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:
Overview
Specifications
Programming
MAXjr Count 1 Programming
MAXjr Count 2 Programming
MAXjr Count 3 Programming
Installation
Calibration and Applications
Ordering Information
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

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
OVERVIEW...

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

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

NEOPRENE GASKET
- Seals unit to panel

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
**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Input Power:</th>
<th>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)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessory Power:</td>
<td>12 VDC ± 25% @ 0 to 125 ma (Vin = 9.8 VDC for 'A' version)</td>
</tr>
<tr>
<td>Main Counter:</td>
<td>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)</td>
</tr>
<tr>
<td>Count Rate:</td>
<td>DC to 10 kHz (see note below)</td>
</tr>
<tr>
<td>Calibrator:</td>
<td>0.0001 to 9.9999 common to A and B</td>
</tr>
<tr>
<td>Batch Counter:</td>
<td>Decades: 4 with rollover, Presets: 1 with 4 decade range, Operation: Counts up through detection of Auto Reset</td>
</tr>
<tr>
<td>Totalizer:</td>
<td>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)</td>
</tr>
<tr>
<td>Control Inputs:</td>
<td>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 Flesponse: 25 ms min make and break time</td>
</tr>
<tr>
<td>Display:</td>
<td>Decades: 5 decade, 0.56&quot; red LED plus 8 legends, Decimal Point: Programmable Innm X.XXXXX to XXXX</td>
</tr>
<tr>
<td>Keyboard:</td>
<td>Sealed, tactile response, 6 positions</td>
</tr>
<tr>
<td>Program Security:</td>
<td>Program Disable switch</td>
</tr>
<tr>
<td>Outputs:</td>
<td>Type: 2 Open Collector, Sink Current: 100 ma max, Collector Voltage: 30 VDC max, Output Voltage: 1 VDC typcal @ 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</td>
</tr>
<tr>
<td>Diagnostics:</td>
<td>Signal and Control Inputs Test, Solid State Outputs Test, Front Panel Test, Display Digits Test, Display Segments Test</td>
</tr>
<tr>
<td>Mechanical:</td>
<td>Enclosure: Extruded aluminum with molded Valox bezel, 1.98&quot;H x 3.78&quot;W x 6.03&quot;D, Cutoff: 1.78&quot; - 0.03&quot; x 3.58&quot; - 0.04&quot;</td>
</tr>
<tr>
<td>Environmental:</td>
<td>Panel Thickness: 1/16&quot; to 1/4&quot;, Depth Behind Bezel: 5.68&quot;, Weight: 1.4 lbs, Operating Temp. 0 to 50 °C. (32 to 122 °F.), Storage Temp. -18 to 85 °C. (0 to 185 °F.), Ambient Humidity: 0 to 90% and noncondensing</td>
</tr>
<tr>
<td>Error Codes:</td>
<td>2. Low AC line voltage, 3. Processor time fault utilized, 4. Input frequency above 5 kHz, 5. NonVolatilie RAM failure, Press RST/CLR key to clear error</td>
</tr>
</tbody>
</table>

**MODEL**

<table>
<thead>
<tr>
<th>MAXjr Count 1</th>
<th>MAXjr Count 2</th>
<th>MAXjr Count 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 Digit Totalizer</td>
<td>5 Digit, 2 Preset Counter</td>
<td>5 Digit, 2 Preset Counter with Batch Counter or Totalizer</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>PROMPTS</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>PST #1</td>
<td>4.90</td>
</tr>
<tr>
<td></td>
<td>004.90</td>
</tr>
<tr>
<td></td>
<td>003.90</td>
</tr>
</tbody>
</table>

