



WEB-TECH

Masterweigh 1 Electronic Integrator



Designed for use with:-

**WEIGH BELT FEEDERS : CONVEYOR BELT SCALES
WEIGHING SCREW FEEDERS etc.**

Masterweigh1 is an advanced precision, microprocessor based, second generation integrator. Masterweigh has been designed in a modular form and comprises a power supply printed circuit board, main processing printed circuit board, an interconnecting printed circuit board and a display printed circuit board. The modules conveniently plug into each other so that field service replacement can be easily accomplished. The printed circuit boards are mounted in a custom made chassis which in turn mounts in an industrial enclosure. Features which are normally 'optional extras' with other manufacturers are standard in Masterweigh 1.

Standard Features

- ◆ Microprocessor based.
- ◆ All commands, readings etc. are entered via "thick film keypad".
- ◆ Simple Menu driven interface.
- ◆ A 2 x 40 line liquid crystal display with background lighting allows all commands to be displayed in unabbreviated English.
- ◆ No hieroglyphics are used.
- ◆ Local totaliser read out 8 digits. wide Local mass rate read out 6 digits wide.
- ◆ Remote totaliser output.
- ◆ Remote 4-20mA mass rate output.
- ◆ Programmable PID 4-20mA current loop.
- ◆ Both the 4-20mA outputs can be either loop powered or user driven.
- ◆ All analogue and digital outputs are isolated.
- ◆ Programmable autozero tracking
- ◆ Auto-gain: no user calculations required Built in timers and counters.
- ◆ Accepts belt speed input from high speed optical encoders or magnetic pick ups.
- ◆ One analogue input for cascading of units.
- ◆ R.S. 232 output.
- ◆ Two programmable set points: High & Low.
- ◆ Modular construction for ease of fault finding; and repair.

Easy Set Up and Calibration

A sixteen-key keypad is used to enter calibration data, as well as to access Masterweigh's menu. Load cell outputs and tachometer / magnetic pickup output frequencies can be viewed from specific entries within the menu, without interrupting the normal operation of Masterweigh 1. The ability to view this data during the system's initial setup provides commissioning engineers with useful data for future use in the unlikely event that the system fails.

Because Masterweigh 1 calibration procedures are menu driven and prompts are full English statements, adjustments to any parameters are easily accomplished by just a few key strokes.

Data pertaining to any calibration can be recorded automatically by connecting a printer (optional extra) to the R.S. 232 port and initiating the print menu depending on software installed.

Load and Speed Detection

Load cells of varying output ranges can be used, making Masterweigh the obvious choice when contemplating updating older scales.

A wide range of belt speed encoders can be employed with outputs ranging from a minimum of 2.5V to 50V.

Magnetic pick-up devices are easily utilised with no changes to Masterweigh or the magnetic pick-up. Where a preference is shown for precision high speed and high resolution.

Web-Tech manufactures a range of industrially hardened optical encoders. High quality seals and bearings ensure that the device will perform under the harshest of industrial conditions providing the user with reliable and long term service. An optional stainless steel housing is available.

Display

All local information, mass rate and accumulation, is displayed on a 2 x 40 character liquid crystal display. All data is displayed in English. Codes and hieroglyphics are not used therefore operators are less likely to be confused when calibrating or interrogating the system.

Outputs for Remote Counters and Displays

Masterweigh has outputs which allow it to communicate with a wide varies, of displays and controls. A 4-20mA current loop (externally powered or Masterweigh driven' provides a proportional rate signal This signal can be used to drive analogue or digital rate meters or to provide rate data to PLC etc. A second 4.20mA output channel (externally powered or Masterweigh driven) is used to provide the PID signal. This signal can be used to control motor drives and is used with Web-Tech's range of weighfeeders



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Technical Specifications

Power Requirements

- 240V AC +/- 10% 50/60 Hz
- 117V AC +/- 10% 50/60 Hz.

Protection: All inputs internally protected

Load Cell Excitation:-Unipolar or Bipolar

Unipolar - Continuously adjustable from 8.6V - 13.4V referenced to ground. Load, 200mA at 10V output, 100mA at 5V output

Bipolar - Continuously adjustable from 13.4V - 24V Load, 200mA at 24V output, 100mA at 16V output .

