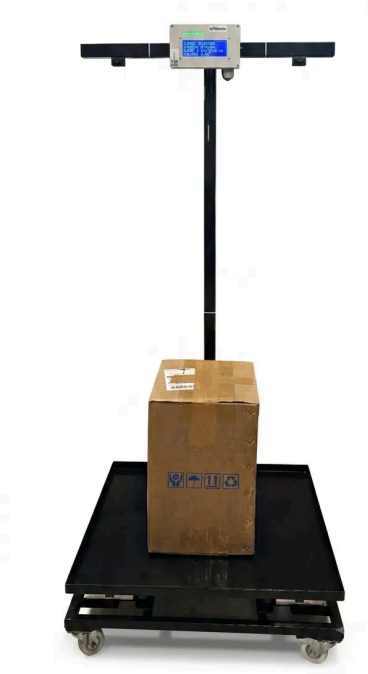
IOTREADY

Profiler

Automated dimensioning and weighing station

Product Datasheet



±5 mm
DIMENSIONAL ACCURACY

500 kg
WEIGHING CAPACITY

<2 s
MEASUREMENT CYCLE

BLE or Wi-Fi
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 places the item on the platform; the station returns a complete, dimensional-weight-ready record in under two seconds. No barcode, no reference marker, no manual entry.

Measurement runs entirely on the device. A dedicated edge processor fuses machine vision, multi-point optical ranging and precision load sensing into one result, so the station keeps working at full speed when the network does not. Each station is ordered with the link its site needs: Bluetooth Low Energy to a handheld or PC at the bench, or Wi-Fi to your WMS, ERP or the IoTReady Cloud. The measurement core is identical either way.

The station ships calibrated. Platform size, weighing capacity and mounting are configured to the application, so the same product line serves a courier counter, a warehouse pack bench and a freight dock.

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.

Marker-free measurement
No reference card, cube or fiducial in the frame. The station knows its own geometry from factory calibration.

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. Cloud and LAN links carry results, never 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.

Built to the application
Platform size, capacity and mounting are configured per deployment — counter, pack bench or freight dock.

Linked to suit the site
Order Bluetooth LE for a handheld or PC at the bench, or Wi-Fi for LAN, ERP and cloud integration. One station line, one measurement core.

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

Ships ready to work
Calibrated at the factory and paired with the application out of the box. 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 places the item anywhere on the platform.
2. Presses the panel button, or the host sends a measure command.
3. Station captures dimensions and weight together and shows them on the on-station display.
4. Record is published over the station's link 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.
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 on 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 and timestamp 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.

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
Character display and multi-colour status indicator show the live reading, calibration state and link status. Panel button triggers a measurement or a tare. Nothing else is required to work.

Android application
Supplied and paired out of the box. Connect, measure, tare, re-calibrate, review history and update firmware over Bluetooth. Runs on a handheld at the counter or dock.

Profiler Desk
Desktop application for Windows, macOS and Linux. Connects over Bluetooth or the LAN, 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, 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
Measures L, W, H and weight on-device. Barcode scanner attaches directly for order-linked capture.

→

The link you ordered
Bluetooth LE to a handheld or PC, or Wi-Fi to your LAN and the IoTReady Cloud. Specified per station.

→

Wherever the record is needed
Android app · 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	**Panel button, Bluetooth command, network API call**
Operator feedback	**On-station character display and multi-colour status indicator**
Result record	**L, W, H, weight, confidence score and status flags — mm and g**
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 it to Wi-Fi or pair the handheld — 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

Imagery stays on the station
Measurement is computed on-device, so only the resulting figures ever cross the network. Nothing to store, stream or secure downstream.

Encrypted in transit
Network traffic is TLS-encrypted, and Wi-Fi stations support 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	Length, width, height; volume and dim. weight derived
Object envelope	50 × 50 mm to 1000 × 1000 mm
Object height	50 mm to 1200 mm
Dimensional accuracy	±5 mm or ±1 %, whichever is greater
Dimensional resolution	1 mm
Object shape	Cuboid, cylindrical and irregular; bounding envelope reported
Object orientation	Any; no alignment to platform edges required
Reference marker	Not required
Measurement cycle	< 2 s from trigger to published result

WEIGHING

Capacity	500 kg (configurable to application)
Accuracy	±0.1 % of full scale
Resolution	0.1 % of full scale
Sensing	Four-point precision load sensing, corner-compensated
Tare	Operator-initiated or host-commanded; persistent across power cycles
Calibration	Factory calibrated; field re-calibration via host command
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 between measurements
Start-up time	< 15 s from power-on to ready

INTERFACES

Radio option	Bluetooth LE or Wi-Fi, specified per station at order
Bluetooth variant	Bluetooth Low Energy 5, custom GATT measurement service; up to 30 m line of sight
Bluetooth clients	Supplied Android application; PC client and documented protocol
Wi-Fi variant	802.11 b/g/n, 2.4 GHz, WPA2/WPA3-Personal and Enterprise
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, diagnostics and recovery; not the operating power input

MECHANICAL AND ENVIRONMENTAL

Platform	Configurable to application; 750 × 750 mm standard
Sensing head height	1400 mm above platform (standard frame)
Overhead clearance	1600 mm minimum above platform surface
Mounting	Free-standing frame; bench and wall-mount options
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-100-STD-B/W`	Profiler station, 750 × 750 mm platform, 500 kg capacity	Suffix selects the radio — B Bluetooth LE, W Wi-Fi
`PRF-100-XL-B/W`	Profiler station, 1000 × 1000 mm platform, 500 kg capacity	For pallet and freight profiling
`PRF-100-CFG`	Profiler station, customer-specified platform and capacity	Contact IoTReady with the application envelope
`PRF-CLD-1Y`	IoTReady Cloud subscription, one device, one year	Optional; LAN-only deployment needs no subscription
`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.