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 occurs 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.
<table>
<thead>
<tr>
<th>LINE</th>
<th>FUNCTION</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RUN MODE</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>LOWER TOTAL</td>
<td>Four least significant digits of Totalizer</td>
</tr>
<tr>
<td>2</td>
<td>UPPER TOTAL</td>
<td>Four most significant digits of Totalizer</td>
</tr>
<tr>
<td></td>
<td>PROGRAM MODE</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>DECIMAL POINT</td>
<td>Select one-of-four positions or no decimal point</td>
</tr>
<tr>
<td>4</td>
<td>CALIBRATOR</td>
<td>Numeric constant that multiplies count inputs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CAL = counts displayed / (2 x counts in)</td>
</tr>
<tr>
<td>5</td>
<td>INPUT OPERATION</td>
<td>Select add/subtract (Sig A - Sig B) or bidirectional (A and B in quadrature)</td>
</tr>
<tr>
<td>6</td>
<td>INPUTS A AND B</td>
<td>Select open collector (high speed) or contact closure (debounced) inputs</td>
</tr>
<tr>
<td>7</td>
<td>PANEL RESET</td>
<td>Select On or Off to enable or disable Front Panel Reset</td>
</tr>
<tr>
<td></td>
<td>DIAGNOSTIC MODE</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>INPUT TEST</td>
<td>Shows active signal and control inputs on the display</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Sig A = &quot;A&quot;, Sig B = &quot;B&quot;, In 1 = &quot;1&quot;, and In 2 = &quot;2&quot;)</td>
</tr>
<tr>
<td>9</td>
<td>OUTPUT TEST</td>
<td>Shows active keys on the display</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(INC/ON = &quot;I&quot;, DEC/OFF = &quot;D&quot;, RUN/PGM = &quot;P&quot;, and RST/CLR = &quot;C&quot;)</td>
</tr>
<tr>
<td>10</td>
<td>PANEL TEST</td>
<td>Constant pattern on the display</td>
</tr>
<tr>
<td>11</td>
<td>SEGMENT TEST</td>
<td>Shows active signal and control inputs on the display</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Sig A = &quot;A&quot;, Sig B = &quot;B&quot;, In 1 = &quot;1&quot;, and In 2 = &quot;2&quot;)</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>Allows manual pickup of either output; outputs are dropped out when RUN/PGM is pressed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NOTE: This line does not appear on the MAXJr Count 1</td>
</tr>
</tbody>
</table>
**MAXjr Count 1 Programming . . .**

**RUN MODE**

- PROMPTS
- DISPLAY

**PROGRAM MODE**

- FACTORY PROGRAMMING
- PGM D.P.: .0 .0 .0 .0 .0 .0 .0
- PGM CAL: 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000

- Selects and highlights the digit to be changed
- Adds one to the highlighted digit

- PGM INP:
  - aPh-b
  - aPh-1d

- PGM INP:
  - aB. ac
  - aB. -1t

- PGM:
  - Pr.Оff
  - Pr. Оn
  - Pr. on

**DIAGNOSTIC MODE**

- The A & B may show up if programmed for contact closure input
- PGM:
  - with no inputs active: .A6 12
  - with all inputs active: .A6 12

