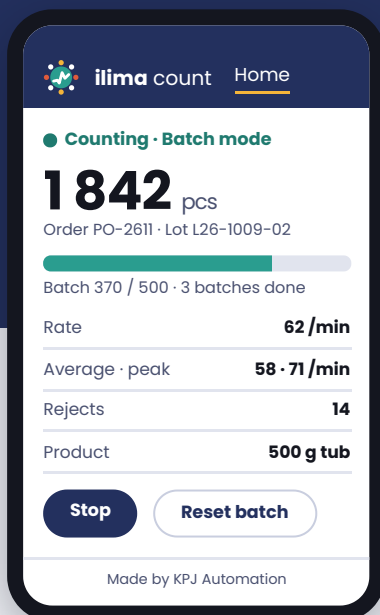


SMART CONTROLLERS · PRODUCT INFORMATION

ilima count

Counts what the line actually made — with batch targets, reject counting, live rate and the order and lot number attached to the number.

**6**

ways to count: pulses, encoder, load cell, rate, batch, length

8

product slots, each with name, part number and unit cost

28

values it can hand to ilima scada

WHAT IT IS

A shift total you do not have to write down

A mechanical counter on a machine gives you one number, and only if somebody remembers to write it down at the end of the shift. It cannot tell you the rate, it does not know what product was running, and it certainly cannot tell you how many were rejected.

ilima count counts, weighs, measures or times — whichever the job needs — and attaches the result to a product, a production order and a lot number. It shows live rate against average and peak, drives a batch target with a progress bar, and switches a status light, an alarm and a batch-complete output as it goes.

One unit, or a plant full of them

ilima count runs perfectly well on its own. Link several to ilima master count and you get plant-wide dashboards, stock and recipe control, production orders and lot traceability across every line.

BENEFITS

What it changes on the line

◆ The number has context

Every count is tied to a product, an order number and a lot — so a query weeks later can be answered.

◆ Rate is visible while it matters

Current, average and peak rate on the screen, so a line slowing down is obvious before the shift total tells you.

◆ Cost per unit, live

Enter a unit cost and the screen shows session, per-batch and all-time cost against the run.

◆ Rejects are counted, not estimated

A separate scrap input keeps reject out of the good-product total and gives you a real yield.

◆ Batches end themselves

Set a target; the controller drives a progress bar, switches a batch-complete output and counts batches done.

◆ No guessing at the terminals

Every input and output is listed on the unit's own page with its terminal number, live state and what it has been set to do.

SIX WAYS TO COUNT, AND THE CONTEXT AROUND IT

Order, material and lot on the face of it

Operating modes

- ◆ Counter — straight pulse counting
- ◆ Encoder — quadrature, with direction
- ◆ Load cell — weight on a 0–10 V input
- ◆ Rate monitor — throughput per minute
- ◆ Batch — count to a target and signal
- ◆ Length — measured run length

Traceability

- ◆ Active order, material code and lot number on the dashboard
- ◆ Set once at the start of the run
- ◆ Travels with the production record
- ◆ Up to 8 product slots with name, part number and unit cost

Outputs & resets

- ◆ Status light, alarm, batch complete, spare or horn
- ◆ Batch reset, session reset and clear totals
- ◆ Automatic daily reset
- ◆ On-unit data log and MQTT publishing

In ilima scada. ilima scada reads 28 values from each unit — count, rate, batch, reject, I/O and signal — read-only by design. The link is built and tested against the unit's own protocol; first runs with a physical unit are being scheduled.

SPECIFICATION

Technical specification

ITEM	DETAIL
Controller	Industrial ESP32 I/O board, DIN-rail mounted, with KPJ firmware
Relay outputs	4 × volt-free relay contacts, 10 A rated
Digital inputs	4 × NPN opto-isolated inputs
Analogue inputs	2 × 0–10 V and 2 × 4–20 mA
Analogue outputs	2 × 0–10 V or 4–20 mA, DIP-switch selectable
Serial	RS-485 bus
Supply	12 V or 24 V DC
Interface	Built-in web dashboard — any browser on the same network, no app to install
Network	Wi-Fi, with access-point fallback if the network is unavailable
Settings	Held in non-volatile memory — they survive a power failure
Remote	MQTT and Blynk cloud options; over-the-air firmware update
Operating modes	Counter, encoder (quadrature), load cell, rate monitor, batch, length
Inputs used	Pulse / encoder A, encoder B or reject, gate / inhibit, start trigger
Outputs used	Status light, alarm, batch complete, spare or horn
Products	Up to 8 product slots, each with name, part number and unit cost
Traceability	Production order number, material code and lot number per run
Rates	Current, average and peak, with recent-sample history
Data	On-unit data log; MQTT publishing; links to ilima master count and ilima scada

One board, several jobs. Every ilima controller runs on the same industrial ESP32 I/O board — DIN-rail mounted, 12/24 V DC, with four relay outputs, four opto-isolated inputs, analogue in and out, and an RS-485 port. What changes is the firmware written for it. That means a common spares holding, one wiring standard across your site, and a unit that can be re-tasked instead of replaced.

THE ILIMA RANGE

Start with one unit. Grow the whole plant.

ilima count

Counts, rates, batches and lots on one machine

ilima gateway

Puts RS-485 PLCs and drives on the network

ilima pump

Pressure and supply control for one pump

ilima irrigate

Four zones, schedules and rain inhibit

ilima scada

The whole plant on one screen, with alarms

ilima master count

Orders, stock, recipes and lot traceability

ilima maint

Job cards, machine files, spares and shifts

by KPJ

Designed, built and supported in La Mercy, KwaZulu-Natal

WHERE IT FITS

Typical applications

Packaging and filling lines

Food and beverage production

Bagging, sacking and palletising

Extrusion and cut-to-length

Batching and dosing

Any line where the shift total is a guess

HOW IT IS SUPPLIED

Configured, wired and commissioned

- ◆ Supplied configured for your application, not as a blank board
- ◆ Wired into an enclosure with terminals, fusing and isolator where required
- ◆ Field wiring terminated and labelled to a drawing
- ◆ Commissioned on the real process, with setpoints proven under load
- ◆ Operator walkthrough and a written record of the configuration

What we need to quote it

- ◆ What the line makes, and what is worth counting — pieces, weight, length or time
- ◆ Where a sensor or encoder can see the product, and what is already fitted
- ◆ Whether rejects leave the line at a point that can be counted
- ◆ Whether one unit will stand alone or several will report to ilima master count or ilima scada
- ◆ Whether the unit can reach your Wi-Fi where it will be mounted

Still counting by hand?

We will look at the line, work out what is worth counting, and show you what the screen would tell you.

067 630 5732 · kpjmachines@gmail.com



About KPJ Automation

KPJ Automation is an independent industrial controls and automation house in La Mercy, KwaZulu-Natal, and the maker of the ilima range. Stephan Roets brings more than ten years of hands-on plant experience to every job: design, panel build, installation, commissioning and breakdown support. KPJ designs, builds and supports every ilima product itself, so the person who wrote the firmware is the person who answers the phone.

ilima is a product range made and distributed by KPJ Automation (Pty) Ltd · Reg. 2022/646768/07 · La Mercy, KwaZulu-Natal, South Africa. Interface images are representative renders using demonstration data. Specifications are indicative and are confirmed per application at quotation stage. Issued for information; does not form part of a contract. Formerly sold as KPJ Production Counter.