

ELECTRONIC AIR PURIFICATION SYSTEM

Eliminator Series



SE400E and SE800E

- INSTALLATION
- OPERATION
- SERVICE

Electrostatic Precipitators for
Commercial Applications



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This manual provides information for installation, operation and maintenance of your Trion SE400E & SE800E. Before installing and using the air purifier, carefully read these instructions to ensure maximum benefits from the unit, and to avoid needless service costs that may result from improper installation and maintenance.

Eliminator SE Series

Section I – Design

1. Introduction

The Trion Eliminator SE400E & SE800E are commercial air purifiers that have been specifically designed to remove airborne pollutants - including tobacco smoke, dust, pollen and mold spores - in rooms and areas where people work or relax. They are designed to be mounted onto a solid ceiling, semi-recessed for into a suspended ceiling, or wall mounted (SE400E only). Where appropriate they can also draw in additional fresh air.

Their features make them the ideal air purifier for installations into areas such as offices, conference rooms, restaurants, designated smoking areas, institutions and waiting rooms or any other place where people gather.

HOW THEY WORK

The Trion SE400E & SE800E utilize the principle of Electrostatic Precipitation. Air is drawn into the intake, through the metal prefilter, which traps lint and large dust particles. The remaining particles, some as small as 0.01 microns*, pass into a strong electrical field (ionizing section) where the particles receive an electrical charge. The charged particles pass onto a series of equally spaced parallel plates (collector section). Each alternate plate is charged with the same polarity as the particles, which are repelled, while the interleaving plates are grounded, and therefore attract and collect the particles.

* The diameter of a human hair is about 100 micron!

2. The Filter System

There are two filters in your air cleaner -

THE PRE-FILTER: This is the mechanical filter that lies behind the inlet grill. It is designed to remove large particles and can be washed many times before replacement.

THE ELECTROSTATIC FILTER: This is the deep aluminum assembly (Collector Cell) located immediately behind the pre-filter and is the heart of your air cleaner. It uses an electrostatic charge to remove particles so small that it would take a pile of many millions to cover a pinhead. When dirty it can be washed and reused indefinitely.

FILTER REMOVAL

TRION SE400E

Turn the control switch off before removing cell. Press the two cell access latches and the hinged door will swing down. Remove pre-filter by turning pre-filter clip 90 degrees (fig 2). While supporting the weight of the Collector Cell, loosen the filter retaining screw (fig 3). The filter retaining plate will now open allowing the filter to be removed (fig 4). To reinstall the filter, simply reverse above procedure.

TRION SE800E

The two hinged access doors are secured with retaining screws (fig 3). Release screws to allow the doors to swing down. Remove the Collector Cells as described above.

INSTALLATION LOCATION

The most effective location for the air purifier is the center of the area to be cleaned because the dirty air is pulled into the center of the unit and discharged equally out the four sides. If more than one unit is required, space them evenly over the area to be cleaned.

Eliminator SE Series

3. Specifications

Model	<u>SE400E</u>	<u>SE800E</u>
Dimensions	Depth: 9.5" Width: 22.5" Length: 22.5"	Depth: 9.5" Width: 22.5" Length: 46.12"
Installation	Surface mounted, recessed into suspended ceiling, or wall (SE400E only) mounted.	
Weight	42 lbs. / shipping 48 lbs.	80 lbs. / shipping 86 lbs.
Input Power	120 Volts, 1 Phase, 60 Hz	120 Volts, 1 Phase, 60 Hz
Power Consumed	1.8 Amps, 155 Watts	3.4 Amps, 270 Watts
Controls	Hard-wired remote control with 3-speed selector switch with air-dry (fan only) facility	Hard wired remote control with 3-speed selector switch with air dry (fan only) facility
Motor	1/20 HP, 3-speed, Ball Bearing	(2) 1/20 HP, 3-speed, Ball Bearing
Air Flow	200, 300, 400 CFM	400, 600, 800 CFM
Sound Rating	38, 55, 62 dBa	41, 58, 65 dBa
Safety Feature	Interlock to cell access door	Interlock to cell access door
Features	Anti-arc circuitry Power to cell indicator Fresh air inlet Dry (fan only) cycle	Anti-arc circuitry Power to cell indicator Fresh air inlet Dry (fan only) cycle
Options	Infrared remote control Fresh air damper system	Infrared remote control Fresh air damper system

