

# RANGER 1203

## Weight Transmitter



(1203/D version shown)

- 0-10V & 4-20mA Outputs
- RS-232/485 Serial Outputs
- 100,000 Displayed Divisions
- 100 Updates Per Second
- Powers Up To 6 Load Cells
- Two Outputs & One Input

This precision weight transmitter uses full surface mount components and a very high performance 24 bit sigma-delta converter to attain very fast and accurate weight readings.

The 0~10V & 4-20mA analog outputs have 65,000 divisions available and are fully scaleable across the ranges of -10V to +10V & 0 to 24mA.

The 1203 also has 100,000 divisions of weight data available on its serial output ports using RS-232 & RS-485 mediums. It is possible to network the 1203 and poll individual units requesting weight data and output states via the RS485 serial port.

The 1203 requires a 12-24 VDC power input and the single load cell input can handle up to six 350Ω load cells and uses excitation sensing to alleviate errors caused by temperature changes and wire resistance on long cable runs.

Two open collector outputs can be used for alarms or high/Low level control applications and a single remote input can be used as a zero key.

When using the service tool or the 1203/D version, the setup and calibration follows the usual groups of programming steps as used in the 5000 and 2100 indicators. All data is stored in non-volatile memory for problem free operation in harsh industrial environments.

### **Australian Made – Two Year Warranty**

There are three different versions of the 1203 available:

**1203** This unit has the main PCB mounted in a metal housing. It has no display or onboard means of configuration or calibration. It requires connection to a PC running 1203 Viewer software or use of the optional service tool to perform these tasks.

**1203/B** This unit is the main PCB only – it needs to be mounted by others. It has no onboard means of configuration or calibration. It requires connection to a PC running 1203 Viewer software or use of the service tool to perform these tasks.

**1203/D** This unit has the main PCB mounted in a metal housing with a poly-carbonate window for viewing the LED digital display. There are PCB mounted buttons for setup and calibration.

The on-board serial outputs of RS-232 and RS485 can be used for either continuous data output or for networking applications only – there is no printed output.

The housing is a strong metal IP65 enclosure with cable glands for sealing integrity. Mounting holes are located behind the front cover to allow this unit to be easily fitted to external structures.

The total weight is 1kg and the case dimensions (mm) are 222 W x 146 H x 55 D.

<b>General</b>	
Operating Environment	Temperature: -10 to +50°C ambient, Humidity: <90% non-condensing
Power Supply	12VDC at 500mA max to 24VDC at 250mA max
<b>Analog Input</b>	
Stability/Drift	Zero: <0.1µV/°C, Span: <10ppm/°C, Linearity: <20ppm, Noise:<0.05µVp-p
Span Adjustment	0.1mV/V to 3mV/V fullscale
Calibration	Digital, Non-Volatile
Digital Filter	Averaging 1, 2, 4, 8, 16, 32, 64, 128 or 256 readings (10ms to 2.56s)
A/D Converter	Type: 24bit Sigma Delta; Resolution: 8,388,608 internal counts Sampling Rate: 100Hz fixed
Load Cells	Excitation: 8VDC; Connection: 6-wire + shield Available Excitation Current: 150mA (6 x 350Ω load cells)
<b>Analog Output</b>	
Type	Configurable (4-20mA, 0-24mA, 0-20mA, -10-10V, 0-10V, 2-10V, 0-5V, 1-5V, etc)
Overall Error	<0.1%
Isolation	>500V
Impedance	Maximum current-loop impedance: 750Ω Minimum impedance between voltage outputs: 2000Ω
<b>Communications</b>	
Serial Output	RS-485 full duplex and RS-232 full duplex
Capability	Automatic transmit and network
Network Protocol	Ranger-Net variant
<b>External IO</b>	
Isolated Input	Number of isolated inputs: 1
Voltage Range	Active input voltage range: 5-28VDC
Current Requirements	1.5mA at 5VDC to 13mA at 28VDC
Transistor Output	Number of isolated transistor outputs: 2
Load Output	Maximum load on output: 300mA
Voltage Output	Maximum operating voltage on output: 30VDC
Output Protection	Reverse and short-circuit protected
<b>Features/Options</b>	
Display	6 LED digits 14mm high with 4 Annunciators, 4 Units and 4 Buttons
Metal Enclosure	Material: Enclosure – Aluminium; Approved: IP55+/NEMA4 Dimensions: 170 x 120 x 55 Display: acrylic/polycarbonate window - Not for use in full sun