

### SIGMA 311 DC VOLTAGE AND DC CURRENT INPUTS

# Sigma 311



- 20 input channels
- 2 poles per channel
- DC voltage or DC current inputs
- Screw terminal connections with cable glands

#### SPECIFICATION

Full signal conditioning is provided in the Sigma 311 module, enabling any of the following parameters to be connected to any of the 20 channels.

Number of channels : 20  
 Poles per channel : 2  
 Input connections : Screw terminals with cable glands  
 Measurement modes : DC Volts, DC current

#### DC Voltage

Range : ±10V	Sensitivity : 0.2mV
± 1.5V	25µV
± 180mV	3µV
± 23mV	0.35µV

Range selection : Automatic selection supported  
 Accuracy (@23°C) : ±0.015% reading + 0.1% range + 6µV  
 Temp coefficient : 0.0025% reading + 0.1µV/°C  
 Additional error : 0.05% range at 200/sec

#### DC Current

Ranges : 4 to 20mA  
 0 to ±20mA  
 0 to ±2.5mA

Shunt resistor : 62 Internal)  
 Accuracy : 0.005%  
 Stability : 3ppm/°C

#### 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 (±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 381 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 : 1.8 Kg

#### Accessories

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