

02/10/2023
Schindler Elevator Corporation
Elevator Power Data

Job Name: Trinity Housing	
	Unit(s): 01
Main St	Capacity: 2500 lbs
Cobourg, ON M1M 1M1	Speed: 100 fpm
	Building Voltage: 208 VAC
Sales Office: 9815	Product Code: 461
Installing Office: 9815	Travel: 24 ft0 in

Coordination: All electrical equipment placement and installation shall be coordinated with the Local Schindler Superintendent prior to Schindler manning the jobsite.

Signature Required to Acknowledge & Approve Requirements Outlined Below:

Name: _____

Date: _____

Elevator Equipment Power

(JH): The Elevator Disconnecting means:

- Shall be an enclosed, externally operable, motor circuit switch, shall be listed and lockable in the open position in accordance with NFPA 70.
- Shall be supplied and located in a building utility space outside the hoistway due to the Motor Controller being located in the Elevator Hoistway. One disconnect is required for each elevator. A label on the disconnect is required stating location of the supply side (feeder) overcurrent protection device in accordance with NFPA 70.
- All conductors connecting to Schindler equipment shall be copper; aluminum conductors may be used elsewhere in feeder circuits, as permitted by local electrical codes.
 - a. 208 Volts; 3 Phase; 60 Hz
 - b. Balanced Wye line to line, 3 wire & a Ground (no neutral)
 - c. Must be within +/- 10% of the specified voltage.
 - d. 3% maximum phase to phase fluctuation.
 - e. Cannot be a Delta wiring scheme
 - f. SCCR rating of equipment 5000 Amps. Refer to SCCR section in Appendix
 - g. SCCR rating label required NFPA 70. Refer to SCCR section in Appendix
 - h. Current Consumption by System
 - Accelerating (non-continuous) <3.5 Secs: 21 Amps
 - Running (non-continuous) < 0.1 Sec Max. Run Time: 18.6 Amps
 - i. Elevator Motor Controller Horsepower Demand
 - 7.6
 - j. Current Regeneration back to the Building

- Decelerating (non-continuous) <3.5 Sec: -0.3 Amps
- Running (non-continuous) < 0.1Sec Max. Run Time: 3.3 Amps
- k. Fuse Size: Sized by GC
 - Maximum Size 70 Amps
 - System Running Current at Constant Speed 18.6 Amps
 - Recommended Receptacle Rating based on fuse size
 - Dual element time delay characteristic recommended
- l. Feeder size based on Secondary Fusing (reference Autotransformer Section above if present) of Transformer or Building Fuse Size (3 ungrounded conductors & an equipment grounding conductor) in accordance with NFPA 70.
- m. Auxiliary dry contact for Evacuation in accordance with NFPA 70.
 - Dry contact closes when Switch turns circuit ON
 - Wiring, in separate conduit, to terminals located in Test and Inspection Panel on Floor 3 located in Controller (LDU) or RCC cabinet in Machine Room/Closet

Note: Shunt Trip Circuit Breaker Required When Sprinklers are Present: The Electrical contractor shall provide a shunt trip circuit breaker for the elevator main line power conductors in order to remove power from elevator controls upon or prior to the application of water from any sprinkler located in any elevator machine room/space, control room/space and hoistway overhead in accordance with ASME A17.1. The shunt trip circuit breaker shall be installed in accordance with NFPA 70 and local regulations.

- Shunt trip shall also have an auxiliary dry contact for Auto-Evacuation when provided as required by NFPA 70.
- Refer to diagram at end of document

(JH1) Non-Fused Disconnect:

