GDS DEFENDER
GAS DETECTION SYSTEM
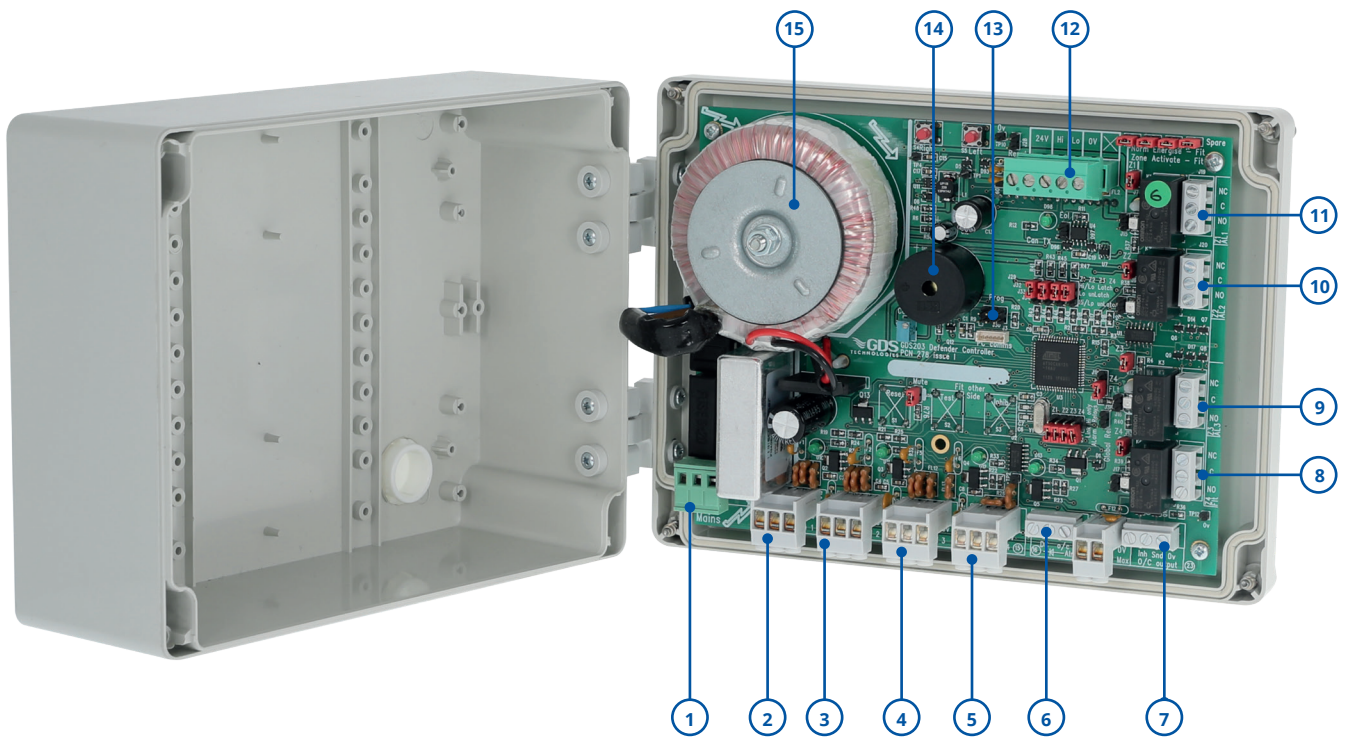
DEFENDER GAS ALARM

PRODUCT DESCRIPTION:

The GDS Defender is our most cost effective gas detection solution. The control unit has an advanced design using the latest technology, with versatility to accommodate numerous environments such as swimming pools, breweries and car parks. The GDS Defender also has the capability to form part of our Combi CANbus addressable network, therefore offering the features of our most advanced gas detection system.

