



KS20 Catering Kitchen Ventilation Interlock Controller



- For use in commercial kitchens where all gas appliances have flame safeguards
- Touchpad control panel
- Unique, programmable access code
- IP66 enclosure
- Continuously monitors ventilation interlocks
- Can be used to start ventilation systems
- Designed to allow compliance with BS6173:2009

Application

The Duomo KS20 Catering Kitchen Ventilation Interlock Controller monitors mechanical ventilation operation and efficacy in commercial catering establishments - hotels, restaurants, school kitchens, canteens etc. Should ventilation rates fall below design or environmental limits, specified by documents such as IGEM UP/19 and DW172, the gas supply to the kitchen will be automatically isolated.

Keycode start up ensures that only authorised personnel are able to initiate the gas supply to the appliances.

The KS20 controller is compatible with the following Duomo ventilation interlock methods:

1. Differential Air Pressure Switch (Duomo Part Ref.: ADP10)

- Adjusting range: 20-300 Pa
- Max. inlet pressure: 5000 Pa
- Switching hysteresis: 8-18 Pa
- Compliant with 73/23/EEC
- IP54 rating



2. Fan Power Monitors (Duomo Part Ref.: FP45S or FP45D)

- Digital display
- Monitors extract and/or supply fans
- Adjustable thresholds
- IP65 protective rating
- Conforms with EN50022



3. Carbon Dioxide Alarms (Duomo Part Ref.: CO2 Alarm)

- 100 - 277V AC Supply Voltage
- 2 x pre-configured alarms
- NDIR sensing technology
- Optional audible alarm
- Digital display of carbon dioxide levels (ppm)



4. Auto Reset Gas Solenoid Valve (Duomo Part Ref.: VMR)

- From 1/2" BSP - 8" Flanged
- EN161 compliant
- Fast action opening
- Normally closed
- Intrinsic safety features
- Easy to install and wire



Operation

1. Turn on the KS20. A self diagnostic test is performed. Upon completion the POWER light is lit.

2. Enter the numeric code (see Initial Password Setup).

3. Press tick to confirm the code. If the code is correct there are 3 short beeps. NOTE: In case of an incorrect code entry a 1.5 second beep will be heard.

4. During the ventilation proving phase the AIR light will flash until the ventilation interlocks are satisfied that the air flow is sufficient. If the interlocks do not signal good air flow within 30 seconds the KS20 will lockout and flash the AIR light accompanied by an intermittent beep. This can be reset by pressing the STOP button on the panel fascia.

5. After a successful test the GAS light will flash for 30 seconds then illuminate and electrical supply will be provided to the auto reset gas solenoid valve.

6. To stop the gas either:

- Press a remote emergency stop push button or,
- Press the STOP button on the panel fascia.

7. If the air fails during a run condition the AIR light will flash and this will be accompanied by an intermittent beep.

8. After any fault condition re-enter the key code and confirm with the tick button.

Initial Password Setup*

To enter password configuration mode, press and hold keys 1, 6 and 7 together for 5 seconds until the keypad backlight turns red.

2. Enter the numeric password you want to use (1 to 8 characters in length). At each press the active key will turn off momentarily. Press the ✓ to confirm the code.

3. Press the CANCEL key to exit configuration mode at any time, leaving the password unchanged.

*Default password is 1, 2, 3, 4.

