HARDY
PROCESS SOLUTIONS
Measurement ▪ Automation ▪ Productivity

Hardy E-Scale™
World's First IOT Ready Scale Base

Applications

PROCESS WEIGHING

- *Piece Count, Portion Control*
- *Minor Ingredients or Hand-Add applications*
- *Small Batch Reactor Applications in Chemical/Biochemical*
- *Machine Filling and Dispensing*
- *Conveyor Scales*
- *Shipping*

Features
THE HARDY
PROCESS TOOLBOX

The Hardy Process Toolbox is a set of productivity tools that delivers value across process weighing functions. Each tool saves time, increases accuracy, improves efficiency or reduces risk in your process weighing applications.

PRODUCTIVITY
HARDY
PROCESS TOOLBOX

Electronic calibration without test weights
C2®

Vibration immunity from mechanical noise
WAVERSAVER®

33 lbs to 1,300 lbs Capacities

EDS Add-On-Profiles

Faceplate/AOIs (6500 models)

Overload Protection
- *300% R.O.* Overload*
- *400% R.O. Ultimate Load*

(*Rated Output)

IoT Ready Intelligent Scale with Integrated Communications

The new Hardy E-Scale Bench scale series is the world's first IoT ready scale base. It includes an integrated Hardy weight processor for direct network connection for either EtherNet/IP® or Profibus-DP® networks. Depending on configuration, the E-Scale offers complete flexibility in size and capacity for use in a wide range of weighing applications. E-Scales eliminate possible failure points and save the cost of extra splice-boxes and other components.

With their rugged construction and stainless steel tops, E-Scales are a great fit for dry food processing, laboratory and industrial installations. The E-Scale line of bench scales comes in a variety of configurations with a built-in interface for direct connection to a PLC, PAC, DCS or PC. All E-Scales come standard in 12"x12" and 24"x24" sizes, and range in capacity from 33 lbs – 1300lbs (15 kg to 600 kg).

The covers are all stainless steel for durability. The bases have no bearings, spirit levels, or moving parts that can be damaged or wear out. They come standard with Hardy Process Toolbox features, including Waversaver®, C2®, Webserver, and Rockwell Automation integration tools such as Faceplates, and Add-on-profiles.

E-SCALE-6500**

IoT ready scale with integrated weight processing and communications. No DIN or panel space is required. The E-Scale-6500 delivers stable processed weight with a resoluton of 1:10:000, and an update speed of 110 updates per second (processor, display and comm.). Communications protocols supported include:

- EtherNet/IP (-EIP models)
- Ethernet UDP
- Ethernet TCP/IP(Embedded Webserver)
- Modbus RTU
- Modbus TCP (-EIP models)
- Profibus-DP (-PB models)

** User must supply 24VDC to the scale

E-SCALE-6610*

Capable of powering up to 20 scales daisy chained up to 50 ft from beginning to end to a single Hardy HI 6600 Gateway Module. The Gateway Module provides a Single Ethernet connection back to the PLC/PAC or PC – No additional power is required! Gateway Module has an optional panel mount multichannel display (multichannel) that can be used to operate connected E-Scales.

HI6600 Gateway communications: include:
- EtherNet/IP (-EIP models)
- Ethernet TCP/IP(Embedded Webserver)
- Modbus RTU

Even in noisy environments with excessive amounts of mechanical vibration, the E-Scale-6610 provides a steady 1:10:000 resolution with 110 updates per second over its variety of communications protocols.

* Requires a Hardy HI 6600 Gateway Module
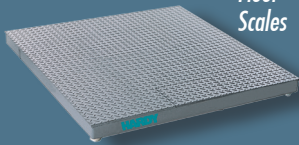
COMPONENTS TO COMPLETE YOUR HARDY SYSTEM

Hardy Floor Scales and Load Points

Hardy carries a wide variety of strain gauge load points and scale mounts to accommodate your application requirements.

ADVANTAGE Series with C2 Calibration

Floor Scales

Weighing Instruments Dedicated to Your Applications

Controllers, Weigh Modules, Weight Processors & Transmitters

Allen-Bradley® Compatible Plug-in Weigh Scale Modules

HI 3000 & HI 4000 Controllers and HI 6000 Series Weight Processors

SPECIFICATIONS

Platter Construction
- 304 Stainless Steel (all models)
- Size: 12" x 12" and 24" x 24

Rated Output
- 0.900 ±0.0009mV/V

Combined Error
- 0.030 %R.O.

Creep @ 30 min
- 0.030 %R.O.

Zero Balance
- 5.0 % R.O.

