EDGELOR

PLC Compatibility, Real Data and Platform Acceptance

Confirm the task, deliver evidence and verify the actual site result

V1.0 | 2026-11-06

Worksheets do not pre-approve results. Verify hardware performance and compatibility on the project configuration.

Contents

Page numbers refer to this PDF. Select a chapter to open it; use Contents in the footer to return.

01 | Identify the driver host and continuous collector 3
02 | Prepare a complete compatibility record 3
03 | Start with one real field point 4
3.1 Separate examples, simulation and real results 5
04 | Agree the platform integration contract 5
05 | Compatibility sign-off and failure handover 6

01 | Identify the driver host and continuous collector

Requirement	Host and path	Required evidence
MT7981 proprietary-PLC acquisition	Native gateway PLC app: protocol, connection, points, monitoring and independent reporting	CPU/firmware/module, service, permission, addresses and point map
Modbus TCP/RTU on all three platforms	Native gateway collector; save device/commands/global configuration in the documented order	Electrical interface, serial mapping or IP, unit/FC/start/count/type/order/scale
Proprietary continuous acquisition on 7628/7621	Driver on an external IPC/server; gateway supplies the approved network/serial path	External software/version/license, continuous-operation owner, route and output format
Occasional office maintenance	Vendor tool on the engineer PC, accessing the target over authorized VPN/M2M	Tool/version, explicit IP or broadcast discovery, CPU identity and successful local baseline

The MT7981 catalogue contains 64 network/serial entries; it is not acceptance for every CPU, firmware, point count or write scenario. A driver entry starts compatibility assessment. DTU/VPN is transport, not automatic conversion of arbitrary protocols to Modbus or MQTT.

02 | Prepare a complete compatibility record

Category	Required content	Typical omission and consequence
Controller identity	Brand, complete CPU part number, hardware/firmware, communication module and port	A brand/family alone does not identify driver or access constraints
Engineering software	Tool/version, project revision, CPU identity screenshot and local-online result	Results from another CPU or project version are substituted
Network/serial	IP/port/return route, or RS232/485, pin map, baud, parity and termination	TCP connectivity is mistaken for protocol compatibility, or RS232 for RS485
Protocol permission	Enabled service, PLC-side access policy, authentication and connection resources	The Web form saves but the PLC denies access

Category	Required content	Typical omission and consequence
Point map	Name/address, access, type/length, byte/word order, scale/unit and invalid-value rules	Off-by-one addresses, word order or double scaling produce plausible wrong values
Performance target	Device/point counts, acquisition/report periods, allowed latency/error and change frequency	Real time is requested without measurable timing or scale
Control requirement	Write authorization, limits/interlocks, readback address, execution confirmation and recovery	A send/MQTT acknowledgment is mistaken for executed control

03 | Start with one real field point

Step	Where and what	Expected evidence	First checks
A1	Use the vendor tool on a site PC to read a confirmed read-only point without changing wiring/project	CPU identity, raw/engineering value, unit and time; save a screenshot	If local access fails, resolve the device/protocol before configuring the gateway
A2	Create one connection/point in the gateway PLC or Modbus UI; assign one owner to the serial port	Saved parameters and fresh monitored/reported value match the site baseline	Port, unit, address convention, type/order, permission and port ownership
A3	Subscribe independently to the project uplink topic and retain the complete raw message	Device identity, field types/units/time and continuously fresh messages	Broker endpoint, authentication, ACL, topic case and save hierarchy
A4	Platform owner traces raw message > model/field binding > display	Raw value, converted value and display timestamp correspond for the same point	Do not alter gateway register addresses to compensate for platform mapping errors
A5	Only then add devices/points/rate progressively, retaining each baseline	Errors, latency, resources and recovery at each stage; an identified rollback baseline	Do not change map, serial settings, Broker and platform script simultaneously

3.1 Separate examples, simulation and real results

Record	Status in this package	Proves / does not prove
255 to 25.5 temperature	Software simulation/function tests	Validates numerical checks/scaling, not field temperature or RS485 wiring
Modbus holding-register write/readback	Local loopback simulator only	Validates tool messages, not real PLC permission, mechanical action or safety interlocks
Three-stage real-device evidence	Complete Forms/04_Real_Point_Evidence on site	Must include site raw value, gateway message, platform result and corresponding times

04 | Agree the platform integration contract

Item	Platform owner provides	Acceptance
MQTT	Real Broker/port, TLS/certificates, client ID, authentication, topics/ACL, QoS and retention policy	Fresh connection/authentication/publish and independent subscription, not just a TCP test
JSON	Device identity, field names/types/units, nesting/arrays and missing/invalid-value rules	Retain actual raw messages and platform parser logs
Time	Sample versus receive time, seconds/milliseconds, UTC/time zone and clock synchronization	Explain site, gateway, receiver and display times for one event
HTTP	URL/method, authentication, request/response contract, timeout, rate limits and idempotency	Both HTTP and business response pass; an adapter example is not a native device API
Downlink control	Authorized source, dedicated topic, expiry/deduplication, readback and failure handling	Use retain=false and device/site readback; publish success is not completed action
Offline data	Required buffering/replay, size/duration, ordering, duplication and gaps	Test historical gaps separately; resumed sampling is not replay proof

05 | Compatibility sign-off and failure handover

Use one row per CPU/firmware/driver/map combination in Forms/03_PLC_Compatibility. Do not record all Siemens devices passed. Use Pending, Software simulation passed, Project device passed, Not applicable or Failed. The platform owner confirms Forms/05_Platform_Contract.

For a failure, identify the last successful and first failed layer, complete error, reproduction steps, same-period logs and attempted changes. Keep keys/passwords/sensitive projects controlled and share redacted copies. The platform administrator supplies actual menu/log locations; no universal server path is assumed.