1.2 kΩ min
Input Current:	1.0 ma min sink
Input Response:	50 µs min high and low time (OC) 25 ms min make and break (CC)

Magnetic:

Input High:	+0.5 min to +20 volts peak
Input Low:	-20 min to -0.5 volts peak
Input Impedance:	3 kΩ min
Input Current:	0.2 ma min sink and source
Input Response:	50 µs min high and low time

Control Inputs:

Input High:	open or 1.7 min to 20 max VDC
Input Low:	0 min to 0.8 max VDC
Input Impedance:	1.2 kΩ min
Input Current:	1.0 ma min sink
Input Response:	25 ms min make and break time

Display:

Decades:	5 decade, 0.56" red LED plus 8 legends
Decimal Point:	Programmable from X.XXXX to XXXXX.

Keyboard:	Sealed, tactile response 6 positions
Program Security:	Program Disable switch

Outputs:

Type:	2 Open Collector
Sink Current:	100 ma max
Collector Voltage:	30 VDC max
Output Voltage:	1 VDC typical @ 50 ma (Sinking)
Programming:	Either output may be latched or pulsed, duration from 0.01 to 99.99 ± 0.002 sec
Assignment:	Either output may be picked up or dropped out at Reset or a Preset

Diagnostics:
Signal and Control Inputs Test
Solid State Outputs Test
Front Panel Test
Display Digits Test
Display Segments Test

Mechanical:

Enclosure:	Extruded aluminum with molded Valox bezel 1.98"H x 3.78"W x 6.03"D
Cutout:	1.78" -0/+.03" x 3.58" -0/+.04"
Panel Thickness:	1/16" to 1/4"
Depth Behind Bezel:	5.68"
Weight:	1.4 lbs

Environmental:

Operating Temp:	0 to 50 °C. (32 to 122 °F.)
Storage Temp:	-18 to 85 °C. (0 to 186 °F.)
Ambient Humidity:	0 to 90% and noncondensing

Error Codes:
2. Low AC line voltage
3. Processor time fully utilized
4. Input frequency above 5 kHz
5. NonVolatile RAM failure

Press RST/CLR key to clear error

> **NOTE:** Count rate is twice that of input frequency;
> Counting occurs on both edges of the input signals
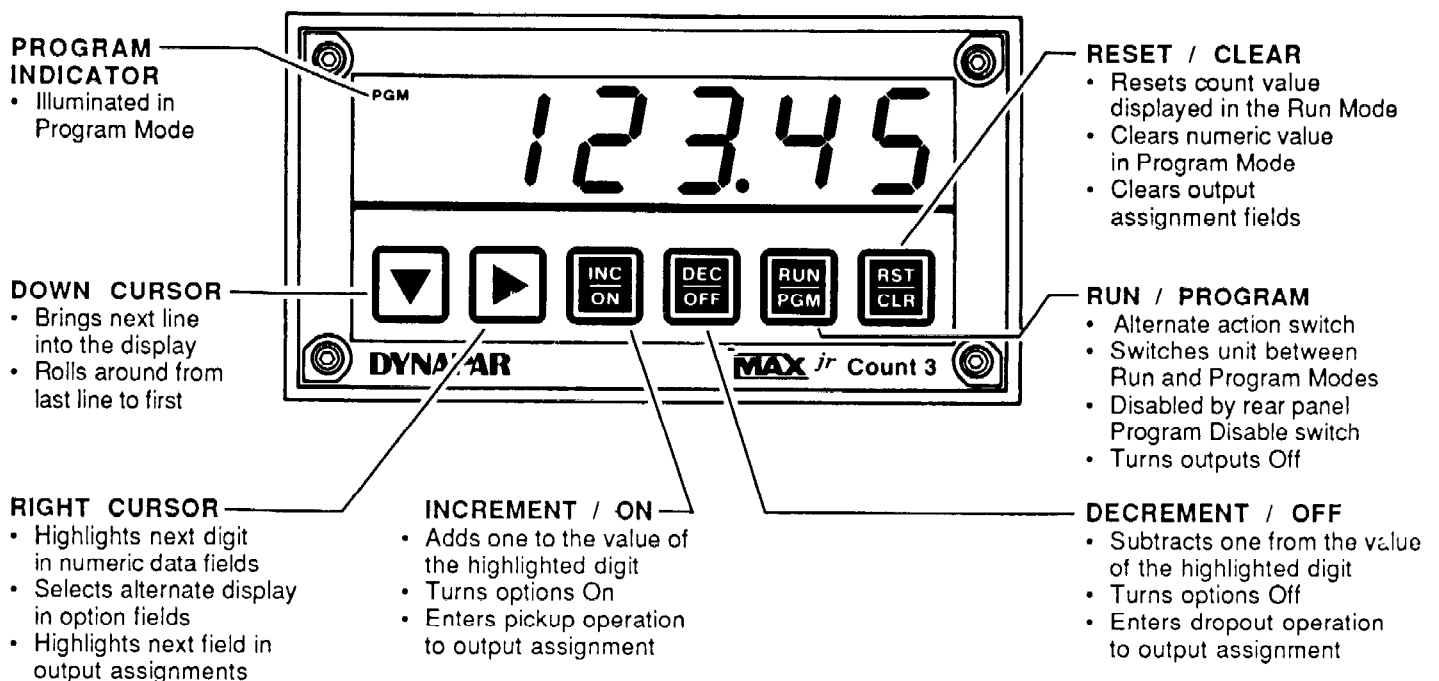
MODEL

MODEL	**DESCRIPTION**
MAXjr Count 1	8 Digit Totalizer
MAXjr Count 2	5 Digit, 2 Preset Counter
MAXjr Count 3	5 Digit, 2 Preset Counter with Batch Counter or Totalizer

PROGRAMMABLE FEATURES

- Add/Subtract or Quadrature counting
- Count input calibration
- Decimal point position

all of the above *plus*

- Two five digit presets
- Reset-to-zero or Set-to-a number
- Automatic reset
- Two fully programmable outputs
- Operation as **MAXjr Count 1** Totalizer

all of the above *plus*

- an Extra Counter- may be a four digit Batch
 Counter with Preset or eight digit Totalizer

PROGRAM INDICATOR
- Illuminated in Program Mode

DOWN CURSOR
- Brings next line into the display
- Rolls around from last line to first

RIGHT CURSOR
- Highlights next digit in numeric data fields
- Selects alternate display in option fields
- Highlights next field in output assignments

INCREMENT / ON
- Adds one to the value of the highlighted digit
- Turns options On
- Enters pickup operation to output assignment

RESET / CLEAR
- Resets count value displayed in the Run Mode
- Clears numeric value in Program Mode
- Clears output assignment fields

RUN / PROGRAM
- Alternate action switch
- Switches unit between Run and Program Modes
- Disabled by rear panel Program Disable switch
- Turns outputs Off

DECREMENT / OFF
- Subtracts one from the value of the highlighted digit
- Turns options Off
- Enters dropout operation to output assignment

The **Preset 1, Preset 2,** and **Batch Preset** (if used) values can be changed in the Run Mode if the Preset Lock is Off.

