

# Precision Quincy Industries

## Standard Specification

### **Rail-Transit Shelter: Communication & Signaling**

**Model PQI-RT1020 SS**

**Model PQI-RT1030 SS**

**Model PQI-RT1040 SS**



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## 1.01 Rail-Transit Shelter – Communication & Signaling

- A. Standards: Shall meet or exceed the requirements of the latest edition of the standard specification:
1. ANSI – American National Standards Institute
  2. AWS – American Welding Society
  3. ASTM – American Society for Testing and Materials
  4. AISC – American Institute of Steel Construction
  5. IBC – International Building Code
  6. IEEE – Institute of Electrical and Electronics Engineering
  7. MBMA – Metal Building Manufacturing Association
  8. NEC – National Electrical Code
  9. NEMA – National Electrical Manufacturers Association
  10. NFPA – National Fire Protection Association
  11. SSPC – Steel Structures Painting Council
  12. IECC – “Energy Efficiency” (thermal envelope, lighting, HVAC)
  13. ASCE-7-16 – (indirectly referenced by IBC)
- B. Manufactured by Precision Quincy Industries or engineer approved equal.
- C. Prefabricated standard nominal 10’x20’, 10’x30’, and 10’x40’ stainless steel equipment Shelters suitable for field installation on piers or concrete slab:
1. Outside Dimensions (approximate): 120” wide x 240”, 360”, or 480” long x 139” high (bottom of base to top of roof)
  2. Inside Dimensions (approximate): 112” wide x 232”, 352”, or 472” long x 114” (floor to ceiling)
- D. Design Specification:
1. Floor Load: 175 pounds per square foot.
  2. Snow Load: 40 pounds per square foot.
  3. Wind Speed: 110 mph, Exposure C
  4. Seismic: Risk Category II, Site Class D
  5. Type: NEMA 3R

## E. Construction:

1. Base: 316 stainless steel channel removable lifting lugs, building may be anchored via anchor plates to the flanges of the side channel.
2. Floor: Stainless steel floor plate welded to stainless steel floor joists.
  1. Walls: Self-framing formed panel 14-gauge 316 Stainless Steel 2B finish, with 2" interior plug weld every 6" on the interior interface between two adjacent wall panels.
3. Roof: 14 Gauge, 50ksi 316 stainless steel, high pitch, gable style, with passive ventilation. Pitch angle of 12 degrees. Lengthwise and widthwise roof seam caps tack welded on the roof top sheet.
4. Finish: Unpainted 316 stainless steel, 2B finish.
5. Underside: Corrosion-Resistant undercoat.

## F. Interior Finish:

1. Floor: Slip-resistant gray epoxy covered by ¼" V-groove switchboard floor matting (ASTM D178-93).
2. Walls & Ceiling: .050" Class-A Fire-Rated (ASTM E84) white textured FRP laminate over ½" plywood substrate.
3. Exposed Metal: Carbo guard or equivalent white fire-retardant epoxy

## G. Insulation:

1. Base: R-19 rigid foam board insulation in floor enclosed and sealed by an aluminized rodent guard.
2. Walls: R-16 rigid foam board insulation with vapor barrier in wall cavities.
3. Roof: R-19 rigid foam board with vapor barrier in cavities between ceiling & roof.

## H. Doors &amp; Hardware:

1. Type: 14-gauge 316 stainless steel, R-19 insulated, double pan doors.
2. Size: (2) 36" wide x 84" high single door outward opening.
3. Lock set: Heavy-Duty 3-point with pad lockable exterior handle and interior safety override per door.
4. Hasp: 1/4"x2"x2" supplemental padlock angles per door.
5. Hinges: Stainless lift-off hinges with stainless pin and grease fittings per door.
6. Door Gasket: 1" D-shaped neoprene gasket with full perimeter contact and trip-resistant door jamb per door.
7. Door Holder: 90-degree & 170-degree with solid prop-rod per door.
8. Drip Cap: Welded stainless steel channel above doorway per door.

## I Electrical 120/240V 1P 3W 60Hz:

1. House Panel: (1) 200A ED Main Breaker, 120/240V 1Ph 3W, 10k AIC, 225A Fully Rated Copper Bus, 30 Circuits, Bottom Fed, surface mounted, NEMA 1R.
2. Receptacles: 15A, 120VAC, extra Heavy duty, NEMA 5-15R interior duplex convenience wall receptacles powered from house panel (ivory).
  - a. 10'x20' building, Qty-10
  - b. 10'x30' building, Qty-12
  - c. 10'x40' building, Qty-14

## J Lighting:

1. Interior: 4ft. Ceiling mounted LED strip light fixtures 50W, 120VAC, 4000K, 4500 lumens, cool white light, on (2) separate circuits with installation flexibility as per site requirements.
  - a. 10'x20' building, Qty-8
  - b. 10'x30' building, Qty-10
  - c. 10'x40' building, Qty-12
2. Switch: (2) 3-way, 20A, 120VAC, toggle On-Off switches, extra heavy duty, self-grounding, Ivory at each entry door.
3. Exterior: (1) 28W, LED wall pack with photocell, dark bronze Vandal-resistant, per door.
4. (1) LED EXIT/UNIT combo with (2) LED heads and battery back-up, red lettering, ECR LED M6, 3.8W, 120VAC meets UL924 and NFPA101, per door.

