IOTREADY

Profiler

Automated dimensioning and weighing station

Product Datasheet



±1 mm
DIMENSIONAL ACCURACY

40–500 kg
CAPACITY, SET AT ORDER

<2 s
MEASUREMENT CYCLE

4G + Wi-Fi
BUILT-IN CONNECTIVITY

OVERVIEW

The IoTReady Profiler captures the length, width, height and weight of a parcel, carton or freight item in a single operation. An operator pushes the item into the corner of the station; three laser sensors measure its three dimensions and the load cells weigh it. The result appears on the built-in 8″ touchscreen in under two seconds, as a complete, dimensional-weight-ready record. No barcode, no reference marker, no manual entry.

Measurement runs entirely on the device. A dedicated edge processor combines the laser readings with precision load sensing into one result, so the station keeps working at full speed when the network does not. 4G and Wi-Fi are built in, sending records to your WMS, ERP or the IoTReady Cloud from any site, with or without a LAN. Bluetooth LE is available as an option for a local PC or phone.

The station ships calibrated. For audit work, an optional overhead camera adds a photograph of every item to its measurement record. Platform size, weighing capacity and mounting are configured to the application.

APPLICATIONS

- Dimensional-weight capture and billing audit for courier and parcel operators
- Inbound goods receipt and cubing for warehouse and 3PL operations
- Freight and pallet profiling at loading docks
- Cartonisation and slotting data collection for e-commerce fulfilment
- Returns processing and reverse-logistics verification
- Cargo manifest verification at airport and port handling counters

KEY FEATURES

Single-step capture
Length, width, height and weight are acquired together from one placement. Nothing to align, orient or scan first.

Corner-referenced lasers
Three laser sensors measure length, width and height against a fixed corner. No reference card or fiducial; the geometry is set at the factory.

Confidence on every reading
Each record carries a quality score, so a host system can flag a doubtful measurement instead of silently billing it.

Edge-resident processing
Every measurement is computed on the device. 4G, Wi-Fi and LAN links carry results, not raw sensor data. No upload latency, no network dependency.

Irregular and non-cuboid items
Reports the bounding envelope of soft-packs, tubes and irregular freight, not just square cartons.

Optional audit camera
An overhead camera attaches a photo to each measurement, giving carrier disputes and claims visual evidence as well as figures.

Connected out of the box
4G and Wi-Fi are built in, so a station works on a dock with no LAN. Add Bluetooth LE to pair a local PC or phone.

Field-updatable firmware
Signed over-the-air updates arrive over 4G or Wi-Fi, with automatic rollback on a failed update.

Ships ready to work
Calibrated at the factory and operated from the touchscreen straight away. Re-calibration is a host command, not a service visit.

Typical workflows

The Profiler is a measurement source, not an island. Every workflow below is the same two-second capture, differing only in what triggers it and where the record goes — so a station bought for one flow can be turned to another by configuration, not hardware.

Standard profiling

EVERY DEPLOYMENT · THE BASELINE FLOW

1. Operator pushes the item into the corner of the platform.
2. Taps Measure on the touchscreen, or the host sends a measure command.
3. Station captures dimensions and weight together and shows them on the 8" touchscreen.
4. Record is published over 4G or Wi-Fi the moment it is computed.

Result: A complete, timestamped L·W·H·weight record in under two seconds, with no keyboard entry.

Print and apply

COURIER, PARCEL AND 3PL OPERATORS

1. Item is profiled at the pack bench.
2. Chargeable weight is computed as the greater of actual weight and volumetric weight at your carrier's DIM divisor.
3. Label prints on the attached thermal printer with dimensions, weight and chargeable weight encoded.
4. Operator applies the label and the item moves to despatch.

Result: Manifest-ready parcels with carrier-correct chargeable weight printed at the point of pack.

Scan and profile for audit

SHIPPERS AND LOGISTICS BUYERS

1. Operator scans the AWB or order label; the station binds the scan to the next measurement.
2. Item is profiled; dimensions, weight and chargeable weight are stored against that AWB.
3. Records sync to the cloud or your ERP as an independent measurement of record; with the overhead camera, a photo is stored with each one.
4. Carrier invoices are reconciled line by line against what you actually shipped.

Result: Evidence-backed recovery of over-billed freight, and a defensible position in every carrier dispute.

Fill-rate and pack verification

E-COMMERCE AND FULFILMENT OPERATIONS

1. Order ID or shipping label is scanned at the pack station.
2. Box type is identified automatically from its measured dimensions — no manual box-code entry.
3. Measured weight is compared against the expected weight of the order's contents.
4. Fill rate is computed from item volume against box volume; mismatches are flagged before despatch.

Result: Right-sized packing, less void fill and air freighted, and wrong or missing items caught at the bench.

SKU master-data capture

CATALOGUE, PLANNING AND PROCUREMENT TEAMS

1. Each SKU is profiled once at goods-in or in a dedicated capture session.
2. Dimensions and weight are written to the item master over the API.
3. Cartonisation, slotting and load-planning systems draw on real figures instead of estimates.
4. Rate negotiations start from measured volumetric data.

