

### SIGMA 310B VOLTAGE INPUT MODULE

# Sigma 310b



- 20 input channels
- 2 poles per channel
- DC voltage input
- Connector inputs for fast set-up

#### SPECIFICATION

Full signal conditioning is provided in the Sigma 310b module, enabling 20 DC voltage inputs to be connected via miniature 2 pin connectors mounted on the front panel.

Number of channels : 20  
 Poles per channel : 2  
 Input connections : 2 pin miniature copper sockets  
 Measurement modes : DC voltage only

#### DC Voltage inputs

Range : $\pm 10V$	Sensitivity : 0.2mV
$\pm 1.5V$	25 $\mu V$
$\pm 180mV$	3 $\mu V$
$\pm 23mV$	0.35 $\mu V$

Accuracy (@23°C) :  $\pm 0.015\%$  reading + 0.1% range + 6 $\mu V$   
 Temp coefficient : 0.0025% reading + 0.1 $\mu V/^\circ C$   
 Additional error : 0.05% range at 200/sec

#### A-D Converter

Resolution	Channels per second	SMR
19 bits	10	>60dB
18 bits	20	>60dB
17 bits	40	>60dB
15 bits	100	0dB
13 bits	200	0dB

#### Interference rejection

AC common mode rejection ratio (channel group) : >140dB  
 AC single channel common mode rejection ratio : >120dB  
 DC channel common mode rejection ratio : >108dB  
 AC series mode rejection ratio 50 or 60Hz ( $\pm 0.05\%$ ) : >60dB

#### Maximum operating voltages

Max voltage between any + and all - inputs : 12V  
 Max voltage between any two - inputs : 11V  
 Max voltage between any two terminals : 22V  
 Channel overload protection (continuous) : 50V  
 Isolation between channel group and RS485 : 1500V

#### Power requirements

Operating voltage : 12 to 28V  
 Power consumption : 3W

Note : The DC voltage for this module is provided by the Sigma 381a interface and is supplied over the communication cable. No local power supply is required.

#### System architecture

Communication interface : RS485  
 Maximum Baud rate : 153kb  
 Max number of Sigma modules on network : 99  
 Maximum length of network : 1Km

#### General

Connection for comms and power in : 5 pin connector  
 Connection for comms and power out : 5 pin connector  
 Connection for local display : 5 pin connector  
 Status lights : Power & comms

#### Operating Conditions

Temperature range : -20 to +70°C  
 Relative humidity (0 to 40°C) : <90%  
 Vibration (0 to 400Hz) : 3g in 3 planes

#### Mechanical

Casing : Aluminium sealed to IP55  
 Size (w x d x h) : 250 x 215 x 68mm  
 Weight : 2.2 Kg

#### Accessories

Cable plug for communications and power in  
 Cable plug for communications and power out  
 Cable plug for voltage input  
 Dust cap for local display socket