Warranties

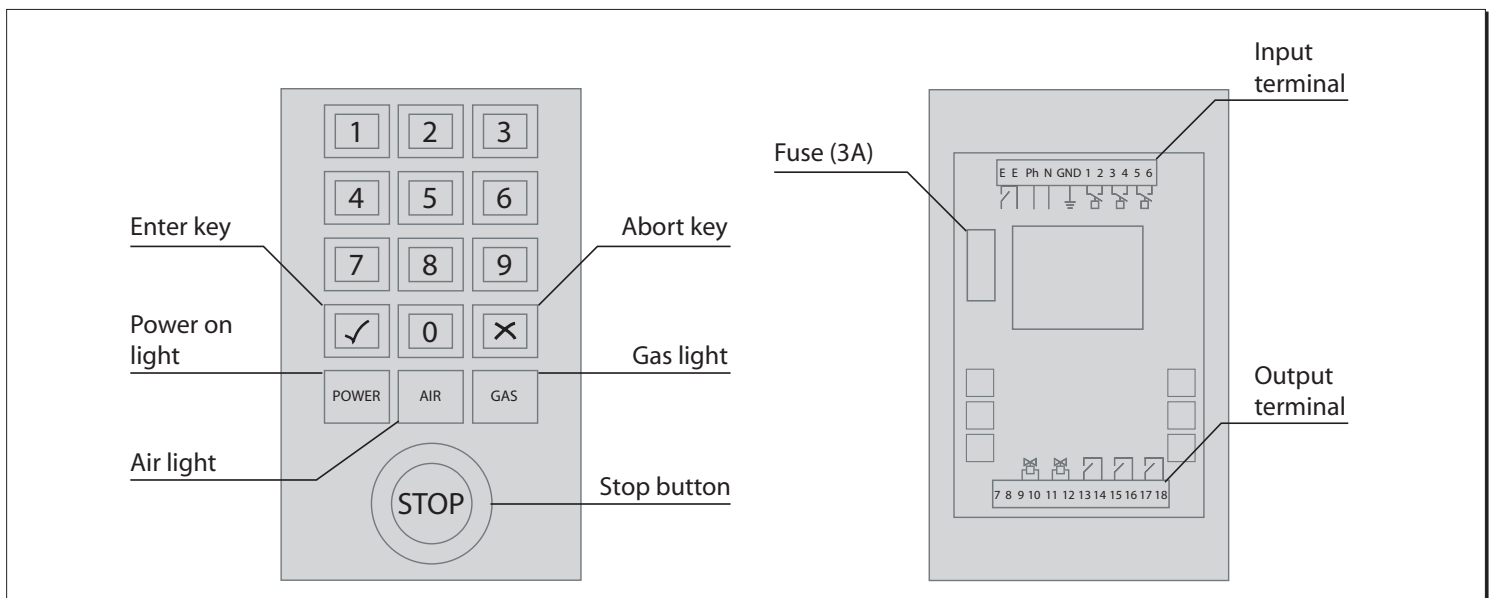
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Fault Memory

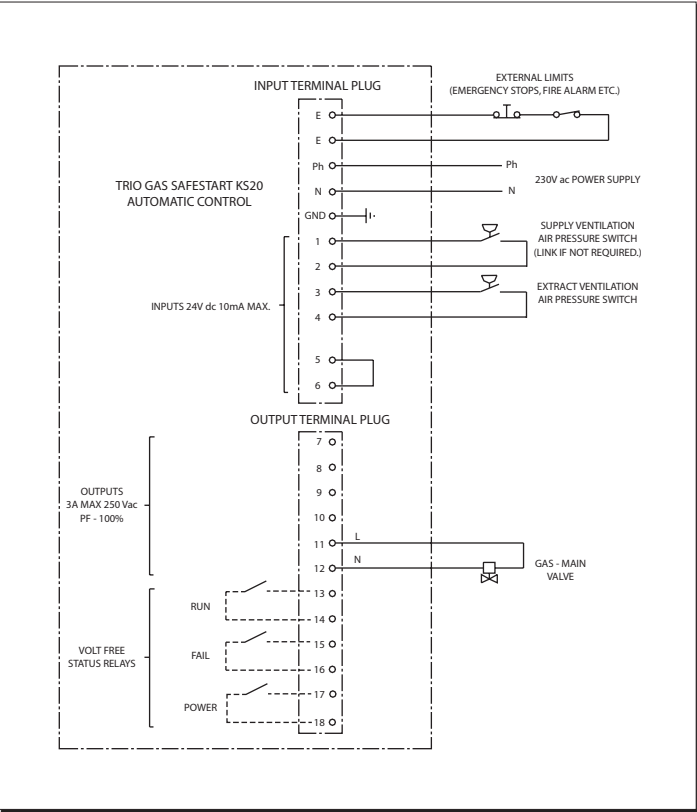
The Trio Safestart features a unique 'fault memory' system. When the unit goes into alarm, the cause is logged in an internal memory. The next time the unit is powered up, the last cause of alarm (either Power, Air or Gas) will flash during the self diagnostic stage allowing an engineer to quickly diagnose the fault on site.

