Duct SD
Smoke Detector

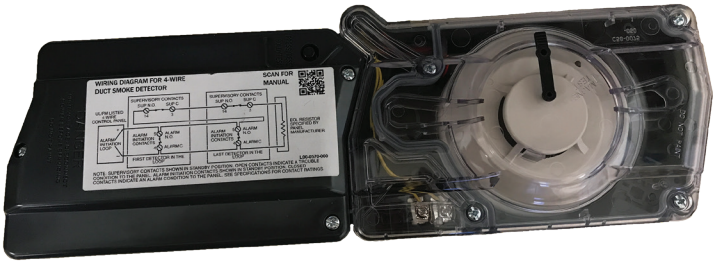
Application

The primary purpose of duct smoke detection is to prevent injury, panic, and property damage by reducing the spread (recirculation) of smoke. The detector samples air currents passing through a duct and gives dependable performance for management of smoke and combination fire smoke dampers. Duct smoke detection can also serve to protect the air conditioning system itself from fire and smoke damage.

The DUCTSD 4-wire photoelectric duct smoke detector features a pivoting housing that fits both square and rectangular footprints and mounts to round or rectangular ductwork. A plug-in sensor head offers simple installation and maintenance. The cover integrated smoke test port enables easy testing and maintenance.

Features

- Versatile mounting options: square or rectangular configuration
- Plug-in sensor offers the latest sensor technology
- Patented sampling tube installs from front or back of the detector with no tools required
- Increased wiring space with a newly added ¾ inch conduit knockout
- One easy access Test/Reset button
- Patented interconnect feature for multi-fan shutdown
- High contrast terminal designations and wiring diagram label make wiring easy
- Built-in short circuit protection from operator wiring errors
- Two DPDT Form-C relay contacts
- Cover integrated smoke test port



Listings

UL listed: S911

CSFM: 3242-1653-0241

Note: This smoke detector is non-addressable.

Specifications

Type:	Photoelectric
Air Duct Velocity:	100-4,000 fpm (0.5 to 20.3 m/s)
Operating Temperature Range:	-4° to 158°F (-20° to 70°C)
Operating Humidity Range:	0% to 95% RH
Operation Voltage:	120V or 24 VAC/DC
Dimensions:	14.38 in. L x 5 in. W x 2.5 in. H (365 mm x 127 mm x 63.5 mm)
Weight:	2½ lbs. (1.14 kg)

Electrical Ratings

Electrical Ratings			
Power Supply Voltage	20-29 VDC	24 VAC 50-60Hz	120 VAC 50-60 Hz
Input Capacitance	270 µF max.	270 µF max.	N/A
Reset Voltage	3.0 VDC min.	2.0 VAC min	10 VAC min
Reset Time	0.6 sec. max.	0.6 sec. max.	0.6 sec. max.
Power Up Time	35 sec. max.	35 sec. max.	35 sec. max.
Alarm Response Time	15 sec.	15 sec.	15 sec.
Sensitivity Test	See detector label	See detector label	See detector label
Current Requirements			
Max. Standby Current	21 mA @ 24 VDC	65 mA RMS @ 24 VAC 60 Hz	20 mA@120 VAC 60 Hz
Max. Alarm Current	65 mA @ 24 VDC	135 mA RMS @ 24 VAC 60 Hz	35 mA @ 120 VAC 60 Hz

See www.systemsensor.com for more information.

Contact Ratings

Alarm Initiation Contacts (SPST): 2.0 A @ 30 VDC (resistive)

Alarm Auxiliary Contacts (DPDT): 10A @ 30 VDC (resistive)
10A @ 250 VDC (resistive)

Note: Alarm auxiliary contacts shall not be connected to initiating circuits of control panels. Use the alarm initiation contact for this purpose.

Supervisory Contacts (SPDT): 2.0A @ 30 VDC (resistive)
2.0A @ 125 VAC (resistive)

Ordering Options

Factory Mounted

Smoke detector will be wired to a 4 x 4 handi-box. The closure device (if RRL or TOR) will also be wired to the handi-box. Dampers provided with the smoke detector will include single point wiring as standard.

