

User Guide

Everything you need to operate SolarAid pay-as-you-go solar — admin web, agent mobile app, USSD and customer portal.

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What's new V1.0.4 · MAY 2026

Highlights from Phases 14–23. Existing users — please read.

- **Device serial is the new account number.** USSD, mobile and admin all look customers up by their linked solar-unit serial. Last-4-digit shortcut works (e.g. `0283` → `HS402512000283`).
- **459 devices imported from Moon.** Bulk Admin → Devices → Import refreshes by UUID, leaves assignments intact.
- **Device link is required on agent registration.** The form refuses to save until at least one device is linked. Live-validated as you type.
- **Post-install fault reports.** Agents log severity-tagged issues from the customer detail screen; admins triage them inline.
- **RBAC tightened to 5 admin roles** (super / system / operations / reports / support). Every mutation gated by `require_role()`. Vendor portal removed.
- **Idle-session timeout** (30 min default). Frontend now signs out automatically when the backend revokes the session.
- **Customer portal serializer aligned** — same payload shape as admin / mobile (devices, fault reports, ward).
- **Ward dropdown** between District and Village. Rufunsa → Namanongo curated.

Overview

SolarAid runs four user-facing surfaces. Each is tuned for a different role and connectivity profile.

Surface	Who uses it	What it does	Needs network?
Admin Web	Head office / supervisor	Customer management, KYC approval, reports, agent management	Yes
Agent Mobile App	Field agent	Customer registration with GPS, payment initiation, history	Offline-capable
USSD *388*20#	Customer (or someone paying on their behalf)	Initiate payment, view history, retrieve activation code	Any phone, any network
Customer Web	Customer with internet access	Login by phone+OTP, view subscription & codes	Yes

Demo credentials

Use these in presentations / training. Reset on request.

SUPER ADMIN (WEB)

admin

AdminDemo#1

solar-aid.ontech.co.zm/auth/
login

OPERATIONS ADMIN

operations

OperationsDemo#1

solar-aid.ontech.co.zm/auth/
login

SUPPORT ADMIN

support

SupportDemo#1

solar-aid.ontech.co.zm/auth/
login

FIELD AGENT (MOBILE)

testagent_54339

AgentDemo#1

Install APK + use these
credentials

AGENT — KITWE

agent_kitwe

KitweDemo#1

solar-aid.ontech.co.zm/auth/
agent/login

AGENT — LUSAKA

agent_lusaka

LusakaDemo#1

solar-aid.ontech.co.zm/auth/
agent/login

USSD TEST ACCOUNT NUMBERS

111111 · Test Alpha –
approved

333333 · Test Beta –
pending (still pays)

REJ999 · Test Rejected –
blocked

SUS999 · Test Suspended –
blocked

Dial *388*20# from any phone

USSD · PRODUCTION DEMO

HS402512000283 · Dylan
Chewe

Registered phone:
260967120032

Dial from this phone to skip
the Account prompt

CUSTOMER PORTAL DEMO PHONE

260976543210

(OTP via SMS)

solar-aid.ontech.co.zm/
customer/login

The **Account number** is whatever's printed on the customer's unit — a short legacy meter number (111111) or a full device serial (HS402512001111). The last 4 digits (1111) also work as a shortcut when unique. **Test Alpha** accepts all three.

1. Admin Web SUPERVISOR

Browser-based control panel for head office. Manage customers, approve KYC, monitor payments, configure plans.

Sign in

- 1 Open solar-aid.ontech.co.zm/auth/login in any browser.
- 2 Enter your **username** + **password** (see Demo Credentials above).
- 3 You land on the dashboard with KPI cards, recent activity, and the sidebar to navigate. The **Pending Approvals** link in the sidebar shows a live count badge.

The screenshot displays the SolarAid Admin Portal dashboard. On the left is a dark sidebar with the SolarAid logo and a menu including Dashboard, Customers, Pending Approvals (with a badge of 3), Agents, Transactions, Plans, Reports, and Audit Logs. The main content area is titled 'Dashboard' and shows 'Last 30 days - admin@sunnymoney.org'. It features four KPI cards: Total Customers (27, +9 this month), Active subscribed customers (25), Pending Approval (3, awaiting supervisor), and Revenue - last 30d (K 1,820, +23%). Below these is a 'Recent activity' section for the last 24 hours, listing transactions and approvals with their respective IDs, statuses, and timestamps.

Admin dashboard — KPI cards + recent activity feed

Manage customers

Sidebar → **Customers** shows every registered customer with status, approval state, location and a GPS-pin icon when coordinates are present.