To change the value of a preset —
1. Use the Down Cursor (arrow) to choose the preset to be changed
2. Press the Right Cursor (arrow) to select and highlight a digit to be changed
3. Use the INCrement and DECrement keys to adjust the digit
4. Repeat steps 2 and 3 until the desired value is obtained
5. Use the Down Cursor to view the Counter or other Presets

The displays and keypresses below illustrate how Preset 1 is changed from 4.90 to 3.90.

PROMPTS   DISPLAY

PST #1   `4.90` ► `004.90` ► `004.90` ► `004.90` DEC `003.90`
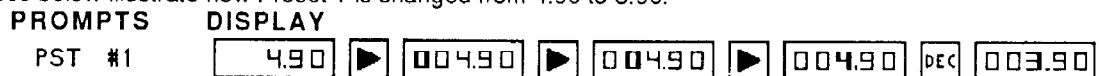
Use CAUTION when changing Preset Values. To avoid process control problems and possibly hazardous operator conditions, observe these hints when the **MAXjr Count** is controlling 'live' machinery with the Preset Lock programmed Off —

- *The Preset Value displayed is being used by the Counter for comparisons.*
  The number shown to the operator is the actual Preset Value. As digits are changed, each interim number is a valid Preset Value. If the process is not halted when Data is being entered, it is possible that the Preset could occur, even though the final value has not been reached.

- *Remember that the Preset Values are always active.*
  Output action assigned to Presets occur when the Counter 'passes' a Preset Value. For example, Output 1 is designated to pickup at Preset 1. If the Counter is at 75, and Preset 1 is changed from 90 to 60, Output 1 will be picked up; if, however, it was changed from 90 to 190, no output action would take place.

  The Batch Preset is also active. Output assignments to the Batch Preset, though, occur only when the Batch Counter is equal to the Batch Preset. Consequently, if it were changed from 20 to 10 while the Batch Count is at 12, an output action would be skipped.

- *The CLeaR key is active (even if Panel Reset is turned Off).*
  A Preset can be cleared to zero to quickly change the value. (For example, when going from 2666 to 3000.) This may cause a Preset action if the Counter is not at zero. More importantly, if Preset 2 is cleared and Auto Reset is On, the Counter will continuously reset itself, incrementing the Batch Counter also.

LINE	FUNCTION	DESCRIPTION

―――― RUN MODE ――

| 1 | **LOWER TOTAL** | Four least significant digits of Totalizer |
| 2 | **UPPER TOTAL** | Four most significant digits of Totalizer |

―――― PROGRAM MODE ――

3	**DECIMAL POINT**	Select one-of-four positions or no decimal point
4	**CALIBRATOR**	Numeric constant that multiplies count inputs CAL = counts displayed / (2 x counts in)
5	**INPUT OPERATION**	Select add/subtract (Sig A – Sig B) or bidirectional (A and B in quadrature)
6	**INPUTS A AND B**	Select open collector (high speed) or contact closure (debounced) inputs
7	**PANEL RESET**	Select On or Off to enable or disable Front Panel Reset

―――― DIAGNOSTIC MODE ――

8	**INPUT TEST**	Shows active signal and control inputs on the display (Sig A = "A", Sig B = "b", In 1 = "1", and In 2 = "2")
9	**OUTPUT TEST**	Allows manual pickup of either output; outputs are dropped out when RUN/PGM is pressed NOTE: This line does not appear on the MAXjr Count 1
10	**PANEL TEST**	Shows active keys on the display (INC/ON = "i", DEC/OFF = "d", RUN/PGM = "P", and RST/CLR = "C")
11	**DIGIT TEST**	Constant pattern on the display
12	**SEGMENT TEST**	Illuminates all legends and digit positions

PROMPTS   DISPLAY

RUN MODE

```
L5678
```

```
u 1234
```

PROGRAM MODE

FACTORY PROGRAMMING

PGM D.P.   `[ 0 ]` ▶ `[ .0 ]` ▶ `[ .00 ]` ▶ `[ .000 ]` ▶ `[ .0000 ]`

PGM CAL   `[0.5000]` ▶ `[0.5000]` ▶ `[0.5000]` ▶ `[0.5000]` ▶ `[0.5000]` ▶ `[0.5000]`

▶ Selects and highlights   INC Adds one to the highlighted digit
the digit to be changed

CLR Clears the value displayed   DEC Subtracts one from highlighted digit

PGM INP   `oP.A-b` ▶ `oP.b id`

PGM INP   `Ab. oc` ▶ `Ab. -IF`

PGM   `Pr.oFF` ON `Pr. on` OFF `Pr.oFF`

DIAGNOSTIC MODE

The A & B may show up if programmed for contact closure input

PGM   `I.` ◞   with no inputs active   `i.Ab 12`   with all inputs active

PGM   `o. 12` ▶ `o. 12` ▶ `o. 12` ON picks up highlighted output

PGM   `P.`   with no keys pressed   `P. idPC`   with all keys pressed

PGM   `12345.`   correct display pattern

PGM D.P. CAL INP `8.8.8.8.8.`   all segments illuminated
PST OUT #1   #2

LINE	FUNCTION	DESCRIPTION

——— RUN MODE ————————————————————————————————

1	LOWER TOTAL	Four least significant digits of Totalizer
2	UPPER TOTAL	Four most significant digits of Totalizer
	or	
3	COUNT VALUE	Current Counter value
4	PRESET 1	Numeric value of Preset 1
5	PRESET 2	Numeric value of Preset 2