Shipped Loose

Shipped loose smoke detector will include the detector only (no mounting hardware or bracket seals). The duct size will have to be specified in order to allocate the appropriate length sampling tube. Adhere to all national and local codes.

Note: Dampers ordered with a shipped loose detector will have the standard sleeve length, not a longer sleeve to accommodate the smoke detector installation. If smoke detectors are intended to be field mounted on the damper sleeve, the damper sleeve length and "A" dimension will need to be manually changed to the requirements indicated under "Sleeve Length".

Sensor	Sensor Kit
386338	914428

Smoke detector requires 100 fpm minimum air velocity in duct. For damper activation requirements when system velocity is less than 100 fpm, the local authority having jurisdiction should be consulted.

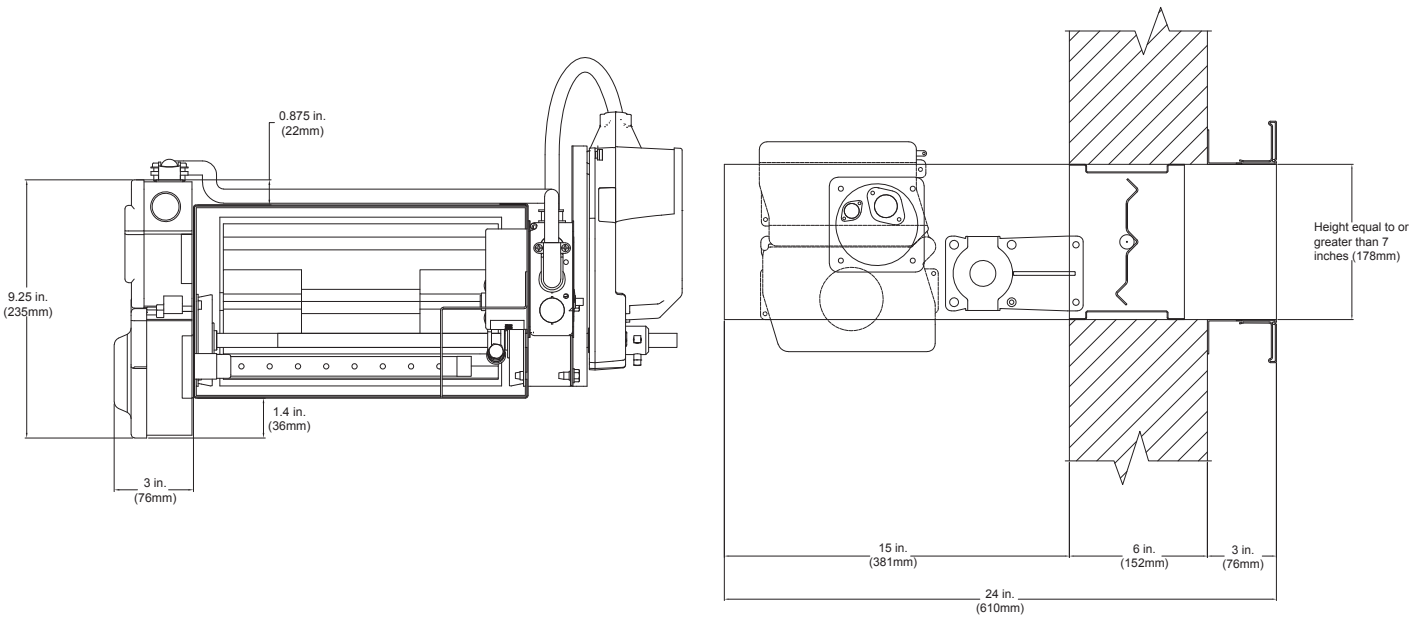
Refer to smoke detector installation instructions and Greenheck IOM - Smoke Detector Supplement FS for dampers with factory mounted duct smoke detectors.

458565

Figure 1:
Label applied to the damper with factory mounted duct smoke detector.

