Emergency Stop Control (Smoke Detector)

This Bulletin provides explanation of, and field instruction for, using an external input for shutdown of all Airstage equipment within one refrigerant system upon a smoke detector or fire control panel event. For complete I/O use and function, please refer to the applicable Indoor Unit Installation Manual and Design and Technical Manual, D&T.

Items required: (See also 2. Control Circuitry)

(1) Fujitsu accessory part # UTY—XWZXZD
(1) 3rd party smoke detector- Must provide NO (Normally Open) dry contact

1. External input description

a. Airstage indoor units provide an external input function that can be used to shut down a single refrigerant circuit upon a smoke event, when connected to a 3rd party smoke detector or fire control panel. This is referred to as an "Emergency Stop" function within the indoor unit Installation Manual and D&T. Smoke detection devices may include, but are not limited to:
   - Smoke detector
   - Fire Control Panel

2. Control circuitry- The 3rd party smoke detector contact is wired as an external input to the Airstage indoor unit control board. The 3rd party smoke detector must be equipped with a set of NO (Normally Open) dry contacts per indoor unit connection.
   a. Fujitsu accessory- An external input accessory wiring harness is required:
      i. UTY-XWZXZD
   b. Control signal- The 3rd party smoke detector NO contacts are wired as an external input to the indoor unit connector, CNA02.

3. External input "Emergency Stop" sequence of operation- The Airstage system operates until a smoke event is detected by the 3rd party smoke detection device. When the indoor unit senses the contact closure from the smoke detection device, all indoor units and outdoor unit(s) within the same refrigerant circuit are immediately shut down. The system will resume operation when both conditions are met:
   a. Smoke device contacts OPEN
   b. Unit ON command from Remote Control, System Controller, etc.

Input signal	Unit Operation
OPEN	ON
CLOSED	OFF

4. 3rd party smoke detector control wiring- See Fig. 1, page 3.
   a. Connect Fujitsu accessory UTY- XWZXZD to indoor unit control board connector CNA02 (connector locations may vary upon unit model number)
   b. Wire the smoke detector NORMALLY OPEN contacts to indoor unit connector CNA02 pins 1 and 3.
   c. Wiring notes:
      i. Use 22 AWG twisted pair wiring from the indoor unit to the DC relay ("Fujitsu Pink" Honeywell Catalog # 3254 acceptable)
      ii. Cable maximum length from indoor unit to smoke detector: 492' (150m)
      iii. Keep twisted pair wiring separate from line voltage wiring
      iv. All accessory UTY-XWZXZD connections should be soldered and insulated or made with butt type crimp connectors.
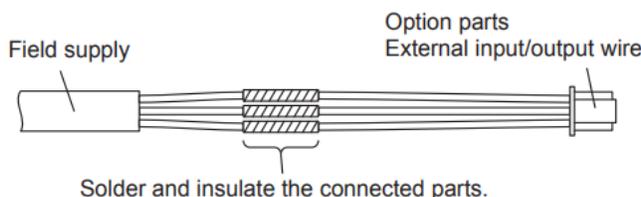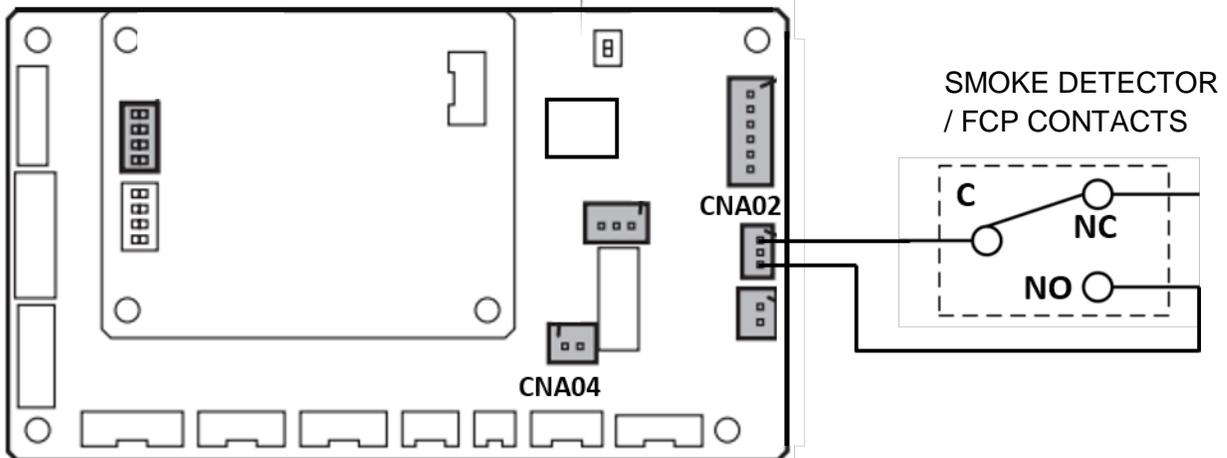   1. Wire nuts not permitted

Field supply

Option parts
External input/output wire

Solder and insulate the connected parts.

NOT APPROVED   APPROVED

Fig. 1

SMOKE DETECTOR / FCP CONTACTS

CNA02

CNA04

5. Function codes- A function code change is required in order to enable the "Forced Stop" feature of the indoor unit.
   a. Indoor unit function code change may be performed from either:
      i. Wired Remote control
      ii. Service Tool
   b. Function code 46
      i. Change setting number to "01" for Emergency Stop
      ii. Cycle power at the indoor unit to enable the Function code change

External control	46	00	Start/Stop	○	Allow an external controller to start or stop the system, or to perform an emergency stop.
		01	Emergency stop		* If an emergency stop is performed from an external controller, all refrigerant systems will be disabled.
		02	Forced stop		* If forced stop is set, indoor unit stops by the input to the external input terminals, and Start/Stop by a remote controller is restricted.

6. Additional notes:
    a. Emergency Stop operation must be tested by activation of every 3rd party smoke detection device.
    b. D&T Manual for complete Emergency Stop up and use details.
    c. Redundancy is recommended to additional indoor units and outdoor unit for Emergency Stop function.
    d. Fujitsu General America is not liable for emergency stop control design or operation.
    e. Emergency Stop function must be approved by local code.

7. Additional indoor unit control option references:

Indoor Unit Function	Service Bulletin
Auxiliary Heat Control	S030a
3rd Party Condensate Pump Shutdown	S030b
Occupancy Sensor Control	S030c
Proximity Sensor Control	S030d
Smoke Detector / Emergency Stop Control	S030e
Fresh Air / Exhaust Interlock	S030f
Indoor Unit External Error Notification	S030g

Application Engineering Bulletin	AE Bulletin
I/O External Input and Output Use	AE030

Please contact your local Airstage Distributor or Fujitsu General America Incorporated for technical assistance:

FGAI Technical Support- (866) 952-8324 8:00 a.m. – 8:00 p.m. EST, Monday - Friday