

# Analogue Input Module

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user manual  
All Models

# 1.0: Index

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## 2.0: Safety Summary

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### Terms in this Handbook

**WARNING** statements identify conditions or practices that could result in personal injury or loss of life.

**CAUTION** statements identify conditions or practices that could result in damage to the equipment or other property.

### Symbols in this manual



This symbol indicates where applicable cautionary or other information is to be found.

### WARNINGS:

#### **Do not operate in an explosive atmosphere**

To avoid explosion, do not operate this equipment in an explosive atmosphere.

#### **Do not exceed 50V input with respect to 0V common**

### NOTES:

#### **This equipment contains no user serviceable parts**

This equipment must be returned to your Solartron dealer for all servicing and repair (see section 10/11).

### **Low Voltage**

This equipment operates at below the SELV and is therefore outside the scope of the Low Voltage Directive.

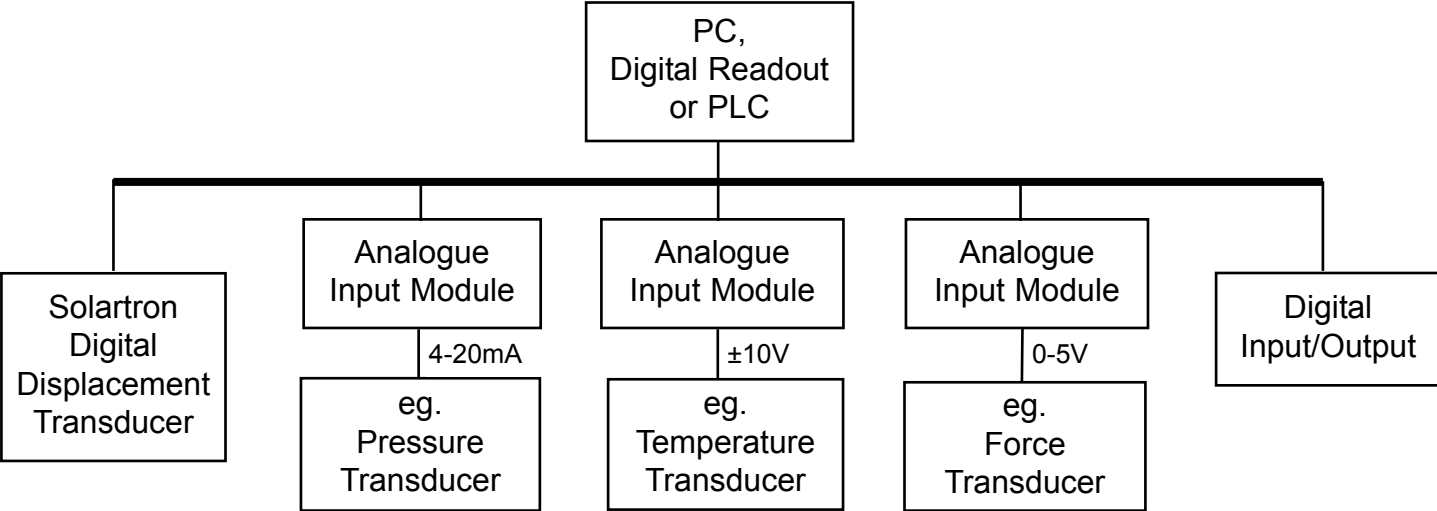
# 3.0: Introduction

The Analogue Input Module (AIM) provides a gateway for third party sensors into the Solartron Orbit Network facilitating quick and easy integration of systems comprising multiple sensors.

It can interface to most sensors with voltage or current outputs. A range of connectors are available to suit customer requirements.

Non-displacement transducers (eg. force, temperature or pressure sensors) can be interfaced directly with Orbit via the Analogue Input Module, and used in conjunction with Solartron Digital Probes, Linear Encoders and Digital I/O.

