

S02 / IMPLEMENTATION

Remote PLC / HMI service

Give authorized engineers access without replacing machine safety

AI concept scene, not a customer-site photograph. Final configuration is project-specific.

Customer need and Phase-1 scope

Primary: YZW400; assess YZW350L for compact machines

Customer context

For packaging machines, process equipment and distributed OEM installations. Start with remote diagnosis and backups; program changes require explicit site permission rather than ad-hoc changes to the plant network.

Pilot assumption: one YZW400, one PLC, one HMI and one authorized engineer. This does not establish universal tool or controller compatibility.

01 Establish the approved remote path over cellular or site Ethernet.

02 Validate controller / HMI diagnostics and read-only access before backups.

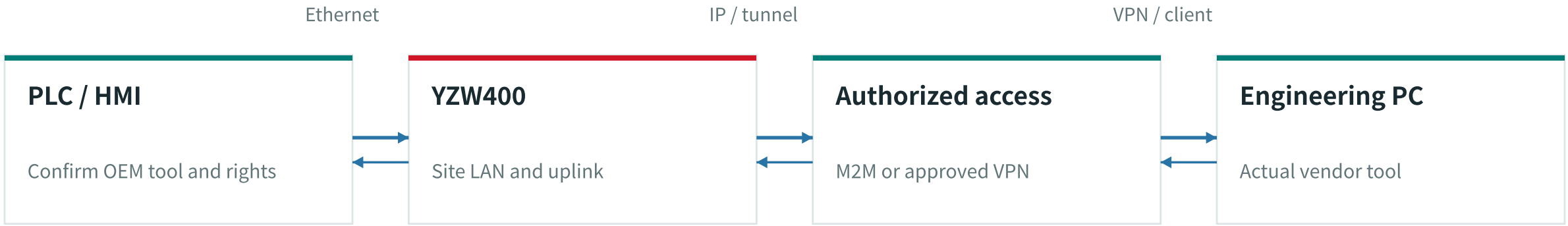
03 Enable downloads, debugging or serial proxy only with permissions, tools and a safe service window.

Explicit exclusions

No promise of universal discovery or downloads across arbitrary networks. Do not bypass customer policy or safety interlocks. Existing approved VPNs do not require an additional M2M layer.

System architecture and ownership

Every link has a defined medium; field devices and applications are project equipment.



Access is an authorized two-way session, not a PLC program or a replacement for vendor tools and safe-work approval.

Ethernet / IP
Serial / state, labelled
LoRaWAN radio
DC / PSE / control

Equipment and selection conditions

Pilot quantities only. Separate standard items, project options and customer equipment in the final BOM.



Five 10/100M RJ45 ports, RS232 and RS485. 4G standard; 5G is a whole-unit hardware option.

9–36V DC, MX3.0 2×2 power connector; side DIN-rail mounting.

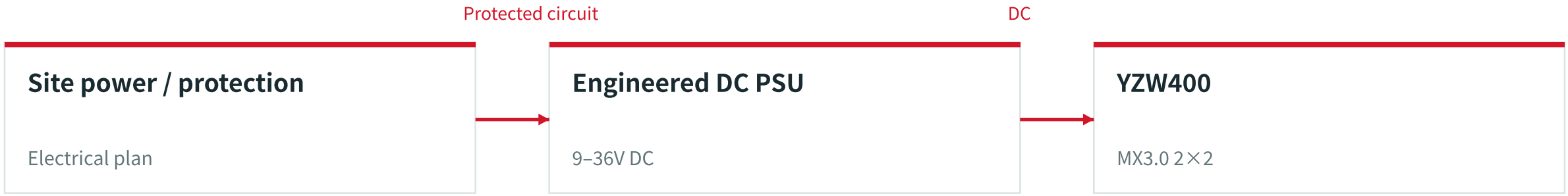
Authorized m2mCloud access does not require a fixed public IP or inbound mapping at site, but network reachability and authorization remain essential.

MT7628 has native Modbus acquisition, not the MT7981-specific PLC Web page. Remote engineering is distinct from continuous collection.

