

VME Leading Edge Discriminator

SIS3500 Short Description

The SIS350x discriminator is a state of the art discriminator design with the possibility to cover CFD (constant fraction) and Leading Edge capability. The inputs are fed via LEMOs from the front panel, the split signal is also available on the front panel. The discriminated outputs are accessible on rows A and C of the P2 connector as ECL signals. This is done in a fashion, that cabling (to the TDC e.g.) can be done via crimp connectors and standard twisted pair cables (i.e. no patch panel will be required on the P2 connector). The card is a single width 6U VME card, -5.2 V are required, the possible options to supply them are CERN JAUX and VIPA J0.

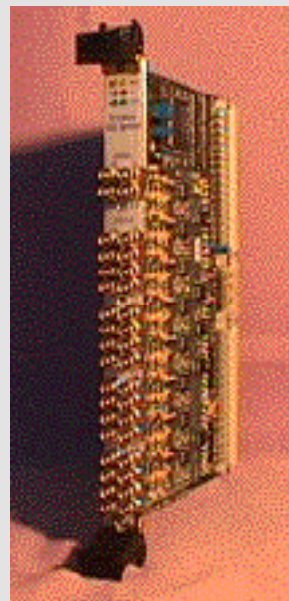
The SIS3500 consists of a base board and a leading edge discriminator piggy pack. In conjunction with a CFD piggy pack the SIS350x base board will be available als SIS3501 constant fraction discriminator in the future.

SIS3500 Features

- 16 Channels
- Leading Edge
- Individual Threshold
- 10 mV minimum Threshold
- 12-bit threshold DACs
- 12-bit offset/test DACs
- non updating
- LEMO Input connectors
- Active Split
- Multiplicity Output
- Fast Or
- Analog Sum Output
- Mask register
- Latch register
- VME64x Connectors
- VME64x Side Shielding
- VME64x Front panel
- VME64x extractor handles (on request)

The SIS3500 is a discriminator design, which meets the requirements for many particle physics applications. First level trigger decisions can be based on the fast OR output, the multiplicity output or the analog sum output. The connection to TDCs, scalers, lookup units, ... can be established via a standard 17 pair (twisted) flat cable. The output of channels can be disabled via a mask register for test purposes or in case of „hot“ detector channels. The active split LEMO outputs allow ADC readout without the need for additional external electronics.

Optimum decoupling of the analog input stage from the digital side is guaranteed by the piggy pack implementation, the VME interface and digital portion of the discriminator is located on the carrier board, the analog input stage with the active split and the analog sum and the actual discriminator stage reside on the daughter card.



VME Properties

The unit is in compliance with the VME standard, it supports the following VME features:

- A16/A24 D16
- Base address settable via rotary switches, A11 via jumper
- VME64xP LED set (PAR)

In addition the VME64xP/J0 motherboard supports:

- VME64x connectors
- VME64xP geographical addressing
- VME64xP hot swap

As A11 is the lowest address bit, which can be configured, the discriminator occupies 2 KBytes of the VME address space.

Power Consumption

- +5 V 2A
- 5.2 V 3A (JAUX/VME64xP J0)

Struck Innovative Systeme GmbH Moorhof 2d D-22399 Hamburg Germany

email: info@struck.de [www:http://www.struck.de](http://www.struck.de)

Tel.: +49(0)40 60 87 305 0 Fax: +49(0)40 60 87 305 20