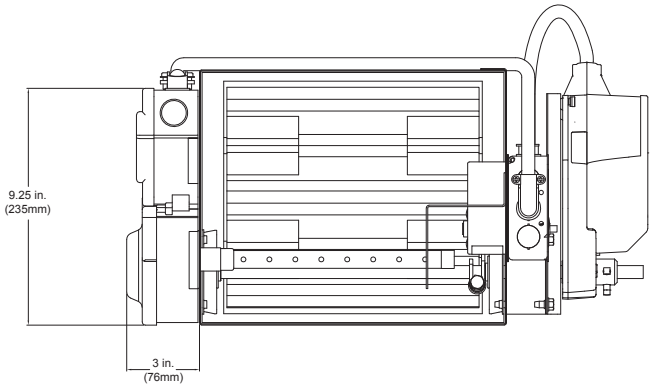
Mounting Orientation and Space Envelopes

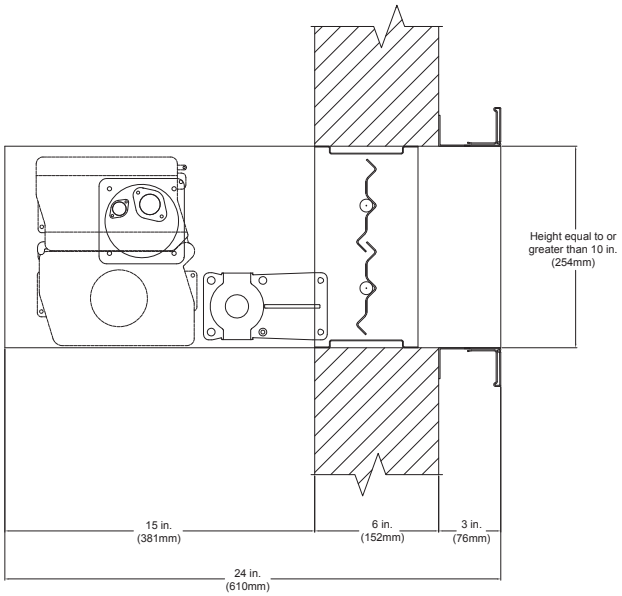
Dampers Equal to or Greater Than 7 inches (178mm) But Less Than 10 Inches (254mm) in Height



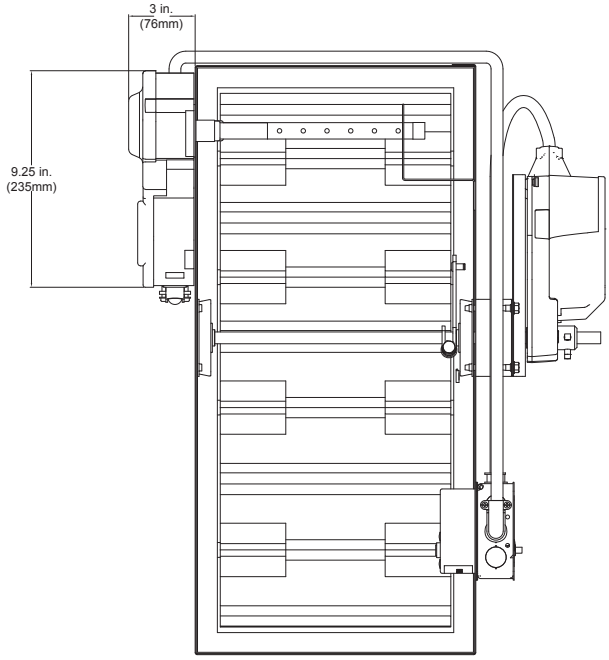
Mounting Orientation and Space Envelopes

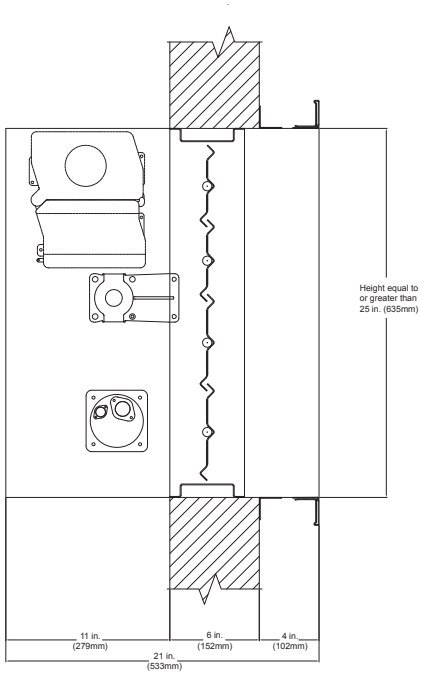
Dampers Equal to or Greater Than 10 inches (254mm) But Less Than 25 Inches (635mm) in Height





