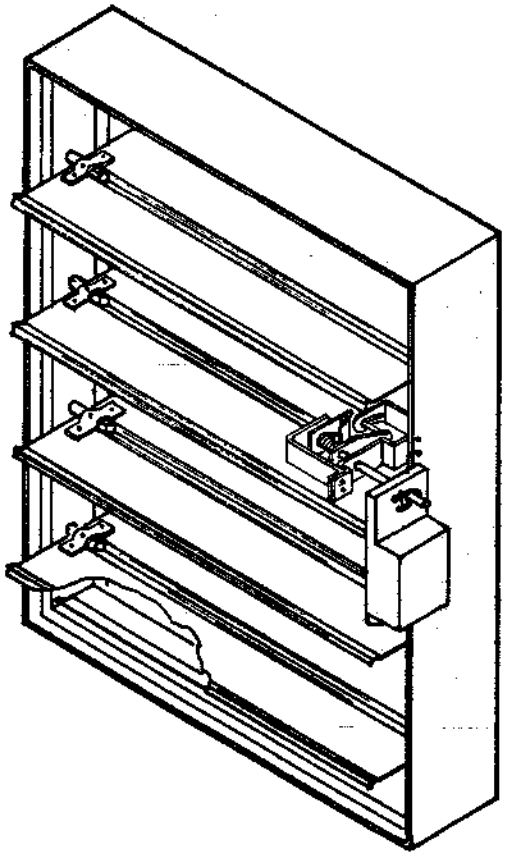
GOLDEN STAR®

SAUDI AIR CONTROL SYSTEM
INDUSTRIAL REGISTRATION N0.353



COMBINATION FIRE/SMOKE

DAMPER

النجمة الذهبية

المصنع السعودي لفتحات وضوابط توزيع الهواء
ترخيص صناعي رقم ١١٣/ص

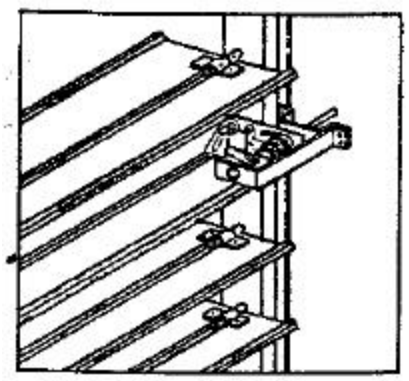
IMPORTANCE OF COMBINATION FIRE/SMOKE DAMPERS IN AIR DUCT SYSTEM !

Safety to life, is always the primary concern. Due to the ability of a duct system to convoy smoke, hot gases and fire itself from area to area, and to accelerate a fire occurring within an air duct system, fire protection of a duct system is essential to safety to life and protection of property.

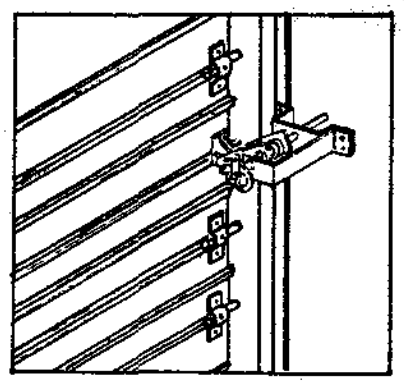
The movement of smoke thru ducts creates hazard unique to buiidinqs equipped with air duct systems. The smoke carried by relatively cool air (system coolinq mode)prec-. edes hot air that delay to actuate heat responsive devices (such as fusible link), yet the cooler smoke can be distributed in sufficient quantity to cause injury or death, damage to property/ or a tendency toward panic. Therefore a smoke response damper is more successful in this situation. GOLDEN. STAR Combination Fire/Smoke damper actuator operate up on an early signal receiving from a duct smoke detector to close the damper eventhough fusible link is intact, Thus prevent smoke spread out thru duct system . (keep fire resistive integrity of their separation). In certain cases (mainly system heating mode), Fusible link of combination damper will actuate first and takes control from damper operator, closing damper to prevent fire or smoke spread out-Even in first case, that is damper in smoke mode and fire has been not extinguished and damper 'sees' elevated temperature,

Fusible links override the motor control and lock the damper for tight Fire & Smoke Seal. In other words the system falls back to second line of defense.