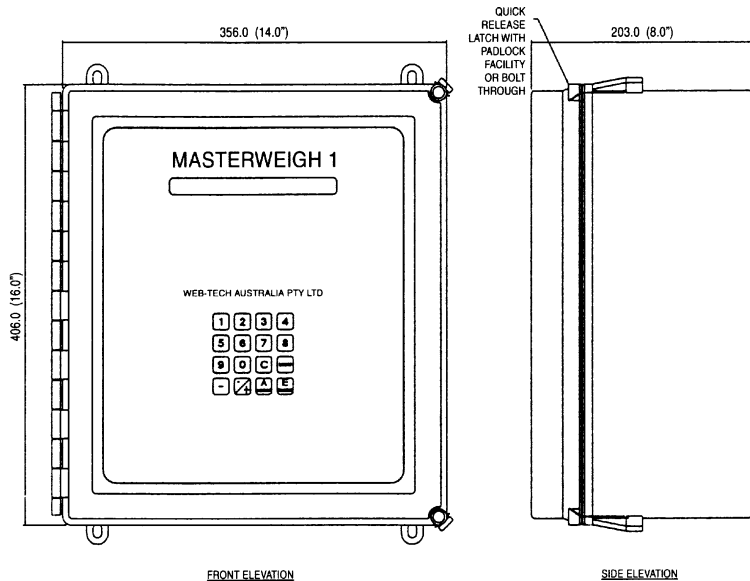
Tachometer Input: Input impedance 4.7K Ohms Input voltage range -50V to +50V DC or AC RMS Maximum input frequency = 1000 p.p.s Input waveform: Sinusoid or square wave

Pulse Output:

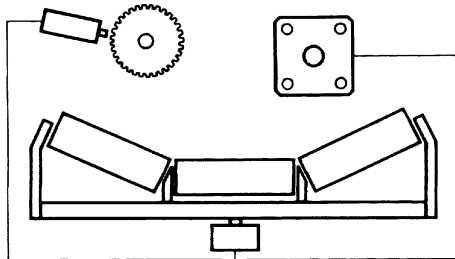
Transistor output: 2040V external supply or 28V DC pulse (internally supplied) Max. Switched current: 500mA Circuit is short circuit protected and reverse polarity protected Inductive surge suppression diode provide from output to ground Pulse width- 100mS, 200mS & 300mS (selectable) - 100mS off(min) at max rate 5Hz One pulse is output for each increment of least significant digit in the display

Analogue Outputs:

Masterweigh provides two (2) channels
Channel 1: Instantaneous mass rate
Channel 2: PID output for mass rate control
EACH CHANNEL (LOOP POWERED)
4-20mA
4mA = 0%
20mA = 100%
Each channel is optically isolated from the Masterweigh electronics
Loop power supply:
20V DC minimum (0-50 Ohms Load)
45V DC maximum (0-1300 Ohms Load)



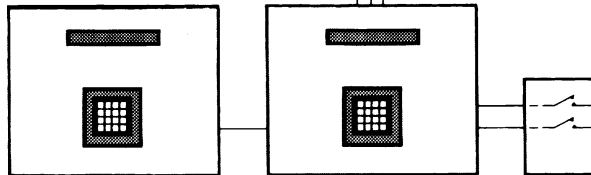
Magnetic pick up devices can be used to provide belt speed where it is impractical to use electronic encoders.



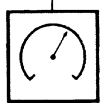
Web-Tech speed sensor, suitable for use in the most rugged of environments. The use of state of the art electronics and infra-red transmitter and receiver ensures that Masterweigh's belt speed data is precise and reliable.

Web-Tech manufacture a range of weigh-frames and weigh-belt feeders

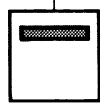
Masterweigh provides two relays on the power supply board which can be used to trigger alarms, switch feeds on or off, or start dust suppression water sprays.



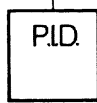
For those applicants where blending is required, Masterweighs can be cascaded thus providing proportional control.



Masterweigh is capable of driving all commonly available 4-20mA rate meters from it's proportional current loop.



A 28V pulse is provided for remote totalisation, an electromechanical or electronic device can be used.



A 4-20mA PID loop is provided for the control of remote processes. Term values are easily entered via the keyboard.

Printers are available for the logging of parameters and material flow.

Specifications Subject to Change Without Notice.



CONVEYOR BELT SCALE
1,2,4,6 IDLER TYPES AVAILABLE
4 IDLER SHOWN

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