Lines 1 and 2: NOTE: These two lines are not displayed in the Run Mode if line 6 is set for Preset Counter

Lines 3, 4, 5: NOTE: These three lines are not displayed in the Run Mode if line 6 is Totalizer

——— PROGRAM MODE ————————————————————————————

6	PRIMARY COUNT	Select Preset Counter or Totalizer operation
7†	PRESET 1 VALUE	Program numeric value of Preset 1
8†	PRESET 2 VALUE	Program numeric value of Preset 2 (Start Count value if Count Direction is set to Down)
9	DECIMAL POINT	Select one-of-four positions or no decimal point
10	CALIBRATOR	Numeric constant that multiplies counts; CAL = counts displayed / (2 x counts in)
11†	COUNT DIRECTION	Select Up (reset to zero) or Down (set to a number)
12	INPUT OPERATION	Select Add (Sig A)/Subtract (Sig B) or bidirectional (A and B in quadrature)
13	INPUTS A AND B	Select open collector (high speed) or contact closure (debounced) inputs
14	PRESET LOCK	Select On or Off to allow changes to Preset values in the Run Mode
15†	AUTO RESET	Select On or Off (occurs at Preset 2 if Count Direction is set to Up; or at Zero if Count Direction is set to Down)
16	PANEL RESET	Select On or Off to enable or disable Front Panel Reset
17†	OUTPUT 1 TIMEOUT	Program momentary time in seconds, or set to 00.00 for latched operation
18†	OUT 1 ASSIGNMENT	Program the output to pickup or dropout at Reset, Preset 1, and Preset 2

- use the right cursor to select and highlight the Reset, Preset 1, or Preset 2 field
- the ON key enters a pickup operation; the OFF key enters a dropout operation
- use the CLR key to remove an output assignment
NOTE: Actions at Reset are used with (manual) external or Front Panel Reset only. For operation at Auto Reset, use the Preset 2 assignment fields.

| 19† | OUTPUT 2 TIMEOUT | Program momentary time in seconds, or set to 00.00 for latched operation |
| 20† | OUT 2 ASSIGNMENT | Program the output to pickup or dropout at Reset, Preset 1, and Preset 2 |

- Automatically set to occur at Zero (ϕ) count when Count Direction is set to Down.

†NOTE: These features are not used for Totalizer operation (if line 6 is set for Totalizer)

——— DIAGNOSTIC MODE See the MAXjr Count 1 Programming section for information about the diagnostics **———**

IMPORTANT

The MAXjr Products have been improved.

Please read the other side of this sheet
for the changes to the manual,

BEFORE YOU INSTALL THE UNIT

DYNAPAR CORP.

MAXjr COUNT

NOTE - This addendum applies to the MAXjr COUNT 2 and 3.
For information regarding the MAXjr COUNT 1, please
refer to TECHNICAL MANUAL part number 16002500117.

MAXjr PRODUCT REAR VIEW
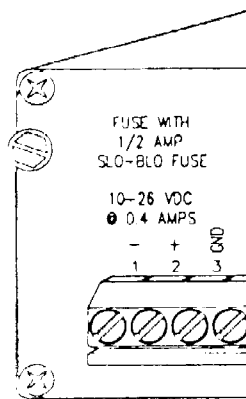
DC MODELS:
MCJR2D00
MCJR3D00
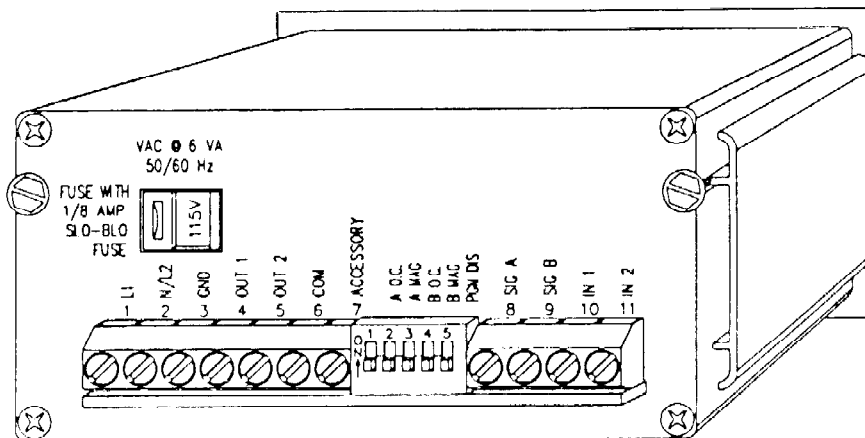
AC MODELS:
MCJR2S00
MCJR3S00

Changes to the SPECIFICATIONS

Input Power:

AC model	Rear panel switch selectable 115/230VAC; 50/60Hz.; 6VA max. Voltage range: 115V (95-130VAC) 230V (190-260VAC)
DC model	10-26VDC @ 0.2A max. (excluding accessory power)

Control Inputs, IN1 and IN2:

Input High	+3.5 < Vin < +30 VDC.
Input Low	0 < Vin < +1.5 VDC.
Impedance	> 3K ohm.
Input Response	25 mS. min. make and break time.

Outputs:

Collector Voltage	+28 VDC max.

Signal Inputs, A and B:

Solid State (current sourcing):

Switch Setting	1,2,3,4 OFF
Input High	+3.5 < Vin < +30 VDC.
Input Low	-30 < Vin < +1.5 VDC.
Impedance	> 3K ohm.
Input Response	50 uS. min. high and low time

Open Collector and Contact Closure:

Swith setting	1 or 3 ON
Input High	+3.5 < Vin < +30 VDC (internal pull-up to +5VDC.)
Input Low	0 < Vin < +1.5 VDC.
Impedance:	> 3K ohm.
Input Current	< 2mA (Vin = 0VDC).
Input Response	50 uS. min. high and low (OC) 25 mS. min. make and break time (CC)

Magnetic:

Switch setting	2 or 4 ON
Input Voltage	> 0.1Vp-p; < 26 Vrms.
Impedance	> 3K ohm.
Input Response	50 uS. min. high and low time

PROMPTS   **DISPLAY**

RUN MODE

```
┌─ L 5678 ─┐
│          │ } TOTALIZER OPERATION
└─ u 1234 ─┘
```

or

```
┌─ 12345 ─┐
│ 1000    │ } PRESET COUNTER OPERATION    Refer to Page 5
PST #1    │                               for changing Presets
PST #2  2000┘                             in the Run Mode
```