Eliminator SE400E & SE800E

Section II – Installation

1. INSTALLATION

CAUTION:

**ELECTRONIC AIR CLEANERS
CANNOT BE USED IN AREAS WHERE
COMBUSTIBLE GASES OR VAPORS
ARE PRESENT.**

MECHANICAL

The unit has been designed so that it can fit either surface mounted onto the ceiling, semi-recessed into a T-Bar suspended ceiling or wall mounted (SE400E only). When installed with a T-Bar suspended ceiling **NEVER** support the unit from the T-Bars, the unit must be supported from the permanent ceiling.

SUSPENDED CEILING INSTALLATION

To hang the unit into a suspended ceiling, proceed as follows:

- Unpack the unit, open filter access door and remove prefilter and cell (see filter removal in section 2).
- Install ¼-20 eyebolts into mounting slots with large diameter washers and lock-nuts as shown in sketch A. Alternatively, use drop rods.
- Install trim as shown in sketch A.
- Select and remove a ceiling tile near the center of the area to be cleaned by the unit.
- Attach a length of safety chain to each of the four eyebolts or fit threaded rod. Fasten securely.
- Lift unit into place and support unit while securing to permanent ceiling, ceiling joists, etc. See sketch A.

CAUTION:

**IT IS THE RESPONSIBILITY OF THE
INSTALLER TO ENSURE ADEQUATE
MOUNTING COMPONENTS ARE USED.**

**DO NOT ALLOW WEIGHT OF UNIT TO
REST ON SUSPENDED CEILING
SUPPORT RAILS.**

- Make electrical connections as detailed in next section.
- Re-install cell and prefilter.
- Close access door and unit is ready for operation.

SOLID CEILING MOUNTING

To mount the unit to a solid ceiling, proceed as follows:

- Unpack the unit, open filter access door and remove prefilter and cell (see filter removal in section 2).
- Select a location near the center of the area to be cleaned. If you are fitting to wooden ceiling joists, locate the position of joists.
- Using the template provided, drill four holes into the ceiling and fit four 5/16 lag screws in the joists. Hex-headed screws will give easier access for final tightening. Do not tighten fully home.
- Lift the unit to where the large end of the keyhole slots in the top of the cabinet fit over the screw heads. Slide the unit so that the narrow ends of the mounting slots are located under the screw heads. Tighten the screws fully home.
- Install the lockdown location screw as shown on template.
- Make electrical connections as detailed in next section.
- Re-install cell and pre-filter.
- Close access door and unit is ready for operation.

WALL MOUNTED (SE400E Only)

Filter removal will be simpler if the unit is positioned with the access door hinge in a vertical plane. Locate the wall studs and follow the mounting instructions for SOLID CEILING MOUNTING.

ELECTRICAL WARNING:
THIS APPLIANCE MUST BE
ELECTRICALLY GROUNDED.