- The additional enclosed, externally operable, non-fused motor circuit switch: Shall be listed and lockable open in accordance with NFPA 70
- Shall be supplied and located at the top of the Elevator Hoistway in the space designated on the Layout Drawings and within sight of the motor controller. One switch is required for each elevator. A label on the disconnect is required stating location of (JH) the branch circuit overcurrent protection device. In accordance with NFPA 70 and local regulations.
- All conductors connecting to Schindler equipment shall be copper; aluminum conductors may be used elsewhere in feeder circuits, as permitted by local electrical codes.
 - a. 208 Volts; 3 Phase; 60 Hz
 - b. Feeder size based on fusing size of Elevator Disconnecting Means (JH) (3 ungrounded conductors & an equipment grounding conductor) in accordance with NFPA 70 and local regulations.
 - c. Wire from Motor Circuit Switch to Schindler Equipment
 - d. Wire from Motor Circuit Switch to TSU (TSU provided by Schindler in Hoistway)
 - e. Feeder size to match incoming feeders to motor circuit switch
 - f. Auxiliary dry contact for Auto-Evacuation (when provided) in accordance with NFPA 70.
 - g. Dry contact closes when Switch turns circuit ON
 - h. Wiring, in separate conduit, to terminals located in the Test and Inspection Panel located on Floor 3

, the Controller (LDU) Floor.

Receptacles:

GFCI (Ground-Fault Circuit Interrupter) type receptacles shall be provided in all elevator pits and machinery/control spaces inside the hoistway. All receptacles in elevator machine rooms, machinery spaces, control rooms and control spaces outside the hoistway shall be provided with ground-fault circuit interrupter protection in accordance with NFPA 70.

Lighting:

Elevator Machine Rooms, control spaces, and test and inspection panel location
Requiring Lighting: ASME A17.1. requires the minimum level of illumination measured at the floor to be 19fc.

- See layouts for details of size and location requiring lighting.

Elevator Pits Required Lighting: ASME A17.1 requires the minimum level of illumination measured at the pit floor to be 10fc. The location shall be determined after coordination with the elevator contractor so that the light fixture(s) are located out of the way of all elevator equipment.

- See layouts for details of size and location requiring lighting.

Receptacles and Switches:

Sump Pump Receptacles: A receptacle for a sump pump shall be required in all elevator pits for the elevator pit if provided with a sump pump. A single receptacle supplying a permanently installed sump pump shall not require ground-fault circuit-interrupter protection in accordance with NFPA 70.

Elevator Machine and Control Rooms Light Switch Requirement: Light switches shall be required in all elevator machine and control rooms adjacent to the jamb side of the machine room entry door- where practicable in accordance with NFPA 70 and ASME A17.1.

Elevator Machinery Space Light Switch Requirement:

- (overhead) at the point of entry in accordance with NFPA 70 and ASME A17.1
- Provided at point of entry on strike side (lock-jamb) of door at top floor.
- See layouts for location detail.

Elevator Pit Light Switch Requirement: The pit switch shall be a minimum of 18 inches above the elevator lowest landing doorsill and adjacent to (not behind) the pit access ladder in accordance with NFPA 70 and ASME A17.1.

- See layouts for location detail.

Grounding:

An equipment grounding conductor shall be supplied from the elevator main line disconnecting means and controller to the MCC and building ground-in accordance with NFPA 70 Article 250.

Branch Circuits:**Car Lighting Disconnect:**

A separate branch circuit shall supply the car lights, receptacle(s), auxiliary lighting power source, and ventilation on each elevator car. The disconnecting means shall be an enclosed, externally operable, fused switch or circuit breaker that is lockable open and shall be located in the machine room or control room for that elevator car. Where there is no machine room or control room, the disconnecting means shall be located in the building utility space outside the hoistway that is readily accessible to only qualified persons.

- Wiring from Car Lighting Disconnect to the Test and Inspection Panel (LDU).

2 Separate Circuits for Elevator Pit:

The elevator pit shall have a separate branch circuit supplying pit lighting and receptacle(s) and shall be permitted to have another for the pit sump pump when one is provided in accordance with NFPA 70 (Does not interface with Schindler equipment).

- See layouts for location detail.

2 Separate Branch Circuits for Machinery Space Lighting and Outlets in the Elevator Overhead:

The overhead machinery space shall have separate branch circuits supplying the machinery space lighting and receptacles in accordance with NFPA 70 (Does not interface with Schindler equipment).

Inspection and Test panel:

where provided shall be lit by permanently installed electric lighting with a level of illumination of at least 200 lx (19 fc) at the floor level. A switch placed inside or close to the enclosure shall control lighting of the enclosure in accordance with ASME A17.1 and NFPA 70.