PROGRAM MODE

FACTORY PROGRAMMING

Prompt	Display sequence
PGM	`PCcnE` ▶ `PCEoE`
PGM PST #1	`00000` ▶ `█0000` ▶ `0█000` ▶ `00█00` ▶ `000█0` ▶ `0000█`

▶ Selects and highlights the digit to be changed

`INC` Adds one to the highlighted digit

`CLR` Clears the value displayed

`DEC` Subtracts one from highlighted digit

Prompt	Display sequence	Note
PGM PST #2	`00000` ▶ `█0000`	(program numeric value as shown in Preset 1 above)
PGM D.P.	`0` ▶ `0.` ▶ `.00` ▶ `.000` ▶ `.0000`	
PGM CAL	`05000` ▶ `█5000`	(program numeric value as shown in Preset 1 above)
PGM	`d iruP` ▶ `d irdn`	
PGM INP	`oPA-b` ▶ `oPb id`	
PGM INP	`Ab. oc` ▶ `Ab. ⊣⊢`	
PGM PST	`L. on` `OFF` `L. oFF` `ON` `L. on`	
PGM	`AroFF` `ON` `Ar. on` `OFF` `AroFF`	
PGM	`ProFF` `ON` `Pr. on` `OFF` `ProFF`	
PGM OUT #1	`00.00` ▶ `█0.00`	(program numeric value as shown in Preset 1 above)
PGM OUT #1	`___` ▶ `r___` ▶ `1___` ▶ `2___`	

`ON` = Pickup ("P" displayed)

PROMPTS: "r" = Operation at Reset   **KEYS:** `OFF` = Dropout ("d"displayed)
"1" = Operation at Preset 1
"2" = Operation at Preset 2   `CLR` = No Action (clears field)

Prompt	Display sequence	Note
PGM OUT #2	`00.00` ▶ `█0.00`	(program numeric value as shown in Preset 1 above)
PGM OUT #2	`___` ▶ `r___` ▶ `1___` ▶ `2___`	

DIAGNOSTIC MODE   See the MAXjr Count 1 Programming section for information about the diagnostics

LINE	FUNCTION	DESCRIPTION

─────── RUN MODE ───

1	**LOWER TOTAL**	Four least significant digits of Totalizer	NOTE: These lines are not displayed in
2	**UPPER TOTAL**	Four most significant digits of Totalizer	the Run Mode if line 9 is Batch Counter
3	**COUNT VALUE**	Current Counter value	
4	**PRESET 1**	Numeric value of Preset 1	NOTE: These three lines are not displayed
5	**PRESET 2**	Numeric value of Preset 2	in the Run Mode if line 8 is Totalizer
6	**BATCH COUNT**	Current Batch Counter value	NOTE: These lines are not displayed in the
7	**BATCH PRESET**	Numeric value of Batch Preset	Run Mode if line 8 is Totalizer or if line 9 is set for Totalizer

─────── PROGRAM MODE ───

8	**PRIMARY COUNT**	Select Preset Counter or Totalizer operation
9†	**EXTRA COUNTER**	Select Batch Counter or background Totalizer in addition to Preset Counter
10†	**PRESET 1 VALUE**	Program numeric value of Preset 1
11†	**PRESET 2 VALUE**	Program numeric value of Preset 2 (Start Count value if Count Direction is Down)
12†	**BATCH PRESET**	Program numeric value of Batch Preset (not active if Extra Counter is Totalizer)
13	**DECIMAL POINT**	Select one-of-four positions or no decimal point
14	**CALIBRATOR**	Numeric constant that multiplies counts ; CAL = counts displayed / (2 x counts in)
15†	**COUNT DIRECTION**	Select Up (reset to zero) or Down (set to a number)
16	**INPUT OPERATION**	Select add/subtract (Sig A – Sig B) or bidirectional (A and B in quadrature)
17	**INPUTS A AND B**	Select open collector (high speed) or contact closure (debounced) inputs
18	**PRESET LOCK**	Select On or Off to allow changes to Preset values in the Run Mode
19†	**AUTO RESET**	Select On or Off; must be On to enable Batch Counter operation (occurs at Preset 2 if Count Direction is Up; or at Zero if Count Direction is Down)
20	**PANEL RESET**	Select On or Off to enable or disable Front Panel Reset (NOTE: when line 8 is Preset Counter, the Totalizer or Batch Counter can be reset only by the RST/CLR key)
21†	**OUTPUT 1 TIMEOUT**	Program momentary time in seconds, or set to 00.00 for latched operation
22†	**OUT 1 ASSIGNMENT**	Program the output to pickup or dropout at Reset, Preset 1, 2, and Batch Preset
		- use the right cursor to highlight the Reset, Preset 1, 2, or Batch Preset field - the ON key enters a pickup operation; the OFF key enters a dropout operation - use the CLR key to remove an output assignment NOTE: Actions at Reset are used with (manual) external or Front Panel Reset only. For operation at Auto Reset, use Preset 2 assignments
23†	**OUTPUT 2 TIMEOUT**	Program momentary time in seconds, or set to 00.00 for latched operation
24†	**OUT 2 ASSIGNMENT**	Program the output to pickup or dropout at Reset, Preset 1, 2, and Batch Preset

†NOTE: These features are not used for Totalizer operation (if line 8 is set for Totalizer)

─────── DIAGNOSTIC MODE   See the MAXjr Count 1 Programming section for information about the diagnostics ───────

PROMPTS   DISPLAY

RUN MODE

`L5678`
`u 1234`
} **TOTALIZER OPERATION**

Use the `RST` key to reset the background Totalizer

`12345`
PST #1   `1000`
PST #2   `2000`
} **PRESET COUNTER OPERATION**

Refer to Page 5 for changing Presets in the Run Mode

`b 123`
`b. 500`
} **BATCH COUNT OPERATION**

Use the `RST` key to reset the Batch Counter

PROGRAM MODE
FACTORY PROGRAMMING

PGM   `PCrnt` ▶ `PCtot`

PGM   `ECbch` ▶ `ECtot`

PGM PST #1   `00000` ▶ `00000` ▶ `00000` ▶ `00000` ▶ `00000` ▶ `00000`

▶ Selects and highlights the digit to be changed   `INC` Adds one to the highlighted digit