- Picks up highlighted output
- PGM:
  - on: .1 12

- With no keys pressed
- PGM:
  - P. idPC

- With all keys pressed
- PGM:
  - correct display pattern

- All segments illuminated
- PGM D.P., CAL, INP: 88888
<table>
<thead>
<tr>
<th>LINE</th>
<th>FUNCTION</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LOWER TOTAL</td>
<td>Four least significant digits of Totalizer</td>
</tr>
<tr>
<td>2</td>
<td>UPPER TOTAL</td>
<td>Four most significant digits of Totalizer</td>
</tr>
<tr>
<td>3</td>
<td>COUNT VALUE</td>
<td>Current Counter value</td>
</tr>
<tr>
<td>4</td>
<td>PRESET 1</td>
<td>Numeric value of Preset 1</td>
</tr>
<tr>
<td>5</td>
<td>PRESET 2</td>
<td>Numeric value of Preset 2</td>
</tr>
<tr>
<td>6</td>
<td>PRIMARY COUNT</td>
<td>Select Preset Counter or Totalizer operation</td>
</tr>
<tr>
<td>7†</td>
<td>PRESET 1 VALUE</td>
<td>Program numeric value of Preset 1</td>
</tr>
<tr>
<td>8†</td>
<td>PRESET 2 VALUE</td>
<td>Program numeric value of Preset 2 (Start Count value if Count Direction is set to Down)</td>
</tr>
<tr>
<td>9</td>
<td>DECIMAL POINT</td>
<td>Select one-of-four positions or no decimal point</td>
</tr>
<tr>
<td>10</td>
<td>CALIBRATOR</td>
<td>Numeric constant that multiplies counts; CAL = counts displayed / (2 x counts in)</td>
</tr>
<tr>
<td>11†</td>
<td>COUNT DIRECTION</td>
<td>Select Up (reset to zero) or Down (set to a number)</td>
</tr>
<tr>
<td>12</td>
<td>INPUT OPERATION</td>
<td>Select Add (Sig A)/Subtract (Sig B) or bidirectional (A and B in quadrature)</td>
</tr>
<tr>
<td>13</td>
<td>INPUTS A AND B</td>
<td>Select open collector (high speed) or contact closure (debounced) inputs</td>
</tr>
<tr>
<td>14</td>
<td>PRESET LOCK</td>
<td>Select On or Off to allow changes to Preset values in the Run Mode</td>
</tr>
<tr>
<td>15†</td>
<td>AUTO RESET</td>
<td>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)</td>
</tr>
<tr>
<td>16</td>
<td>PANEL RESET</td>
<td>Select On or Off to enable or disable Front Panel Reset</td>
</tr>
<tr>
<td>17†</td>
<td>OUTPUT 1 TIMEOUT</td>
<td>Program momentary time in seconds, or set to 00.00 for latched operation</td>
</tr>
<tr>
<td>18†</td>
<td>OUT 1 ASSIGNMENT</td>
<td>Program the output to pickup or dropout at Reset, Preset 1, and Preset 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- use the right cursor to select and highlight the Reset, Preset 1, or Preset 2 field</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- the ON key enters a pickup operation; the OFF key enters a dropout operation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- use the CLR key to remove an output assignment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>19†</td>
<td>OUTPUT 2 TIMEOUT</td>
<td>Program momentary time in seconds, or set to 00.00 for latched operation</td>
</tr>
<tr>
<td>20†</td>
<td>OUT 2 ASSIGNMENT</td>
<td>Program the output to pickup or dropout at Reset, Preset 1, and Preset 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Automatically set to occur at Zero (0) count when Count Direction is set to Down</td>
</tr>
<tr>
<td>†NOTE: These features are not used for Totalizer operation (if line 6 is set for Totalizer)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>----------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>-----</td>
<td>----------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>-----</td>
<td>----------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>-----</td>
<td>----------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>

**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
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:
Switch 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
**MAXjr Count 2 Programming . . .**

**RUN MODE**

### TOTALIZER OPERATION

<table>
<thead>
<tr>
<th>PROMPTS</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>PST #1</td>
<td>1234</td>
</tr>
<tr>
<td>PST #2</td>
<td>1234</td>
</tr>
</tbody>
</table>

### PRESET COUNTER OPERATION

Refer to Page 5 for changing Presets in the Run Mode.

**PROGRAM MODE**

**FACTORY PROGRAMMING**

### PGM

- **PGM PST #1**
  - 00000
  - (program numeric value as shown in Preset 1 above)

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

- **PGM D.P.**
  - 0

- **PGM CAL**
  - 05000

- **PGM INP**
  - d irup

### PGM OUT #1

- (program numeric value as shown in Preset 1 above)

### PGM OUT #2

- (program numeric value as shown in Preset 1 above)

### PROMPTS:

- "1" = Operation at Reset
- "2" = Operation at Preset 2

### KEYS:

- **on** = Pickup ("P" displayed)
- **off** = Dropout ("d" displayed)
- **clr** = No Action (clears field)