## K. Environmental:

## Cool/Heat:

1. (1) 3-ton vertical wall mount HVAC unit with 6kW heat and with stainless cabinet.
2. Controller: (1) Programmable lead-lag controller auto-change digital thermostat with MODBUS communication.
3. Supply Duct: (20', 30', or 40' Per HVAC unit) Overhead insulated ductwork system with supply diffusers (no return ductwork).
4. Filters: (1) Case of (12) replacement intake and HVAC filters.
5. Optional exterior vandal cage.
6. Heater: (1) 500W, 120VAC, Baseboard Heater with dedicated indoor & outdoor thermostats and manual override ON/OFF Switch.
7. Intake: (1) 1000 CFM, filtered, gravity damper, ventilation fan with tamper-resistant exterior hood.
8. Thermostat: (1) 90-120 F degree On-Off-Auto line voltage fan thermostat.
9. Exhaust: (1) with motorized backdraft damper and tamper-resistant exterior hood.

## L. Grounding &amp; Alarms:

1. Ground Bar: 1/4"x4"x20" copper ground bus with insulated standoff.
  - a. 10'x20' building, Qty-2
  - b. 10'x30' building, Qty-3
  - c. 10'x40' building, Qty-3
2. Ground Strap: (1) Braided copper ground strap from frame to door per door.
3. Fire: (1) Standard Ceiling mounted heat/smoke detector with HVAC cut-out relay.
4. Provision for electrical connection of clean agent fire suppression system.
5. Intrusion: (1) SENTROL1085T-N or equivalent Magnetic door/alarm contact per door.
6. (1) 50 pair punch down block with cover.

## M. Miscellaneous:

1. FCO Tests: Water tightness (ASTM E1105), HVAC system functional verification.
2. UG Entrance: Full flexibility floor entrances with cover plates and stainless cable chutes.
3. Cable Ladder: Configurable track system with 12" wide x 4" deep, hot-dipped galvanized steel, open cable ladder.
4. Racks: (up to 17) shock mounted equipment racks.
5. Isolation Pad: (10) Neoprene vibration isolation pads between shelter and concrete footing.
6. Entrance Rack: (1) 78" Unistrut frame entrance rack with 3/4" marine grade plywood and fire-retardant finish.
7. Cable Entrance: (4) 2" floor entrance openings for power feeds.
8. Phone: (1) DTMF pushbutton type wall telephone with RJ11 jack.
9. Desk: (1) Wall mounted shop desk.
10. Plan Rack: (1) Wall mounted, swing out type for (5) E size books.
11. Housekeeping: (1) kit consisting of wastebasket, broom, dustpan, step stool & (1) 3-step ladder.
12. Chair: (2) standard metal folding chairs.
13. Extinguisher: (2) 15 lb. CO2 (Class B:C) wall mounted fire extinguishers (ship loose).
14. (1) Circa telecom 2606 QC/QC or equivalent. Bep 6pr indoor 66 in / 66 out no cover no splice chamber

## N. Warranty:

1. 1-year structural and parts.
2. 1-year purchase parts and components.
3. Pass-through on Purchased Parts/Components.
4. Extended structural warranty available.

**Option Package-A: Signal Panel:**

Includes:

1. Signal Panel: (1) 150A ED Main Breaker, 120/240 VAC, 1P, 2W, 225A fully rated copper bus, 10k AIC, 54 space, bottom fed, surface mounted panel with Bolt-On circuit breakers, NEMA 1R.
2. Receptacles: 15A, 120VAC. Extra heavy duty, NEMA 5-15R interior isolated ground duplex wall receptacles powered from signal panel (orange).
  - a. 10'x20' building, Qty-4
  - b. 10'x30' building, Qty-6
  - c. 10'x40' building, Qty-8

**Option Package-B: LCP-Local Control Panel:**

Includes:

1. Heater: (1 additional) 120V 500W baseboard electric heater.
2. Partition: (1) Interior floor to ceiling security fence with sliding/lockable gate.
3. Window: (1) Non-opening laminated glass panel window with PVB interlayer, 54" A.F.F.
4. Phone: (1 additional) Cortelco 2554 series, DTMF pushbutton type wall telephone with R11 jack.
5. Maintainer Call: (1) 120 dB motor powered siren.
6. Maintainer Light: (1) RAB LED light, 26w, 120VAC, 4000K, die-cast aluminum.

**Option Package-C:**

Redundant HVAC (1 additional) 3-ton vertical wall mount HVAC unit with 6kW heat and stainless cabinet. Includes overhead insulated ductwork system with supply diffusers (no return ductwork).

**Option Package-D:**

Certification: P.E. stamped drawing with structural and HVAC calculations.

**Option Package-E:**

HVAC exterior vandal cage.