GFCI type receptacles, light fixtures and light switches:

are required in elevator overhead machinery spaces located in the hoistway that requires "full body entry" (as defined by elevator code).
are required in machinery spaces outside the hoistway.

- See layouts for location detail.

Electrical Component NFPA Clearances: Clearances around all electrical equipment in the elevator machine room shall comply with NFPA 70 electrical clearances requirements. The electrician's work and equipment placement shall be coordinated with the elevator contractor's equipment placement.

Electrical Piping Runs: All electrical piping runs provided by the electrical contractor and elevator contractor to the elevator equipment shall be run overhead or in a manner which does not restrict access to and around any equipment.

Emergency Phone and Data Line: Conduit shall be provided by electrical contractor in all elevator machine rooms to the elevator controller. Electrical contractor shall provide electrical conduit for both the emergency elevator phone and required data line

to the elevator machine room, to the elevator controller, and terminated on the elevator controller with coordination from the elevator contractor. The building shall provide:

Wiring of Phoneline to the Test and Inspection Panel (LDU) or RCC cabinet
An internet connection must be provided for the Visual Communications Panel (VCS) when the internet connection provided by the Schindler Ahead Connectivity Service is not used.

- One Internet connection per elevator group is required consisting of:
 - a. A generic network with a regular ISP Modem
 - b. The internet-connection line shall be a RJ45 ethernet connection cable
 - c. The connection shall originate in the Machine Room/Control Room (RCC) or the Hoistway Overhead in the Machinery Space for a Machine room less (MRL) Elevator and connect to the building internet connection.
 - d. This internet connection is required to have an un-interrupted power supply for a duration of 4 hours to allow the Visual Communication Device to function if building power is lost.
- Additional detailed specification for the network connection can be provided upon request

Fire Control Panel Smoke Detector relays:

(Primary, Secondary & Fire Hat) mounted within 3 ft. of Inspection and Test Panel (LDU) or control cabinet (RCC). Additional Smoke Detector relays in addition to the three (3) mentioned may be necessary depending on job site conditions. To be coordinated with Schindler.

- Wiring from Smoke Detector Relays to Inspection & Test Panel (LDU)
- NC, dry contacts required

For OEO systems:

1. If OEO (Occupant-Evacuation-Operation) is present, an additional floor-on-fire signal per floor is required. Devices shall provide normally closed contacts rated for application of 24Vdc at 10mA resistive for each "device" that opens upon activation. These OEO floor-on-fire devices for the entire building will be connected to the OEO-FIP (Fire-Interface-Panel) located in one of the elevator machine rooms. Machine room selection to be coordinated between elevator company and security company.
2. The Fire Alarm Panel must also accept dry contact outputs from the elevator system indicating which (sub) groups are running and which are on OEO. These signals are to be used by the Fire Alarm System to generate appropriate voice announcements on various floors. This interface will be located in the Fire Command Center.

Heat Detector (if applicable):

Located within 2 ft of hoistway sprinkler head

Wiring from Heat Detector to Shunt Trip Breaker (if applicable; does not interface with Schindler equipment unless in Detroit)

Installation Power:

- a. Temporary power supply for installation work. (220 V, 1 phase, 50/60 Hz, 20 Amp power supply, GFCI protected w/Time-Delay fuse);

This requires coordination with Schindler to determine which is applicable

Heat Emissions:

Hoistway – 1906 BTU/Hr

Hallway – (LDU – Inspection & Test panel only) – 600 BTU/Hr

Appendix

SCCR Information to include in this document

The SCCR rating of elevator equipment is 5000 Amps, contractor to ensure that the available fault current of the building supply at the service switch does not exceed this value (Per NFPA 70). Contractor to include a label (Please see figure 2-Sample Label Example) that identifies the Max Available Fault Current onto Disconnect: ** See note 1 of Figure 1-SCCR Diagram. In addition, we require a hard copy of the manufacturers Fuse Chart and rating verifying the SCCR meets requirements.

Per NFPA 70, the service switch should be legibly marked with Apparent RMS Symmetrical fault current supplying the Elevator Equipment. ** See note 3 of Figure 1-SCCR Diagram.