GDS DEFENDER FEATURES

GDS Defender			
1	Mains 230/115 v AC	9	Global & Zones - Alarm 3 / Overrange
2	Sensor Imputs Zone 1	10	Global & Zones - Alarm 2 / Hi
3	Sensor Imputs Zone 2	11	Global & Zones - Alarm 1 / Hi
4	Sensor Imputs Zone 3	12	CAN Terminal Connector
5	Sensor Imputs Zone 4	13	RS232 ProgrammingCommunications
6	Common Alarm Open Collector Output	14	Sounder
7	Inhibit Open Collector Output	15	Transformer
8	Global & Zones - Fault		

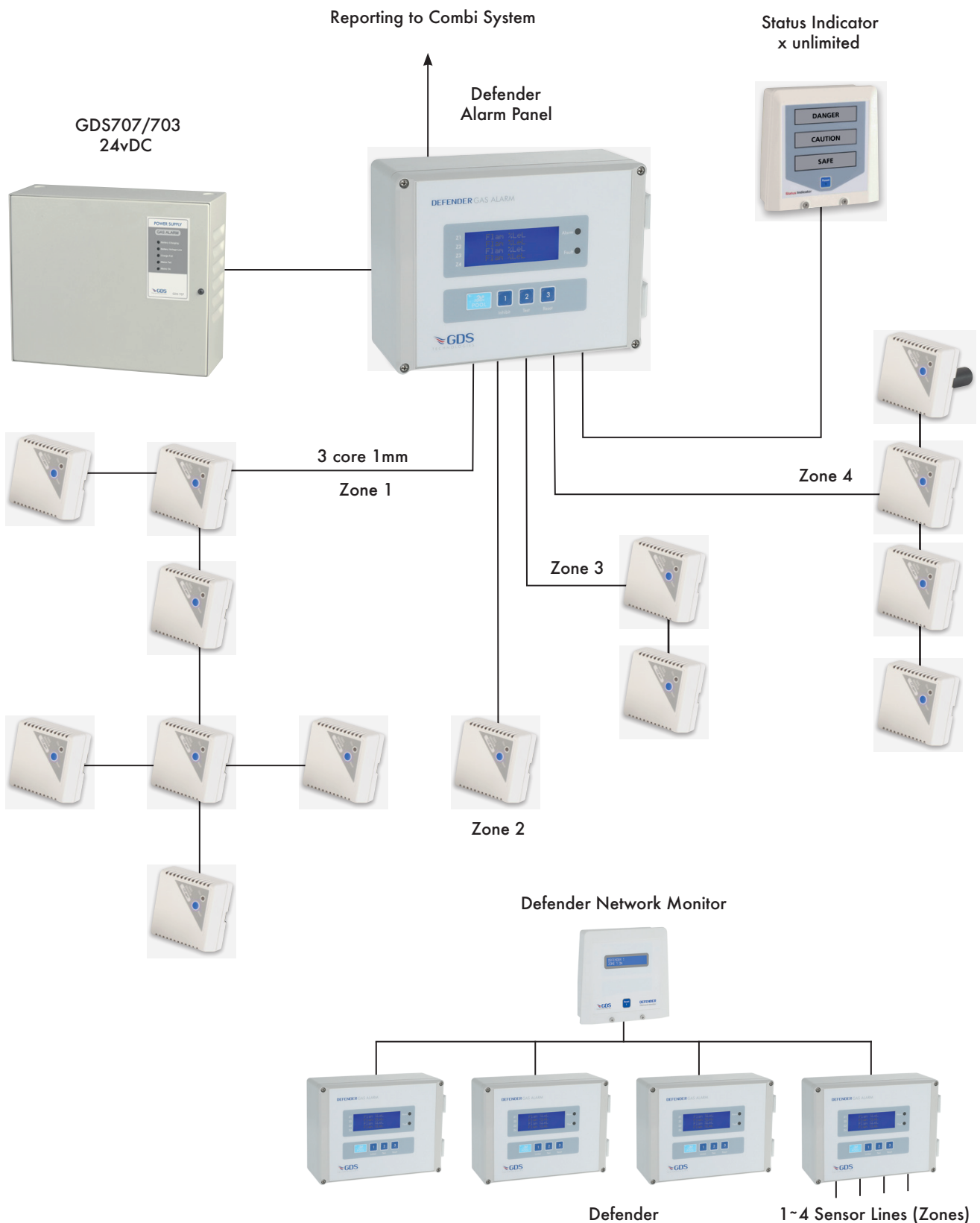| Optional Equipment |
|---|
| Stand Alone Single Sensor Power Supply (13A socket-jack plug) |
| Defender Power Supply 2.5A @ 24v DC for 16-35 sensors |
| GDS707 Power Supply 11A @24v DC for → 64 sensors
CAN Status Repeater 1~16 Defender Alarm Panels |
| Defender Network Monitor
(centralised panel – inputting up to 20 Defender units) |