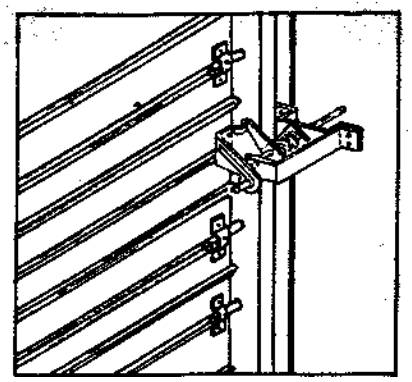
GOLDENSTAR Combination Fire/Smoke dampers engineered to prevent smoke or fire spread thru air duct systems in early stages of a fire. Thus providing significant contribution to the engineered smoke & fire control system.



A - Damper positioned by actuator (Normal damper operating mode.)



B - Damper closed by actuator (Smoke damper mode) Damper actuator received a signal from smoke detector or a general power failure.



C - Damper closed & locked (Fire mode) Fusible link separated from damper link assembly due to high temp. & Damper locked as is required in fire situation.

SAUDI AIR CONTROL SYSTEM

COMBINATION FIRE/SMOKE DAMPER

MODEL GFS-25

DESIGN FEATURES

- Dual function; meet NFPA standard-90A for fire/smoke damper.
- Minimum holding torque requirement; due to the advanced design of linkage and nagator Spring assembly operating or holding torque of damper actuator reduced compare to any competitor and consume merely 5 watts at 24 vac.
- Built-in rotation limit; prevents actuator from inadvertently locking damper to allow for remote testing and automatic reset.
- Built-in damper locking facility; to lock and tight seal off blades in fire situation,
- Actuator micro switch (option) facilitate damper status of operation in remote location.

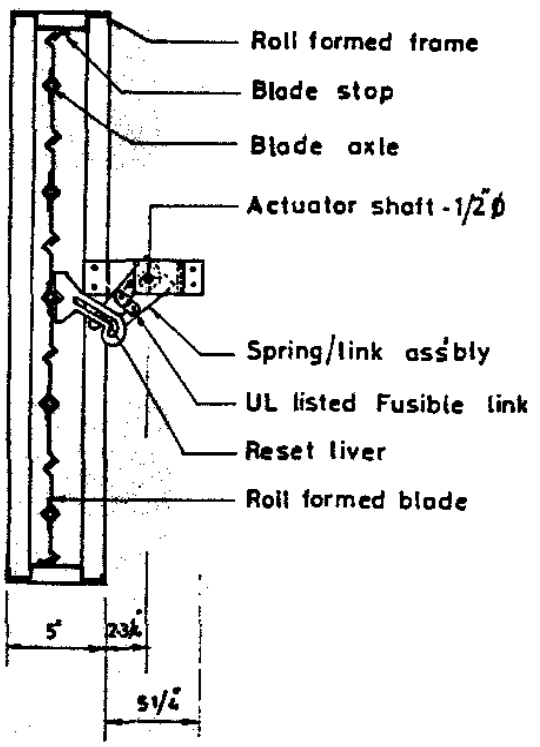
-Rated 3 hours as standard ; meet UL/ULC requirements as a fire damper.

-Fail proof operation; due to its kind of design assure fail proof operation after prolonged period of installation.

-Low leakage; Precision blade ass'bly assure low leakage in critical fire situation.

-No restriction in mounting; mount vertical or horizontal keeping fusible link facing to air flow direction.

-Can be adapted for jack shafting for multi sections.



CONSTRUCTION FEATURES

FRAME -Roll formed Hat channel galvanized steel -16 gauge.

BLADES - Roll formed triple'V' galvanized steel -16 gage.

BEARINGS -Self oiling bronze.

LINKAGE - ConcealLINKAGE- Concealed 1/8"X1/2" Plated steel.