`CLR` Clears the value displayed   `DEC` Subtracts one from highlighted digit

PGM PST #2   `00000` ▶ `00000`   (program numeric value as shown in Preset 1 above)

PGM PST   `b.0000` ▶ `b.0000`   (program numeric value as shown in Preset 1 above)

PGM D.P.   `0` ▶ `0` ▶ `.00` ▶ `.000` ▶ `.0000`

PGM CAL   `0.5000` ▶ `0.5000`   (program numeric value as shown in Preset 1 above)

PGM   `d ir.uP` ▶ `d ir.dn`

PGM INP   `oPA-b` ▶ `oPb id`

PGM INP   `Ab. oc` ▶ `Ab. ++`

PGM PST   `L. on` `OFF` `L. oFF` `ON` `L. on`

PGM   `Ar.oFF` `ON` `Ar. on` `OFF` `Ar.oFF`

PGM   `Pr.oFF` `ON` `Pr. on` `OFF` `Pr.oFF`

PGM OUT #1   `00.00` ▶ `00.00`   (program numeric value as shown in Preset 1 above)

PGM OUT #1   `____` ▶ `r____` ▶ `1____` ▶ `2____` ▶ `b____`

PROMPTS: "r" = Operation at Reset   **KEYS:** `ON` = Pickup ("P" displayed)
"1" = Operation at Preset 1   `OFF` = Dropout ("d" displayed)
"2" = Operation at Preset 2
"b" = Operation at Batch Preset   `CLR` = No Action (clears field)

PGM OUT #2   `00.00` ▶ `00.00`   (program numeric value as shown in Preset 1 above)

PGM OUT #2   `____` ▶ `r____` ▶ `1____` ▶ `2____` ▶ `b____`

DIAGNOSTIC MODE   See the MAXjr Count 1 Programming section for information about the diagnostics

SWITCH PROGRAMMING

HANDLE is UP
Switch is ON

HANDLE is DOWN
Switch is OFF

A. PANEL MOUNTING

Make a panel cutout as shown below. If the installation requires sealing, the adhesive gasket (supplied) may be applied to the (bezel side of the) panel. Next, slide the unit through the cutout. Insert the panel mounting straps into the slotted guides in the enclosure. Tap the 5/8" long hex washer head screws into the enclosure and then tighten securely using a 3/16" hex driver.

1.78 -0/+.04
45 -0/+1 mm

3.58 -0/+.04
91 -0/+1 mm

allow
0.32
8 mm
each side
between
cutouts

panel thickness 1/16" to 1/4"

depth behind bezel
5.68   144.3 mm
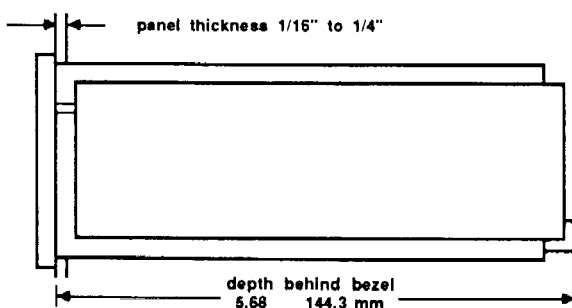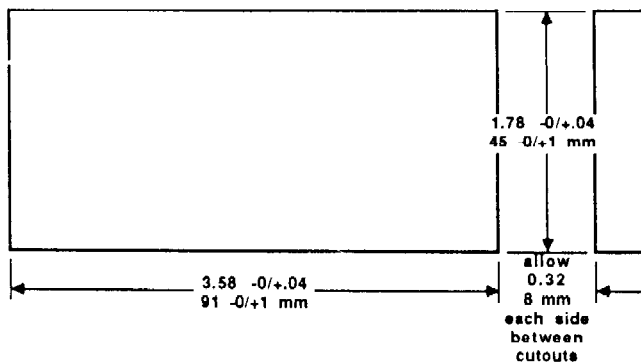
B. INPUT POWER CONNECTIONS

Connect power as shown below. Unit requires external fuse. Use slow response type; 1/8 A. for 117 VAC, 1/16 A. for 234 VAC, and 1/2 A. for 12 VDC. Connect terminal #3 to building ground. Route the power wiring away from the signal inputs.

117 VAC
(234 VAC for 'E' version)

12 VDC
('A' version only)
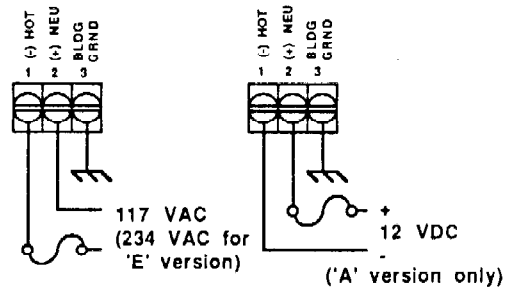
C. STOP COUNT INPUT

The Counter is stopped as long as the switch closure is maintained.

SHIELD

COM

SIG
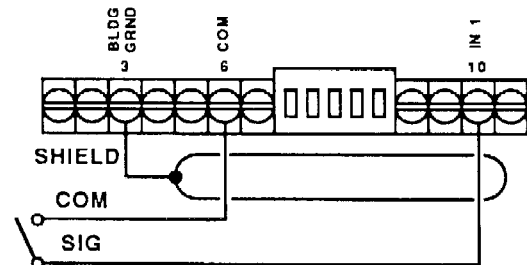
D. RESET INPUT

NOTE: This input resets the Primary Counter only. (See MAXjr Count 2 and 3 programming sections.) The counter is reset once for each switch closure and then continues to count.

SHIELD

COM

SIG
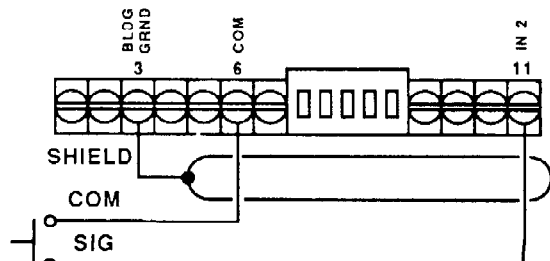
E. COUNT INPUTS

NOTE: For A–B (add/subtract) operation, use Signal A to count Up and Signal B to count Down.