**DIAGNOSTIC MODE**

See the MAXjr Count 1 Programming section for information about the diagnostics.
<table>
<thead>
<tr>
<th>LINE</th>
<th>FUNCTION</th>
<th>DESCRIPTION</th>
<th>NOTE: These lines are not displayed in the Run Mode if line 9 is Batch Counter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LOWER TOTAL</td>
<td>Four least significant digits of Totalizer</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>UPPER TOTAL</td>
<td>Four most significant digits of Totalizer</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>COUNT VALUE</td>
<td>Current Counter value</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>PRESET 1</td>
<td>Numeric value of Preset 1</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>PRESET 2</td>
<td>Numeric value of Preset 2</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>BATCH COUNT</td>
<td>Current Batch Counter value</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>BATCH PRESET</td>
<td>Numeric value of Batch Preset</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>PRIMARY COUNT</td>
<td>Select Preset Counter or Totalizer operation</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>EXTRA COUNTER</td>
<td>Select Batch Counter or background Totalizer in addition to Preset Counter</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>PRESET 1 VALUE</td>
<td>Program numeric value of Preset 1</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>PRESET 2 VALUE</td>
<td>Program numeric value of Preset 2 (Start Count value if Count Direction is Down)</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>BATCH PRESET</td>
<td>Program numeric value of Batch Preset (not active if Extra Counter is Totalizer)</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>DECIMAL POINT</td>
<td>Select one-of-four positions or no decimal point</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>CALIBRATOR</td>
<td>Numeric constant that multiplies counts; CAL = counts displayed / (2 x counts in)</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>COUNT DIRECTION</td>
<td>Select Up (reset to zero) or Down (set to a number)</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>INPUT OPERATION</td>
<td>Select add/subtract (Sig A – Sig B) or bidirectional (A and B in quadrature)</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>INPUTS A AND B</td>
<td>Select open collector (high speed) or contact closure (debounced) inputs</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>PRESET LOCK</td>
<td>Select On or Off to allow changes to Preset values in the Run Mode</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>AUTO RESET</td>
<td>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)</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>PANEL RESET</td>
<td>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)</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>OUTPUT 1 TIMEOUT</td>
<td>Program momentary time in seconds, or set to 00.00 for latched operation</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>OUT 1 ASSIGNMENT</td>
<td>Program the output to pickup or dropout at Reset, Preset 1, 2, and Batch Preset</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- use the right cursor to highlight the Reset, Preset 1, 2, or Batch Preset field</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- the ON key enters a pickup operation; the OFF key enters a dropout operation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- use the CLR key to remove an output assignment</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>NOTE: Actions at Reset are used with (manual) external or Front Panel Reset only. For operation at Auto Reset, use Preset 2 assignments</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>OUTPUT 2 TIMEOUT</td>
<td>Program momentary time in seconds, or set to 00.00 for latched operation</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>OUT 2 ASSIGNMENT</td>
<td>Program the output to pickup or dropout at Reset, Preset 1, 2, and Batch Preset</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>NOTE: These features are not used for Totalizer operation (if line 8 is set for Totalizer)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DIAGNOSTIC MODE</td>
<td>See the MAXjr Count 1 Programming section for information about the diagnostics</td>
<td></td>
</tr>
</tbody>
</table>
### MAXjr Count 3 Programming

#### PROMPTS

<table>
<thead>
<tr>
<th>RUN MODE</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>PST #1</td>
<td>10000</td>
</tr>
<tr>
<td>PST #2</td>
<td>2000</td>
</tr>
<tr>
<td>PST</td>
<td>12345</td>
</tr>
<tr>
<td>PST</td>
<td>1234</td>
</tr>
</tbody>
</table>

**TOTALIZER OPERATION**
- Use the `RESET` key to reset the background Totalizer.

**PRESET COUNTER OPERATION**
- Refer to Page 5 for changing Presets in the Run Mode.

**BATCH COUNT OPERATION**
- Use the `RESET` key to reset the Batch Counter.

---

#### PROGRAM MODE

<table>
<thead>
<tr>
<th>FACTORY PROGRAMMING</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGM PST #1</td>
</tr>
<tr>
<td>000000</td>
</tr>
<tr>
<td>Selects and highlights the digit to be changed</td>
</tr>
<tr>
<td>Inc</td>
</tr>
<tr>
<td>Adds one to the highlighted digit</td>
</tr>
<tr>
<td>Clear</td>
</tr>
<tr>
<td>Clears the value displayed</td>
</tr>
<tr>
<td>Decrease</td>
</tr>
<tr>
<td>Subtracts one from highlighted digit</td>
</tr>
</tbody>
</table>

**PGM PST #2**
- (Program numeric value as shown in Preset 1 above)

**PGM PST**
- (Program numeric value as shown in Preset 1 above)

**PGM D.P.**
- (Program numeric value as shown in Preset 1 above)

**PGM CAL**
- (Program numeric value as shown in Preset 1 above)

---

#### DIAGNOSTIC MODE

See the MAXjr Count 1 Programming section for information about the diagnostics.
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.

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.

C. STOP COUNT INPUT
The Counter is stopped as long as the switch closure is maintained.

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

RELIUCTANCE PICKUPS (SINE WAVE)
Set switches as shown below. Program Input Operation to A-B 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.
APPLICATIONS...