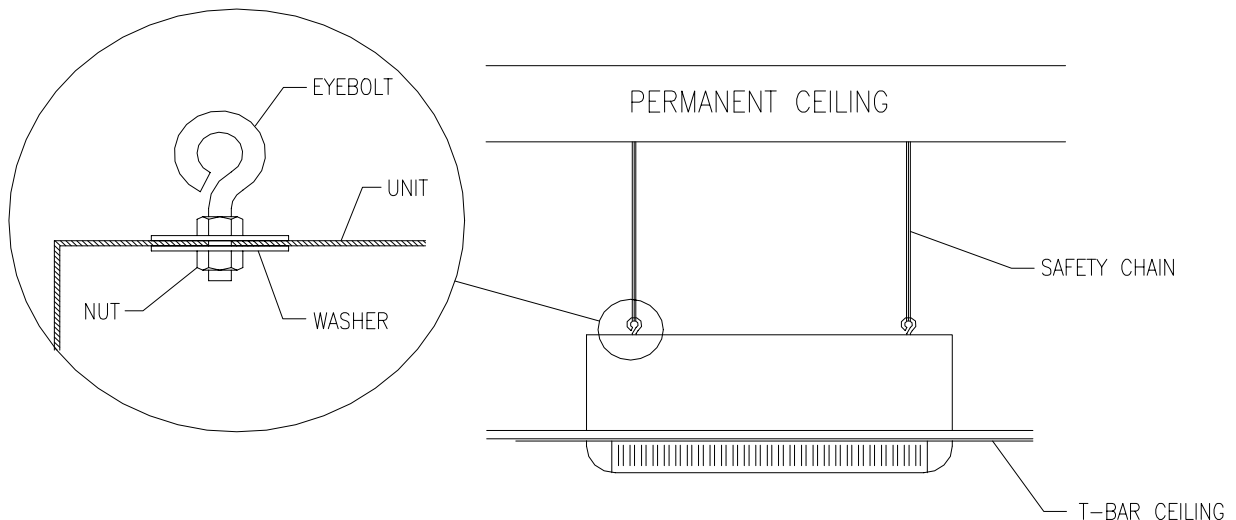
NOTE: This unit is designed to be permanently connected to fixed wiring. Installation must comply with all applicable electrical codes.

Hard wired remote control

Two sets of wiring are required to connect the unit. Main power to the unit is 120V, 60Hz, 1Ph, rated 5 Amp - Live, Neutral and Ground. A 5-conductor 5 Amp rated cable is required from the unit to remote control. Run the 5-conductor cable and the main power connection through the cable entry knockouts (see Fig. 5) in the cabinet and connect to the input terminal block (Fig. 6) as shown in the wiring diagram on page 10 and 11. Mount the remote control in the desired position and connect the 5-conductor cable leads to the numbered terminals as shown in the wiring diagram.

OPTIONAL INFRARED CONTROL

Main power to the unit is 120V, 60Hz, 1Ph, rated 5 Amp - Live, Neutral and Ground. To install, follow the instructions included with the infrared control kit.



SKETCH A

2. Diagrams

FIGURE 1.



FIGURE 2.

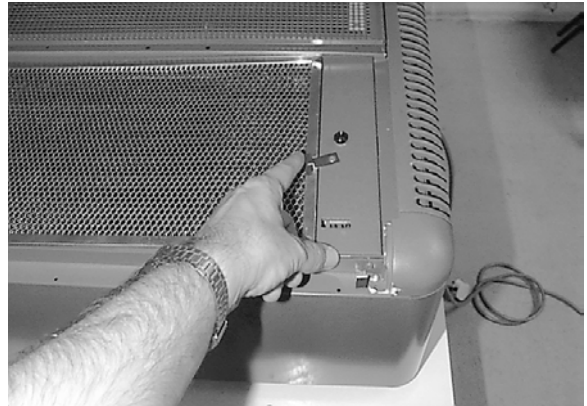


FIGURE 3.

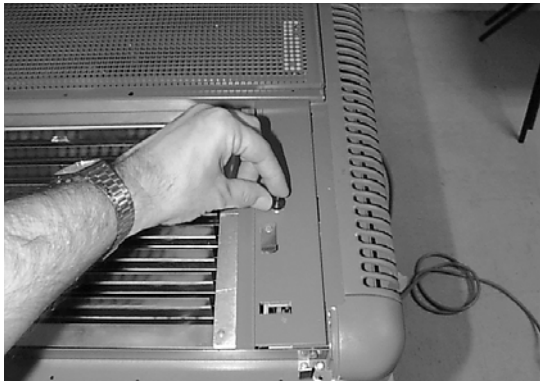


FIGURE 4.