CONTACT CLOSURES

Set switches as shown below. Program Input Operation to A–B and Inputs A and B for Contact Closures (debounced).
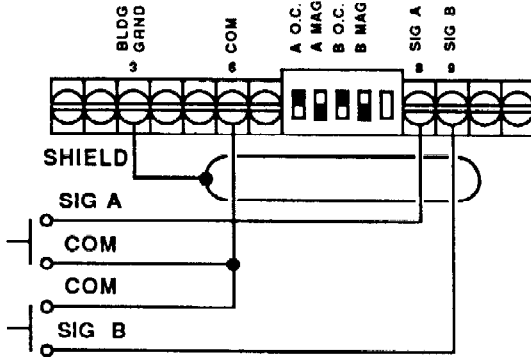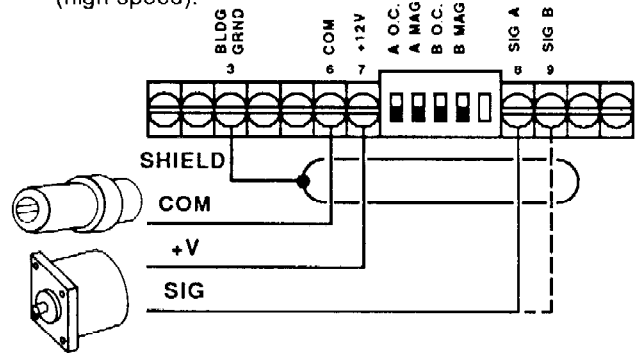
OPEN COLLECTOR DEVICES

Set switches as shown below. Program Inputs A and B for Open Collectors (high speed).

LOGIC OUTPUT DEVICES

Set switches as shown below. Program Inputs A and/or B for Open Collectors (high speed).

7400 TTL,
5 Volt CMOS

RELUCTANCE PICKUPS (SINE WAVE)

Set switches as shown below. Program Input Operation to A–B and Inputs A and B for Open Collectors (high speed).

UNIDIRECTIONAL TRANSDUCERS

Set switches as shown. Program Input Operation to A–B and Inputs A and B for Open Collectors (high speed).

BIDIRECTIONAL TRANSDUCERS

Set switches as shown. Program Input Operation to Bidirectional and Inputs A and B for Open Collectors (high speed).

F. SOLID STATE OUTPUTS

Connect loads to either or both of the open collector outputs. Output voltage is 1.0 VDC typ. @ 50 ma . NOTE: Inductive loads require external suppression.
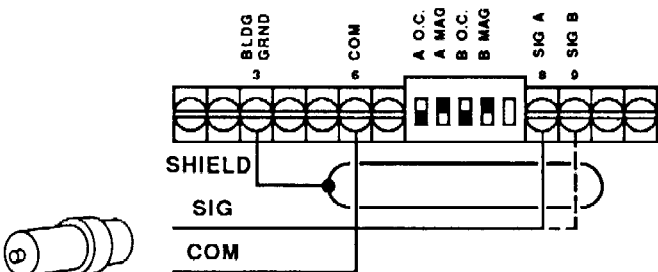
G. PROGRAM DISABLE SWITCH

Set switch as shown below to prevent unauthorized programming changes. This function prevents the unit from entering the Program Mode.
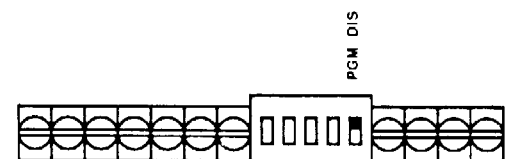
CALIBRATOR FORMULA: CAL = counts displayed / 2 x counts in

RANGE: CAL range = 0.0001 to 9.9999

PARTS COUNTING

Reflector

Photosensor
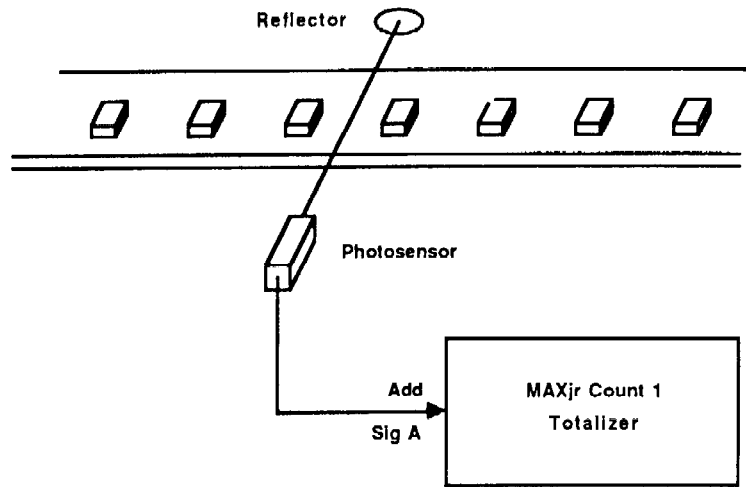
CALIBRATOR = $\dfrac{\text{1 part displayed}}{2 \times (1 \text{ pulse/part})}$

Add

Sig A

MAXjr Count 1

Totalizer

=   0.5000

INPUT OPERATION: A–B (subtract not used)

INPUTS A AND B: Contact Closure (low speed)

LENGTH COUNTING

Type 40 Roto™

1 foot wheel
600 pulses/rev
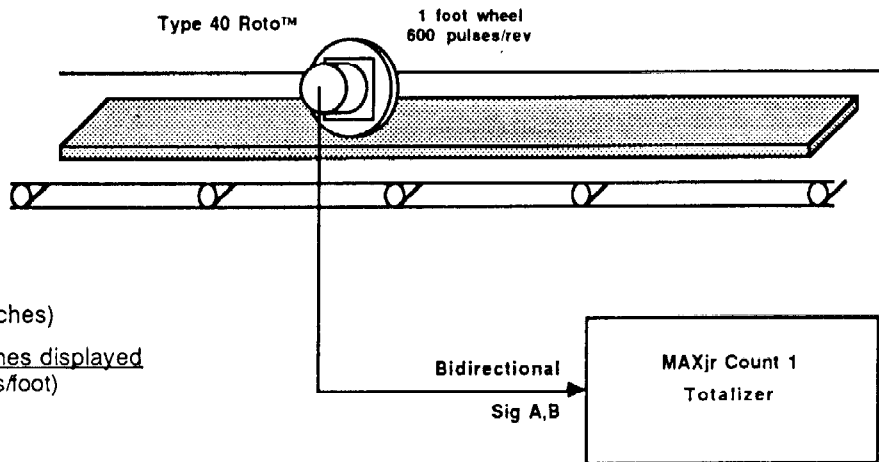
DECIMAL POINT: .00 (hundredths of inches)

