

**GENERAL DESCRIPTION**

The Series 55 is a Wall Mount Nema 4X Enclosed Automatic Fan Speed Modulator which varies electrical motor speed in response to changes in temperature. It is suitable for use in ventilation fan motor or condenser applications that use a permanent split-capacitor or shaded-pole motor designed for phase control. The Series 55 is protected from adverse elements by its water tight and dust resistant housing.

The Model 55-S is equipped with a switch to manually select fan operation mode. The fan may be switched to Full Speed, Off, or to a Temperature Modulated Value.

**ELECTRICAL SPECIFICATIONS: MODEL 55-54-L420-S**

- POWER INPUT:** 96 to 264 VAC 60Hz universal power supply.
- OUTPUT (Load):** 8.5A max. continuous (full load), 20.5A locked-rotor current, 10 seconds max.
- KICK-START:** Upon initial application of power to the load, full power output conditions will prevail for approximately three seconds. This feature is not dependent on IDLE or temperature setpoint settings.
- MODE SWITCH:** The main fan output may be manually set to Full Speed, OFF or TEMPERATURE MODULATED CONTROL by means of a front panel switch. Other functions are not affected.

**IDLE ADJ. RANGE:** 25% to 85% of actual line voltage, average - nominal

**NOTE:** The IDLE adjustment control setting includes a zero-power FAN STOP position (full CCM), in which load power is (effectively) reduced to zero.

When the IDLE adjustment is changed from STOP to an active IDLE setting, the control reverts to its "KICK-START" mode before assuming the desired steady-state output condition.

The STOP function shall be overridden by the temperature control functionality, power will be applied to the fan when measured temperature exceeds the setpoint.

**WARNING:** WHEN THE IDLE SETTING IS IN STOP MODE, HAZARDOUS VOLTAGES WILL STILL PREVAIL AT THE LOAD TERMINALS. DISCONNECT MAIN POWER BEFORE ANY SERVICE WORK IS DONE.

**SETPOINT TEMP. RANGE:** 35°F to 95°F (2°C to 35°C)  
Ventilating application (output increases with temp. rise).

**MODULATING BAND:** 6°F (3°C) preset from IDLE to full speed.

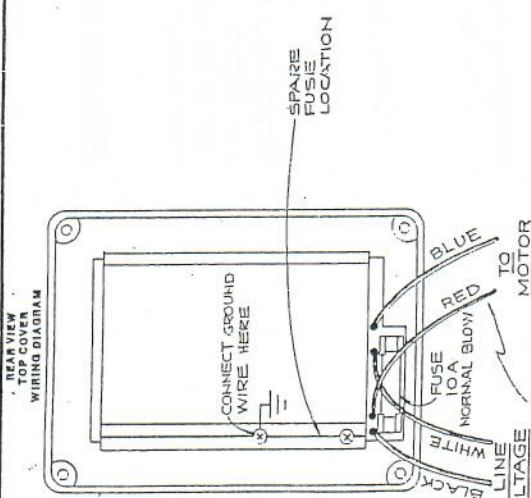
**SENSOR:** NTC Thermistor, 20K ohm @ 25°C (Quantem 223-40058)

**SENSOR PROTECTION:** Output is OFF on a sensor open and OUTPUT is ON with a shunted sensor (AUTO mode only)

**AMBIENT TEMP.:** Full load 0 to 50°C detrate linearly to 2.5A at 80°C.

**WIRING:** Comply with all local wiring codes. Ensure that power is OFF. Power connection should include a fast acting circuit breaker or fuse rated closely to the load current.

**REAR VIEW TOP VIEW WIRING DIAGRAM**

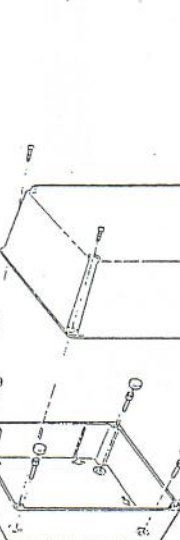


**INSTALLATION AND MOUNTING INSTRUCTIONS:**

1. Remove top cover from enclosure base.
2. Punch or drill correct hole size depending on conduit connections or use appropriate knockouts (where provided).
3. Secure the conduit locknuts inside and out.
4. Mount plastic base to wall.
5. Use std. screws and install cap plugs over screws (plugs are included in kit).

**NOTE:** The installation notes are intended as a guide to assure techniques are followed. Additional information can be found in NEMA Pub1250-1985 National Electric Code and UL #508.

