E1070
high connectivity weight transmitter

Description

General

This specification describes the E1070 high connectivity weight transmitter indicator, capable of stand-alone operation, or of integration into a larger system via serial, FieldBus and Ethernet interfaces.

It is a microprocessor-based industrial weighing system with up to 100,000 displayed increments for analysing, displaying, storing and transmitting gross and net weight information.

Up to eight analogue load cells to be connected with the indicator. The E1070 can be matched to almost any load cell system to achieve optimum accuracy, stability and repeatability.

The indicator can control its surrounding process using configurable I/O. Alternatively control can be executed from a central system using an extensive range of available interfaces.

Configurable Features

The E1070 features a numeric keyboard which allows any of the following functions to be configured during commissioning:

- Sensitivity to weight signal

- Scale capacity

- Number of divisions and increment size

- Weighing Unit

- Zero / back balance

- Decimal marker type - point or comma

- Position of decimal marker

- Filtering parameters

- Five points for linearity correction to ensure maximum accuracy

- Tare availability and manner of operation

- Time and date

- User-definable serial output strings

- Grand total information

- Scale ID number

- I/O operation

All these characteristics are stored in non-volatile memory so that once the ideal parameters for any given weighing system are established they can be retained with certainty for the future.

Once the scale is set up as required, a calibration report can be printed showing weighing details (useful for the installation engineer). This allows the state of the system to be monitored.

Ten PLUs are provided for totalising and storage of user-defined parameters.

Avery Weigh-Tronix

Applications

Parts Counting
Sampling modes supported: fast; dribble; bulk.

Static Checkweighing
Set limits, manually or by sample mode.

Peak Hold
Records maximum weight measured. Clear button resets memory.

Recipe/Filling
Control of complete process using configurable trips.
In-flight compensation may be set to optimise the process.
Batching mode allows repetition of the process for a defined quantity.

Totalising Against Dedicated Product Look Ups (PLU)
Link weighings to PLUs for complete stock control.

Remote Display Mode
Connect to, or use as a remote display.

Specification

Electrical

Display

Type
Green LED 20 mm
Displays up to six digits

Decimal Points
Configurable to any of six positions.

Units Displayed
kg, lb, custom.

Annunciators
Balance (Gross Zero)
Motion
Gross
Tare
Pre-set Tare
Net
lb, kg, custom
Under/Target/Over
Print
Three Trip Outputs

Keypad

22 keys, addressing:
Numeric entry
One Function key
Dedicated Function Keys
Zero, Tare, Select, Print, Units, Standby, Escape, Enter, Clear

Load Cell Input

Maximum Load Cells if 350Ω
Eight

Connection of Input
Direct wired (Buccaneer if supplied stamped with scale).

Excitation
Direct current

Voltage
± 5V dc

Current
Up to 230 mA

Remote Sense
Obtained from excitation, or linked directly to reference input connectors at the indicator

uV/ per Division
1.6

Resolution
Non- Approved 100,000.
Approved 10,000.

Calibration

Full digital multi-point (five point) calibration.

Theoretical calibration possible if parameters known.

Provides over load report.

Increment Multiplier
1, 2, 5, 10, 20, 50

AVR
Two Stage

Analogue to Digital Convertor

Display Update Rate
1, 2, 5, 10 per second.

A to D Rate
100 per second.

A to D Type
Delta Sigma.

Filter

Harmonizer Digital Filter
Three Programmable Parameters:

Samples to Average - sets number of A-D conversions which will be averaged to give a weight reading.

IIR Filter - Sets how much damping the harmonizer applies to the weight reading.
Typically between 1 (low) - 8 (higher).

Threshold Level - set the minimum weight change (in calibration units) which the harmonizer will not attempt to filter out as noise.

Balance/Zero

Setting
Keyboard push button.

Size of Balance Range
Normally 10%, up to 100%.

Zero Indication
Within 2% of maximum capacity.

Under Range Indication
Displays "_ _ _ _ _ _"

Zero Tracking
Configurable.

Motion Detection
Configurable.

Range/Span

Range of Adjustment
0 - 100,000 divisions

Over Range Indication
Displays "−−−−−"

Tares

Three types of tares are available. Each is 100% subtractive.

Type A - Push-Button (Semi Auto) Tare
Push-button operated, semi-automatic, with selectable negative weight display. Cumulative taring is possible.

Initialisation and Operation
When the item to tare on is applied, press the 'Tare' push-button.

Indication
'Net' annunciator is illuminated.

Type B – Keyboard (Preset) Tare
Keyboard-entered tare operated with negative weight display.

Initialisation and Operation
Enter preset tare value using the 0-9 keypad and press 'Tare' push button. Multiple preset tares are possible.

Indication
'Net' annunciator is illuminated together with preset tare annunciator (PT).

Type C - Stored Tare
Stored tare operated with negative weight display allowing 10 separate stored tares. Will be retained when power is off.

Initialisation and Operation
Press 'preset tare' push button followed by the stored number '1' to '10' followed by 'enter' key.

Indication
'Net' icon is illuminated together with preset tare icon (PT).

Trips

The indicator has three internal sequencing trips as standard, logic level rated.

Using the external TIU3, these will switch mains voltage (240 V 10 A). Internal inputs are rated at logic levels.

The trips can be set to activate an output based on a given target:-

● Target Weight
● Time
● Number of counts from a pulse counter

All configuration information is retained when power is off.

Product Look Ups (PLUs) & Totals

Information Stored per PLU
Grand Totals.

Maximum Capacity of Each PLU
999,999.

Real Time Clock

The E1070 is fitted with a real time clock which allows the user to display and print the time and date. This clock is battery-backed and will remain functional in the absence of mains power.