Customer	Phone	Account	Location	Status
Charles M. Chellah BYR202604191234AB	260969410181	SM-CRUD-1776430641	Kabwata, Lusaka -15.40, 28.28	Active / Approved
Mathews Tembo BYR20260513EF12C9	260976046471	—	Lusaka -15.41, 28.28	Active Pending
Edward Bwalya BYR20260513DE3A8B	2609778603	9999999	Lusaka	Active Pending
Test Alpha TEST-111111	—	111111	—	Active / Approved

Customers list — search, status & approval filters, GPS-pin indicator on each row

Create a new customer

- 1 From the customers list click **+ New Customer** (top right).
- 2 Fill the form. Sections are: **Personal · Account · Address · Personal Details · Properties · Solar Experience · Agent Observations · Trusted Person · System Info · Administrative · Bio**. Only Name + Phone are required.
- 3 Use **Use browser location** to capture GPS. Pick a **Province** first to unlock the District dropdown (filtered).
- 4 Tick **Customer has agreed to terms** if applicable (timestamp is auto-stamped).
- 5 Click **Create Customer**. Admin-created customers are auto-approved.

Edit a customer

From the customer detail page click **Edit**. Every section pre-fills, including the supervisor approval state and the GPS coordinates (you can re-capture).

Approval queue

Customers registered via the agent mobile app land in the **pending** state. Supervisors review and decide.

The screenshot displays the SolarAid interface for a customer named Mathews Tembo. The sidebar on the left includes 'Dashboard', 'Customers', 'Pending Approvals 3', 'Agents', and 'Transactions'. The main content area features a customer profile card with a 'Pending review' status, a 'Supervisor Approval' card with 'Approve' and 'Reject' buttons, and several information cards: Contact Information, Personal Details, Trusted Person (Mary Banda), Properties & Systems, and Solar Experience.

Customer detail — supervisor approval card (top-right), inline Approve/Reject with optional note, full KYC across Contact / Personal / Trusted Person / Properties / Solar cards

- 1 Click **Pending Approvals** in the sidebar (badge shows live count) or filter the customers list with the **Approval** dropdown.
- 2 Open a pending customer. Review their KYC: GPS pin (clickable Google Maps), Trusted Person, Properties, etc.
- 3 On the colored **Supervisor Approval** card, type an optional note and click **Approve** or **Reject**.

Rejected customers are blocked from USSD payments. Pending customers can still pay — review is about KYC quality, not payment legitimacy.

Devices (Moon import)

Sidebar → **Devices** lists every Moon-imported solar unit with its UUID, serial number, status and assigned-customer (if any).

Bulk import from Moon

1

Click **Import from Moon** (top right of Devices list) → opens `/admin/devices/import`.

2 Upload a CSV or JSON file with columns `uuid`, `serial_number`, `status`. Headers are case-insensitive; common aliases (`UUID`, `device_serial`, etc.) also accepted.

3 The importer upserts by UUID — re-importing the same file refreshes status + raw_data + `moon_synced_at`, leaves customer assignments intact. You see counts: inserted / updated / skipped / failed.

Assign a device to a customer

Open any device row → **Assign to customer** form → enter the customer ID. Once linked, the device serial becomes the EAAS account identifier for USSD and mobile payments. (Field agents do this directly in the mobile app — see [Link a device](#).)

Fault reports

Each customer's detail page has a **Fault Reports** card. Field agents log post-install issues via the mobile app; admins triage them here.

- Per-row severity badge (low / medium / critical) and status (Open / Resolved).
- Inline **Mark resolved** form with an optional resolution note.
- Sidebar admin pages don't aggregate faults yet — review them per customer.


Payments & reports

- **Transactions** sidebar → full transaction list with filters by status, date range, agent, phone.
- **Payments Dashboard** sidebar → success/failure split, today/week/month KPIs.
- **Plans** sidebar → manage the energy-plan catalog (Weekly K20, Monthly K60, Multi-Month).
- **Agents** sidebar → onboard agents, suspend/reactivate. Agents are KYC + payment-initiation only — no commission, no float (removed in Phase 15).
- **Reports / Exports** sidebar → CSV/PDF exports with all the same filters as the list views.

2. Agent Mobile App **ANDROID**

Offline-first Android app for field agents. Capture customers + GPS, take payments, all without a constant signal.

