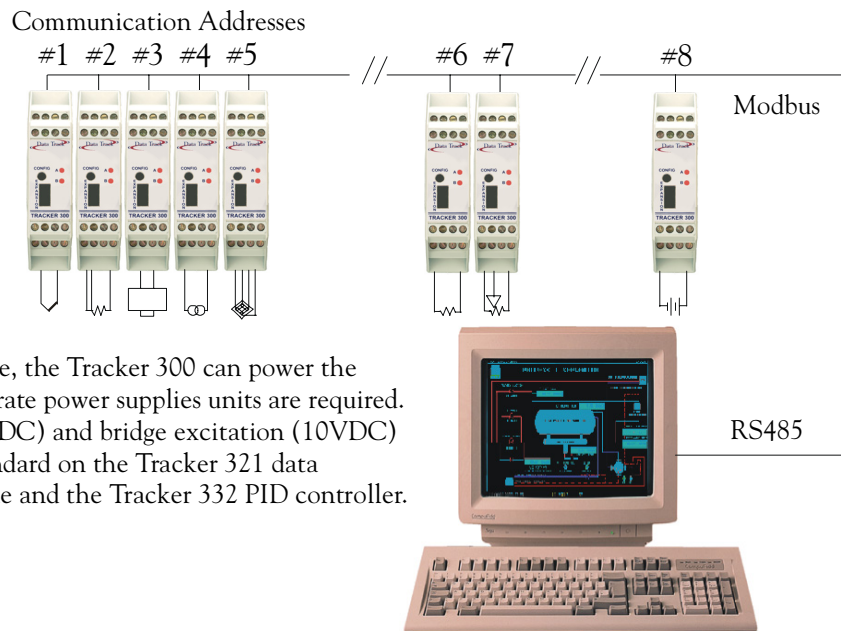


# Tracker 300 for Measurement & Data Acquisition

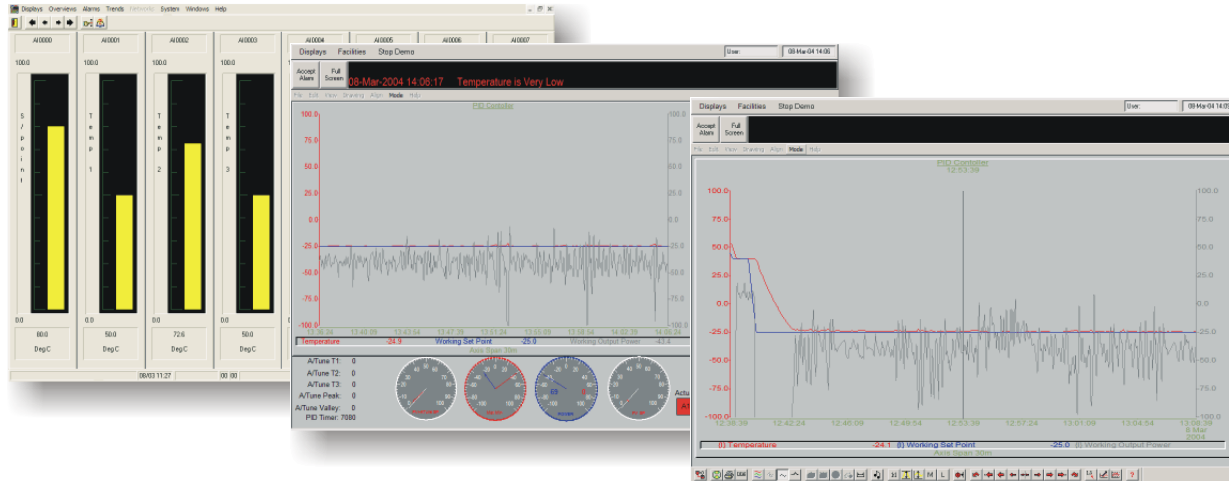
The Tracker 300's universal input enables truly distributed data acquisition with great flexibility in the mix of sensor and signal types. Up to 32 RS485 devices can be connected in a multidrop configuration as shown below. With the use of repeaters up to 247 units can be connected to a single RS485 interface on the communication master device.



## Universal Input:

- #1 Thermocouple Sensors**
- Types J, K, N, T, R, S, B. Fully linearised with automatic cold junction compensation
  - Temperature measurement in °C, °F or Kelvin. User selectable measurement resolution
  - Thermocouple condition monitoring. Warns when thermocouple is nearing the end of its reliable life
  - Up scale sensor break detection
- #2 RTD Sensors**
- 2 PT100 Ranges, alpha 385 and 392
  - Fully linearised. 3 wire compensation
  - 0.25mA excitation only, avoids self-heating of the sensor
  - Temperature measurement in °C, °F or Kelvin. User selectable measurement resolution
- #3 Two Wire 4–20mA Transmitters & #4 ±20mA signals**
- Scaled to engineering units
  - 24VDC loop supply provided for two wire transmitters (T321 & T332)
  - Max/Min Memory, Square root calculation
  - 18 Point user custom linearisation (useful for tank contents measurement)
- #5 Strain Gauge Measurement (± 100mV)**
- Equivalent of 2mV/V to 10mV/V. ±100mVDC input, scaling to engineering units
  - Regulated 10V @ 35mA excitation supply output (T321 & T332)
  - 18 Point user custom linearisation available (allows multiple calibration points ensuring maximum accuracy)
- #6 Resistance & #7 Potentiometer Measurement**
- 0–4000 Ohms for Resistance, scaling to engineering units
  - Regulated 10V @ 35mA sensor supply output
  - 18 Point user custom linearisation available (useful for thermistor sensors)
- #8 Voltage Measurement**
- ±10VDC. Scaling to engineering units
  - Regulated 10V @ 35mA sensor supply output
  - 18 Point user custom linearisation available

## Data Acquisition Software



The Tracker 300 Series uses the widely available Modbus RTU protocol so is compatible with a huge range of data acquisition software packages, SCADA systems, HMI devices and web-enabled remote access packages. Data Track can provide software and HMI devices to suit most applications. Consult Data Track or your distributor for application advice.

For users who wish to write their own software, the Tracker 300 also supports a simple text based (DTPI) protocol. Like Modbus, this protocol allows full access to run time values (e.g. the measured value) and all the configuration parameters (e.g. input type).

For applications where a PC is not appropriate, a HMI (Human Machine Interface) can be used. These units can be custom configured to display plant measurements, alarms etc. Some HMI units can also act as an interface for a fieldbus connection such as Profibus or DeviceNet.



The example above shows a low cost HMI acting as a Modbus master and a Profibus DP slave.

## Signal Re-Transmission and Alarm Outputs

Any of the Tracker 320/330 series can become a signal conditioner and transmitter with the isolated analogue output option fitted.

Fitting a Tracker 340 logic expansion module to a Tracker 320/330 enables four logic outputs (six when used with a Tracker 331) to be used for control or alert purposes. The outputs can be relay or TTL.

The Tracker 340 module also has two logic inputs which can be monitored in real time via the RS485 interface or assigned specific functions (e.g. reset latched alarms).

See application note: Signal Conditioning, Isolation and Alarms.

