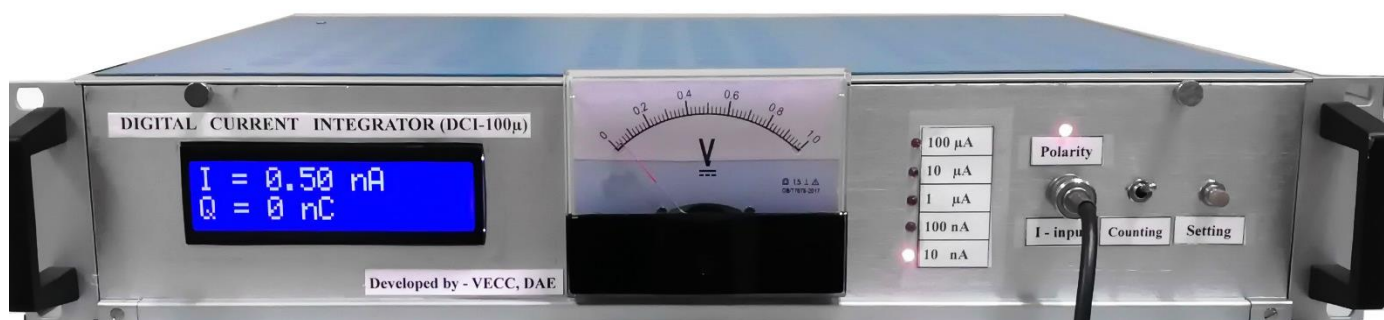


# Digital Current Integrator

## DCI-100 $\mu$



### HIGHLIGHTS

**Measures DC current or average value of pulsating current**

**Auto selectable input ranges**

**Integration using analog method to show total charge**

**Retains the charge value during power fail**

**LED indication of current polarity and working range**

**Switch selectable Integration (counting) mode**

**Multifunction Push Button**

**Buzzer ticks during integration**

**Fuse protection for input current and AC power supply**

**Large LCD display**

**RS232 communication**

The Digital Current Integrator DCI-100 $\mu$  has been designed to measure the DC beam current or average value of pulsating beam current and the integrated charge value for accelerator facilities. The instrument can measure bipolar currents ranging from 50pA to 100 $\mu$ A with an accuracy of <0.5% (of reading). All the five input

ranges, having full scale value from 10nA to 100 $\mu$ A, are auto-selectable according to instantaneous current value.

Other than a large LCD to display the current and charge with high accuracy, an analog meter on the front panel also displays the scaled input current whose full scale value (similar to selected range) and polarity is shown on LED array.

Unlike the electro-mechanical counter based old design, the absolute value of total integrated charge is calculated using the Combination of VFC and digital counters and then displayed and stored electronically.

A front panel ON/OFF switch allows the user to start/ stop the integration (counting). Ticks from an internal buzzer indicates the ongoing integration. The charge value can be reset and other configurations can be monitored or modified with a multifunctional push button.

This instrument is equipped with RS232 port, by which parameters can be monitored or configured from a remote location through predefined command set.

### SPECIFICATIONS

#### INPUT

**Input Range:** ( $\pm$ ) 50 pA - 100 $\mu$ A

**No. of input channels:** Single

**Impedance:** Virtually Ground

**Connector:** BNC (front panel)

**Polarity:** Positive or Negative

**Ranges:** 10nA-100 $\mu$ A  
(5 ranges in decades)

**Maximum allowed current:** 10 mA

**Max charge counts:** 2<sup>32</sup> (9.5 digits)

#### INDICATION/CONTROL

**Current display:** Analog and LCD

**Charge Display:** LCD

**Working range:** LED array

**Input Polarity:** LED

**Integration (counting) mode:** toggle switch

**Configuration:** Push button

#### OPERATION/ PERFORMANCE

**Digital Readout accuracy**  
**(Current):** <  $\pm 0.5\%$  of reading  
**(Charge):** <  $\pm 2\%$  of reading

**Analog Readout accuracy**  
**(Current):** <  $\pm 2\%$  of reading

**Input leakage current:** 10pA

**Communication:** RS232

**Comm connector:** DB9 (F)

**Power supply:** 230V AC, 50Hz