FIGURE 5.



FIGURE 6.



Section III – Service and Maintenance

1. SERVICING AND MAINTENANCE

Beyond an occasional wipe down with a damp cloth, the units need little in the way of maintenance.

However, the units are designed to collect airborne dirt and from time to time will require routine servicing to remove the accumulation.

The service interval varies considerably between applications, but typically will range from six weeks in a busy bar up to several months in a quiet office.

During normal operation, the unit will make an occasional snapping noise. This is caused by large pieces of dirt accumulating on the electronic filter and is not dangerous. The Trion SE400E & SE800E units have anti-arcing circuitry to eliminate the nuisance of constant arcing. If, however, the arcing occurs every minute or two, it is an indication that the unit needs cleaning.

When a service is due proceed as follows:

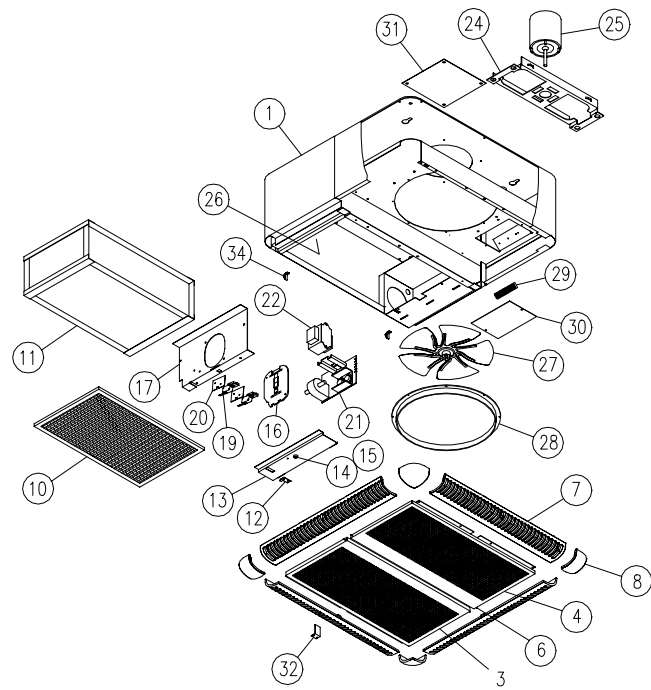
- a) Remove pre-filter and either vacuum clean it or wash as described below.
- b) To clean the electronic filter, soak it in a hot (not boiling), a strong non-caustic detergent solution cleaner. Trion can supply an excellent detergent- TriDex- obtainable through your Dealer. Alternatively, a dishwasher detergent does an excellent job. Soak the collector cell for several hours, then rinse with clean water. Do not physically try to rub the dirt off since this can cause damage to the filter.
- c) Allow the filter to dry thoroughly - preferably overnight- and replace into the unit or alternatively use force air dry setting on the unit.

Trion has a policy of continuous product improvement, and reserves the right to make changes in design and specification without notice.

