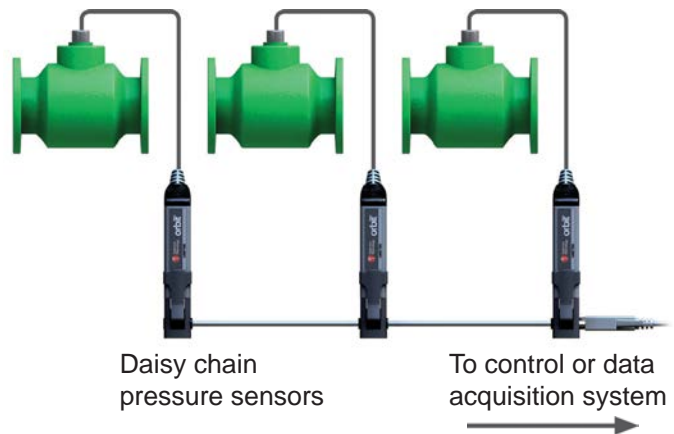


# Special Orbit® Modules

Solartron offers a range of modules for 3rd party sensors and general instrumentation tasks that expand the Orbit® Digital Measurement System for applications that are not just linear measurement.

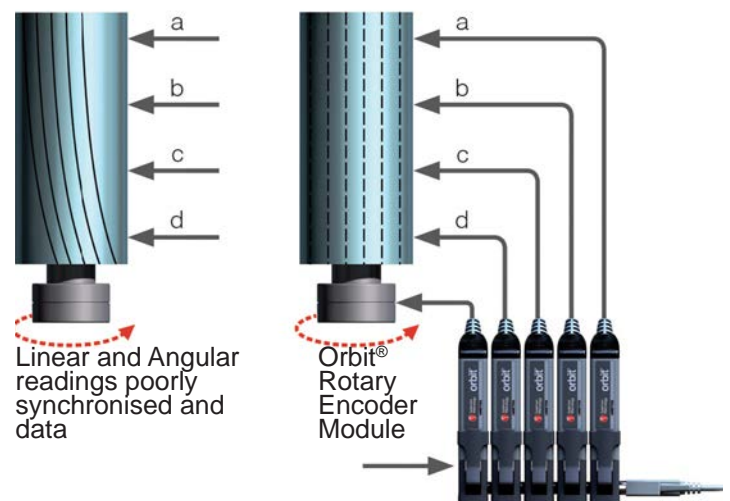
The **Analogue Input Module (AIM)** allows the Orbit® network to be interfaced with a wide range of sensors that have current or voltage output. Typical sensors that may be connected are:

- ▶ Force sensors
- ▶ Load Cells
- ▶ Pressure sensors
- ▶ PT100 Temperature sensors



Applications include: Combining linear measurements using probes with air gauging via an AIM, temperature monitoring of parts or environment. The 4-20 mA input is especially useful where the sensor is a distance from the AIM, since the signal is current and does not suffer from voltage drop over long cabling.

The **Encoder Input Module (EIM)** provides a simple interface to incremental rotary encoders or linear encoders. This is especially useful when building machines to measure parts like CAM Shafts, making profiling easy to achieve. The EIM can also be used as the controller for high speed data collection where it is critical to synchronise measurements with position on a rotating part.













The **Digital Input/Output Module (DIOM)** allows the Orbit® network to interface with discrete inputs, such as micro switches or proximity sensors which can be used to trigger a set of measurements. The output signals from the DIOM can be used interface to external components like relays or indicators to control a process or indicate a measured part is in or out of tolerance.

**Strain Gauge Input Module (SGIM)** is designed to connect to any common strain gauge

**Digimatic Input Module (DIM)** is designed to connect to any Digital gauge with a Digimatic Output, allowing hand tools to be integrated into the Orbit® Network.



# Technical Specifications

|                      | AIM   |   | EIM   | DIOM   | DIM   | STRAIN GAUGE  |
|----------------------|---|---|---|--|---|---|
|                      |  |   |  |  |  |  |
|                      |  |   |  |  |  |  |
| Input Type           | Analogue  | Temperature   | Pulse (TLL)   | Discrete   | DIM   | Voltage (mV)  |
| Typical Input        | Load cells, temperature transducers, airgauge                                     | PT100   | Incremental Rotary or Linear Encoder  | Switch   | Digimatic Transducer  | Strain Gauge  |
| Standard Input Range | ±10 V, ±5 V, 0-10 V, 4-20 mA  | -50 °C to 250 °C, -50 °C to 850 °C, -20 °C to 70 °C | 30 V @ 10 mA  | 30 V @ 1 mA  | As per transducer   | 10 range<br>3.2 - 399 x<br>(313 - 2.95 mV)  |
| Linearity (%FSO)     | 0.05  | 0.01  | N/A   | N/A  | N/A   | N/A   |
| Input Frequency      | 460 Hz  | 460 Hz  | 1.2 MHz   | N/A  | N/A   | DC  |
| Input Channels       | 1   | 1   | 1   | 8  | 1   | 1   |
| Output Range         | N/A   | N/A   | N/A   | Discrete Drive up to 30 V @ 5 mA   | N/A   | N/A   |
| Measurement Modes    | All   | All   | All   | All  | Static  | All   |
| Readings per second  | 3906  | 3906  | 3906  | 3906   | Readings on request   | 3906  |

**ATM TTL Convertor:** TTL RS422 is one of the most commonly used methods of communicating between Linear displacement sensors and Control or data Acquisition systems. Most sensors which offer this are incremental sensors and can lose position if moved too quickly. Solartron ATM is an absolute system and can never lose position even if power is interrupted.

|                 |   |
|-----------------|---|
| Transducer      | All Solartron Transducers                       |
| Resolution (µm) | 0.1   |
| Power           | +5 ±0.25 VDC @ 100 mA                           |
| Output Signals  | A and B, /A and /B TTL Square Wave RS422 levels |
| Frequency (kHz) | 50, 100, 125, 250 and 500 (factory selectable)  |
| Bandwidth (Hz)  | 100   |