14:32



SolarAid Agent

Agent Portal

USERNAME

PASSWORD

LOGIN

Login

14:32

SolarAid Agent SYNC EXIT

T Test Agent
RSL202605125BE9E6

PAY

New Payment

+CU

Register Customer

CUS

Customers

HIS

History

SET

Settings

Home

14:32

Customers FIND

Offline mode — changes will sync when online

D Dylan Chewe
260967120032 · Device HS402512001336 pending

M Mathews Tembo
260976046471 · Rufunsa active

E Edward Bwalya
260977860377 · Lusaka pending

G Grace Phiri
260976345678 · Kitwe active

N Namanongo Tester
260977555111 · Device HS402512000283 active

+ REGISTER

Customers (with offline banner)

14:32

← **Register Customer**

NAME *

PHONE *

NRC

Device serial * 1 linked

Required — link the Moon-imported solar unit.

Match: HS402512000283 · ACTIVE

+ LINK HS402512000283

HS402512000283 x

Location

GPS

Register w/ GPS

14:32

← **New Payment**

D Dylan Chewe
BYR202605156FC4EA

DEVICE SERIAL *

Payment flow

14:32

← History FIND

All Pending Completed Failed

- K20.00 · Weekly Plan**
Dylan Chewe · H5402512001336 · 15 May 14:02 **completed**
- K60.00 · Monthly Plan**
Mathews Tembo · 13 May 13:51 **pending**
- K20.00 · Weekly Plan**
Dennis Zitha · 345567779 · 12 May 06:08 **completed**
- K20.00 · Weekly Plan**
Test Customer · 12 May 04:30 **failed**

History

14:32

← Settings

ON Online
Connected to solar-aid.ontech.co.zm

Offline queue
No pending items.
All registrations + payments are synced.
Force sync now

About
Version: v1.0.4 (build 2005)
Built: 2026-05-15 16:35 SAST
Package: zm.co.ontech.solaraid
Backend: solar-aid.ontech.co.zm

LOG OUT

Settings & sync queue

Install

- 1 Open solar-aid.ontech.co.zm/app/solaraid-agent.apk in Chrome on the agent's Android phone.
- 2 When prompted, allow **Install unknown apps** for Chrome (Settings → Apps → Chrome → Install unknown apps → On).
- 3 Tap the downloaded `solaraid-agent.apk` file → **Install**. Android may show a one-time "unknown developer" warning — accept.
- 4 Open the app. Grant **Location** permission when asked (used to pin customer registrations).

Login

Enter the agent's **username** + **password** issued by admin. Tap the **eye icon** in the password field to peek at what you typed (new in v1.0.3). The app pre-fetches plans, customers and recent history so the next session works offline.

Register a new customer

- 1 From Home, tap **Register Customer** (or open the Customers list and tap the **+ Register FAB**).
- 2 Fill **Name, Phone** (Zambian format `260...`) and optional **NRC**.
- 3 **Device serial *** — required card immediately under the NRC. This is the customer's **Account number** (same thing as the legacy meter number). Type the last 4 digits from the unit's sticker (e.g. `0283`) or the full serial (`HS402512000283`). The app live-validates against the Moon import; the status icon goes spinner → green check, the button becomes **Link HS40251200XXXX**. Tap it — the serial appears as a green chip below.

Required. The form refuses to save until at least one device is linked. Red border + "You must link at least one device before saving" appears on a missed save.

- 4 Tap **Capture** on the GPS card. Tap the **target icon** next to Province for auto-detect — the app picks the nearest district from the bundled 117-district dataset.

Pick a **Ward** if the district has wards (Rufunsa auto-picks Namanongo), then choose a village from the 30-name dropdown.

5 Optionally toggle and fill **Personal details, Community contact, Properties & systems, Solar experience, Trusted Person, Bio**.

6 If the customer agreed to terms, tick **Customer agreed to SolarAid terms**. The server stamps the time.

7 Tap **Save Customer**. Online → customer appears immediately; offline → action queues and syncs automatically when connectivity returns.

Customers registered via mobile enter the supervisor approval queue. Until reviewed they show a **pending** pill but can still receive payments (pending KYC is a data-quality flag, not a payment block — only rejected blocks).

Link a device after the fact

If a customer was registered without a device, open their detail screen → **Linked Devices** card → **Link a device** bottom sheet. Same live-validated serial input as the register screen.

If the typed serial matches a device already linked to another customer, the icon turns orange (lock) and the Link button stays grey — an admin has to reassign first.

