

# Data Track

Acquisition • Measurement • Control



**The Tracker 300 Series**  
 Signal Conditioners  
 Data Acquisition  
 PID Control  
 Alarm Trip





# Data Track

## Tracker 300 Specifications

### Maths Functions

18 Point user linearisation, Max / Min (Peak/Valley) memory  
Square root, S.G. Correction, Zero, Tare

### Alarm Functions

High, Low, Deviation (band), on delay time, off delay time, hysteresis, output selection (one alarm can switch more than one output)

Outputs energised or de-energised in the alarm state

### PID Control (T331 & 332 Models only)

Type: PID with Auto-tune, PWM Logic or Analogue outputs

Control Action: Reverse, Direct or Heat / Cool

PWM Cycle Times: 0.1Sec to 30mins (Independent per output)

Auto / Manual switching: Via logic input (T340) or Communications Load and Partial Electrical Load Failure Function (PWM outputs only)

### A/D Converter

Type: Sigma Delta, Resolution: 20 Bit plus Sign

Drift with temperature: <100ppm/°C

Update Rate: 15 / Second (7.5 / Sec for PV measurement)

Common / Series mode rejection: >150dB / >70dB (50 & 60Hz)

### Thermocouple/RTD Measurement

Linearised ranges: Types J, K, T, N, B, S, R Thermocouples and

3 wire RTD Pt100 (alpha = 385) and Pt100 (alpha = 392)

Typical accuracy: Base Metal ±0.5°C, Rare Metal ±1.2 °C,

RTD 0.3°C. Engineering units: °C, °F or Kelvin

RTD Excitation current 0.25mA (Nom)

Thermocouple ageing feature and open circuit alarms

### DC Voltage, Current & Resistance Inputs

Ranges (Impedance): ±100mV(1000M),

±10VDC(1M) and ±20mA(<5)

Accuracy: 0.02% Typical

### Sensor Excitation Supply (Tracker 321 & 332)

Two Wire Loop Supply: 24VDC (Nom) @ 35mA max

Bridge Supply: 10VDC Regulated @ 35mA max

### Logic Outputs (Tracker 331 only)

Relays Type: 1 x Normally open contacts. (Optionally 2 - No SSR)

Rating: 1 Amp @ 240VAC, 5 Amp @ 30VDC

SSR Drive output: 1 x 18VDC @ 20mA nominal

### Serial Communications Interface

Type: RS485, 2-wire multidrop

Isolation: 500V DC/peak AC. Baud rate: Up to 19200

Protocols: Modbus RTU, Modbus Floating point and DTPI (ASCII)

### Analogue Output (Option for all models)

Isolation: 500VDC / Peak AC

Output: Selectable 0-10V, 0-20mA or 4-20mA, Scalable

Maximum Load (mA): 1000 Ohms

Resolution: 15bit (1 part in 32768)

### Tracker 340 Logic Modules (Option for all models)

Relays Types (4): Volt Free Change over contacts (TTL options)

Rating: 1 Amp @ 250VAC, 5 Amp @ 30VDC

Logic Inputs (2): Volt free contacts or TTL

### Environmental

Temperature: 0-60°C Operating, -10 to 70°C Storage

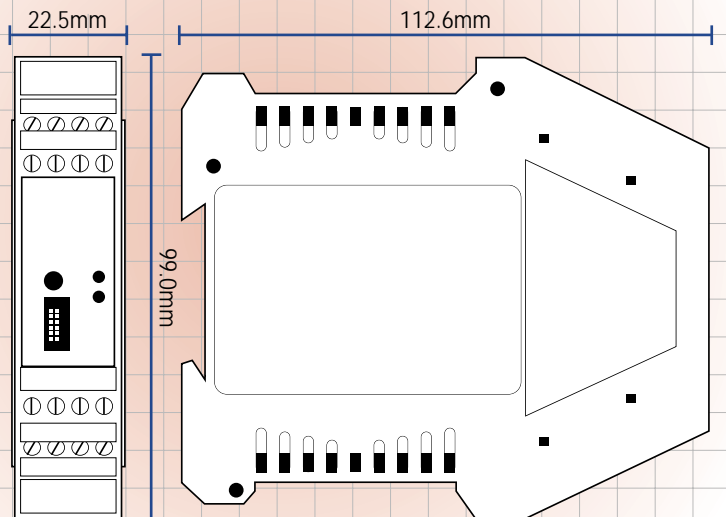
Humidity: 10-95% RH Non Condensing

### Safety and EMC

Safety: EN61010, Susceptibility: EN50082-2

Emissions EN50081-1

CE certified 2004



Note: Depth 114.5mm when mounted on Din Rail TS35 / TS35D

Not shown at actual size



Industrial enclosures kindly supplied by Rittal Ltd.



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All Tracker 300 units have been tested and comply with the European Directives on Electromagnetic Compatibility and safety and each carries the CE marking.

The enclosure is manufactured in re-cyclable and flame-retardant materials.

### Ordering Code



Model Number      Analogue Output      Power      2nd Relay T331 only      Logic Module (if required)

Model: 321 Data Acquisition Module / signal conditioner  
331 PID Controller / Trip Amp.  
332 PID As 321 + PID Control (Requires T340 or analogue output option fitted for PID output)

Analogue: A = Output Fitted, N = Not Fitted

Power: 1 = 90-265vac 50/60 Hz (5VA)  
2 = 24VDC / AC (5VA)

2nd Relay R = Fitted (Replaces SSR drive, 2 relays supplied)  
T331 only N = Not fitted (1 x Relay + 1 x SSR drive supplied)

Logic Module: 341 4 x Relay (C/O) Outputs  
(All with 2 342 1 x TTL + 3 x Relay (C/O) Outputs  
Logic inputs) 343 4 x TTL Outputs



+33 (0)1 46 91 93 32 Capteurs et Systèmes de mesure

59, rue Émile Deschanel - 92400 COURBEVOIE - France - Fax : 33 (0)1 46 91 93 39 - contact@pm-instrumentation.com