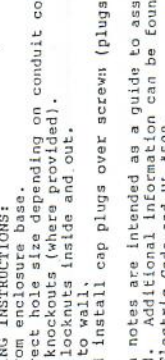
**MECHANICAL DIMENSIONS**



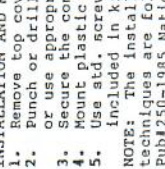
**CONTROL OPERATION**



**Cap Plugs**



**TEMPERATURE**



**QUANTEM CORPORATION**

TRENTON, NEW JERSEY

**AUTOMATIC FAN SPEED CONTROL**

REF WALL MOUNT WATERTIGHT DUST RESISTANT

DWG. NO. 55-54-L420-S

REV. B

FINISH: SENSOR Protect. UPDATED 9-1-99

MATERIAL: ECD # 2030

SCALE: 3/16" = 1"

DATE: 3/17/93

DIMENSIONS ARE IN INCHES. TOLERANCES ARE: DECIMALS .XX ±.03 .XXX ±.005 ANGLES ±.1°

REVISIONS		
LTR	DESCRIPTION	BY DATE

## INSTALLATION GUIDELINES FOR NON-METALLIC ENCLOSURES

These enclosures are U.L. rated for Type 1, 3R, 4, 4X, 12, and 12K depending upon the installation procedure. This installation sheet is a guide to assure that the proper installation techniques are followed and to assure that the equipment is installed in a safe manner. Additional informations can be found in NEMA Standard Publication N° 250 - 1985, National Electric Code Specifications and U.L. 508. Good electrical practice should be used during the installation of any electrical equipment.

**CAUTION** - Bonding between the conduit connections on non-metallic enclosures is not automatic and must be provided as part of the installation.

**TYPE 3R** - For Type 3R installations, raintight hubs that comply with the Standard Fittings for Conduits and Outlet Boxes (U.L. 514B) are to be used. Follow the installation instructions provided by the hub manufacturer.

**TYPE 4 and 4X** - Must be used with watertight connections in order to maintain this rating. This watertight hub, or equivalent, must exclude water at the conduit entrance. Follow the installation instructions provided by the hub manufacturer.

**Mounting of the Enclosure** - Larger enclosures may be mounted using the through-holes which are used to attach the lid. See the additional instructions for further details.

### INSTRUCTIONS FOR CONDUIT ENTRY (IF USED)

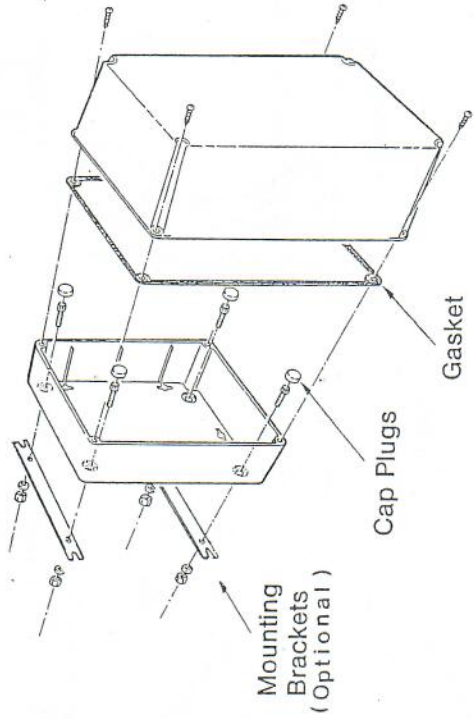
**A - Conduit Entry ABOVE Live Parts:**

- 1 - Use only U.L. listed raintight or liquid tight conduits hubs.
- 2 - Install hubs and conduit according to the hub manufacturers instructions.

**B - Conduit Entry BELOW Live Parts:**

- 1 - Punch or drill the correct hole for the size of conduit to be used - see table below or use the appropriate knockout (where provided).
- 2 - Secure the conduit with locknuts inside and out or with a locking bushing on the inside and locknut on the outside.

CONDUIT SIZE	HOLE SIZE	CONDUIT SIZE	HOLE SIZE
1/2"	7/8"	1-1/2"	2"
3/4"	1-1/8"	2"	2-1/2"
1"	1-3/8"	2-1/2"	3"
1-1/4"	1-3/4"	3"	3-5/8"



**Note: Install four cap plugs after installation of the Enclosure**



TITLE  
**INSTALLATION GUIDELINES FOR NON-METALLIC ENCLOSURES**

REF.

SIZE **A**  
DWG. NO. **221 - 40310**  
REV.