Result: A trustworthy dimensional catalogue — the input every downstream logistics decision has been missing.

ERP and WMS integration

IT AND SYSTEMS-INTEGRATION TEAMS

1. Host system calls the station's REST endpoint when an order reaches the pack step.
2. Station measures and returns the record synchronously, or pushes it by webhook or MQTT.
3. Record is written straight to the shipment, receipt or item-master transaction.
4. Fleet health, calibration state and firmware are managed remotely across every site.

Result: Dimensioning becomes a service your existing systems call — no parallel process, no re-keying.

Freight and pallet profiling

DOCKS, FORWARDERS AND CARGO HANDLING

1. Palletised or irregular freight is placed against the corner of a platform sized for the application.
2. Bounding envelope and gross weight are captured in one pass, whatever the shape.
3. Chargeable weight is computed against the applicable freight divisor.
4. Record joins the manifest or booking before the consignment moves.

Result: Tape measures off the dock, and consistent freight declarations that survive a carrier re-weigh.

Returns and claims evidence

REVERSE LOGISTICS AND CLAIMS TEAMS

1. Returned or received item is profiled at the point of handover.
2. Dimensions, weight, timestamp and (with the overhead camera) a photo are recorded against the return or consignment reference.
3. Record is compared against what was despatched or declared.
4. Discrepancies are raised with a measurement, not an assertion.

Result: Short-shipment and damage claims settled on record, and a deterrent against inflated ones.

Applications and software

WHERE THE PROFILER PAYS

WHO	THE PROBLEM TODAY	WITH THE PROFILER
Courier and parcel operators	Dimensional weight is estimated or taped by hand at the counter, so revenue leaks on every under-declared parcel.	Measured chargeable weight at the point of booking, printed onto the label and manifested automatically.
E-commerce and 3PL fulfilment	Box choice is a picker's judgement call; wrong or short picks are found by the customer, not the warehouse.	Fill-rate measurement, automatic box identification and weight verification against expected contents at the bench.
Logistics buyers and large shippers	Carrier invoices are accepted on trust because there is no independent record of what was shipped.	An auditable measurement per AWB, reconciled against every invoice line, with evidence for disputes.
Warehousing and inbound teams	Item-master dimensions are stale, guessed or missing, so slotting and cube planning start from bad data.	SKU master-data capture at goods-in, written straight into the item master over the API.
Freight and cargo handling	Odd-shaped and palletised freight is measured with a tape, slowly and inconsistently, at the dock.	Bounding-envelope capture of irregular freight in seconds, on a platform sized to the application.
Returns and reverse logistics	Condition and completeness at handover are contested after the fact with no supporting record.	A timestamped dimensional and weight record at receipt, settling short-shipment and damage claims.

SOFTWARE

On-station
The 8" touchscreen shows the live reading, calibration state and link status, and triggers a measurement or a tare. Nothing else is required to work.

Android application
With the Bluetooth option: connect a phone or handheld to measure, tare, re-calibrate, review history and update firmware.

Profiler Desk
Desktop application for Windows, macOS and Linux. Connects over the LAN or, with the Bluetooth option, directly, drives label printing and barcode scanning, and holds measurements in a familiar spreadsheet-style grid — filter, edit, annotate and export to CSV or XLSX without a separate tool.

Cloud and API
IoTReady Cloud gives measurement history, multi-site fleet view, remote configuration and firmware rollout. The same REST/JSON and WebSocket API is available on the station itself for LAN-only sites, with webhook and MQTT push for event-driven integrations.

Deploy your way
Cloud over 4G or Wi-Fi, on-premise LAN or fully offline with local queueing. The station never depends on the network to complete a measurement.

Integration and deployment

DEPLOYMENT TOPOLOGY

Profiler station
Corner-referenced lasers and load cells measure L, W, H and weight on-device; results show on the 8" touchscreen. Barcode scanner attaches directly.

→

Built-in connectivity
4G and Wi-Fi to your LAN and the IoTReady Cloud. Optional Bluetooth LE to a local PC or phone.

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Wherever the record is needed
Android app (Bluetooth) · Profiler Desk on Windows, macOS and Linux · label printer · WMS, ERP or TMS over REST/JSON or WebSocket · webhook or MQTT feed · IoTReady Cloud.