Dampers Equal to or Greater Than 25 inches (635mm) in Height



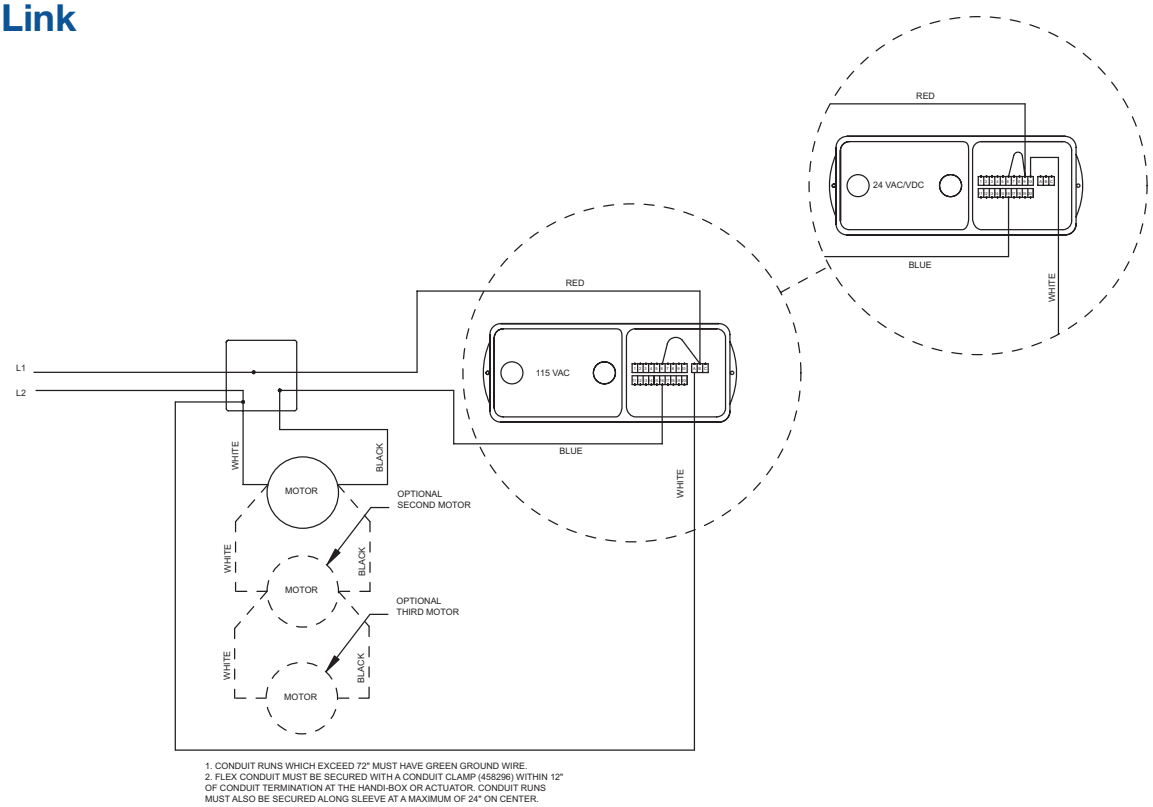


Sizing Information

Actuator Mounting	Closure Device	Recommended Minimum Sleeve Length	Minimum Damper Location	Minimum Damper Width	Minimum Damper Height
External	None, RRL, RRL/OCI, TOR, or Fusible Link	24 in. (610 mm)	15 in. (381 mm)	6 in. (152 mm)	7 in. (178 mm)
External	None, RRL, RRL/OCI, TOR, or Fusible Link	24 in. (610 mm)	15 in. (381 mm)	6 in. (152 mm)	less than 25 in. (635 mm)
External	None, RRL, RRL/OCI, TOR, or Fusible Link	21 in. (51 mm)	11 in. (279 mm)	6 in. (152 mm)	25 in. (635 mm) and greater
Internal*	None or RRL	16 in. (406 mm)	7.188 in. (183 mm)	8 in. (203 mm)	8 in. (203 mm)
Internal*	RRL/OCI or TOR	16 in. (406 mm)	7.188 in. (183 mm)	10 in. (254 mm)	10 in. (254 mm)
Internal*	Fusible Link	16 in. (406 mm)	7.188 in. (183 mm)	12 in. (305 mm)	6 in. (152 mm)
* Internal mount - smoke detector is ship loose for mounting in the field					

