

# 1.5GHz UNIVERSAL COUNTER

## FC-8150U



### FEATURE

- Frequency measuring range : 0.1 Hz to 100 MHz in A, B input  
80 MHz to 1.5 GHz in C input
- Period and Total measurement for input A
- Time interval and Ratio measurement for input A and B
- Trigger level adjustment for input A
- Separate and Common mode selectable for input A and B
- Slope mode selectable for input A and B
- 9 Digit display with 0.01 mHz resolution in 1 Sec.
- RS-232C serial interface function for communicating with computer
- High sensitivity External reference input function( Higher than 1.5 Vrms)
- Reciprocal technique for high resolution at low counting frequencies
- Self check function executed to perform a automatic self diagnosis of various counter function
- Push-scanning for selecting Function and Gate time
- Low-pass filter(100 kHz, -3 dB) installed for removing noise signal in low frequency measuring
- AC/DC coupling function ( Selectable AC/DC Coupling )
- 10:1 Input Attenuation ( Selectable x1/x10 Attenuator )
- Data hold function

## ■ Technical Specification

| Function                                 |                               | Specification  |                      |           |           |        |
|--|-------------------------------|--|----------------------|-----------|-----------|--------|
| <b>Display</b>                           |                               | 9 digit large green LED display, Overflow, Gate time, mHz, Hz, kHz, MHz, nS, uS, mS, S, HOLD |                      |           |           |        |
| <b>Frequency Measurement</b>             | Range                         | Input A,B: 0.1Hz-100MHz, Input C: 80MHz-1.5GHz   |                      |           |           |        |
|  | Gate Time                     | 0.01Sec, 0.1Sec, 1Sec, 10Sec   |                      |           |           |        |
|  | Resolution                    | 1nHz to 10Hz   |                      |           |           |        |
|  | Accuracy                      | +/- Resolution +/- TimebaseError +/- 1count  |                      |           |           |        |
| <b>Input Characteristics</b>             | Terminal                      | A, B, C  |                      |           |           |        |
|  | Sensitivity                   | A, B, C Input : 30mVrms  |                      |           |           |        |
|  | Impedance                     | A,B Input : 1 Mohm, 40pF , C input : 50 ohm  |                      |           |           |        |
|  | Max. Input Voltage            | A, B Input : 250mVrms, C input : 3Vrms   |                      |           |           |        |
|  | Attenuator                    | A, B Input : x1, x10   |                      |           |           |        |
|  | Slope A,B                     | +, - selectable  |                      |           |           |        |
|  | Trigger A                     | Preset or Variable   |                      |           |           |        |
|  | Low Pass Filter               | A Input : 100kHz, -3dB   |                      |           |           |        |
| <b>Multi Function for input A</b>        | Period                        | Range : 10mSec to 10Sec  |                      |           |           |        |
|  |                               | Resolution : 1pSec to 1nSec depending on Gate time and input Signal                          |                      |           |           |        |
|  |                               | Accuracy : +/- Resolution +/- Trigger Error +/- 1count                                       |                      |           |           |        |
|  | Totalize                      | Range : 5Hz to 10MHz<br>Count capacity : 0 to 999999999(Max)                                 |                      |           |           |        |
| <b>Comparison Function for input A,B</b> | Time Interval (A to B)        | Range : 10mSec to 10Sec  |                      |           |           |        |
|  |                               | L.S.D Display : 100mSec  |                      |           |           |        |
|  |                               | Resolution : +/- L.S.D. +/- Trigger Error  |                      |           |           |        |
|  | Ratio (A/B)                   | Accuracy : +/- Resolution +/- 1count   |                      |           |           |        |
|  |                               | Range : A input ; 0.1Hz to 100MHz  |                      |           |           |        |
|  |                               | B input ; 5Hz to 100MHz  |                      |           |           |        |
| <b>Time Base Characteristics</b>         | Internal Timebase             | L.S.D. Display : A x N/B, N = 1 to 1000  |                      |           |           |        |
|  |                               | Accuracy : +/- 1 Count of A +/- B Trigger Error +/- A  |                      |           |           |        |
|  |                               | - Frequency : 10MHz TCO (TCXO ; Option)  |                      |           |           |        |
|  |                               | - Aging Rate : Less than $5 \times 10^{-6}$ /month   |                      |           |           |        |
|  | Frequency Standard Output     | - Temp. Stability : Less than $5 \times 10^{-6}$ (0 to $+50 \mu\text{AEC}$ )                 |                      |           |           |        |
|  |                               | - Line Voltage : Less than $1 \times 10^{-6}$ for 10% variation                              |                      |           |           |        |
|  |                               | - Frequency : 10MHz  |                      |           |           |        |
| External Standard Input                  | - Amplitude : 1.5Vp-p         |  |                      |           |           |        |
|  | - Impedance ; Approx. 600 ohm |  |                      |           |           |        |
|  | - Frequency : 10MHz           |  |                      |           |           |        |
| <b>General</b>                           | Power Requirement             | 115/230VAC +/- 10% ,48 to 66Hz   |                      |           |           |        |
|  | Operating Temperature         | 0 to 50 $\mu\text{AEC}$ (Accuracy specified at 25 +/- 5 $\mu\text{AEC}$ )                    |                      |           |           |        |
|  | Dimension                     | 240(W) x 270(D) x 90(H)mm  |                      |           |           |        |
|  | Weight                        | Approx. 2.5 kg   |                      |           |           |        |
|  | Standard Accessories          | Power cord, BNC cable, Fuse, Instruction manual  |                      |           |           |        |
| <b>Packing Details</b>                   | -                             | Q'ty   | Size (mm)            | N.W. (kg) | G.W. (kg) | Remark |
|  | Inner Packing                 | 1  | 305(W)x330(D)x165(H) | -         | 2.5       |        |
|  | Carton Packing                | 3  | 320(W)x560(D)x360(H) | 7.5       | 8.5       |        |