Keypad & Internals



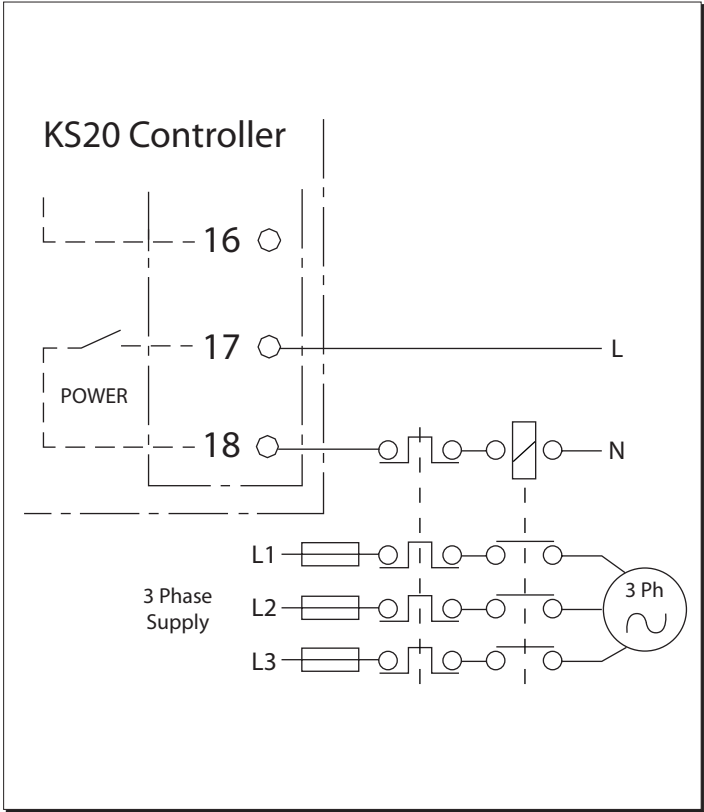
Keypad (Fig. 1)

