

## MPSU10 Series

### Power Supply Units for Controlling Multiple Fan Coil Units

#### General

The MPSU10 Series multiple-FCU power supply units (MPSUs) are designed for use with the display control units (DCUs) of the TC10 and TC40 Series digital thermostats or with the network control units (NCUs) of the NT10 Series networking thermostats, and, when wired in cascade connections, are capable of driving multiple fan coil units in unison with one single DCU or NCU mounted on the wall.

These power supply units are most

suitable and cost-effective for multiple fan coil unit installation in a large space such as a general office, which requires a single temperature sensing point only. If and when it is necessary at a later date to convert the space into multiple smaller offices which require separate temperature sensing, more DCUs or NCUs can be added and the existing MPSUs can be reused and rewired to these added DCUs or NCUs.

The number of MPSUs connected in cascade mode to one DCU or NCU is



#### Ordering

To order, specify model numbers of Multiple-FCU power supply units and display control units separately.

### Specifications

Product Model Numbers	For 220 V 50/60 Hz	MPSU10-1 To be used with single-output display/network control units
		MPSU10-2 To be used with both single-output and dual-output Display/network control units
	For 120 V 50/60 Hz	MPSU11-1 To be used with single-output display/network control units
		MPSU11-2 To be used with both single-output and dual-output Display/network control units
Power Requirements	120 V or 220 V $\pm 15\%$ , 50/60 Hz	
Body Material	Self-extinguishing, molded ABS	
Finish	Black color	
Electrical Ratings	On-off control output	Relays, 250 V, 5 A resistive, 1.5 A inductive, 50/60 Hz
	Fan output	Relays, 250 V, 5 A resistive, 3.5 A inductive, 50/60 Hz
Ambient/Storage Temperature Limits	0 to 50 °C / -30 to 50 °C, 10% to 90% RH non-condensing	
Connections	Non-removable Terminal Blocks	
Power Wires	Wire size 1 mm <sup>2</sup> or 18 AWG solid copper recommended	
Sensor Wires	22 or 24 AWG twisted shielded pair double-insulated cable	
PSU/DCU(NCU) connecting Wires	Telephone or Cat 5e multiple twisted-pair cable (shielded or unshielded)	
Agency Approval	CE Mark compliant to EMC and Low Voltage Directives	
Shipping Weight	0.48 kg (1 lb)	
Dimensions	Same as standard power supply units	

*The performance specifications above are nominal and subject to tolerances and application variables of generally acceptable industry standards.  
The Manufacturer shall not be liable for damages resulting from misapplication or misuse of its products.*

#### Wiring Notes

- 22 or 24 AWG twisted shielded pair double-insulated cable is recommended as remote sensor wiring and its length must not exceed 50 m.
- Connecting wires between Display/network Control Unit and Power Supply Unit must not exceed 15 m.
- Connecting wires between CON8 (RJ11 phone jack) at upstream MPSU and CON1 at the downstream MPSU should be of a 5-core telephone or CAT 5e cable and must not exceed 25 m.
- Do not bundle and run power wiring and remote sensor wiring in the same conduit.
- External seasonal changeover sensor or switch is applicable to heat only or cool only 2-pipe models only.
- Hidden-line wiring for Terminals V2 and 6 are applicable to dual-output models only.
- The thermostat outputs are designed for controlling zone valves. If used for controlling electric heaters, external contactors must be used.
- When using the thermostat as a 3-wire on-off/floating controller, V1 output is to open valve and V2 output to close valve.

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## Wiring Diagram for Multiple-FCU Power Supply Units in Cascade Connections

Sensor wires: 22 or 24 AWG twisted shielded pair double-insulated cable

### **WARNING**

Incorrect wiring connection may cause permanent equipment damages to the thermostat.

### Piping Notes:

1. On a single-output unit, V1 can be either a cooling or a heating valve.
2. On a dual-output unit, V1 must be a cooling valve and V2 a heating valve.