Component	Qty	Owner	Selection / condition
YZW400 and antennas	1 set	EDGELOR	Regional modem selection; explicit options
PLC, HMI, project files	1 each	Customer	Models, addresses, rights and original project
PC and vendor tool	1 set	Service team	Correct version, licence and drivers
Remote path	Choose one	Agreed	Authorized M2M or approved existing VPN
DC and DIN cabinet	Per BOM	Installer	9–36V; correct connector pinout
SIM / Ethernet	1+ path	Customer	Coverage, plan and actual network reachability

Power and wiring boundaries

Boundary diagram, not a terminal construction drawing. Qualified personnel use approved electrical plans.



01 The MX3.0 input is not another model's 2-pin terminal. Follow this unit's pinout and delivered harness.

02 Plan LAN addresses for PLC, HMI and gateway. Avoid overlapping office and machine subnets; do not use bridging to hide a conflict.

03 Do not take a serial port away from local collection for remote proxy access. Confirm ownership first.

04 Separate communications power from machine power. Remote access never replaces an emergency-stop circuit or site authorization.

Installation and site work

The scene illustrates the environment only. Add actual installation and cable photographs from the image brief.



AI concept scene; not a construction drawing or delivered-site photo.

01 Install in the machine service cabinet, label LAN leads and avoid metal shielding around antennas.

02 Preserve local service access and a way to revoke remote sessions. Show actual gateway-to-controller cable routes in photos.

03 Record site and engineer subnets, routes and return path. Validate L3 or L2 according to the vendor tool, not both by default.

S02-H2 installation set + S02-H3 wiring set: capture after real site implementation.

Workflow, platform and security

A delivered message is not proof of equipment state. Diagnose from the last verified layer.

1 **Authorize**

Approve the service ticket, target device and service window.

2 **Connect**

Check the tunnel and target IP, then select the device in the Windows vendor tool.

3 **Back up / change**

Back up first. Check version, safe stop and loss-of-power risks before downloads with a site contact present.

4 **Verify / revoke**

Read back state and version, close the session and remove temporary rights.

Platform and operating conditions

- Use the gateway Web UI for network settings, M2M / Windows client for authorized access and the OEM tool for controller work. They are different interfaces.
- Use an approved protected access path; do not expose management directly to the Internet. Customer IT approves users and scope.
- M2M direct / relayed paths, L2 / L3 and licences depend on the network and platform. Keep service and change records.

Commission in order and keep evidence

Validate one layer at a time before outputs or remote changes.

Task	Pass evidence	First checks on failure
01 Inventory	Correct models, software and original project available.	Resolve tool mismatch with the OEM.
02 Local test	A local PC can read device state.	Fix local connectivity before the VPN.
03 Uplink / rights	Gateway online and target authorized.	Check APN, reachability and group scope.
04 Routing	Target and return route are correct.	Check overlap, gateway and firewall.
05 Read / backup	The correct device is read and backed up.	Use a confirmed IP / mode if scan fails.
06 Loss / revoke	Local safety remains; revoked access fails.	Secure the site before recovery testing.

Acceptance and ownership

Agree duration, thresholds, samples and sign-off owner before testing. These are acceptance categories.

Test	Evidence to keep
Scope	Only authorized devices are reachable; revocation blocks access.
Real workflow	Test agreed diagnosis, backup or download using the actual OEM tool.
Recovery	Record reconnect behaviour; Ping is not an engineering-tool test.
Safe handover	Site owner approves the window, rollback and local takeover.

Delivery ownership

- EDGELOR: agreed equipment, applicable documentation and contracted configuration support.
- Customer / integrator: protocols, platform, accounts, licences, thresholds and publication rights.
- Installer / engineers: electrical work, mounting, protection, actual commissioning and joint sign-off.

Handover and open engineering items

Suitable for project discussion and a website reference solution. Resolve the open items before construction.

Handover and diagnosis

Deliver IP plan, permission matrix, tool versions, gateway backup, remote test record and rollback project. Diagnose locally first, then LAN, uplink, tunnel and OEM tool.

Confirm before implementation

01 Exact controller / HMI and OEM-tool versions.

02 Subnets, discovery method and return routes.

03 M2M authorization or existing VPN conditions.

04 Allowed tasks, safe window and site contact.

Evidence (physical PDF pages)

DS400 V1.5 • P3–6

PLC13 V1.3 • P4–10 / P49–68

/solutions/remote-connectivity/ • 2026-11-06

Detailed paths and source hashes: companion evidence register.

Related website category

www.edgelor.com