Wiring Diagrams

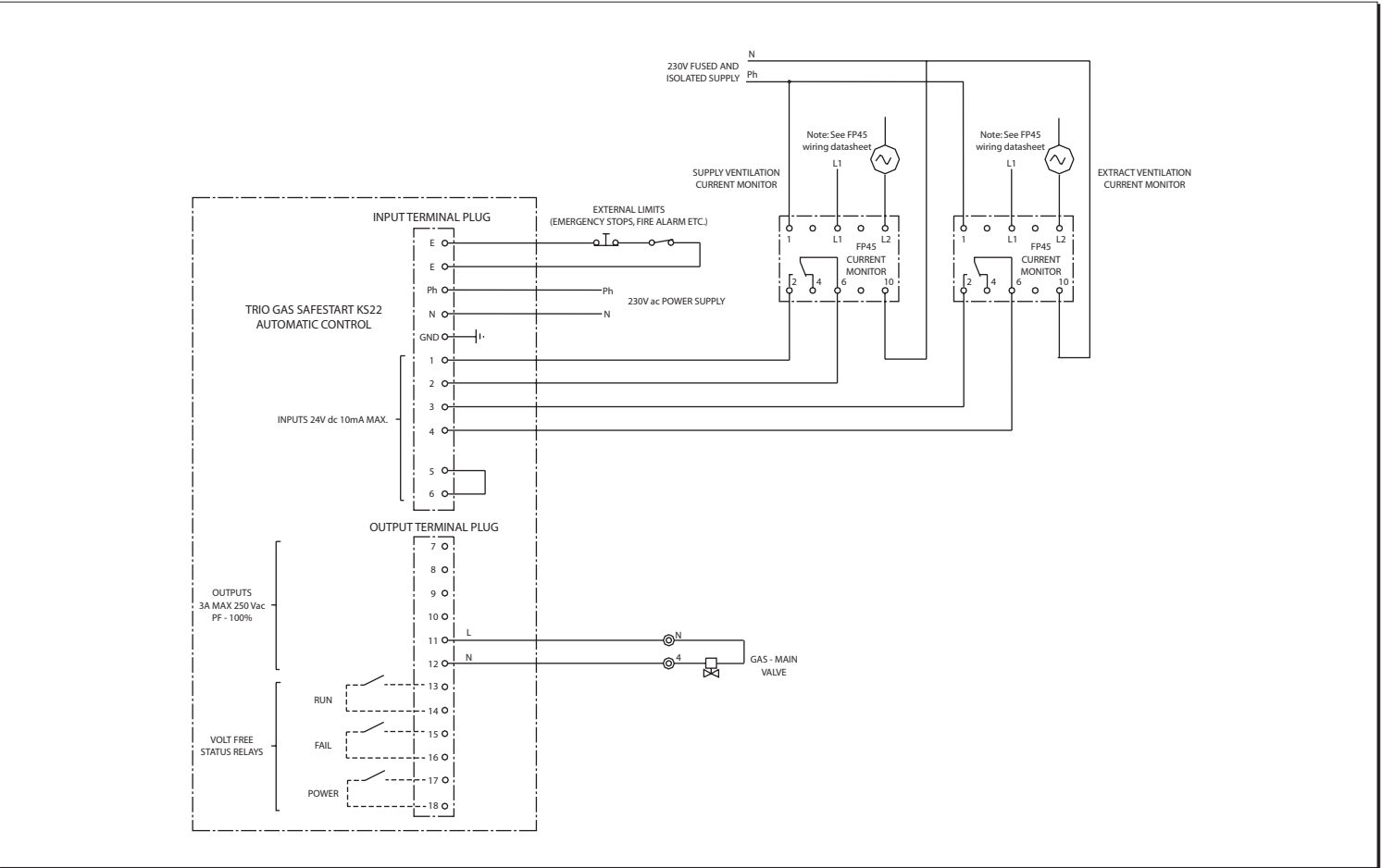


A Typical electrical connection for a commercial catering kitchen when flame failure devices are fitted to all gas appliances. This system shows ADP10 air pressure switches for supply and extract (Fig. 3)