FUSIBLE LINK -UL Listed 165°F standard 212°F available as option

FINISH - Mill galvanized-ASTM A 525

MINIMUM SIZE - 6" X 8" (W X H)

MAXIMUM SIZE - Single section 36"X 48"
Multiple section 72"X *48"* "

ACTUATOR - Spring return two position 24 vac.

COMBINATION FIRE/SMOKE DAMPER MODEL

GFS-35

CONSTRUCTION FEATURES

FRAME - Roll termed Hot channel galvanized steel -16 gauge

CASING - Galv. steel welded construction. Sheet thickness varies depend size of damper.

BLADES - Roll formed triple V' galv. steel -16 gauge –

BEARINGS - Self oiling bronze.

LINKAGE - Concealed 1/8"X 1/2"plated steel:

FUSIBLE LINK - UL listed 165°F standard 212° F available as option

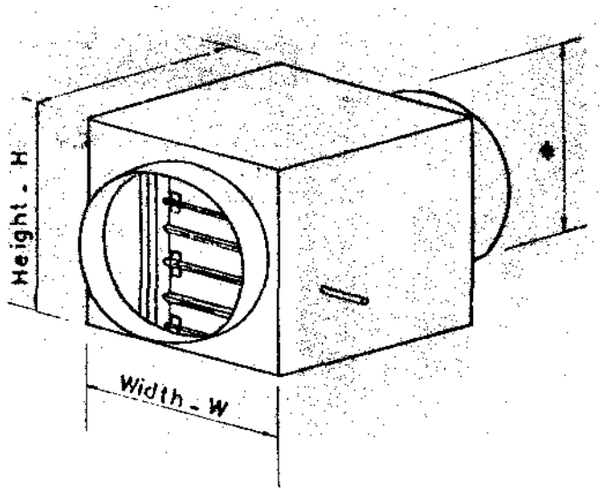
FINISH - Mill galvanized-ASTM A 525

MINIMUM SIZE - 6"X8"(WXH) 4"ϕ Collar.

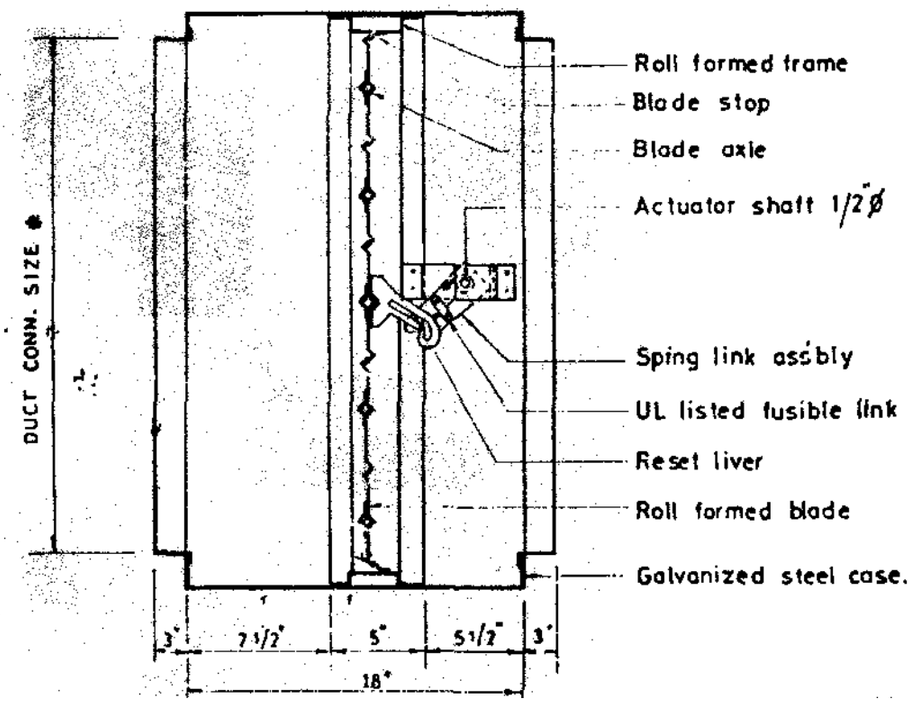
MAXIMUM SIZE: - Single section 36"X36"(34" ϕ)

Multiple section 72"X36"(70X34"ov.)

