HUIJUE GROUP

Outdoor Telecom Cabinet RFQ Checklist: 25 Inputs Suppliers Need

Build an outdoor telecom cabinet RFQ with 25 inputs covering loads, backup batteries, cooling, protection, monitoring, installation and acceptance.

PRODUCT KNOWLEDGE

Outdoor Telecom Cabinet RFQ Checklist: 25 Inputs Suppliers Need

Issue a cabinet RFQ that makes load, backup battery, environment, interfaces, installation and acceptance scope comparable before suppliers price the work.

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Contents

An outdoor telecom cabinet quotation is only comparable when every bidder receives the same operating duty and returns the same evidence. A cabinet size, rack-unit count and IP code do not define the equipment inside, the battery reserve, the heat to be removed, the cable interfaces or the work that remains at site.

The gap is most visible in a telecom backup battery cabinet. One bidder may price an empty enclosure with battery shelves. Another may include batteries, disconnects, protection, BMS communications, cooling and factory tests. Both can appear under the same bill-of-quantity line until the project reaches technical clarification.

The 25 inputs below turn the RFQ into a bid-normalization document. They apply to power, ICT and integrated outdoor cabinets, with additional attention to battery storage because its mass, temperature limits, fault current and service method can govern the entire enclosure.

Issue one controlled input schedule. For every row, identify the customer requirement, permitted supplier assumption, mandatory return document and responsible party. If a value is not yet known, state how the bidder must size or bound it instead of leaving the cell blank.

The RFQ should freeze interfaces before it freezes a cabinet model

Product selection follows the site duty. The buyer owns the service requirement and the known site conditions; the supplier owns the proposed configuration and the evidence supporting it. The RFQ must keep those responsibilities visible.

A useful return schedule has four fields beside each requirement:

- **Required:** the value or function the project needs.
- **Offered:** the supplier's exact configuration, not "standard" or "as required."
- **Deviation or assumption:** any difference, dependency, option or value used because the RFQ was incomplete.
- **Evidence reference:** the drawing, calculation, datasheet, test plan or certificate that supports the response.

This format prevents a compliance tick from concealing a different design basis. It also gives the engineering team a traceable route from tender response to approved drawing, factory inspection and site handover.

Put these 25 inputs in the outdoor telecom cabinet specification

The table is written from the buyer's side. "State" means the customer or EPC should provide the information. "Require" means the supplier must return a specific design response.

No.	RFQ input	What the RFQ should state or require
1	Cabinet function	Define whether the enclosure houses power conversion, protected distribution, batteries, ICT equipment, monitoring, or a stated combination. Identify any required internal segregation.
2	Critical-load schedule	List each load, normal and peak demand, approved input range, startup behavior, criticality and growth case. Do not provide one total wattage without the load breakdown.
3	Energy-source interfaces	Identify grid, generator, PV, existing DC plant or other sources, including voltage/frequency ranges, connection point, source availability and ownership of upstream isolation.

No.	RFQ input	What the RFQ should state or require
4	Operating and failure modes	Describe source priority, changeover, battery discharge, recovery, load shedding, manual bypass and expected behavior after controller or communications loss.
5	Expansion basis	State the forecast load, battery, breaker, rack, cable-entry, thermal and monitoring growth that the initial cabinet must accommodate.
6	Backup duty	Define outage pattern, required reserve duration, critical loads during backup, recharge window, cycling frequency and whether grid, generator or renewable energy performs recovery.
7	Battery technology and format	State approved or prohibited chemistries, module or monobloc constraints, parallel-string policy, expected cabinet location and any customer-furnished battery.
8	Battery sizing basis	Require the supplier to show load, usable depth of discharge, temperature, ageing/end-of-life allowance, conversion and cable losses, BMS limits and recovery assumptions.
9	Battery electrical interface	Define the equipment voltage window and require battery operating range, charge settings, maximum charge/discharge current, protection, isolation, conductor and terminal details.
10	Battery monitoring	List required voltage, current, temperature, state, alarms, SOC/SOH where applicable, contactor or disconnect status, protocol, register map and local fallback behavior.
11	Environmental design data	Provide temperature extremes, solar exposure, humidity, rain, dust, salt/pollution, altitude, flooding, wind, icing where relevant, insects/animals and vandalism exposure.
12	Enclosure protection	State the required ingress, corrosion, impact and security basis plus the installed configuration to which evidence

No.	RFQ input	What the RFQ should state or require
		must apply, including doors, glands, cooling equipment and field entries.
13	Thermal duty	Provide equipment losses and battery temperature limits. Require a heat-balance method, design ambient and solar assumptions, cooling capacity, auxiliary demand, derating and fault response.
14	Internal arrangement	Require a populated general arrangement showing rack depth, shelves, batteries, power equipment, segregation, airflow, door equipment, bend space and service clearances.
15	Maintenance and security	Define access authority, locks, door alarms, routine service tasks, replacement paths, lifting aids, work-at-height limits and whether power and ICT teams need separate work zones.
16	Mounting and civil interface	Identify wall, pole, plinth, foundation, rooftop or modular installation; require populated mass, centre of gravity, anchor/bracket interface, lifting points and civil loads.
17	Cable-entry schedule	List every source, load, battery, earth, fibre, communications and sensor cable with quantity, diameter, bend requirement, entry direction, gland and spare-entry allowance.
18	Protection, bonding and earthing	Require the single-line diagram, protective devices, ratings/settings, discrimination basis where applicable, surge interfaces, earth bar and bonding of doors, panels and cable screens.
19	Monitoring and NOC interface	State alarm points, measurements, protocol, time source, network ownership, cybersecurity constraints, remote commands, data retention and communications-loss behavior.
20	Transport and site access	Provide road, gate, stair, rooftop, crane and storage constraints. Require shipping