Wiring Diagrams

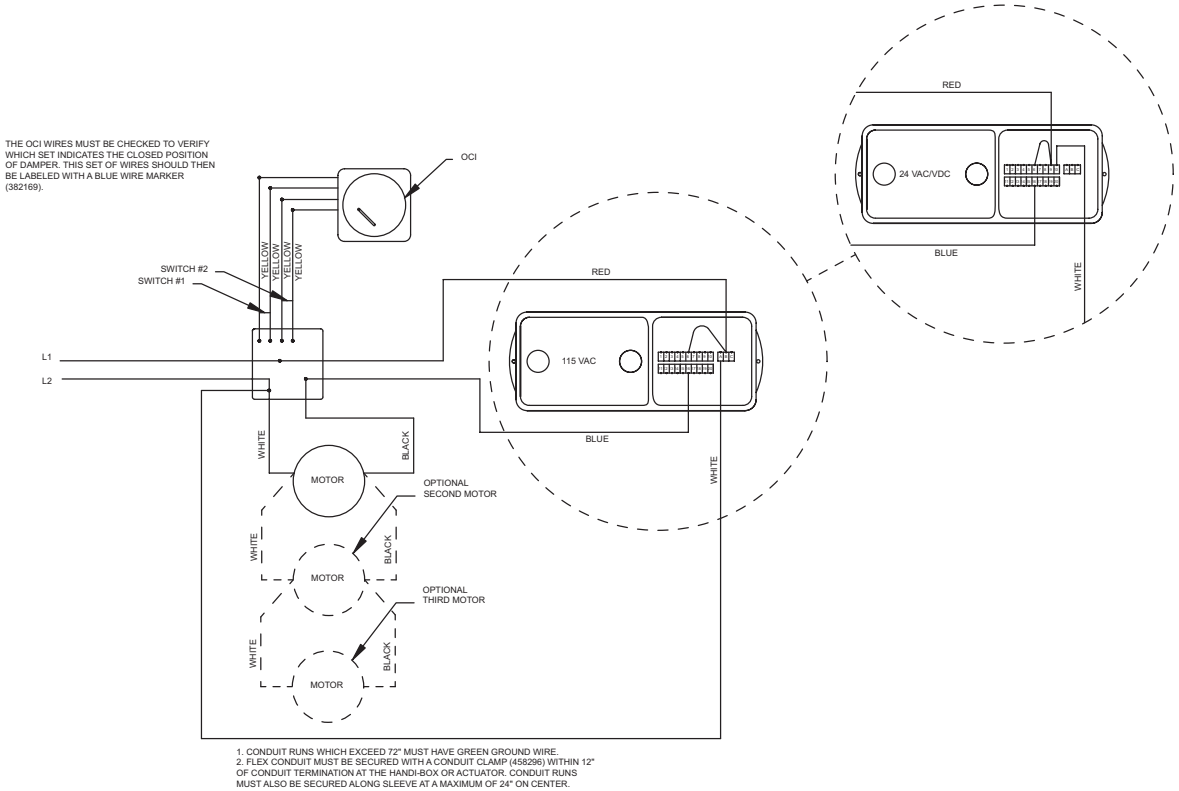
Fusible Link



1. CONDUIT RUNS WHICH EXCEED 72" MUST HAVE GREEN GROUND WIRE.
2. FLEX CONDUIT MUST BE SECURED WITH A CONDUIT CLAMP (458296) WITHIN 12" OF CONDUIT TERMINATION AT THE HANDI-BOX OR ACTUATOR. CONDUIT RUNS MUST ALSO BE SECURED ALONG SLEEVE AT A MAXIMUM OF 24" ON CENTER.