ACTUATOR - Spring return two position 24 vac.



* Specify duct connection type and size along with W X H dimensions while ordering.(Round or Oval or rectangular.)



SMOKE DAMPER

MODEL-GS 15

APPLICATION

GOLDENSTAR" Smoke damper Model GS 15 specially designed to use in engineered smoke control system.

a) Function as a smoke partition in air duct system (HVAC)

b) Provide air to other areas of a building during a fire emergency in smoke control system.

c) Provide pressure differentials during a fire emergency in smoke control system.

d) Provide isolation of air handling equipment (including filters) from remainder of the system during a fire emergency or to close automatically when the system is not in operation .

DESIGN FEATURES

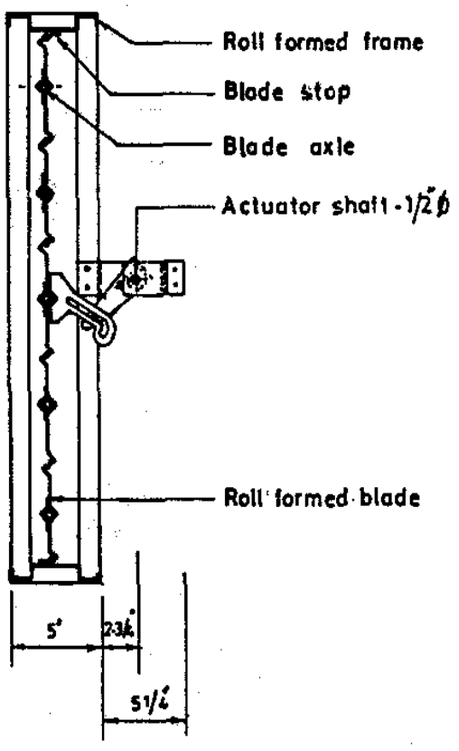
-Rated tor 3 hours ; meet UL/ULC requirem ents and NFPA standard 90A for smoke damper.

-Minimum torque; due to advanced design operating or holding torque of damper actuator reduced compare to any compitator and consu-me merely 5 watts at 24 vac.

-Low leakage; built-in actuator spring provide sufficient tension to seal off damper blades during its close position assure low leakage.

-No restriction in mounting ; mount vertical or horizontal as required.

-Can be adapted for Jack shafting far multi Sections.



CONSTRUCTION FEATURES

FRAME	-Roll formed Hot channel galvanized steel - I6 gauge.
BLADES	-Roll formed triple'V' galvanized steel -16 gage.
BEARINGS	-Self oiling bronze.
LINKAGE	- Concealed 1/8"X1/2" Plated steel.
ACTUATOR	-Spring return two position 24 vac.(120/220V Optional)
FINISH	- Mill galvanized.ASTM A525
MINIMUM SIZE	- 6"X8" (W X H)
MAXIMUM SIZE	- Single section 36"X 48" Multiple section 72"X48"

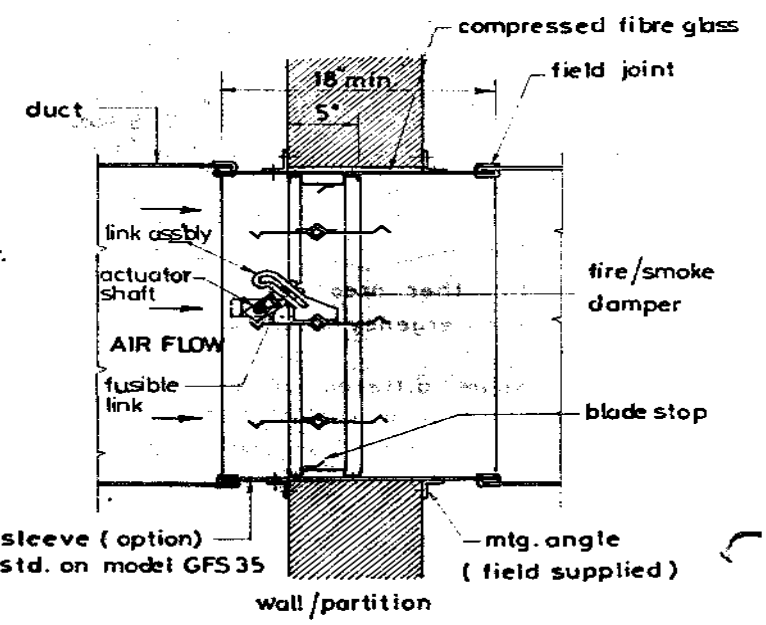
Suffix 'R' for round and 'OL' for oval duct applications to standard model.