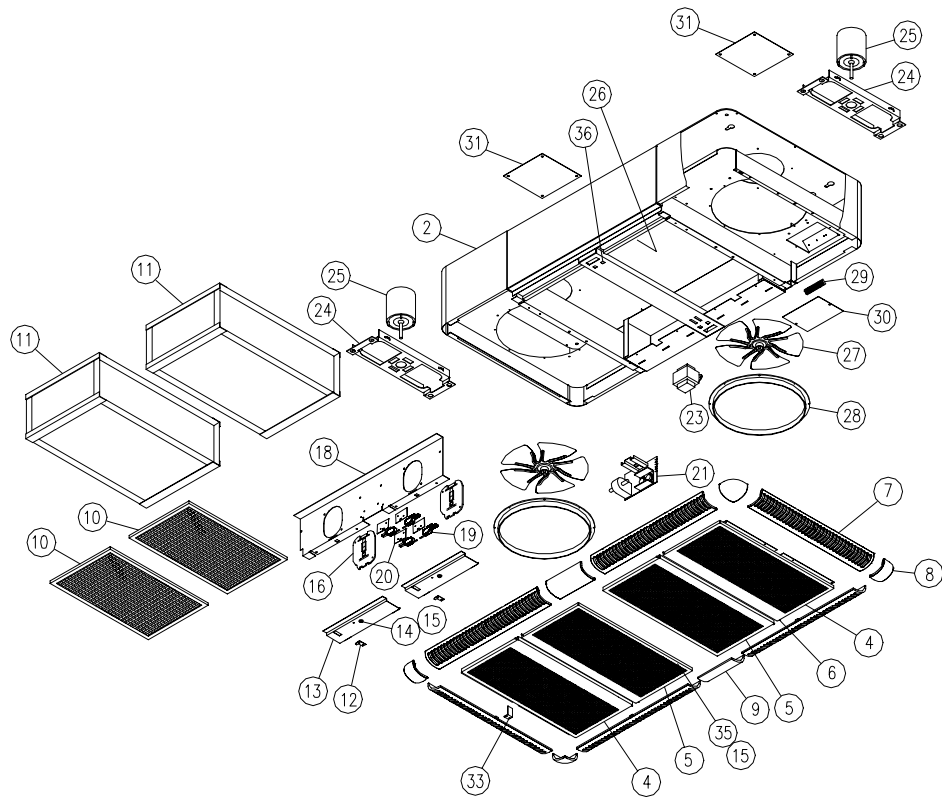
2. PARTS LIST

Item	Part Number	Description	Qty/Unit SE400E	Qty/Unit SE800E
1	454027-001	Cabinet Assembly, SE400E	1	-
2	454028-001	Cabinet Assembly, SE800E	-	1
3	453844-001	Cell Access Cover	1	-
4	453844-003	Discharge Cover	1	2
5	453845-001	Cell Access Cover	-	2
6	153853-001	Hinge Pin	2	4
7	453855-001	Grill	4	6
8	453856-001	Corner	4	4
9	453857-001	Grill Filler	-	2
10	253863-001	Pre-filter	1	2
11	441730-103	Collector Cell	1	2
12	150685-001	Cell Retaining Clip	1	2
13	353842-001	Cell Latch	1	2
14	153854-001	Thumb Screw	1	2
15	244225-002	Bolt Retainer	1	6
16	345109-001	Cell Contact Assembly	1	2
17	453840-001	Cell Contact Support	1	-
18	453841-001	Cell Contact Support	-	1
19	242404-002	Interlock Switch	2	4
20	147214-001	Insulator	2	4
21	350950-003	Power Supply Assembly	1	1
22	254167-003	Step-down Transformer 120V/24V	1	-
23	254167-004	Step-down Transformer 120V/24V	-	1
24	453847-001	Motor Mounting Bracket	1	2
25	254026-002	Motor, 120V/60Hz	1	2
26	142153-001	Ground Contact	1	2
27	254101-001	Fan	1	2
28	453858-001	Inlet Ring	1	2
29	EST-1124	Terminal Block	1	1
30	253850-001	Terminal Block Cover	1	1
31	253851-001	Duct Cover Plate	1	2
32	153848-001	Interlock Switch Actuator	1	-
33	153849-001	Interlock Switch Actuator	-	2
34	253852-001	Access Cover Latch	2	-
35	120035-210	Flat Head Screw	-	4
36	234711-002	Retaining Nut	-	4
37	354267-001	Remote Control Assembly	1	1
37a	250056-001	Rotary Switch	1	1
37b	242235-001	Switch Knob	1	1

