

The TCS/Basys Controls Superstat series of thermostats offer a wide variety of flexible options for energy saving control. All Superstats provide three digital inputs that can accept various status devices such as occupancy sensors, current switches and differential pressure switches for monitoring and/or occupancy overrides.

When Superstats are used as part of a Ubiquity network system, they provide the ideal means to control and override occupancy schedules and digital inputs. Also, filters and equipment such as exhaust fans, motors, compressors, etc. can be monitored, trended and alarmed on-site or to remote PC's and/or pagers.

### Occupancy Application 1:

Built-in clock is programmed for occupied time of 8:00 am to 5:00 p.m. Digital input three is programmed for External Override. Occupancy sensor (**PO Series**) and/or current switch (**PS Series**) from lighting circuit is wired into digital input three. During the unoccupied time period, should occupancy be detected or the light switch be turned on, the Superstat will be overridden to maintain occupied setpoints until no occupancy is detected or the light switch is turned off causing the digital input to open again.

### Occupancy Application 2:

No occupancy schedules are programmed in Superstat. Digital input three is programmed for External

Time Clock. Occupancy sensor (**PO Series**) or current switch (**PS Series**) from lighting circuit is wired into digital input three. When light switch is turned on or occupancy is detected, the thermostat will be switched into the occupied mode to maintain occupied setpoints until the light switch is turned off, or until no occupancy is detected, causing the digital input to open again.

### Filter Status Application:

Digital input three is programmed for Filter Service or digital input one or two is programmed for Monitor. Differential pressure switch (**PD Series**) is wired into the desired input. When differential pressure switch closes digital input, the service light on Superstat comes on signifying the filter needs changing.

### Fan Proving Application:

Digital input one is programmed for Fan Proving. Current switch (**PS Series**) is wired into digital input one.

On a call for the fan to turn on, and after a time delay of thirty seconds, if digital input one does not see a closed contact, the thermostat will shut down the system.

### Manual Setback Application:

Schedules are programmed for twenty-four hour occupancy, digital input two is programmed in the Monitor mode and a setpoint shift value is programmed. Manual On-Off switch is wired into digital input two. When switch closes digital input two, the

## Superstat Occupancy and Digital Input Applications

Superstats' heating setpoint lowers and the cooling setpoint raises by the programmed number of degrees. When switch opens digital input two, the Superstats go back to their programmed occupied setpoints. This type of setup can be used to manually setback one or more thermostats at the same time.

### Time Schedule Output Application:

The TCS/Basys Controls Superstats (except the SZ1009) provide a time clock output relay that can be used to control equipment such as a damper, packaged economizer or lighting circuit when the thermostat goes occupied or unoccupied. This output will coincide with either the programmed schedule in the Superstat or with any of the occupancy and override scenarios mentioned previously in this section. An encased pilot relay (**PR Series**) can be used to switch the load on the device to be controlled.

### equipment schedule

Application	Mod. Number	Digital Input
Occupancy App 1	Any Superstat	PO or PS Series
Occupancy App 2	Any Superstat	PO or PS Series
Filter Status App	Any Superstat	PD Series
Fan Proving App	Any Superstat	PS Series
Manual Setback App	Any Superstat	On-Off Switch
Time Sched. Output App	Any Superstat (except SZ1009 & SZ1041)	PR Series (output)