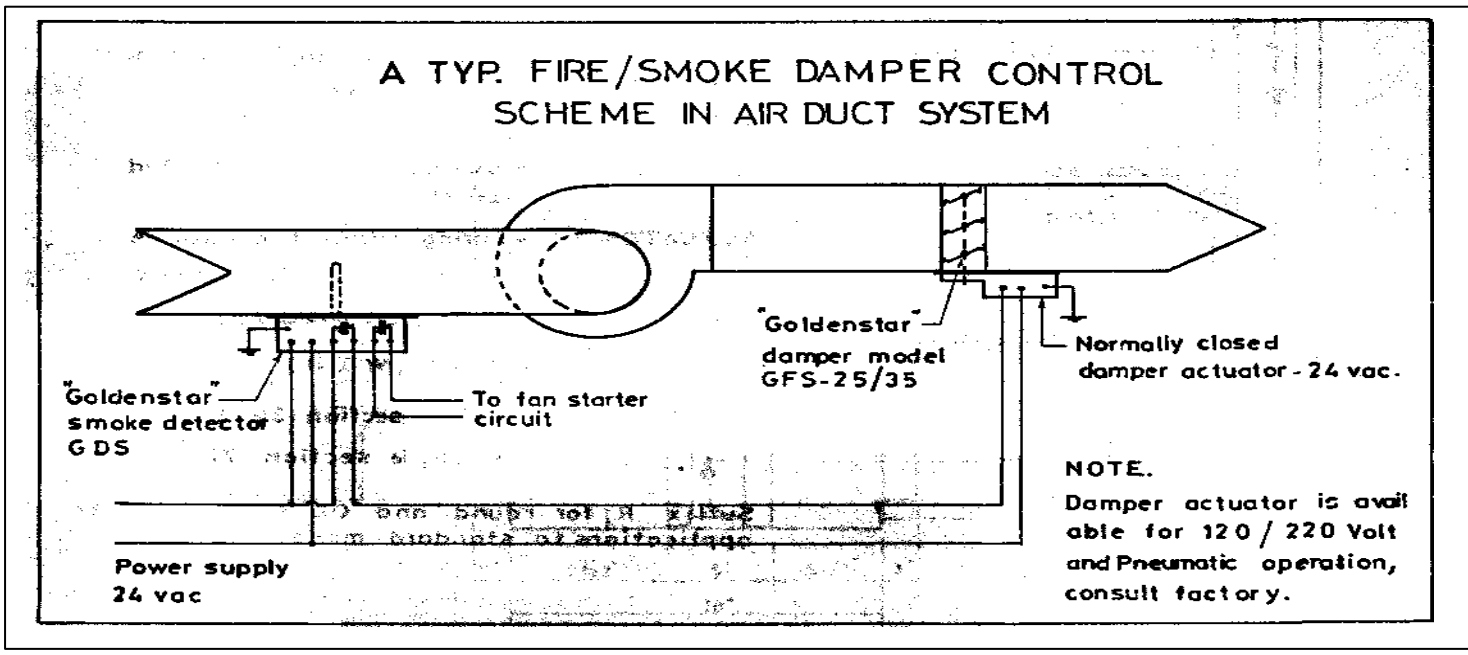
SAUDI AIR CONTROL SYSTEM

INSTALLATION INSTRUCTION MODELS
GFS 25/35 &GS15

A typ. installation of GOLDENSTAR fire/smoke damper shown-Sleeve can be supplied as option with damper ready to install (sleeve is std. on model GFS-35) Sleeve gauge shall be same thick as duct. Following are the SMACNA recommendation for installation