Communications

Serial Interface
Two bi-directional asynchronous serial interfaces (RS232/485/422 and RS232/20mA current loop) as standard.

Networking
Ethernet 10/100 TCP/IP interface as standard

FieldBus interfaces - standard:

● DeviceNet
● ModBus
● ProfiBus DP
● Ethernet IP

ControlNet is optional – see Kits.

Electrical Power Input

Voltage
100 VAC - 230 VAC nominal, 50/60 Hz.

Tolerance
Voltage -15 to +10%
Frequency ±10%.

Power Consumption
25 VA maximum when used with full configuration of load cells

Cable length
2 m.

Power Supply
Internally fitted, switched mode.

Isolation Protection
None. Mains earth lead must be connected to safety earth. Lightning Protection External

Environment

Resistance to Dirt and Moisture
Protected to IP67, in stainless steel enclosure.

Electrical Disturbance
Immune to electrical disturbance, including RFI as detailed in EN 45501:1992.

Operating Temperature
-10° C to + 40° C

Service Temperature
-10° C to + 55° C

Storage Temperature
-40° C to +70° C

Finish

Enclosed in Stainless Steel 304 pressed case.

Mounting Options

The indicator will desk, wall or pole mount.

Pole mounting requires optional adapter.

Performance

Internal Resolution
16,777,216

Self Diagnostics
Display
Keys
A2D
Serial Test (2)
Internal I/O
External I/O

Approvals

All data relating to the performance of the machine meets and exceeds requirements of EN 45501:1992 European Approval ('E' Approval) Accuracy Class III Machines and OIML 76-1. The type approval certificate numbers being:

EU	- UK2722
South Africa	-
New Zealand	-
Australia	-
OIML	-
NTEP	- 04-031

Factory Options

Choice of mains power connector: UK, Euro, Australian, South African, American.

Kits

The following kits are available to enable local configuration when required.

1. Analogue Output/Pulse Input/TIU Comms Card
Provides single analogue output 4-20 mA, pulse input and communications for TIU3.
E10650G00000000

2. ControlNet Interface Kit
Enables interfacing to ControlNet network.
E10650K00000000

3. Load Cell Connector with Internal Loom
When fitted, provides ability to disconnect loadcell inputs from indicator without opening the unit.
70735-247

Accessories

1. Trips Interface Unit (TIU3)
Provides three external mains rated outputs in place of three internal logic level I/O included as standard. Requires Analogue Output/Pulse Input/TIU Comms Card.
E10100E00000000

4. 300 mm Pole
Stainless steel mounting pole with top mounting plate for indicator.
E11100U00000000

5. 1000 mm Pole
Stainless steel mounting pole with top mounting plate for indicator.
E11100V00000000

6. Interface Leads for Platform to Indicator
See price list.

7. Interface Leads for Indicator to Printer
See price list.

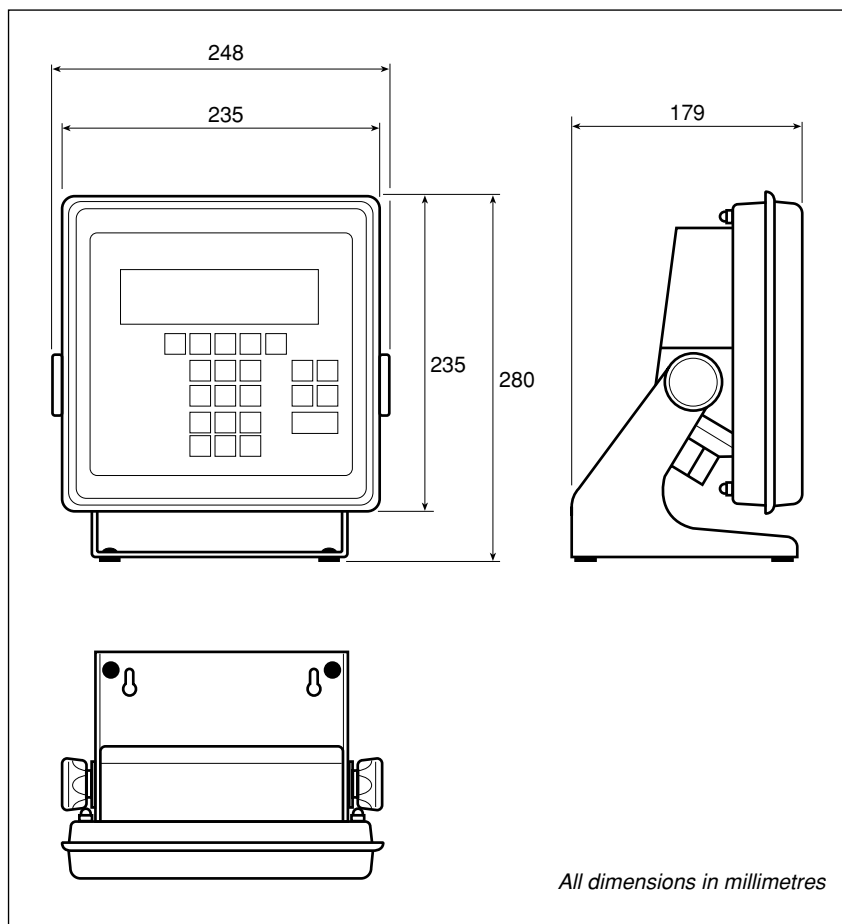## Weight

3.0 kg

Shipping Specification

Net
3.0 kg

Gross
4.0 kg

Measurement
285 mm x 285 mm x 285 mm

Harmonised Commodity Code
842390 00 0.

Dimensions

248

235

179

235

280

All dimensions in millimetres

Your local distributor:

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