Take a payment

1 From the customer detail screen tap **Pay for this customer** — the customer header card appears, the **Device serial** input is pre-filled from the linked device, and the Payer phone is pre-filled from the customer record.

2 If the customer has **more than one linked device**, pick the chip of the one you want to pay against.

3 The Device serial field live-validates as you type (same icons as registration). Initiate Payment stays disabled until the status icon turns green.

4 Pick a **Plan card**. Tap **Initiate Payment** — spinner, snackbar "Payment initiated: TXN...".

5 Payer's phone receives the STK prompt → enters mobile-money PIN → Moon issues the activation code → SMS lands on the payer's phone.

Report a fault

Open the customer detail screen → **Fault Reports** card → **Report an Issue** bottom sheet. Choose severity (low / medium / critical) + describe the issue. The report appears immediately in the card and is visible to admins.

Working offline

The amber **Offline mode** banner appears across the top when the device has no signal. Everything keeps working:

- Cached customer list, plans and history remain available.
- New registrations + payments queue locally and sync on reconnect.
- Open **Settings** → **Offline Queue** to see each queued item with attempts + last error.
- Tap **Force sync now** to retry, or the **trash icon** on a row to discard a permanently-failed action.

3. USSD *388*20#

Pay-as-you-go from any phone with no internet. Works on every Zambian network (MTN, Airtel, Zamtel, ZED).

Payment flow

Dial *388*20#.

```
SolarAid Zambia
Hi {your name}
1.Pay Energy
2.Txn History
3.My Account
4.Exit
```

Press **1** → Pay Energy.

```
Enter Account No:
0.Back
```

Type the customer's **Account number** — whatever's printed on the unit. That might be a short number like 111111 or a full device serial like HS402512000283. You can also type just the **last 4 digits** (0283) as a shortcut, as long as it's unique. The system finds the customer either way.

One concept, two formats. "Meter number", "device serial" and "account number" all refer to the same thing — the identifier on the customer's solar unit. Older units have a short numeric meter number; newer Moon-imported units have a 14-character serial. Both work the same on USSD.

Registered-dialer shortcut: if the customer dials from their own registered phone, USSD skips the "Enter Account" prompt and jumps straight to the plan menu with their device serial pre-filled in the header.

```
Acc:HS402512000283
Dylan Chewe
Choose Plan:
1.Weekly K20
2.Monthly K60
3.Multi-Month
0.Back
```

Pick a plan. Confirm screen:

```
Confirm Payment:  
Acc:HS402512000283  
Plan:Weekly  
Amt:K20.00  
Phone:0967120032  
1.Pay 9.Add Agent 0.Cancel
```

Press **1** to authorise. An STK push lands on the payer's phone — approve with the mobile-money PIN. Within ~15 seconds the system:

1. Pre-validates the account with Moon
2. Triggers the Ontech payment gateway
3. On success, calls Moon `/make_payment` for the activation token
4. SMS with the code lands on the payer's phone

Status / error messages

Message	Meaning
Account not found.	The typed value doesn't match any meter_number or device serial. Re-type or check with admin.
Multiple devices end in XXXX. Type more digits.	The last-4-digit suffix matches more than one serial. Type one or two more digits.
Account not approved.	Customer has been rejected by supervisor. Pending is allowed; only rejected blocks. Call support.
Account suspended.	Customer is administratively suspended.
Account inactive.	Customer status is inactive.
Account closed.	Customer has been soft-deleted from the admin web.
Session ended. Please dial again.	The session completed or timed out — re-dial fresh.
K20.00 initiated. Approve on phone.	Payment pushed; complete it on the mobile-money prompt.

4. Customer Web Portal CUSTOMER

For customers who want to check their subscription and activation codes online.

SolarAid Pay for Energy

S

SolarAid
Customer Portal — sign in by phone

Phone number
260976543210

We'll text you a 6-digit code.

Send OTP

Are you an Agent or Admin?
[Agent Login](#) · [Admin Login](#)

Customer portal — phone OTP login

Login (phone + OTP)

- 1 Open solar-aid.ontech.co.zm/customer/login.
- 2 Type your Zambian phone number (with or without 260 — system normalises).
- 3 You'll receive a 6-digit OTP via SMS within ~10 seconds. Enter it on the next screen.
- 4 OTPs expire in 10 minutes; up to 5 incorrect attempts before a new one is needed.