Wiring Diagrams

OCI



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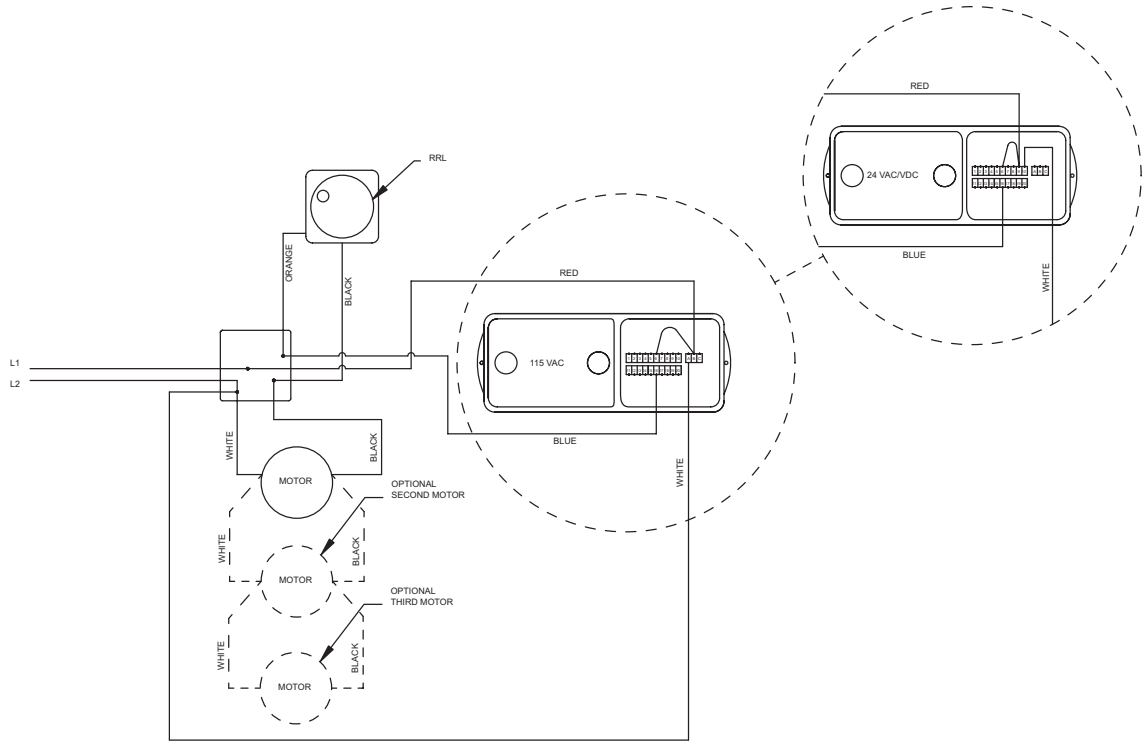
RRL



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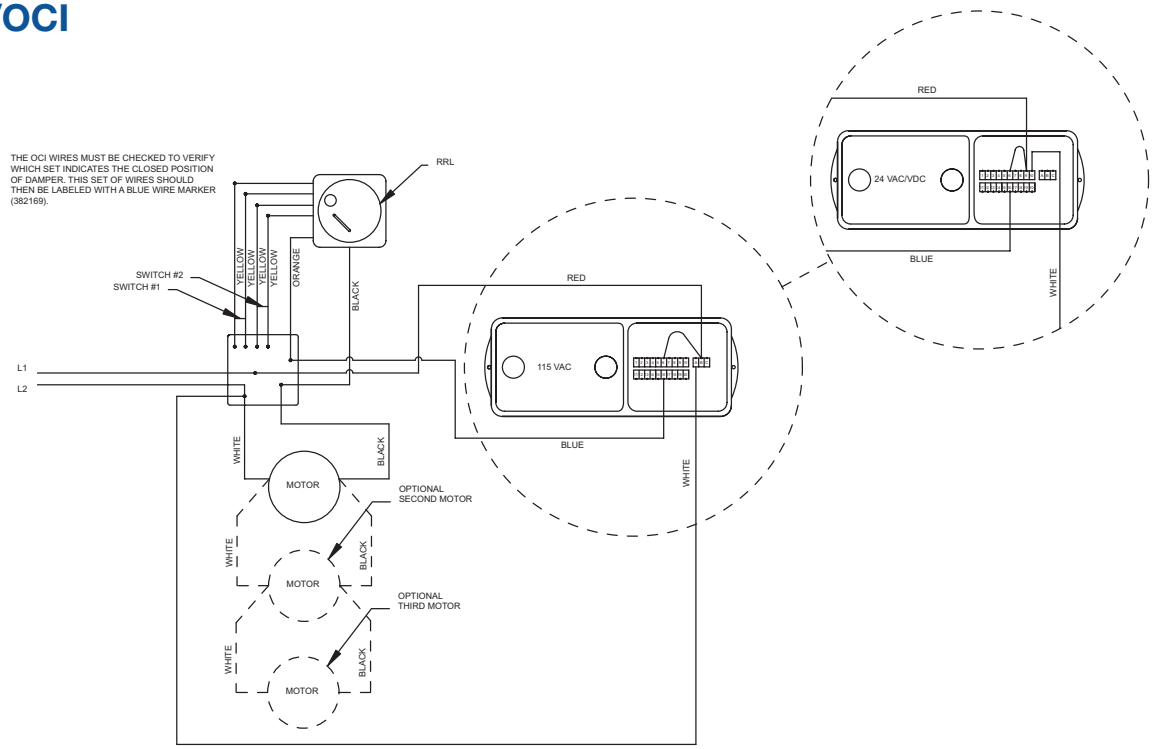
RRL/OCI