Typical Motor Connection

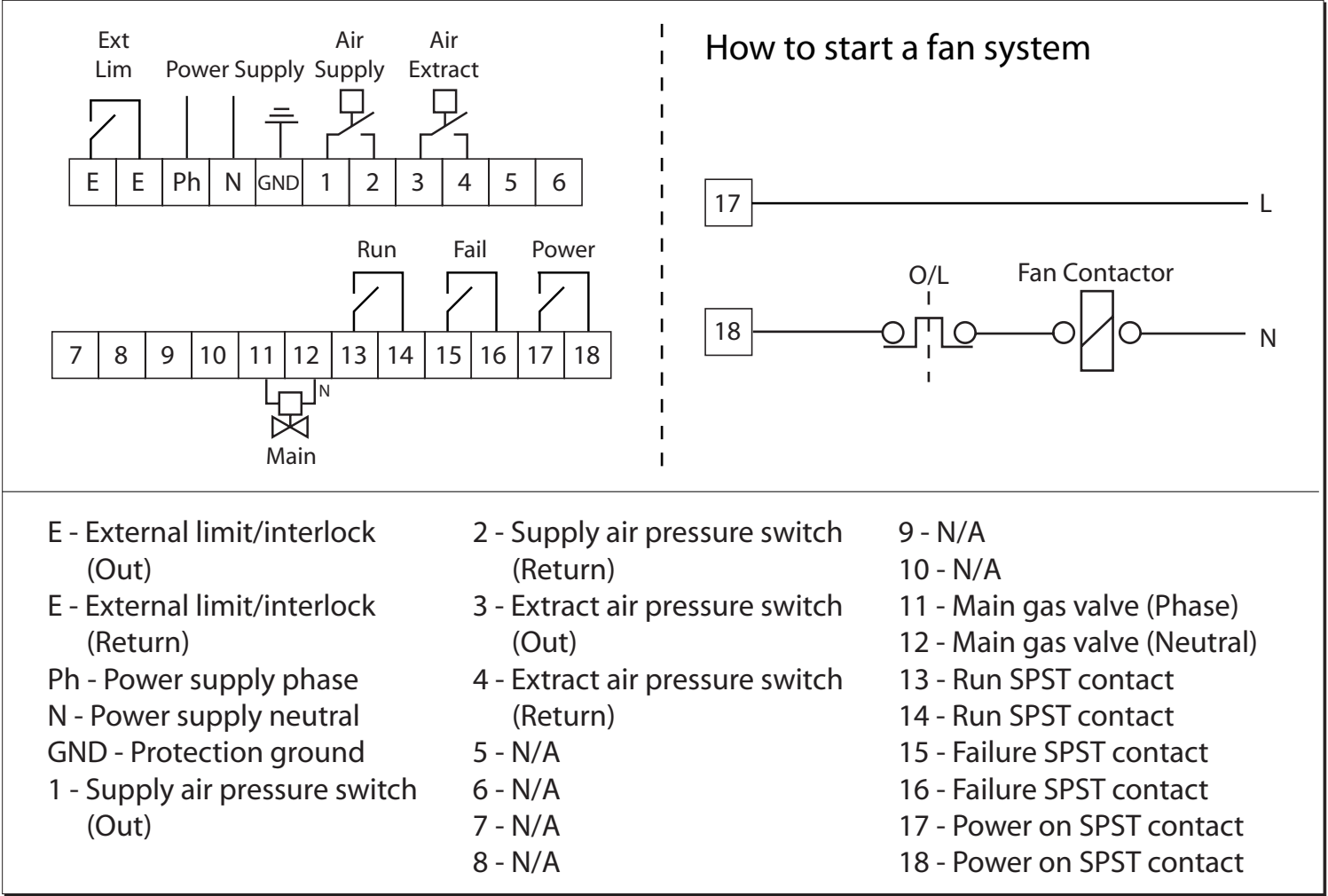


Schematic showing a typical motor connection for the KS20. NOTE: DO NOT connect motor load directly across terminals 17 & 18. An auxiliary contactor MUST be used.



A Typical electrical connection for a commercial catering kitchen when flame failure devices are fitted to all gas appliances. This system shows FP45D current monitors for supply and extract air (Fig. 5)

Terminal Block

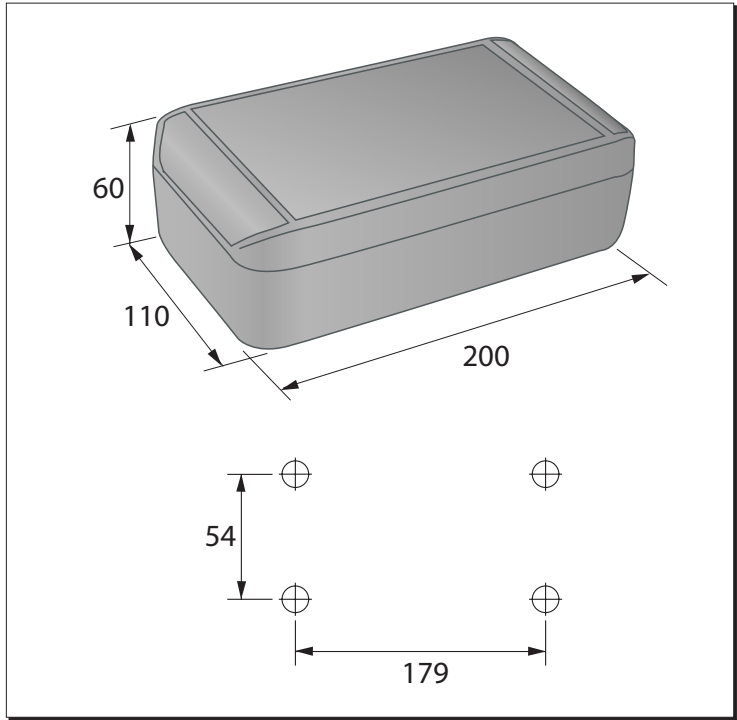


Terminal block layouts (Fig. 6)

Specification

Supply voltage	230 V ±15%
Frequency	50/60 Hz
Power consumption	7 VA max
Max out switching voltage	250 Vac / 100 Vdc
Max out current (all relays)	3 A
Max out breaking capacity	2500 VA
Out contact operations	> 100 x 103
External limit contact	> 3A @ 250Vac
Line fuse 5x20mm	SLOWBLOW 3 A
Operating temperature	0 to 60 °C
Storage temperature	-20 to 80 °C
Gasket silicon	-40 to 120°C
Relative humidity	Also condensing 90 % max
Enclosure	ABS/FR -40°C ÷ 80°C halogen free
Dimension	200x110x60 mm
Colour	Light grey RAL 7035
Protection class (EN69529)	IP66
Flame retardant	UL94 V-0
Mounting position	Any
Weight	<1Kg max

Dimensions



KS22 dimensions (Fig. 7)

