

MDR Series In-Motion Scales

Featuring **DIGITAL CONVEYOR™** Technology

System Features

3 standard operating modes

- Weigh for a fixed time
- Weigh for a full length of scale
- Stop package, weigh statically, restart

Infeed gating (release mode)

Multiple output modes

- Transmit only
- HI/GO/LO outputs
- HI-HI/HI/GO/LO/LO-LO outputs
- HI limit/LO limit

Statistics

- Highest weight; lowest weight; mean (avg) weight; total packages weighed; subtotals for HI/GO/LO; standard deviation

NO programming required; configure only



Applications

E-commerce and Warehouse Management

- Automatic manifesting
- Automatic sorting & routing
- Order picking verification
- Freight cost management by presorting & weighing of shipments to qualify for carrier discounts
- Interface with all major brands of barcode scanners to combine ID & weight information into one transmission to host computers
- Integrate with encoders and light beam or laser arrays to detect dimensions and weight for purposes of sorting packages to different warehouse zones, or to qualify for dimension/wt ("dim weight") shipping rates
- Verify sort sequence on basis of weight sequence
- Screen incoming packages for weight limits; (reduce back injuries from lifting)
- Receipt verification (verify shipment weight)

Production

- QA verification of fill or pack weight
- Automatic sorting to inventory. Storage on basis of weight plus barcode ID
- Process control feedback
- Production rate verification on basis of weight
- Automated inventory accumulation
- Material movement tracking
- Automated interdepartmental custodial tracking of material
- Automatic verification of case or carton quantity on basis of weight
- Detect empty, missing or partially filled containers

Airport

- Automated counter scales
- Sortation tracking and verification for baggage handling systems
- Automated weight and balance calculation
- Automated container loading systems
- Dim/wt systems

DIGITAL CONVEYOR™ DIVISION

**CONTROL SYSTEMS
ENGINEERING, INC.**

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WORLD CLASS QUALITY

**ISO9001
REGISTERED**

WE SOLVE PROBLEMS!

Specifications

Length

30" to 72", 6" increments

Width

12", 18", 24", 30", 36" between side frames

Height

Nominal height of 24" to 44"; +/- 3" range from nominal height; low profile version available

Capacity x Resolution

50 lbs x 0.01 lbs, 100 lbs x 0.02 lbs

Accuracy

Better than +/- 3 times scale resolution to 3 standard deviations¹

Speed

30 to 100 ft/min; 100 to 210 ft/min

Overload Capacity

>300%, plus Overload stops @150% and shock absorbing mounts

Indicator

+/- 500,000 counts
90 updates/sec
16 digital I/O (expandable to 128)
Adaptive filter technology
4 bi-directional RS-232 comm ports; optional RS-485 multi-drop network
Up to 4 encoder inputs
Database option
Up to 256 user-programmable custom transmits
Macro programming language

Electrical

115VAC, 1phase, 60Hz, approximately 3 amps total (conveyor + controls)
Motorized drive rollers operate from 24volts DC (power supply included)
NEMA 12 rated enclosure

NOTE(1): The accuracy of in-motion scales can be influenced by many installation related factors, such as leveling and alignment, floor vibrations, wind gusts, and other environmental factors. That is why we express the accuracy on a statistical basis. Other manufacturers sometimes choose to express accuracy on the basis of only 1 standard deviation, which results in the appearance of better accuracy. We believe our approach more fairly represents "real world" conditions.

Conveyor

1.9" diameter motorized drive rollers and idler rollers mounted on 3" centers
Painted carbon steel construction
Galvanized drive and idler rollers
Variable speed
Drive designed to transport >2 times design load at max. rated speed
Self-aligning scale design maintains accuracy in demanding environments

Controls

Two polarized retro-reflective, 24VDC photocells (infeed & outfeed)
DC power supply & drive control card; Motor run/stop control & variable speed settings
Opto-isolated solid state control for HI/GO/LO outputs
Reset circuit with latching relay prevents automatic restart in event of power failure
Local emergency stop (at control panel) included; plus terminals for remote customer E-stops
Terminals for connection of customer remote start/stop & run interlock circuits
Form C relay for infeed conveyor Run Interface (use to control/authorize feed of packages from infeed conveyor)

Safety

Inherently safe design

No voltages above 30 volts DC at conveyor
Motorized drive rollers designed to stall at low torque if jammed

E-stop included on control enclosure

No automatic restart on power failure

Reliability

Simple, easy-to-maintain design

Brushless DC drive rollers are rated for >20,000 operating hours MTBF (meantime before failure)
Overload & shock load protection for weighing system protects to greater than 300% of design capacity

1 YR LIMITED WARRANTY

60 DAY 'NO QUESTIONS ASKED' MONEY BACK SATISFACTION GUARANTEE