CALIBRATOR FORMULA: CAL = counts displayed / 2 x counts in

RANGE: CAL range = 0.0001 to 9.9999

PARTS COUNTING

CALIBRATOR = 1 part displayed
2 x (1 pulse/part)

= 0.5000

INPUT OPERATION: A–B (subtract not used)

INPUTS A AND B: Contact Closure (low speed)

LENGTH COUNTING

DECIMAL POINT: .00 (hundredths of inches)

CALIBRATOR = 1200 hundredths inches displayed
2 x (600 pulses/foot)

= 1.0000

INPUT OPERATION: Bidirectional

INPUTS A AND B: Open Collector (high speed)

PARTS BOXING

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
APPLICATIONS...

BOTTLE PACKAGING

PRESET 1 = 6 bottles/case, 2 cases/carton
PRESET 2 = 12 bottles/carton
CALIBRATION = 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)
OUTPUT 2 TIMEOUT: 1.00 sec
OUT 1 ASSIGNMENT: Pickup at Reset
OUT 2 ASSIGNMENT: Pickup at Preset 2

CUT TO LENGTH WITH BATCHING

PRESET 2 = piece length in inches
BATCH PRESET = number of pieces/stuck
DECIMAL POINT = .00 (hundredths of inches)
CALIBRATION = 1200 hundredths inches displayed
2 x (600 pulses/rev)
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)
OUTPUT 2 TIMEOUT: 1.00 (seconds)
OUT 1 ASSIGNMENT: Pickup at Preset 2
OUT 2 ASSIGNMENT: Pickup at Batch Preset
(to cut the material)

CONTAINER FILLING WITH TOTAL USAGE

EXTRA COUNTER: (background) Totalizer
PRESET 1 = 4.90 gals
PRESET 2 = 5.00 gals
CALIBRATOR = 100 hundredths gals displayed
2 x 82.19 pulses/gal
COUNT DIRECTION: Up (reset to zero)
INPUT OPERATION: A-B (subtract not used)
PLENAR RESET:
OUTPUT 1 TIMEOUT: 0.00 (latching)
OUTPUT 2 TIMEOUT: 0.00 (latching)
OUT 1 ASSIGNMENT: Pickup at Reset (Full Flow)
OUT 2 ASSIGNMENT: Pickup at Preset 1 (Dribble)
Dropout at Preset 2
Dropout at Preset 2
ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Model No.</th>
<th>2 Preset Counter</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCjr 1-0 for 117 VAC</td>
<td></td>
</tr>
<tr>
<td>MCjr 1-E for 234 VAC</td>
<td></td>
</tr>
<tr>
<td>MCjr 1-A for 12 VDC</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model No.</th>
<th>2 Preset Counter with Batch</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCjr 3-0 for 117 VAC</td>
<td></td>
</tr>
<tr>
<td>MCjr 3-E for 234 VAC</td>
<td></td>
</tr>
<tr>
<td>MCjr 3-A for 12 VDC</td>
<td></td>
</tr>
</tbody>
</table>

PANA MOUNT ACCESSORIES

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Current Req.</th>
<th>Pkg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM21</td>
<td>Dual Differential Receiver with Transducer Supply</td>
<td>25 ma</td>
<td>B</td>
</tr>
<tr>
<td>PM26</td>
<td>Dual high voltage opto-isolator to open collector converter (for AC tachometer inputs)</td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>PM31</td>
<td>SPDT Relay Module (rated 7.5 A @ 120 VAC)</td>
<td>30 ma</td>
<td>D</td>
</tr>
<tr>
<td>PM41</td>
<td>Relay/Accessory Supply 16D/0-234 12&quot; Snap-Trak™</td>
<td></td>
<td>D</td>
</tr>
</tbody>
</table>

TRANSUCERS

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>53Z Zero Speed Pickup</td>
<td></td>
</tr>
<tr>
<td>40 Rotopulsar™</td>
<td></td>
</tr>
<tr>
<td>52BH Magnetic Pickup</td>
<td></td>
</tr>
<tr>
<td>60 Rotopulsar™</td>
<td></td>
</tr>
<tr>
<td>76AZT Rotopulsar™</td>
<td></td>
</tr>
</tbody>
</table>

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 solely 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.R. 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
2100 W. Broad St., P.O. Box 368, Elizabethtown, NC 28337
TEL: (847) 662-2666 FAX: (847)662-6633

16D250-66 Printed in U.S.A.