PERIPHERALS AND INTEGRATION

Barcode scanning	USB HID and Bluetooth scanners; 1D and 2D symbologies
Scan binding	Scanned order ID or AWB is bound to the next measurement automatically
Label printing	ZPL, TSPL and PPLA thermal printers — Zebra, TSC, TVS and compatible — over USB, LAN or Bluetooth
Label content	Dimensions, actual weight, volumetric and chargeable weight, order or AWB reference

Host integration	REST/JSON, WebSocket, webhook and MQTT; documented Bluetooth GATT protocol
Data export	CSV and XLSX from Profiler Desk; bulk export from the cloud
Chargeable weight	Computed on demand against your carrier's DIM divisor
Fleet management	Remote configuration, calibration status and firmware rollout across sites

TRIGGER AND OPERATION

Trigger sources	Touchscreen, network API call, Bluetooth command (optional)
Operator feedback	8" touchscreen with live reading, status and link indicators

Result record	L, W, H, weight, confidence score and status flags (mm and g); optional photo
Unattended operation	Supported for API-triggered capture; no operator action required

DEPLOYING A PROFILER

1 · Size it
Tell us your item mix, throughput and the bench or dock it sits on. We size the platform, capacity and mounting to match.

2 · Install
The station arrives calibrated. Power it, then join Wi-Fi (or use the built-in 4G) and it is measuring.

3 · Integrate
Point it at your WMS, ERP or the cloud over REST/JSON, or start with Profiler Desk and export while integration is built.

4 · Scale
Add sites from the same fleet view. Configuration, calibration state and firmware roll out remotely.

DATA AND SECURITY

Sensor data stays on the station
Measurement is computed on-device, so only the resulting figures cross the network. Audit photos, if the camera is fitted, are stored with the record and never streamed.

Encrypted in transit
Network traffic is TLS-encrypted over 4G and Wi-Fi, and Wi-Fi supports WPA2 and WPA3 Personal and Enterprise.

Signed, reversible updates
Firmware updates are signed and verified before they are applied, and roll back automatically if one fails.

Evaluate the Profiler
Evaluation units, integration support and a documented API are available for pilot deployments. Write to sales@iotready.com with your item mix, throughput target and host system, and we will size a configuration for it.

Technical specifications

DIMENSIONING

Measured quantities	L, W, H; volume and dim. weight derived
Object envelope	50 × 50 mm to 1000 × 1000 mm
Object height	50 mm to 1200 mm
Dimensional accuracy	±1 mm
Dimensional resolution	1 mm
Laser sensors	Three, one per axis
Object shape	Cuboid and irregular; bounding envelope reported
Object placement	Pushed square into the corner reference
Reference marker	Not required
Measurement cycle	< 2 s, trigger to result

WEIGHING

Capacity	40 kg to 500 kg; specified at time of order
Accuracy	±0.1 % of full scale
Resolution	0.1 % of full scale
Sensing	Four-point load sensing
Tare	Touchscreen or host command; persistent
Calibration	Factory calibrated; host re-calibration
Overload protection	Mechanical stops at 150 % of rated capacity

ELECTRICAL

Supply	5 V DC ±5 % via the supplied adapter (dedicated power input)
Power consumption	10 W peak; lower at idle
Start-up time	< 15 s from power-on to ready

INTERFACES

Display	8" touchscreen; measurement, tare, status and settings
Cellular	4G LTE, built in
Wi-Fi	802.11 b/g/n, 2.4 GHz, WPA2/ WPA3-Personal and Enterprise
Bluetooth (option)	Bluetooth Low Energy 5, custom GATT measurement service; local PC and phone connectivity; up to 30 m line of sight
Bluetooth clients	Android application; PC client and documented protocol
Audit camera (option)	Overhead camera; photo captured and stored with each measurement
Network API	REST/JSON over HTTPS — trigger, read results, manage calibration
Result push	WebSocket stream, webhook or MQTT publish on every measurement
Cloud	IoTReady Cloud — history, fleet view, remote configuration
Offline behaviour	Results queued locally; queue drains on reconnection
Service port	USB-C — service and diagnostics only

MECHANICAL AND ENVIRONMENTAL

Platform	Configurable to application; 750 × 750 mm standard
Mounting	Bench or floor placement
Operating temperature	0 °C to 45 °C
Storage temperature	−20 °C to 60 °C
Humidity	10 % to 90 % RH, non-condensing
Ambient lighting	Normal indoor lighting; no enclosure required
Ingress protection	IP20 — indoor use

ORDERING INFORMATION

ORDER CODE	DESCRIPTION	NOTES
PRF-200-STD	Profiler station, 750 × 750 mm platform; 4G, Wi-Fi	Specify capacity, 40–500 kg, at order
PRF-200-XL	Profiler station, 1000 × 1000 mm platform	For pallet and freight; specify capacity at order
PRF-OPT-BLE	Bluetooth LE option for local PC and phone connectivity	Optional
PRF-OPT-CAM	Overhead camera for audit photo capture	Optional
PRF-200-CFG	Profiler station, customer-specified platform and capacity	Send us your application envelope
PRF-CLD-1Y	IoTReady Cloud subscription, one device, one year	Optional
PRF-SVC-1Y	Extended warranty and on-site calibration, one year	Optional

Specifications are subject to change without notice. Stated accuracy figures apply after factory calibration, within the specified operating envelope and environmental conditions. Dimensional accuracy is quoted for the reported bounding envelope of the item as placed. © 2026 IoTReady Solutions. All rights reserved.