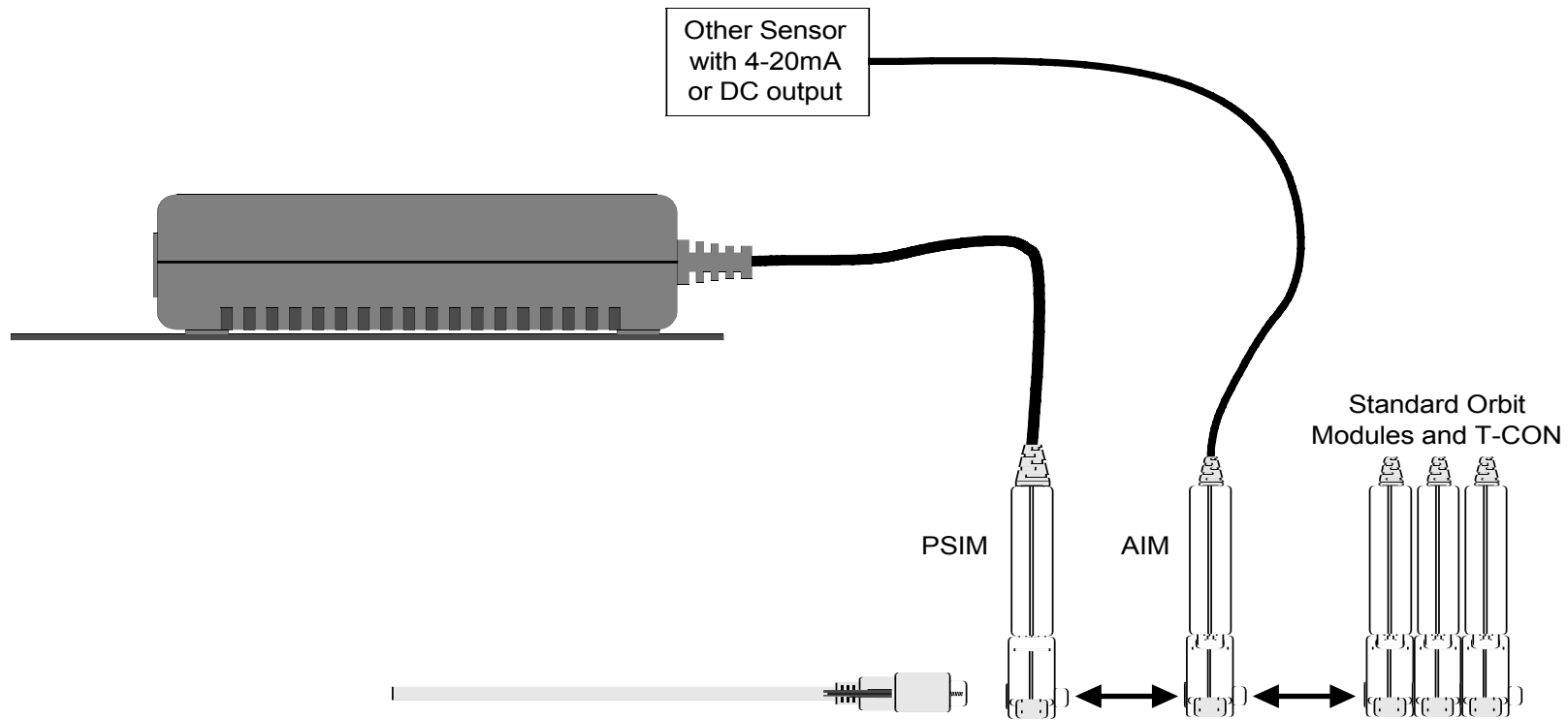
Readings can be taken directly into a PC or PLC in the usual manner for Orbit.



