

CHARGE SENSITIVE PRE-AMPLIFIER

TYPE: PA 320

Technical Data

Charge sensitive Pre-amplifier PA320 is designed for use with gas filled proportional detectors, X-ray proportional detectors, BF-3 & He3 neutron detectors etc. Users will have the choice to change the load resistors & charge sensitive feedback capacitor according to the gain & sensitivity requirement for a specific application. Charge sensitive pre amplifier consists of an operational amplifier with capacitive feedback & uses an N-FET in the input stage. Output driver transistor is capable of driving a 100 ohms impedance coaxial cable.

Detector output is also brought out from the second stage, for using it for data acquisition purpose. This unit is provided with built in comparator with threshold adjustment to give TTL output for counting applications.

FEATURES :

- ❑ Compact solid state circuit design
- ❑ Suitable for wide range of x-ray proportional and gas flow type of detectors, BF3 & He3 Neutron detectors
- ❑ Rise time 100 nano sec.
- ❑ It is a charge sensitive pre-amplifier uses N-channel FET, in the input with charge collection capacitor in the feedback of the operational amplifier.

SPECIFICATIONS

Detector Load Resistor : 10 M Ohms

Output impedance : 100 Ohms

Charge Sensitivity: 1000mv / pico coulombs for first stage. Followed by additional voltage gain stage.

Rise Time: Better than 100 nano seconds.

Decay Time Constant :

20 μ sec. (approx).

Charge Sensitive Device :

Operational amplifier with FET in the front end.

Power supplies Required:

+12V@ 20mA
-12V@ 10mA

Dimensions : 155mmL X 95mmW X 50mmH.