a) Provide wall opng. at least 1/4* larger than damper
b) Locate damper as shown in figure. H sleeve is field supplied, damper, shall be tak welded, bolted or riveted (steel rivet) to the sleeve prior to place in position.
c) Fill the clearance (if greater than 1/4") between sleeve and opng. by compressed fibre glass. insulation.
d) Retain the damper sleeve in position by 11/2"X11/2"X1/8" thk. M.S. angle and riveted, bolted or tak welded to sleeve at every 12" intervals.
e)Connect duct to the sleeve by any one of SMACNA approved joints (plain.S slip, hemmed 5 slip, standing S etc). Donot screw or rivet the joints.





GOLDEN STAR®

SAUDI AIR CONTROL SYSTEM

FIRE/SMOKE DAMPER ACCESSORIES

GDS
DUCT SMOKE DETECTOR

RELIABILITY

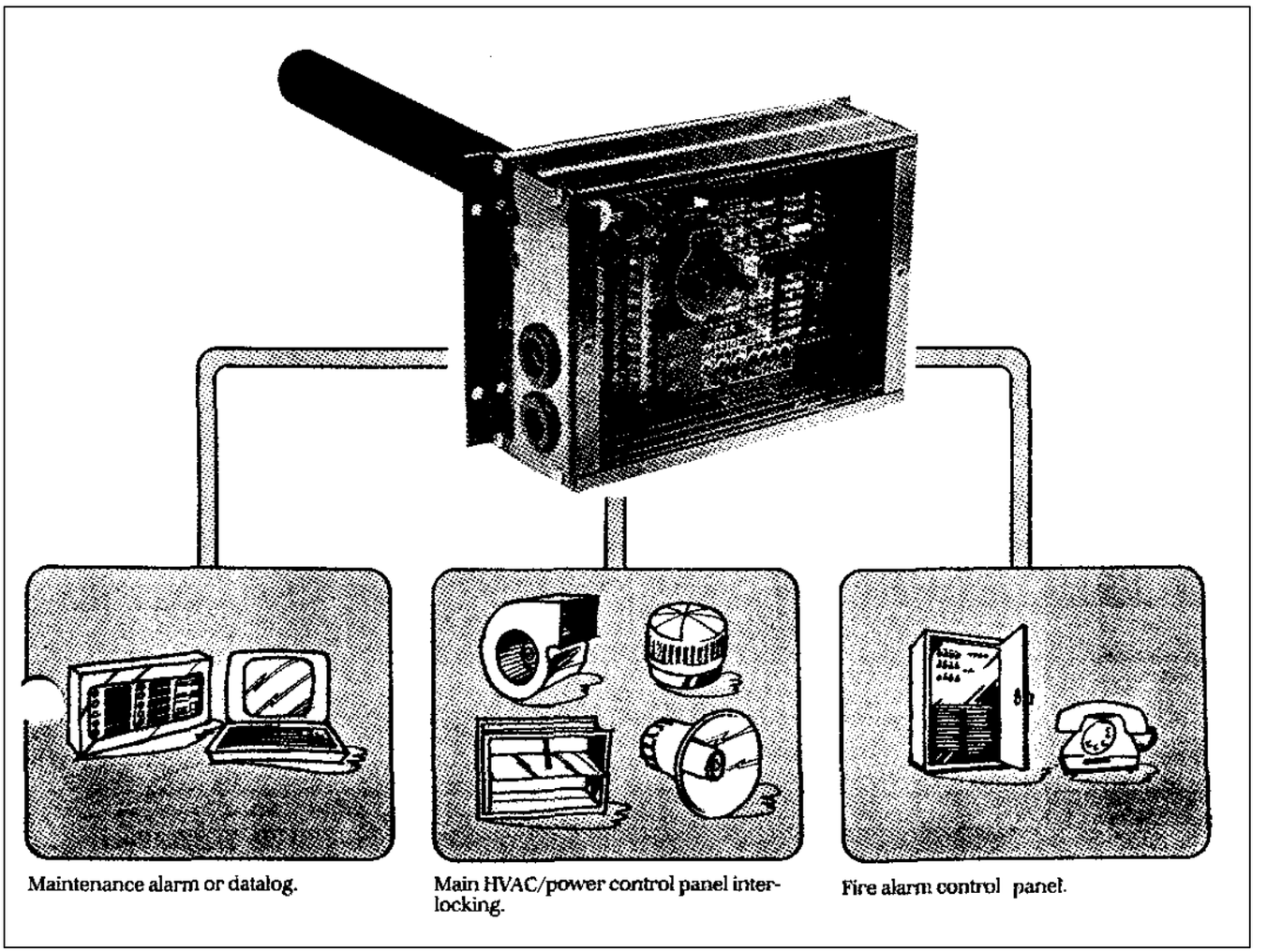
- Very high sensitivity.
- Positive sensing directly in the air duct.
- Electronic accuracy.
- Two distinct level of smoke alarm.