## 4.0: Installation

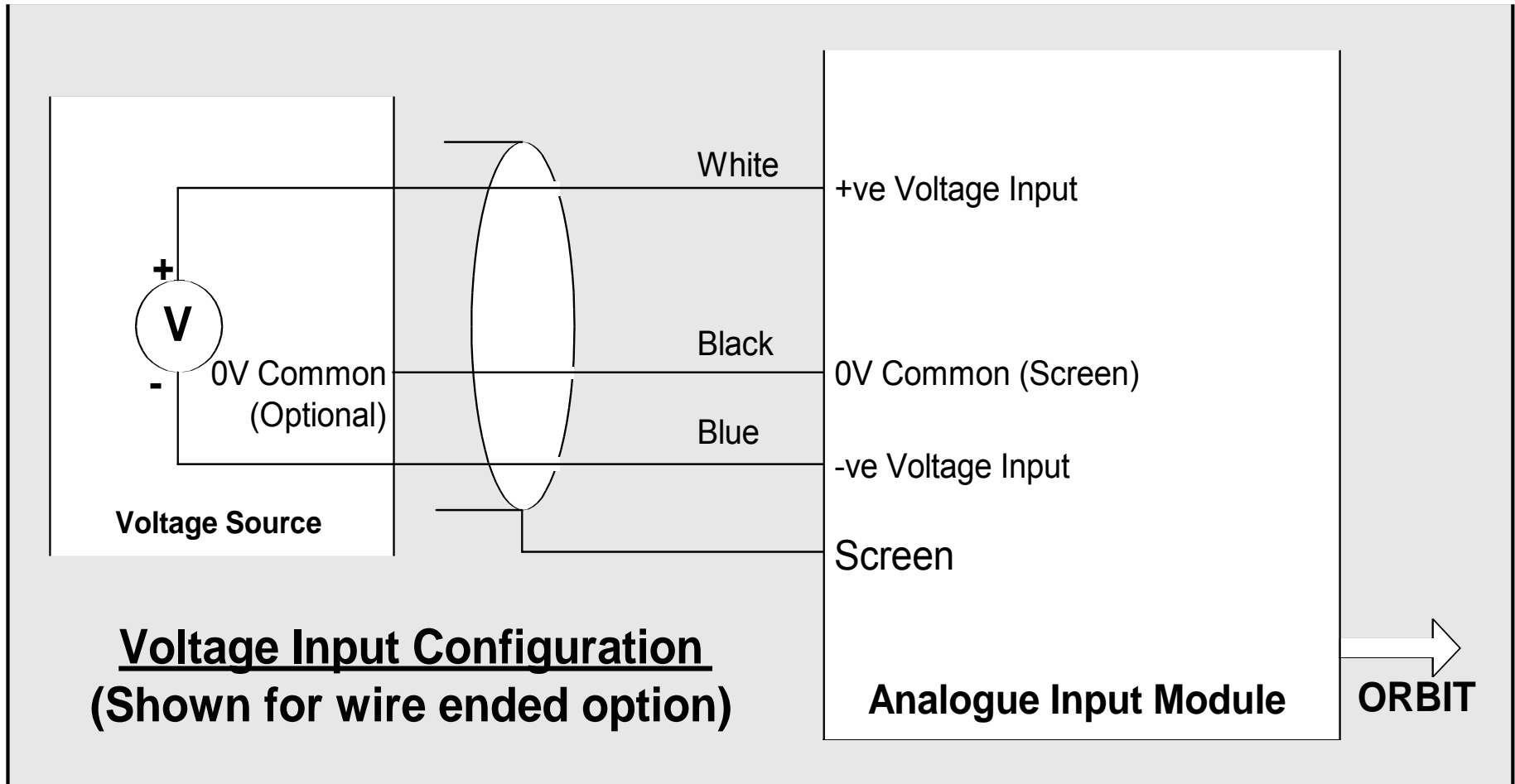
The Analogue Input Module is designed to be plugged directly into Orbit via the T-CON. When the T-CON is mounted, the Analogue Input Module PIE simply plugs into place and is locked into position using the slide lock bar. This method allows for easy connection without having to disturb other components of the system.

Note: When supplying the Orbit Network from a PC power supply, the user must ensure that the PC can provide sufficient current. If in doubt, Solartron advise the use of a PSIM module.



