PULLOUT **TITUS ZONE MANAGER** SPECIFICATION SECTION

1.0 DIGITAL DIFFUSER CONTROL SYSTEM

A. Furnish and install the Titus Digital Diffuser Control System consisting of the following equipment:

a. Zone Manager
b. Zcom variable geometry diffuser
c. Zdrone (actuator only) variable geometry diffusers
d. ZECV or ZQCV bypass control terminals

2.0 GENERAL

A The air handling unit shall be controlled by the Zone Manager. The Zone Manager shall control the capacity of the air handling unit up to 2 stages of cooling and 2 stages of heating.

B. The bypass damper, model ZECV or model ZQCV, shall provide static pressure control for the constant volume air handling unit. As the Zcom diffusers close to the minimum position, the bypass damper shall open to maintain the duct static pressure setpoint.

3.0 AIR HANDLER CONTROLLER

A The Zone manager shall poll the Zcom master diffusers via two-wire RS485 communications at 9600 baud to determine zone heating and cooling requirements.

B. The Zone Manager shall establish the system control mode for the air distribution system.

a. UNOCCUPIED mode, the fan is off.
b. COOL mode, the fan is on and the system operates to provide cold discharge air.
c. HEAT mode, the fan will be on and the system operates to provide hot discharge air.
d. VENTILATION mode, the fan will be on and the system will provide recirculated air with all heating and cooling stages off.

C. The Zone Manager shall be capable of providing heating high temperature and cooling low temperature limit control.

D. The Zone Manager shall be capable of utilizing either an external time clock input or an internal software schedule for occupied/unoccupied operation. After hours operation may be triggered by signaling the Zcom diffuser with the Zapper hand-held display unit, or by activation with the wall mounted setpoint adjust. Default after hours operation shall be set to 90 minutes and shall be adjustable.

PULLOUT **TITUS BYPASS TERMINAL UNIT** SPECIFICATION SECTION

1.0 BYPASS TERMINAL

A. Furnish and install the Titus bypass terminal unit model ZECV for round duct or ZQCV for rectangular duct. Sizes and capacities shall be as shown on the plans.

B. ZECV round terminal casing shall be minimum 22 gauge galvanized steel, with a minimum of three concentric rolled beads to ensure unit is round. The damper shall be heavy gauge steel with solid shaft rotating in Delrin or bronze iolite self-lubricating bearings. Nylon bearings are not acceptable. Shaft shall be clearly marked on the end to indicate damper position. Stickers or other removable markings are not acceptable. The damper shall incorporate a mechanical stop to prevent overstroking, and a synthetic seal to limit close-off leakage.

C. ZQCV rectangular terminal shall be designed to slide into the side of a rectangular duct with a maximum 10” long duct opening required. No additional components will be required inside the ductwork for mounting. Gaskets shall be attached to the terminal to provide a seal against the inner duct wall. A flange shall be provided for fastening the terminal to the ductwork with sheet metal screws. The terminal shall be constructed of minimum 22 gauge galvanized steel. The damper shall be opposed blade type with airfoil shaped blades constructed of 14 gauge steel or equivalent thickness extruded aluminum. The damper shall have extruded vinyl blade edge seals and flexible metal compressible jamb seals. Leakage of the damper assembly shall not exceed 2% of the rated flow at 6” w.g.

D. Terminals shall be documented with catalog and test data for sound levels and differential static pressure requirements. The test data shall be the result of testing in accordance with industry Standard ARI 880-89.

E. Controls shall be analog electronic type with integral differential pressure transducer. Actuators shall be capable of supplying at least 35 in-lb of torque to the damper shaft and shall be mounted externally for service access. All control components shall be mounted in a steel enclosure. A static pressure tap and 10’ fo fire-rated tubing shall be provided for field installation.