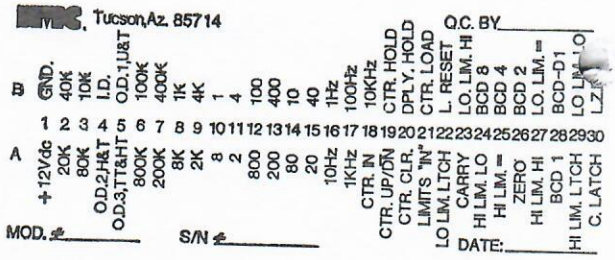
MODEL 815 UP/DOWN TIMER CONTROLLER WITH DUAL LIMITS

FEATURES

- 10μs to 10 Megaseconds Range
- 7 Selectable Time Bases
- 6 Decades 1/2" (13mm) LED Display
- All CMOS Construction
- 3T BCD TTL or CMOS
- Relay Outputs
- 1/4 DIN Aluminum Case
- Splash Proof Cover
- Dual Limits for "High-In-Low" Operation



DESCRIPTION

The 815 is an Up/Down Timer capable of 10μs resolution and 10^6 Seconds (116 Days) capacity. Since it uses the 810 Main Frame (see pages 9-11). All the features and flexibility are identical. What makes the 815 different is a plug-in board that contains a crystal oscillator buffer, six decade dividers and a Dip Switch. The base frequency is 100 KHz (others on request) which is divided to 0.1 Hz. Intermediate decade frequencies are available for internal/external use; 10 KHz, 1 KHz, 100 Hz, 10 Hz and 1 Hz signals are available at edge connector in addition to the internal selection by means of the DIP Switch 100KHz and 0.1 Hz are available internally only. The Dual and Limit Presets (see Model 810 Description) offer additional versatility to the 815 in applications involving controlling requirements.

Note: For Internal Routing of the Time Base, the DIP Switch should be set with *only one switch on.*

SPECIFICATIONS @ 25°C

- Input Frequency ..... dc to .5MHz
- Input Level ...CMOS Logic "0" < 3V, Logic "1" > 6V
- Count Pulse Width ..... 400ns Min.
- Hold Pulse Width ..... 3μs Min.
- Reset Pulse Width ..... 3μs Min.
- Up/Down Setup Time ..... 1μs Min.
- Inputs Source Current ..... 250μA Nominal
- Zero Pulse Width ..... 5μs Min.
- Carry Pulse Width ..... 5μs Min.
- Power Requirements ..... 12Vdc ± 10% @ 150mA
- Operating Temperature .....0 to + 60°C
- Storage Temperature..... -20 to +80°C
- Time Base..... 100KHz Crystal
- Accuracy .....±0.01%
- Stability .....±0.001%
- Aging Rate ..... 5 PPM/Month

Note: Limited to 200 KHz when using BCD Output or Limit Out-put.

POWER SUPPLY

Input ..... 115/230 VAC ± 15% 50-60 Hz
Output ..... 12Vdc ± 10% @ 200mA

RELAYS/TRIACS

Make Time 3.0mS/.1mS
Break Time..... 1.0mS/.1mS
Maximum Load ..... 1A Resistive

TRISTATE BCD

Output (CMOS)..... CMOS Compatible
Output (TTL) ..... LPTTL 10 Loads
Output Format..... 8 Bit (2 Digits) or 24 Bit (6 Digits)
Input Disable..... All Six Digits (memory)
Output Disable ..... 3, Grouped in 2 Digits

CONNECTIONS

Since the 815 uses the Main Frame of the 810, all connections apply; in addition, the following pertain to the 815 Model only.

Note: When using internal DIP Switch to select a frequency, this frequency is internally fed to the counter input (PIN 18A). *Do not* make any connections to this pin. 100 KHz and 0.1 Hz are only available for internal use. Pin 16B-1 Hz; 16A-10 Hz; 17B-100 Hz; 17A-1KHz; 18B-10KHz, outputs.

Refer to Model 810 for other connections descriptions.

SELECTABLE FREQUENCIES

SW On	Frequency	Resolution	Full Scale
*7	100KHz	10μs	10 Seconds
6	10KHz	100μs	100 Seconds
5	1KHz	1ms	1000 Seconds
4	100Hz	10ms	10,000 Seconds
3	10Hz	100ms	100,000 Seconds
2	1Hz	1 Sec.	1,000,000 Seconds
*1	0.1Hz	10 Sec.	10,000,000 Seconds

*Available Internally Only (116 Days)

INPUT DEBOUNCER

Input Source Current 750μA
Input Capacitance 5pF
Input-Output Delay .....4 Clock Pulses after Last Bounce
Clock Frequency Vs Cx (internal)..... f=A/Cx.
A = 1/3 Vcc. Cx in pF, Ex 50000 pF = 40 mS Delay

LIMITS AND LATCH

Output Logic Level ..... "0"<3V; "1"> 6V
Propagation Delay..... 1μs
Latch Reset Pulse..... 1μs
Latch Reset Source current 250μA

ORDERING INFORMATION

MODEL 815 X X X

BCD
0 . . . . No BCD
1 . . . . TTL BCD
2 . . . . CMOS BCD

0 . . . . Standard

POWER SUPPLY/RELAYS
0. . . . No. Power Supply (12 Vdc only)
1. . . . 12 Vdc and Relays
2. . . . A.C. Power Only (115/230 Vac)
3. . . . A.C. Power and Relays
4. . . . 12 Vdc and Triacs
5. . . . A.C. Power and Triacs
X. . . . Special (Specify)

See page 29 for Mechanical Specifications.