GDS DEFENDER CONTROLLER CONFIGURATION

Reporting to Combi System

Status Indicator
x unlimited

GDS707/703
24vDC

Defender
Alarm Panel

DANGER

CAUTION

SAFE

3 core 1mm

Zone 1

Zone 4

Zone 3

Zone 2

Defender Network Monitor

Defender

1~4 Sensor Lines (Zones)

GDS DEFENDER ENVIROMENTS

AGRICULTURE	AIR	AUTO
BIO	BREW	CAR PARK
CHARGE	COOL	DENTAL
DRINK	EDUCATION	ENVIRONMENTAL
GAS	HORTICULTURE	KITCHEN
LAB	MEDICAL	MULTI
OFFICE	PLANT	POOL

GASES AND RANGES

Gas	Relative Density Air =1	Units	Standard Range	Alarm Level 1	Alarm Level 2
Oxygen (O_2)	1.105	% Vol	0-25%	19%	17%
Carbon Monoxide (CO)	0.96	ppm	0~200ppm	20ppm	100ppm
Sulphur Dioxide (SO_2)	2.26	ppm	0~5ppm	0.5ppm	1ppm
Nitric Oxide (NO)	1.03	ppm	0~10ppm	2ppm	3ppm
Nitrogen Dioxide (NO_2)	2.62	ppm	0~5ppm	0.5ppm	1ppm
Chlorine (Cl)	2.41	ppm	0~5ppm	0.3ppm	0.5ppm
Chlorine Dioxide (ClO_2)	2.33	ppm	0~1ppm	0.1ppm	0.3ppm
Hydrogen (H_2)	0.06	ppm	0~2000ppm	250ppm	500ppm
Hydrogen Cyanide (HCN)	0.93	ppm	0~10ppm	0.9ppm	4.5ppm
Hydrogen Sulphide (H_2S)	1.18	ppm	0~50ppm	5ppm	10ppm
Hydrogen Chloride (HCl)	1.26	ppm	0~10ppm	1ppm	5ppm
Ammonia (NH_3)	0.58	ppm	0~100ppm	25ppm	35ppm
Ozone (O_3)	1.66	ppm	0~1ppm	0.1ppm	0.2ppm
Hydrogen Fluoride (HF)	0.7	ppm	0~10ppm	1.8ppm	3ppm
Methane (CH_4)	0.55	% LEL	0~100%	20%	40%
Propane (C_3H_8)	1.55	% LEL	0~100%	20%	40%
Butane (C_4H_{10})	2.11	% LEL	0~100%	20%	40%
Pentane (C_2H_{12})	2.48	% LEL	0~100%	20%	40%
LPG	1.55	% LEL	0~100%	20%	40%
Hydrogen (H_2)	0.06	% LEL	0~100%	20%	40%
Carbon Dioxide (CO_2)	1.52	% Vol	0-2%	0.50%	1.50%
Methane (CH_4)	0.55	% LEL	0~100%	20%	40%
Propane (C_3H_8)	1.55	% LEL	0~100%	20%	40%
Butane (C_4H_{10})	2.11	% LEL	0~100%	20%	40%
Pentane (C_2H_{12})	2.48	% LEL	0~100%	20%	40%
LPG	1.55	% LEL	0~100%	20%	40%
Ethanol (C_2H_{60})	1.51	% LEL	0~100%	20%	40%
Iso-butylene (C_4H_8)	1.94	ppm	200ppm	20ppm	40ppm