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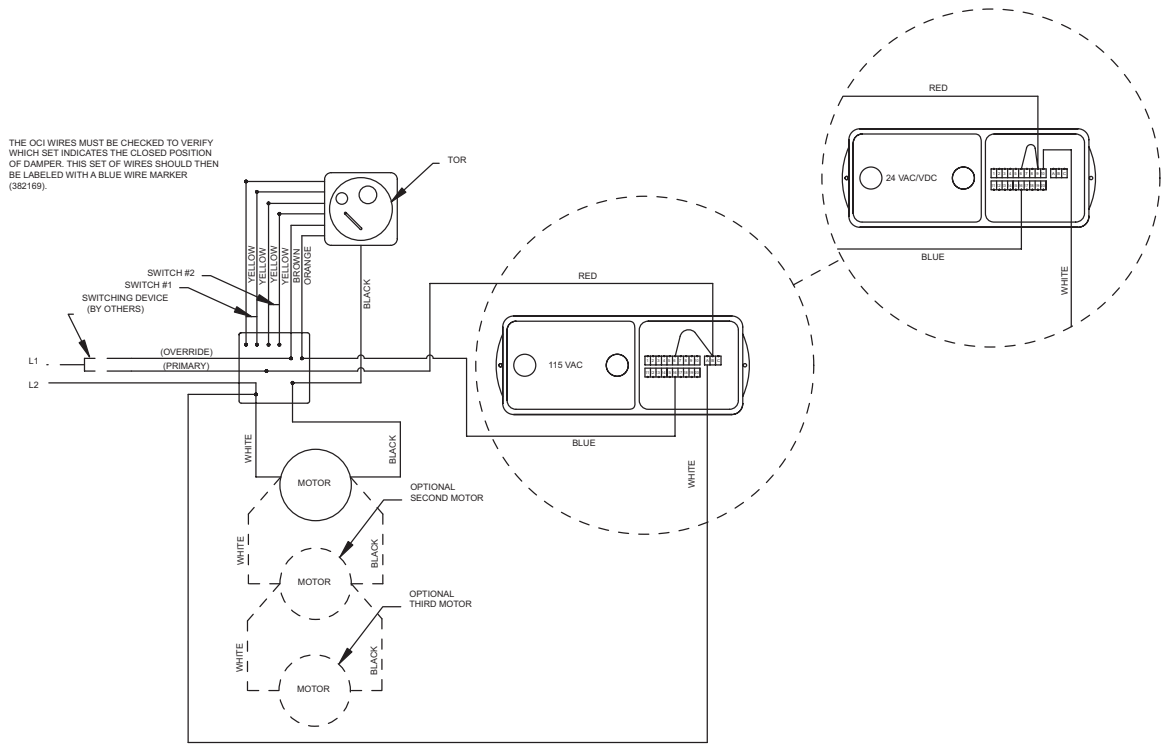
TOR



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GREENHECK

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