No.	RFQ input	What the RFQ should state or require
		dimensions/mass, separately packed items, restraints, preservation and receiving checks.
21	Applicable requirements	List destination laws, operator specifications, project standards and required conformity evidence. Ask bidders to identify scope, edition and exclusions rather than claim blanket compliance.
22	Design submittals	Require a coordinated drawing and document index: general arrangement, single-line, wiring, cable/terminal schedule, heat balance, settings, point list, bill of materials and responsibility matrix.
23	Factory evidence	Define witness points and require inspection/test procedures, instruments, acceptance values, sample-versus-unit coverage, configuration records, exception closure and final reports.
24	Site completion	Assign installation, battery placement, field cabling, settings, SAT, NOC integration, commissioning, rollback, training, spares and as-built document responsibility.
25	Commercial boundary	Require one list of included, optional, free-issued and excluded items, together with quantity basis, warranty boundary, support location and the cost/schedule effect of stated assumptions.

The schedule should accompany the technical specification, not sit in an email chain. Every revision needs a date and owner, especially when the battery quantity, cabinet arrangement or thermal method changes after bid submission.

Give the telecom backup battery cabinet its own technical redline

Backup storage deserves more RFQ detail than an entry such as “battery cabinet, 200 Ah.” Ampere-hours do not state the voltage, load, permitted discharge, temperature, ageing basis, current limit or usable energy at the protected load. The same nominal capacity can produce different reserve performance and very different cabinet mass and

heat-management needs.

Describe the duty cycle, not only the outage duration

Tell the supplier whether the battery remains on float for rare utility outages, cycles daily on an unreliable grid, supports solar operation overnight, bridges generator start, or performs several of these duties. Record the load profile during reserve, consecutive outage pattern, recovery source and maximum acceptable recharge time. These inputs affect battery selection, charging capacity and the risk of beginning the next outage partially charged.

The live telecom solar system sizing guide owns the full PV and battery energy calculation. In this RFQ, require bidders to return their assumptions and calculation sheet so that capacity is traceable rather than embedded in a catalogue selection.

Make battery-to-power-system compatibility explicit

The proposed battery operating window must remain compatible with the load and conversion equipment across charge, discharge and protection events. Require charge setpoints, current limits, low-voltage behavior, disconnect logic, pre-charge where applicable, conductor lengths, protection at each end and the response when BMS communication fails. Do not assume every site has one fixed telecom DC architecture.

For a lithium system, the monitoring return should state which values and alarms are available locally and remotely, the communication protocol, control authority and safe fallback. ITU-T L.1221 addresses evaluation, selection and testing methods for stationary battery systems used with telecom/ICT equipment. It is a useful procurement reference, but the bidder still has to map the actual battery and BMS functions to the project point list.

Design around installed mass and replacement work

Ask for battery module dimensions and mass, shelf loading, total populated cabinet mass, centre of gravity, lifting method and removal path. A tray rating is not enough if the technician cannot reach the module handles or withdraw a battery past a door-mounted air conditioner. Confirm whether batteries ship installed, ship separately or are sourced locally, and identify who performs final interconnection, torque, polarity checks and commissioning.

Use chemistry-specific thermal and safety evidence

The RFQ should provide the outdoor ambient and solar conditions and require the supplier to state the allowable battery temperature window, heat generation basis,

sensor locations, heating/cooling method and behavior after thermal-control failure. Do not specify ventilation, sealing or fire controls by analogy with another chemistry.

IEC 62619:2022 specifies safety requirements and tests for secondary lithium cells and batteries used in industrial applications, explicitly including stationary telecom applications. IEC 62485-2:2010 addresses safety measures for stationary battery installations within its scope, including lead-acid and nickel-based systems. Applicable standards, national fire/electrical rules and operator requirements must be identified for the actual chemistry and destination; one reference does not establish complete cabinet or site compliance.

The 2025 ITU/Huawei white paper on lithium batteries for telecom sites discusses cell, electrical, thermal, mechanical, environmental and test considerations across the battery lifecycle. It is industry guidance rather than a product certificate or destination regulation. Use it to frame supplier questions, then require traceable test reports for the offered battery configuration.

Do not let a battery datasheet close the cabinet review. The RFQ must also cover enclosure arrangement, installed cable lengths, protective devices, thermal equipment, BMS integration, site mounting, replacement access and the evidence for the populated system.