Over 700 gas types are available – Contact our sales department with your requests - sales@gds-technologies.co.uk

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GDS TECHNOLOGIES LTD | FUSION POINT | ASH LANE | GARFORTH | LEEDS | LS25 2GA | UK   **www.gds-technologies.co.uk**

SPECIFICATION

GDS Defender	
Sensors	1-4 Zones 1 to 16 sensors (Standard) 1 to 64 Sensors (4 Zones, 16 per Zone) Additional Power Supply Required
Measurements	Combustible Gas – L.E.L, % Vol. Toxic Gas – ppm, % Vol. Oxygen - % Vol. – Depletion / Enrichment Refrigerant – ppm Any 4~20mA Transmitter
Sensor Types	Catalytic, Electrochemical, Infrared, PID, Semiconductor
Relays	Four Selectable Relays S.P.C.O. 3A @ 230v AC N/E – N/D Latched / Unlatched Each Zone A1/A2/A3 or A2/A3 only or Global (All Zones 1-4)
Sensor Cable	3 Core 1mm² Cable Length – 200m Max x4
Power	115/230v AC or/and 24v DC ± 15% 50/60Hz 3Watts – Full Alarm
Panel Indication	**Alarm** Red LED / Sounder Display Text A1, A2, A3 **Fault** Amber LED / Sounder Display Text Flt (Fault) **Display** As above + 4 Line User Text **Inhibit** Amber LED Display text Inh (Inhibit)
Audible Alarm	Internal 85dB @ 30cm Open Collector Driver Output – 100mA @24 v DC (follows internal sounder operation)
Digital Communications	CANbus (When used with the GDS Combi Controller)
Operating Temperature	-10°C to + 50°C
Storage Temperature	+5°C to +55°C
Humidity	0-95 non condensing
Ingress Protection	IP65
Dimensions	H-150 L-200 D-80mm
Weight	920 gms
Enclosure Material	Polycarbonate
Standards	EMC BS EN 50270 Low Voltage BS EN 61010-1

SPECIFICATION

GDS Defender Sensor (Not for use in potentially explosive atmospheres – Zoned Areas)	
Measurements	Combustible Gas – L.E.L, % Vol. Toxic Gas – ppm, % Vol. Oxygen - % Vol. – Depletion / Enrichment Refrigerant – ppm Any 4~20mA Transmitter
Sensor Types	Catalytic, Electrochemical, Infrared, PID, Semiconductor
Relays	1 S.P.C.O. 3A @ 230v AC Global A1 / A2 / A3 A2 / A3 Only Option Latched / Unlatched – Selectable N/E – N/D
Power	24v nominal / 18 to 30v DC Optional 90~260v AC Mains 1.2Watts – Full Alarm
Indicators	Power - Green LED Gas Alarm - Green LED to Red A1 – Slow Flash A2 – Rapid Flash A3 – Constant Fault – Amber
Audible Alarm	85dB @ 10cm
Operating Temperature	-10°C to + 50°C
Storage Temperature	+5°C to +55°C
Ingress Protection	IP42 – Standard IP64 – Weatherproof
Dimensions	H-83 L-83 D-36mm – Standard H-145 L-145 D-60mm – Weatherproof
Options	Duct Sensor Probe – 27 x 28mm Diameter

Sensor Options

Surface Mount – Standard

Surface Mount with Duct Mount Probe

Surface Mount – Weatherproof

Duct Mount (probe) – Weatherproof

Accessories

Defender Network Monitor

Stand alone sensor power supply – 24vDC

Defender power supply 2.5A @ 24v DC for 16–35 sensors

Mains Sensor

GDS703 auxiliary power supply 11A @ 24vDC for 35+ sensors

GDS Technologies Ltd operates under an integrated quality, health and safety and environmental management system certified to ISO 9001, ISO 45001 and ISO 14001 by NQA Certification Ltd. This document is not contractual and the equipment specification may be modified at any time without prior notice.