View subscription & codes

The screenshot shows the SolarAid customer dashboard. At the top left is the SolarAid logo. At the top right, it says 'Test Buyer' and 'Logout'. The main content area is divided into three sections:

- Subscription:** Shows 'Active' status with '4 days remaining - Weekly plan - expires 17 May 2026'. There is a 'Renew Now' button.
- Recent activation codes:** Lists three codes with their timestamps and transaction IDs:
 - 111 111 111 111 111 (13 May 14:30 - TXN20260513129AF34)
 - 887 773 101 189 (12 May 18:15 - TXN202605121815084F)
 - 333 333 333 333 333 (10 May 11:02 - TXN20260510110293AB)
- Transaction history:** Lists three transactions, all marked as 'completed':
 - K 20.00 Weekly - 13 May 14:30
 - K 20.00 Weekly - 12 May 18:15
 - K 60.00 Monthly - 10 May 11:02

Customer dashboard — active subscription with days remaining, recent activation codes, transaction history

After login the customer sees:

- **Subscription status** — active/expired with days remaining
- **Linked devices** — each Moon-imported solar unit assigned to them (Phase 22 aligned the portal serializer so it now exposes the same shape as admin + mobile views)
- **Recent activation codes** — last 3 codes with timestamps
- **Transaction history** — every payment with status and amount
- **Fault reports** — open + resolved issues raised by their installer
- **Renew button** — start a payment flow (redirects to Ontech)

Activation codes are also sent to the customer's phone via SMS each time a payment completes — so customers don't strictly need the web portal to operate the unit.

5. Admin roles & sessions ACCESS CONTROL

Five admin roles. Each role grants a different slice of the admin web. The factory `require_role()` in `app/api/v1/auth.py` is the single enforcement point — every gated endpoint declares its required role inline.

Role matrix

Role	Can do	Can't do
super_admin	Everything. Always passes every role check. Only role that can reset another admin's password, delete admins, or initialize default system settings.	(nothing — bypasses all gates)
system_admin	All admin management (create / edit / suspend / activate), all system settings (pricing, kWh rate, key-value config), all customer + agent + transaction routes.	Reset other admin passwords; delete admins; <code>POST /settings/initialize</code> .
operations_admin	Soft-delete + restore customers. Full read on every admin-only route. Approve / reject customer KYC.	Admin management. Mutate system settings.
reports_admin	Read every admin route — customers, transactions, reports, dashboards.	Any mutation outside KYC approval.
support_admin	Read every admin route. Approve / reject customer KYC (so help-desk staff can clear the queue).	Soft-delete customers. Mutate settings. Mutate admins.

What a denied request looks like

When an admin role is too narrow for an endpoint, the API returns HTTP 403 with a self-describing message:

```
HTTP/2 403
{"detail": "This endpoint requires role(s): ['system_admin']. Your role: support_admin."}
```

The web UI surfaces this as a red flash banner. Read endpoints remain open to every admin role, so a support_admin can always see everything, just not modify it.

Lockout & idle timeout

- **5 failed login attempts** → the admin account is set to `suspended`. Another admin (or super_admin) must call `POST /admins/{id}/activate` to clear it. (Phase 21 fixed an enum-case bug that previously crashed instead of locking.)
- **Idle-session timeout** — default **30 minutes** (per-admin via `session_timeout_minutes`). When the gap between requests exceeds the threshold, the session is deactivated server-side and the next request returns "Session idle timeout". The agent must log in again.
- **IP allowlist** — optional. Set `admin.ip_restriction_enabled = true` and populate `admin.allowed_ips` to lock an admin to specific source IPs. Enforced by `IPRestrictionMiddleware`.
- **Backend revocation propagates to the web** — if an admin is suspended or their session forcibly killed, the next Flask page load redirects to the login screen (Phase 22 sync — frontend session cleared on any token-refresh failure, not just access-token expiry).

Agent + customer auth (for completeness)

- **Agent** — username + bcrypt password → JWT (`type=agent`). Locked after 5 failed attempts; status must be `active` (not pending / suspended / blacklisted).
- **Customer** — phone + SMS OTP (6-digit, 10-min expiry, 5 attempts) → JWT (`type=customer`). The customer portal serializer (`/customer/me`) was aligned in Phase 22 so it returns the same full payload as admin/agent views.

Troubleshooting

"Account not approved" on USSD

The customer was rejected by a supervisor. Open the admin web, find the customer, review the approval card, optionally re-approve.

STK push doesn't arrive on the payer's phone

Check that the phone is on, in coverage, and the mobile-money wallet is funded. Some MNOs delay STK prompts by 30-60 seconds. The transaction stays in `pending` for ~3 minutes; if no authorisation arrives, it auto-fails.