MONEY SAVING

- Built-in maintenance alarm.
- Longer periods between cleaning
- No periodic maintenance check.
- Minimal risk of smoke alarm.

TIME SAVING

- Self monitoring for cleanliness.
- Self calibrating for dirt buitd-up.
- Simple to clean
- LED indication of status



Maintenance alarm or datalog.

Main HVAC/power control panel interlocking.

Fire alarm control panel.

GDS - data overview

CONSTRUCTION

The GDS duct smoke detector is designed for mounting in HVAC duct work and consists of:

1. ELECTRONIC SENSING HEAD

-U.Profile extruded aluminum enclosure finished in ruby red lacquer. The U-profile enclosure is formed with channels to carr y a printed circuit board.

-Printed circuit board with necessary electronics. function switches, test switches and LED indication lamps.

-Pin connector for electrical connection of the sensing element.

-Terminal block for connection of power supply and alarms.

-Externally accessible indication lamp and reset push button.

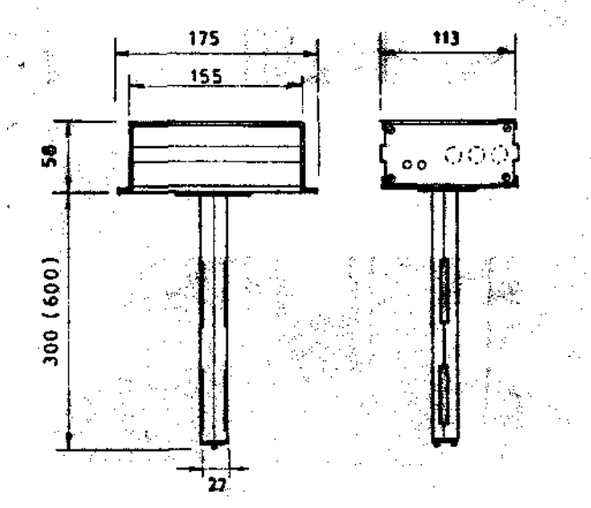
-Cable entries

2. DUCT PROBE

-Duct probe of extruded aluminum in matt black non reflective finish with channels to carry.

-Retractable sensing element with emitter and receiver.

DIMENSIONS (mm)



TECHNICAL DATA

Power supply	-24VAC,50....60Hz. 24 VDC
Power consumption	-0.6VA(25mA) Nominal 2.0VA(83 mA) during alarm .
Max. power of common alarm indication(term3)	-30 VA
Alarm/service relays	-125 VAC/50 VA 150VDC/30 VA 1 A max. Analogue output-1* - 0-10 V proportional to received signal (obscuration)
Analogue output - 2*	10 V= full signal received - 0....10 V proportional to the amount of recalibration O..V-clean,10 V- dirty
Measuring intervals	
for smoke	-Continuous 4s cycles
for service	- 1 hour
Reset/Start or Reset routine	- With push button on side of unit or by break in power supply (min.3s)
Ambient temp.	- 0....+50°C
Storage temp,	- 10....+50°C
Protection std.	- I P 52 Weight - 0.5 kg.

- Option

WIRING DIAGRAM