3. Exploded Views SE400E

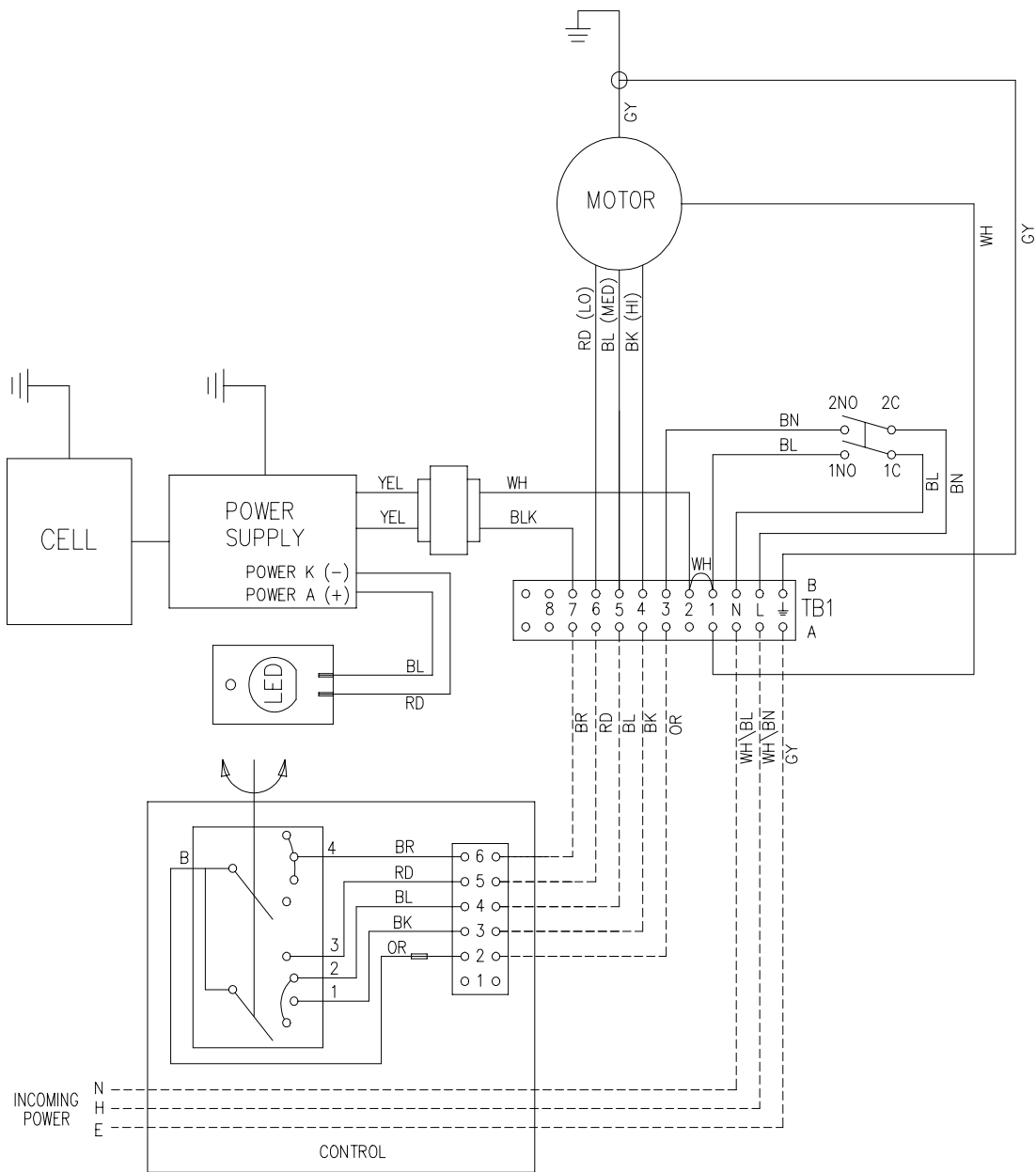


SE800E

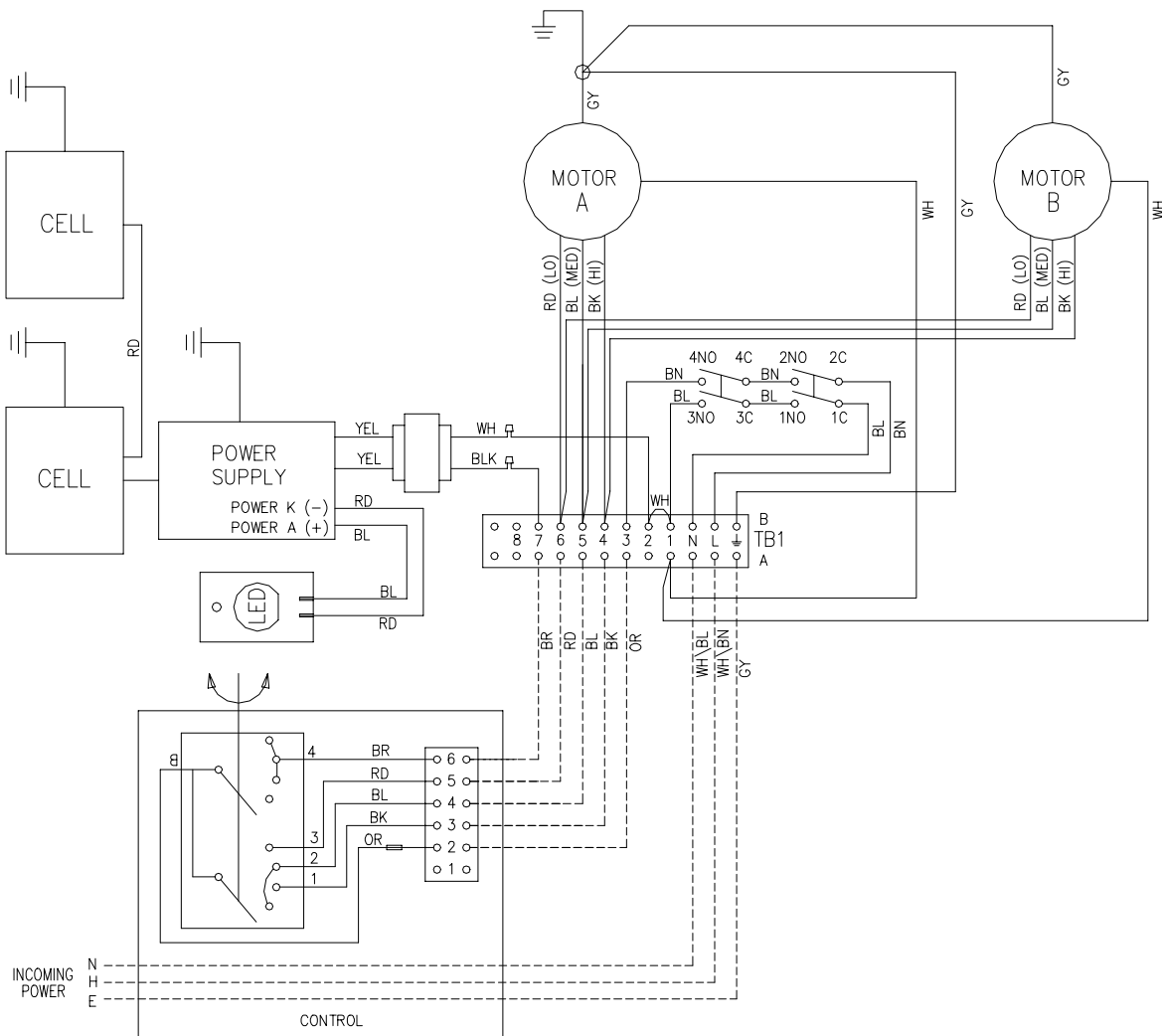


Section IV – Reference

1. WIRING DIAGRAM SE400E



2. WIRING DIAGRAM SE800E



WARRANTY

All Trion air cleaners are warranted for component failure and workmanship for a period of three years after purchase. Do not return defective parts without prior permission from the factory. Contact your local Trion Distributor or Trion Customer Service Department at 800-884-0002 or Fax 800-458-2379 to obtain material return authorizations and service information.



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