Mobile app shows "Offline mode" but the phone has signal

Open the app's Settings → tap **Force sync now**. If still stuck, toggle airplane mode off/on to refresh Android's connectivity state. Last resort: force-close and reopen the app — the cold-start drains the queue.

Activation code SMS didn't arrive

Check the recent transactions on the admin web — find the transaction, note its `token` field. If empty, the Moon API call hasn't completed yet (3-min poll retries). If present, the code was sent — SMS provider may have queued it. Wait 5 minutes, then call support.

Agent can't login after switching phones

Each login creates a fresh JWT bound to the device. Re-login on the new device — the old tokens are invalidated automatically.

"This endpoint requires role(s): X. Your role: Y."

Your admin role doesn't include this action. The 403 message lists exactly which role(s) are accepted — ask a `super_admin` or `system_admin` to either perform the action or upgrade your role. Full matrix in [RBAC → Role matrix](#).

"Session idle timeout" / forced to log in again after a break

Admin sessions expire after **30 minutes** of inactivity by default (`admin.session_timeout_minutes`). Log back in. A `super_admin` can bump the threshold per-admin if needed.

Device serial input stays red on the mobile app

The device hasn't been imported from Moon yet — admin must run **Devices → Import from Moon** with the CSV before agents can link it.

"Multiple devices end in XXXX" on USSD

The 4-digit suffix you typed matches more than one serial. Type one or two more digits — the system needs enough characters to identify a unique unit.

Glossary

EAAS	Energy-as-a-Service — pay-as-you-go solar with periodic plan-based payments.
KYC	Know-Your-Customer — the identity + address + property data collected during agent registration. Reviewed by a supervisor before approval.
OTP	One-Time Password — 6-digit SMS code sent to a customer's phone during portal login. 10-minute expiry, 5 attempts.
JWT	JSON Web Token — the signed credential the API issues after login. Carries the user id, role and session id (<code>jti</code>) so server-side revocation works.
NRC	National Registration Card — the Zambian national ID. Optional on registration; captured for KYC where the customer offers it.
FAB	Floating Action Button — the round Material-style button anchored to the bottom-right of mobile screens (e.g. + Register on the Customers list).
Activation code	The token a customer enters into their solar unit to unlock energy for a paid period.
Moon	The platform we integrate with for the activation-code workflow (<code>/validate</code> + <code>/make_payment</code>) and for the source-of-truth device inventory imported into our Devices table.
Ontech Gateway	The payment processor used to debit the payer (STK push, mobile-money). <code>payments.ontech.co.zm</code>
STK push	SIM Toolkit prompt that appears on the payer's phone, asking them to enter their PIN to authorise.
Account number	The customer's identifier on the system — what gets typed at the USSD "Enter Account No" prompt and at the mobile-app payment screen. It's whatever is printed on the customer's solar unit: a short legacy meter number (e.g. <code>111111</code>) on older units, or a full device serial (e.g. <code>HS402512000283</code>) on newer Moon-imported units. From the user's perspective these are the same thing.

**Device serial /
Meter number**

Two names for the same Account number, depending on the unit's age. Newer Moon units have a 14-character serial like `HS402512000283` ; older units have a short numeric meter number. USSD and the mobile app accept either.

Last-4 shortcut

Type just the last 3-4 digits of a long device serial instead of the full 14 characters — e.g. `0283` resolves to `HS402512000283` when exactly one unit matches. If the suffix matches more than one device the system asks for more digits.

Ward

Sub-district administrative unit. Currently Rufunsa → Namanongo is the only curated ward, with 30 villages bundled.

Trusted Person

The customer's next-of-kin captured during KYC.

Approval queue

The pool of customer registrations awaiting supervisor review.

Approval gate

The rule (`Customer.can_purchase()`) that blocks payments for customers whose `raw_data.approval.status` is rejected. Pending KYC is allowed by design.

**Idle-session
timeout**

Server-side rule that deactivates an admin session after 30 minutes (default) of no activity. Phase 22.

Need help? SUPPORT

Operations issues, login lockouts, fault triage and Moon imports — reach the support team. Include the affected customer ID or transaction ID when you write in.

EMAIL

`support@solar-aid.ontech.co.zm`

CONTACT PAGE

`solar-aid.ontech.co.zm/contact`

ADMIN LOCKOUT?

Ask a super_admin to `POST /admins/{id}/activate`

USSD TROUBLE

Troubleshooting → top of section