CALIBRATOR = $\dfrac{\text{1200 hundredths inches displayed}}{2 \times (600 \text{ pulses/foot})}$

Bidirectional

Sig A,B

MAXjr Count 1

Totalizer

=   1.0000

INPUT OPERATION: Bidirectional

INPUTS A AND B: Open Collector (high speed)

PARTS BOXING

Reflector

good cans

Photosensor

Automatic
Inspection
and Sorting
Machine

rejects

Clutch
to
advance

Add (A)

Sub (B)

Output 1

MAXjr Count 2

Preset Counter
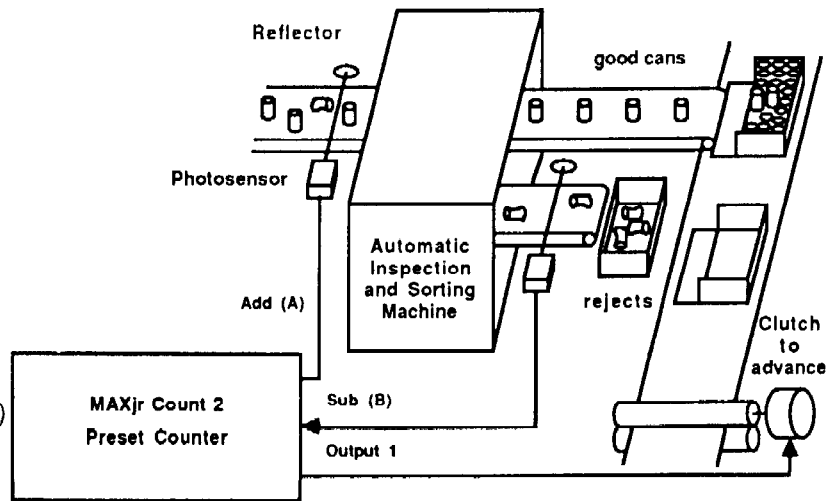
PRESET 2 =   number of cans/box

CALIBRATOR =   0.5000 (as above)

COUNT DIRECTION: Up (reset to zero)

INPUT OPERATION: A–B (add/subtract)

INPUTS A AND B: Contact Closure (low speed)

AUTO RESET: On (reset at Preset 2)

OUTPUT 1 TIMEOUT: 1.00 sec

BOTTLE PACKAGING

PRESET 1 =	6 bottles/case, 2 cases/carton
PRESET 2 =	12 bottles/carton
CALIBRATOR =	0.5000 (as before)
COUNT DIRECTION:	Up (reset to zero)
INPUT OPERATION :	A–B (subtract not used)
INPUTS A AND B:	Contact Closure (low speed)
AUTO RESET:	On (reset at Preset 2)
OUTPUT 1 TIMEOUT:	0.00 (latching)
OUT 1 ASSIGNMENT:	Pickup at Reset
	Dropout at Preset 2
OUTPUT 2 TIMEOUT:	1.00 sec
OUT 2 ASSIGNMENT:	Pickup at Preset 2
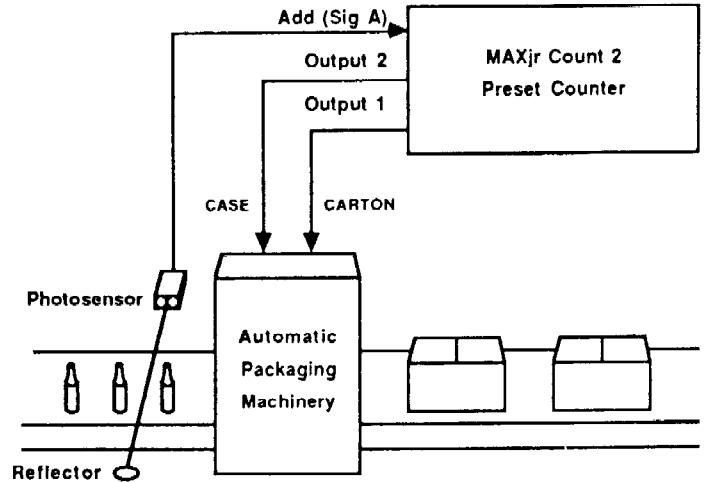
CUT TO LENGTH WITH BATCHING

PRESET 2 =	piece length in inches
BATCH PRESET =	number of pieces/stack
DECIMAL POINT:	.00 (hundredths of inches)
CALIBRATOR =	1200 hundredth inches displayed
	2 x (600 pulses/rev)
=	1.0000
COUNT DIRECTION:	Up (reset to zero)
INPUT OPERATION:	Bidirectional
INPUTS A AND B:	Open Collector (high speed)
AUTO RESET:	On (reset at Preset 2)
OUTPUT 1 TIMEOUT:	0.10 (seconds)
OUT 1 ASSIGNMENT:	Pickup at Preset 2
	(to cut the material)
OUTPUT 2 TIMEOUT:	1.00 (seconds)
OUT 2 ASSIGNMENT:	Pickup at Batch Preset
	(to advance the conveyor)
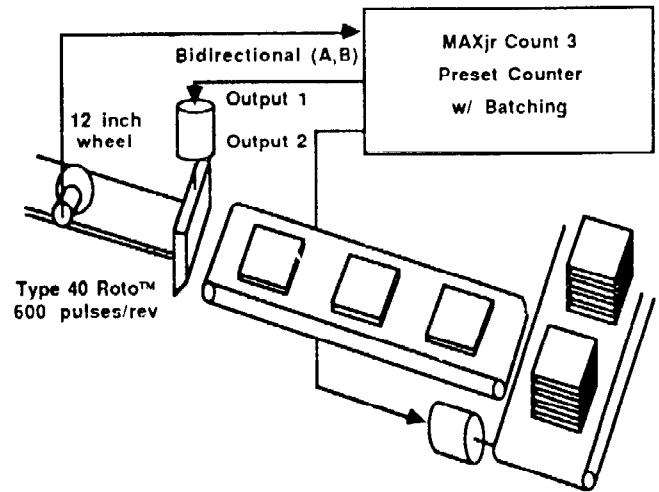
CONTAINER FILLING WITH TOTAL USAGE