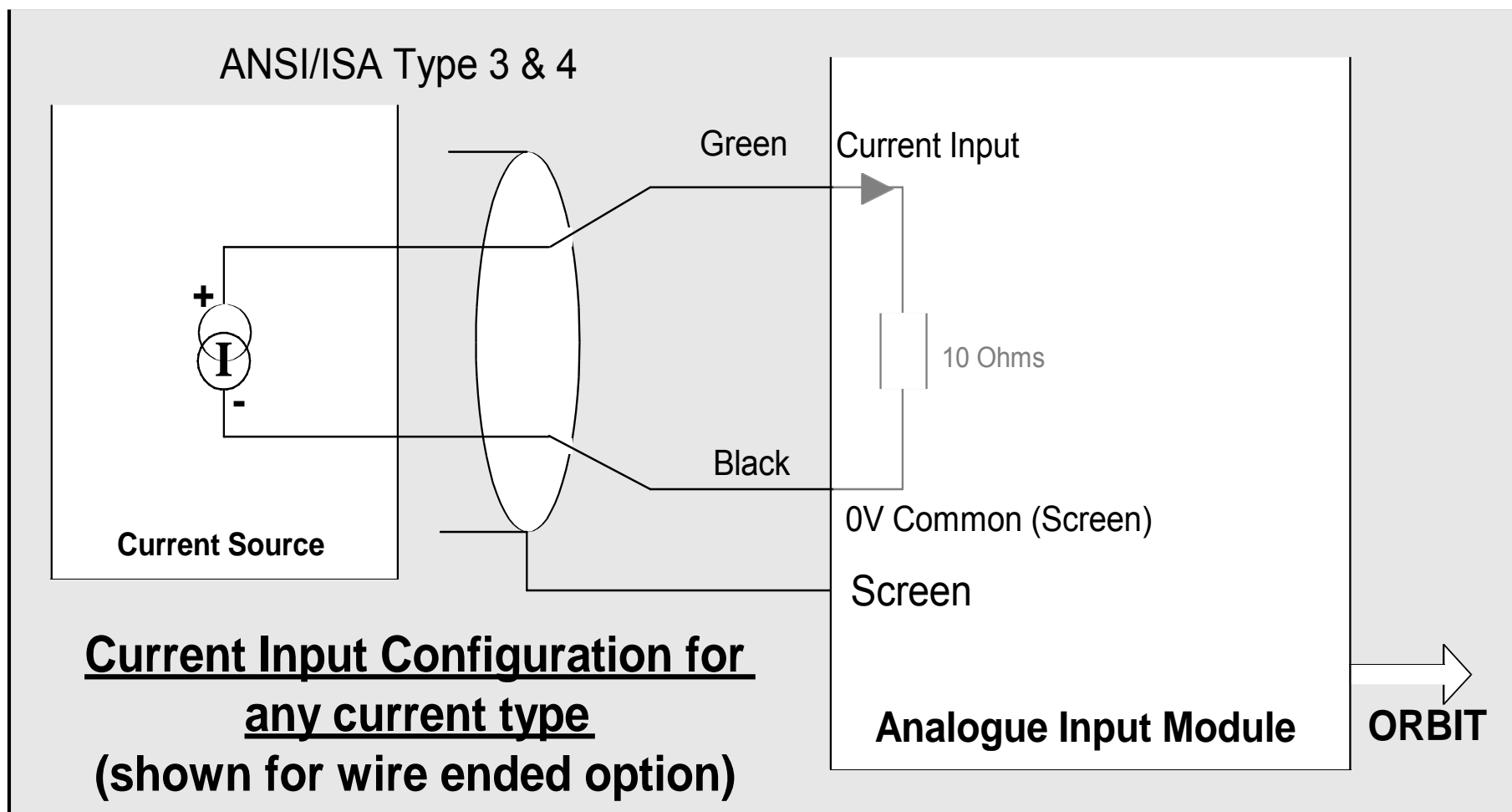
# 5.0: Wiring Configurations

## 5.1: Voltage Input Configuration



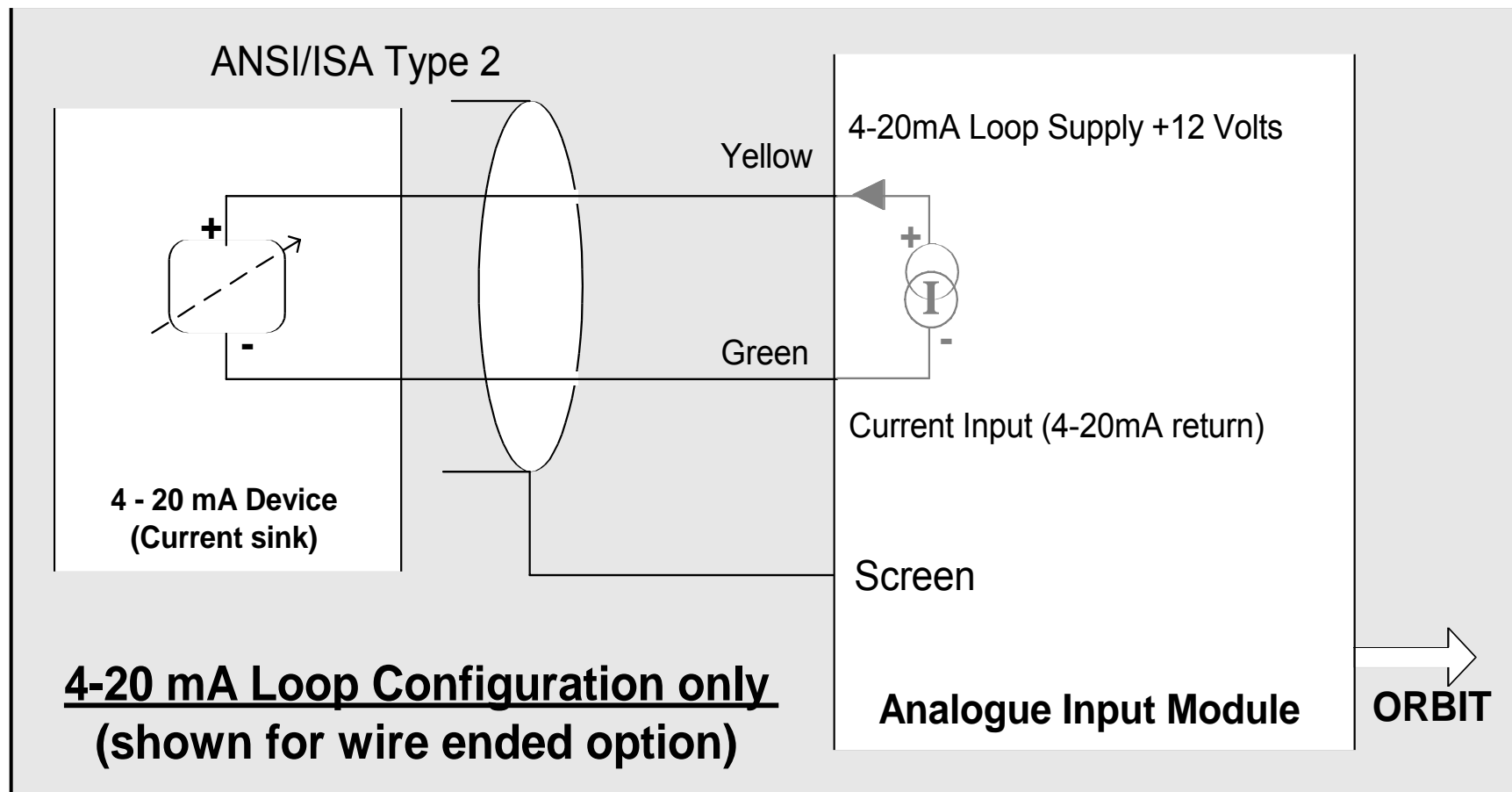
## 5.0: Wiring Configurations (continued)

### 5.2: Current Input Configuration



## 5.0: Wiring Configurations (continued)

### 5.3: 4-20mA Loop Configuration





## 6.0: Specifications

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### 6.1: Inputs

Voltage Input (6 Options)	$\pm 1V$ (input impedance = 24 K $\Omega$ ) $\pm 5V$ $\pm 10V$ 0V to +5V 0V to +10V 0V to +24V (input impedance = 200 K $\Omega$ )
Current Input	4-20 mA $\pm 20$ mA 0-20 mA (input impedance 10 $\Omega$ )
Measurement Bandwidth	Programmable from 6Hz to 460Hz)

### 6.2: Outputs

Resolution	14 bit (16 or 18 bit programmable)
Reading Speed	Up to 3906 readings/second (Dynamic Measurement Mode)

## 6.0: Specifications (continued)

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### 6.3: Performance

Linearity	Voltage Version better than 0.02% FSO Current Version better than 0.05% FSO
Offset Voltage 0.5V input range 0-10V input range ±5V input range ±10V input range	2.5mV 5mV 5mV 10mV