Local Electrical Contractor must provide building SCCR Current calculations as well as Fuse Chart and rating to prove compliance with 5KA elevator equipment rating for the supplied fuse. ** See note 2 of Figure 1-SCCR Diagram.

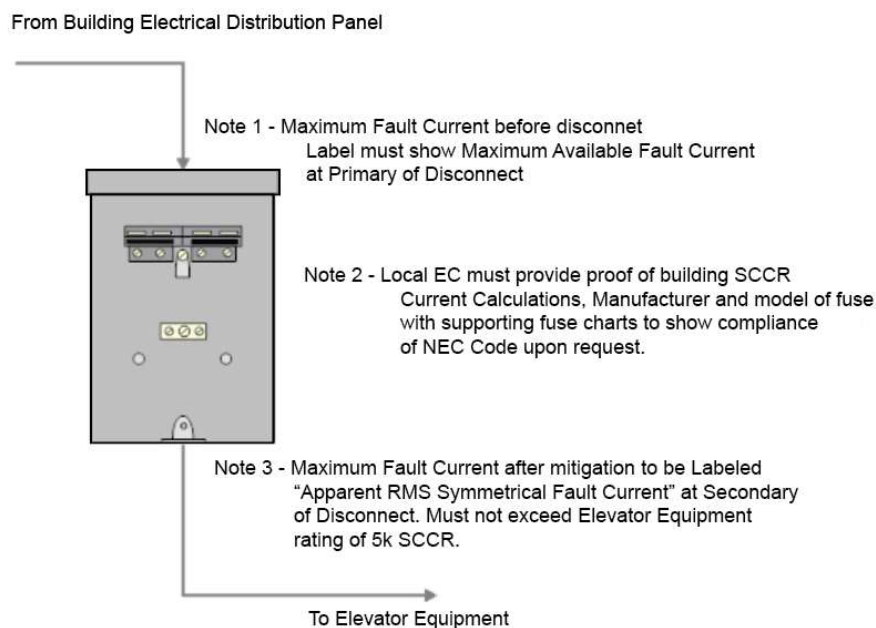


Figure 1- SCCR Labelling Diagram

Maximum available fault current _____ A
Electrical Firm / Electrician: _____
Date: _____