|	
EXTRA COUNTER:	(background) Totalizer
PRESET 1 =	4.90 gals
PRESET 2 =	5.00 gals
CALIBRATOR =	100 hundredth gals displayed
	2 x 82.19 pulses/gal
=	0.6083
COUNT DIRECTION:	Up (reset to zero)
INPUT OPERATION:	A–B (subtract not used)
PANEL RESET:	On (to start filling)
OUTPUT 1 TIMEOUT:	0.00 (latching)
OUT 1 ASSIGNMENT:	Pickup at Reset (Full Flow)
	Dropout at Preset 1
OUTPUT 2 TIMEOUT:	0.00 (latching)
OUT 2 ASSIGNMENT:	Pickup at Preset 1 (Dribble)
	Dropout at Preset 2
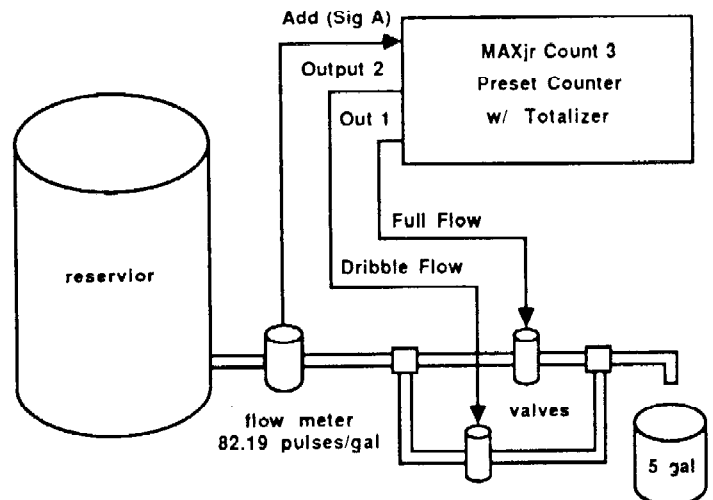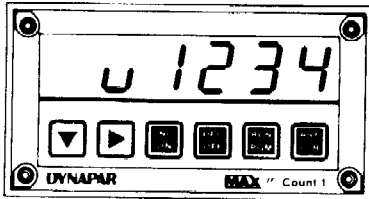
Totalizer

Model No.
MCjr 1-0 for 117 VAC
MCjr 1-E for 234 VAC
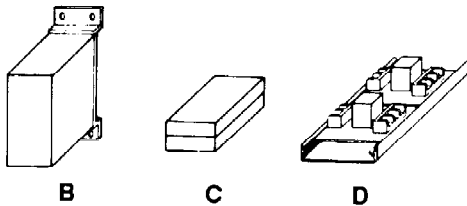MCjr 1-A for 12 VDC
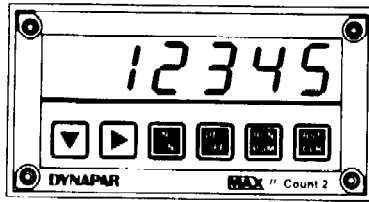
2 Preset Counter

Model No.
MCjr 2-0 for 117 VAC
MCjr 2-E for 234 VAC
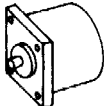MCjr 2-A for 12 VDC
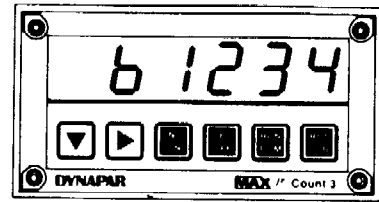
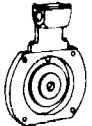**2 Preset Counter with Batch**

Model No.
MCjr 3-0 for 117 VAC
MCjr 3-E for 234 VAC
MCjr 3-A for 12 VDC

PANA MOUNT ACCESSORIES

B   C   D

Model	Description	Current Req.	Pkg.
PM21	Dual Differential Receiver with Transducer Supply	25 ma	B
PM26	Dual high voltage opto-isolator to open collector converter (for AC tachometer inputs)		C
PM31	SPDT Relay Module (rated 7.5 A @ 120 VAC)	30 ma	D
PM41	Relay/Accessory Supply		D
16D70-234	12" Snap-Trak™		D

TRANSDUCERS

to be announced

53Z Zero Speed Pickup

40 Rotopulser™

52BH Magnetic Pickup

60 Rotopulser™

76AZT Rotopulser™

WARRANTY

Standard products manufactured by the Company are warranted to be free from defects in workmanship and material for a period of one year from the date of shipment, and products which are defective in workmanship or material will be repaired or replaced, at the option of the Company, at no charge to the Buyer. Final determination as to whether a product is actually defective rests with the Company. The obligation of the Company hereunder shall be limited soley to repair and replacement of products that fall within the foregoing limitations, and shall be conditioned upon receipt by the Company of written notice of any alleged defects or deficiency promptly after discovery within the warranty period, and in the case of components or units purchased by the Company, the obligation of the Company shall not exceed the settlement that the Company is able to obtain from the supplier thereof. No products shall be returned to the Company without its prior consent. Products which the Company consents to have returned shall be shipped F.O.B. the Company's factory. The Company cannot assume responsibility or accept invoices for unauthorized repairs to its components, even though defective. The life of the products of the Company depends, to a large extent, upon the type of usage thereof, and THE COMPANY MAKES NO WARRANTY AS TO FITNESS OF ITS PRODUCTS FOR SPECIFIC APPLICATIONS BY THE BUYER NOR AS TO PERIOD OF SERVICE UNLESS THE COMPANY SPECIFICALLY AGREES OTHERWISE IN WRITING AFTER THE PROPOSED USAGE HAS BEEN MADE KNOWN TO IT.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE.

This warranty does not apply to experimental or developmental products.

SERVICE: If this product requires service, call Dynapar for an RMA (Return Material Authorization) number, pack it in a sturdy carton and ship prepaid to: Service Dept. at address below.

Include:
1. Description of problem
2. Name of responsible person
3. Purchase order number
4. Return shipping instructions

DYNAPAR CORPORATION