Offset Current 4-20mA input range ±20mA input range	20µA 40µA
Temperature Coefficient Offset Span	0.05% FSO/°C 0.02% FSO/°C
Warm Up Time	95% accuracy met after 5 minutes from switch on (assuming an ambient temperature between 10°C and 30°C)
Calibration and measurement accuracy	Calibrated to appropriate input range

### 6.4: Environmental

Storage Temperature	-20°C to +85°C
Operating Temperature	0°C to +60°C

# 6.0: Specifications (continued)

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## 6.5: Electrical Interface

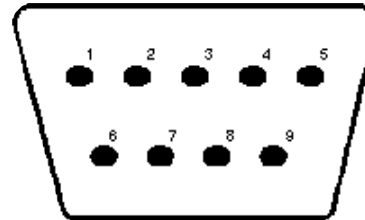
Energising Voltage	5V ± 0.25V dc (powered from Orbit Network)
Energising Current in voltage configuration in current configuration in 4-20mA configuration	80mA 80mA 145mA
Interface	Orbit Network

## 7.0: Connections

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### PIE Pin assignment

Pin	Function
1	(none)
2	RS485(A)
3	RS485(B)
4	0V
5	0V
6	+5V
7	+5V
8	+5V
9	0V



PIE can be fitted directly into the back of the Digital Readout or linked into the 'Orbit' Network using the stackable T-CON connectors.