

## OCTAL TDC (Time to Digital Converter)



### «ABSTRACT»

- ◆ It is adopted Wilkinson type time to digital converter.  
The electric charge charged according to time is discharged from capacitor constantly.  
During this period, the scaler counts the clock pulse from oscillator.  
The final count value is proportional to the time interval measured.
- ◆ The module has 8 channels and 12 bit resolution.
- ◆ It can be set fullscale to 100,200,500ns by a side switch of this module, which resolution is 25,50 and 125ps of one count.

### «Specifications»

- ◆ Input NIM level impedance :  $50\Omega$ , Pulse width : 5nS (only CLEAR is 50nS)
- ◆ Conversion time :  $0.025\mu S \times (\text{full scale count}) + 1\mu S$
- ◆ Resolution : 25ps (at F. S 100nS) • 50ps (at F. S 200nS) • 125ps (at F. S 500nS) \* F.S means fullscale.
- ◆ Output : 13bit output by CAMAC bus (13th bit is over flow flag.)
- ◆ CAMAC function is as follows.
  - F(0)•A(n) : Read Data
  - F(2)•A(n) : A(0)~A(6) is Read Data and A(7) is All Channel Clear.
  - F(8)•A(n) : Test LAM
  - F(9)•A(n) : System Clear
  - F(10)•A(n) : Clear LAM
  - F(24)•A(n) : Disable LAM
  - F(25)•A(n) : Test Module
  - F(26)•A(n) : Enable LAM
- \* n is 0~7 (N is station number)
- ◆ Q and LAM can be changed the condition of generation by a side switch of this module.  
OFF : LAM=0 NORMAL : Q=1 EOC : After conversion, Q=1, LAM=1  
E & AN : after conversion, when it don't overflow even one channel in total 8channels, LAM=1, Q=1
- ◆ Connector : standard LEMO connector
- ◆ Packaging : CAMAC standard single-width module.
- ◆ Consumption current :
  - 6V Approx.540mA
  - +6V Approx.870mA
  - 24V Approx.75mA
  - +24V Approx.10mA



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