Huijue’s current internal specifications include floor-standing and modular outdoor cabinet families that can integrate battery systems with power distribution, monitoring and thermal equipment. Compact families can also use battery shelves where the configuration supports them. The exact chemistry, quantity, compartment arrangement, load capacity, cooling and protection remain project-specific; sample values in internal documents should not be converted into universal public specifications.

https://www.thesolartelecom.com/wp-content/uploads/2026/08/video1.mp4

Compare supplier returns by assumption and evidence

Price comparison should begin only after the technical return schedule is normalized. Create one clarification register and classify every line:

1. **Comply without qualification:** the offered value matches the requirement and carries an evidence reference.
2. **Comply by proposed design:** the requirement is met through a supplier-selected method that must be reviewed, such as cooling architecture or compartment arrangement.

3. **Deviation:** the offered value, scope or test differs from the RFQ.
4. **Assumption:** the bidder selected an input that the buyer did not provide, such as design ambient, cable length or outage frequency.
5. **Option:** the function is priced separately and is absent from the base offer unless ordered.

An assumption is not automatically unacceptable. It becomes dangerous when it is invisible. For example, a supplier may size cooling on a lower heat load, omit battery recharge demand from the rectifier capacity or assume batteries are installed after delivery. Those choices can be valid, but the commercial and engineering comparison must use the same boundary.

Ask for a configuration code or frozen bill of materials against each bid revision. A brochure covering several cabinet sizes, cooling methods and IP options does not identify which combination was priced.

Expose the exclusions that create site variation orders

The lowest cabinet price often carries the largest unpriced site boundary. Require bidders to state whether the base offer includes:

- batteries, internal interlinks, disconnects, protection, BMS cables and commissioning;
- rectifiers, solar controllers, distribution, surge devices, meters and controller licenses;
- cooling hardware, heaters, condensate parts, filters, sensors and auxiliary power;
- wall brackets, pole clamps, plinth, anchors, lifting accessories and civil drawings;
- source/load cables, glands, lugs, cable supports, earth conductors and external junction boxes;
- SIM, gateway, protocol conversion, NOC mapping and remote commissioning;
- factory witness testing, third-party inspection, destination documentation and retesting after changes;
- freight, battery transport, unloading, storage, installation, SAT, training and as-built records.

Where an item is by others, identify the interface drawing, data deadline and acceptance owner. “Excluded” without an interface definition merely transfers uncertainty to the site team.

Mounting scope deserves the same treatment. The live guide to wall, pole and floor-standing telecom cabinets explains how populated mass, support, batteries, cables and service access affect the installation form.

Tie every major RFQ promise to a reviewable record

Technical compliance is stronger when the evidence is named before the purchase order. The submittal index should distinguish calculations, drawings, supplier declarations, accredited reports where required, routine unit records and project acceptance tests.

Require at least:

- a populated general arrangement and bill of materials matching the offered configuration;
- a single-line diagram, protection schedule, wiring/cable schedule and earthing interfaces;
- a heat balance that identifies equipment loss, battery limits, ambient and solar assumptions, cooling duty and auxiliary demand;
- a battery sizing and compatibility calculation with BMS point/protocol information;
- enclosure and environmental evidence tied to the relevant doors, seals, entries and thermal accessories;
- a factory inspection/test plan with measurable acceptance values and a method for closing exceptions;
- a site installation, SAT, commissioning and handover plan for all work that changes after shipment.

IEC 61969-1:2023 provides design guidance for outdoor enclosures, while IEC 61969-3:2023 addresses environmental requirements, tests and safety aspects for outdoor enclosures at non-weatherprotected locations above ground. IEC 60529 classifies enclosure ingress protection. Their stated scopes matter: an IP result does not verify a battery system, heat balance, foundation or site cable entry, and a component report does not prove the final integrated cabinet.

The broader integrated telecom energy cabinet guide explains component and architecture boundaries. Use this RFQ checklist after the site duty is known and before selecting a specific cabinet configuration.

Engineering references

- ITU-T L.1221 — Battery systems for stationary telecom/ICT power applications
- ITU/Huawei 2025 White Paper on Lithium Batteries for Telecom Sites
- IEC 62619:2022 — Safety requirements for industrial secondary lithium cells and batteries
- IEC 62485-2:2010 — Safety requirements for stationary battery installations
- IEC 61969-1:2023 — Outdoor enclosure design guidelines

- IEC 61969-3:2023 — Outdoor enclosure environmental requirements and tests
- IEC 60529 — Degrees of protection provided by enclosures

Confirm the current edition, national adoption, operator specification and exact product/project scope before applying a reference. Citation does not claim Huijue product certification or approval of a site-specific cabinet configuration.

Send one input schedule and receive one comparable cabinet boundary

Provide the 25 RFQ inputs, available site data, required backup duty and customer-furnished equipment list. Huijue can return a proposed cabinet configuration, battery and thermal assumptions, interface schedule, deviations and required engineering evidence for review.

Request an RFQ configuration review

Related engineering resources

Integrated Telecom Energy Cabinet Guide
Lithium Batteries for Telecom Sites
Telecom Energy Products and Services

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