Temp Effect Output
- 0.0015% R.O./ °F

TempEffect Sensitivity
- 0.0008 % R.O./ °F

Comp.Temp. Range
- -10 - +40°C

Oper. Temp. Range
- -10 - +65°C

Input Resistance
- 297.5 ± 10% ohm

Output Resistance
- 250 ± 5% ohm

Safe Load Limit
- 300 % Emax

Ultimate Load
- 400 % Emax

Max. Cornering Error
- 0.06% 1/2 full scale load, 1/2 way to corner

Resolution
- Stable processed weight 1:10,000
- Maximum displayed resolution: 1:999,999
- Internal resolution 1:8,388,608

Update Rate
- 110 times per second (processed weight, display, communications)
- Unprocessed weight (A/D conversion) 4800 times per second

Modes
- Gross, Net, Count

Units of Measure
- Ounce, Pound, Ton, Gram, Kg, Pieces

Weight Processing
- WAVERSAVER®: .25 Hz to 7.5 Hz
- Averaging:1 to 255 User-selectable in single increments

Calibration Methods:
- C2® calibration without test weights
- Traditional calibration with test weights

Communications Interface
- Terminal, RJ-45 (6500)
- RJ45 / Cat5e (6610)

Optional HI 6110 Display (6610 only through Gateway Module
- 80:1 contrast ratio with 4.3" effective viewing area
- 140° viewing angle
- Control configure, and view one to four scales on a single front panel

Power
- 24 VDC from supplied power source (6500 models)
- 24 VDC, Class 2 Source, max 3.9 Watts from HI 6600 Gateway (6610 models)

Approvals
- UL and CE

Warranty
- Two year warranty against defects in workmanship

Hardy E-Scale Models

E-Scale 6610 Models	Capacity		Size		Shipping
	lbs	kg	in	mm	Weight
HIESCALE-6610-1212-33LB	33	15	12 x 12	300 x 300	14 lb
HIESCALE-6610-1212-66LB	66	30	12 x 12	300 x 300	14 lb
HIESCALE-6610-1212-130LB	130	60	12 x 12	300 x 300	14 lb
HIESCALE-6610-2424-130LB	130	60	24 x 24	600 x 600	50 lb
HIESCALE-6610-2424-330LB	330	150	24 x 24	600 x 600	50 lb
HIESCALE-6610-2424-660LB	660	300	24 x 24	600 x 600	50 lb
HIESCALE-6610-2424-1300LB	1300	600	24 x 24	600 x 600	50 lb

NOTE: All ESCALE-6610 versions require HI6600 Gateway Module to Operate

E-Scale 6500 EIP Models	Capacity		Size		Shipping
	lbs	kg	in	mm	Weight
HIESCALE-6500EIP-1212-33	33	15	12 x 12	300 x 300	14 lb
HIESCALE-6500EIP-1212-66	66	30	12 x 12	300 x 300	14 lb
HIESCALE-6500EIP-1212-130	130	60	12 x 12	300 x 300	14 lb
HIESCALE-6500EIP-2424-130	130	60	24 x 24	600 x 600	50 lb
HIESCALE-6500EIP-2424-330	330	150	24 x 24	600 x 600	50 lb
HIESCALE-6500EIP-2424-660	660	300	24 x 24	600 x 600	50 lb
HIESCALE-6500EIP-2424-1300	1300	600	24 x 24	600 x 600	50 lb

NOTE: All ESCALE-6500 versions require separate 24VDC Power

E-Scale 6500 PB Models	Capacity		Size		Shipping
	lbs	kg	in	mm	Weight
HIESCALE-6500PB-1212-33	33	15	12 x 12	300 x 300	14 lb
HIESCALE-6500PB-1212-66	66	30	12 x 12	300 x 300	14 lb
HIESCALE-6500PB-1212-130	130	60	12 x 12	300 x 300	14 lb
HIESCALE-6500PB-2424-130	130	60	24 x 24	600 x 600	50 lb
HIESCALE-6500PB-2424-330	330	150	24 x 24	600 x 600	50 lb
HIESCALE-6500PB-2424-660	660	300	24 x 24	600 x 600	50 lb
HIESCALE-6500PB-2424-1300	1300	600	24 x 24	600 x 600	50 lb

NOTE: All ESCALE-6500 versions require separate 24VDC Power

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Hardy Process Solutions
9440 Carroll Park Dr.
San Diego, CA 92121
tel. +1-858-278-2900
tel. 800-821-5831
fax +1-858-278-6700
www.hardysolutions.com
hardyinfo@hardysolutions.com

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