Figure 2: Sample Label

SHUNT TRIP CONTROL WIRING DIAGRAM

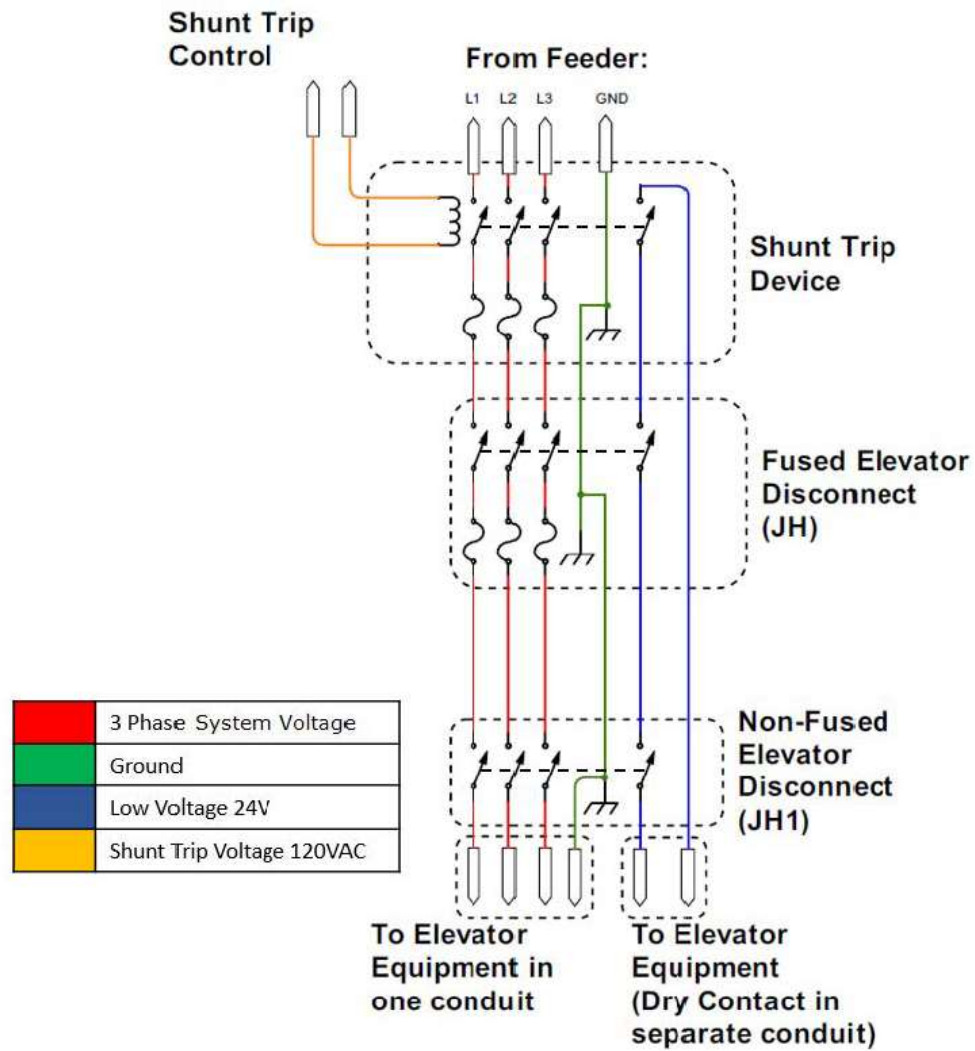


Figure 3: Shunt Trip Wiring

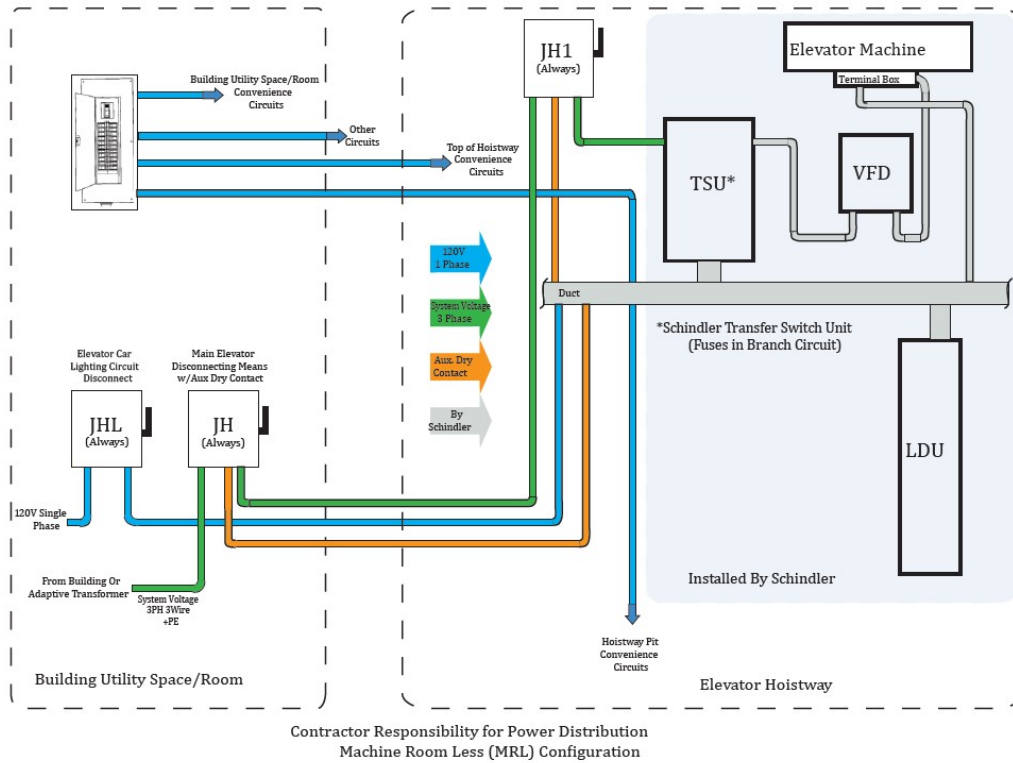


Figure 5.
See Layouts for exact location of equipment in Overhead and pit.