Escort5580TC and EMS-100 – Thermostat Output Control

Application: This application will provide an example for setting the temperature depending on the armed status of the panel. The Escort will change the temperature to the programmed setting when the panel is armed in the Stay or Away setting, or when disarmed.

Equipment:

- Power 832 v2.x or greater
- LCD5500 v2.1 or greater (optional)
- Escort5580TC Module
- EMS-100 Thermostat
- EMS-ITS Internal Temperature Sensor (optional)
- EMS-OTS Outdoor Temperature Sensor (optional)

Special Notes:

1. The Application Note assumes that the EMS-100 will be used to control both heating and cooling.
2. The user cannot 'temporarily' change the temperature. Any time the user manually changes the temperature set point for an Occupancy Setting, it will change to the new setting.

Program Sections:

Escort Section [800]	- Thermostat 1 Options
Escort Section [803]	- Thermostat 1 Day Setting Output Option
Escort Section [804]	- Thermostat 1 Day Setting PGM Output
Escort Section [808]	- Thermostat 1 Night Setting Output Option
Escort Section [809]	- Thermostat 1 Night Setting PGM Output
Escort Section [818]	- Thermostat 1 Away Setting Output Option
Escort Section [819]	- Thermostat 1 Away Setting PGM Output
Panel Section [010], [143]	- PC5208 PGM Output Programming

Procedure:

For information regarding how the Escort is programmed, please refer to the Escort5580TC Installation Manual.

Step 1 – Thermostat 1 Options – Escort Section [800]

- Turn Option [01] ON to enable the thermostat.
- Turn Option [02] ON if an EMS-OTS outdoor temperature sensor is connected.
- Turn Option [03] ON if the thermostat will be used to control heating.
- Turn Option [04] ON if the thermostat will be used to control cooling.
- Turn Option [05] ON so the Day Occupancy Setting will always activate by output control.
- Turn Option [06] ON so the Night Occupancy Setting will always activate by output control.
- Turn Option [07] OFF as the Aux Occupancy Setting will not be used.
- Turn Option [08] ON so the Away Occupancy Setting will always activate by output control.

Step 2 – Thermostat 1 Day Occupancy Setting Output Option – Escort Section [803]

Program data [01] for output control only. The user will always have manual control as well.

Step 3 - Thermostat 1 Day Occupancy Setting PGM Output – Escort Section [804]

Program data [03]. The Escort will adjust the temperature to the value programmed for the Day Occupancy Setting when PGM Output [03] is activated by the panel.

Step 4 – Thermostat 1 Night Occupancy Setting Output Option – Escort Section [808]

Program data [01] for output control only. The user will always have manual control as well.

Step 5 - Thermostat 1 Night Occupancy Setting PGM Output – Escort Section [809]

Program data [05]. The Escort will adjust the temperature to the value programmed for the Night Occupancy Setting when PGM Output [05] is activated by the panel.

Step 6 – Thermostat 1 Away Occupancy Setting Output Option – Escort Section [818]

Program data [01] for output control only. The user will always have manual control as well.

Step 7 - Thermostat 1 Away Occupancy Setting PGM Output – Escort Section [819]

Program data [04]. The Escort will adjust the temperature to the value programmed for the Away Occupancy Setting when PGM Output [04] is activated by the panel.

Step 8 – PGM Output 03 to 10 Programming – Panel Section [010], [143]

Three different outputs are needed; stay arm, away arm and disarm. To get an output to activate for disarm status, we must 'invert' an output programmed for armed status.

Section [010] - Program the following:

PGM 03	data [05]	data [05] for 'Armed Status'
PGM 04	data [17]	data [17] for 'Away Arm'
PGM 05	data [18]	data [18] for 'Stay Arm'

Section [143] – Program the following:

Turn Option [1] ON	enable partition 1
Turn Option [2] ON	enable partition 2
Turn Option [3] OFF	will 'invert' the output – instead of activating when the panel is armed, the output will activate when the panel is disarmed.

Operation: When the panel is armed in the 'stay' setting, the panel will activate PGM Output [05] and the Escort will adjust the temperature to the value programmed for the Night Occupancy Setting. When the panel is armed in the away setting, the panel will activate PGM Output [04] and the Escort will adjust the temperature to the value programmed for the Away Occupancy Setting. When the panel is disarmed, the panel will activate PGM Output [03], and the Escort will adjust the temperature to the value programmed for the Day Occupancy Setting.