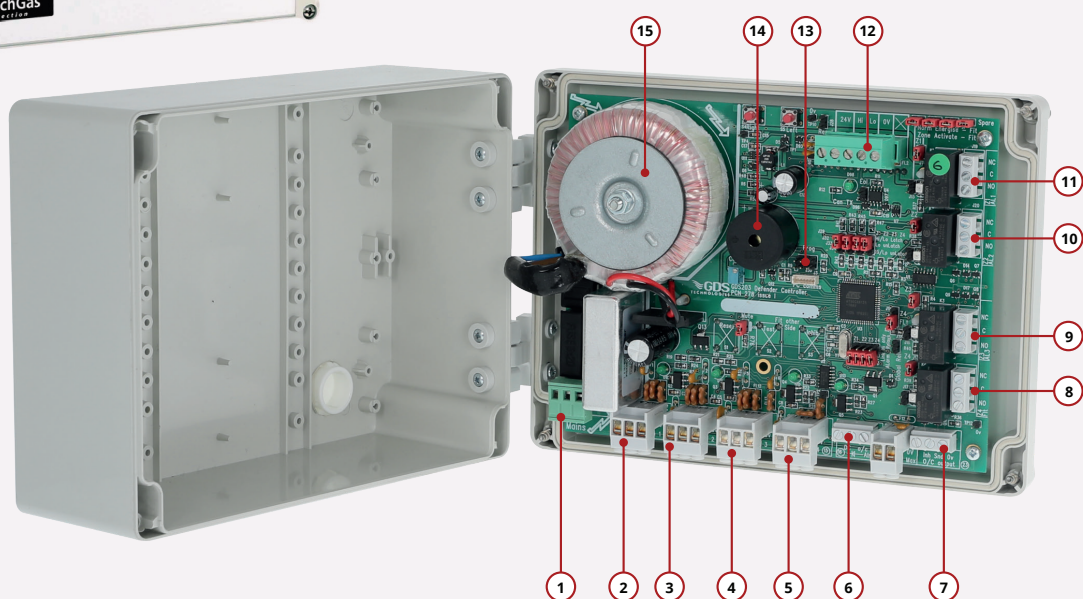


WATCHGAS DEFENDER

Gas detection system



The WatchGas 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 WatchGas 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.



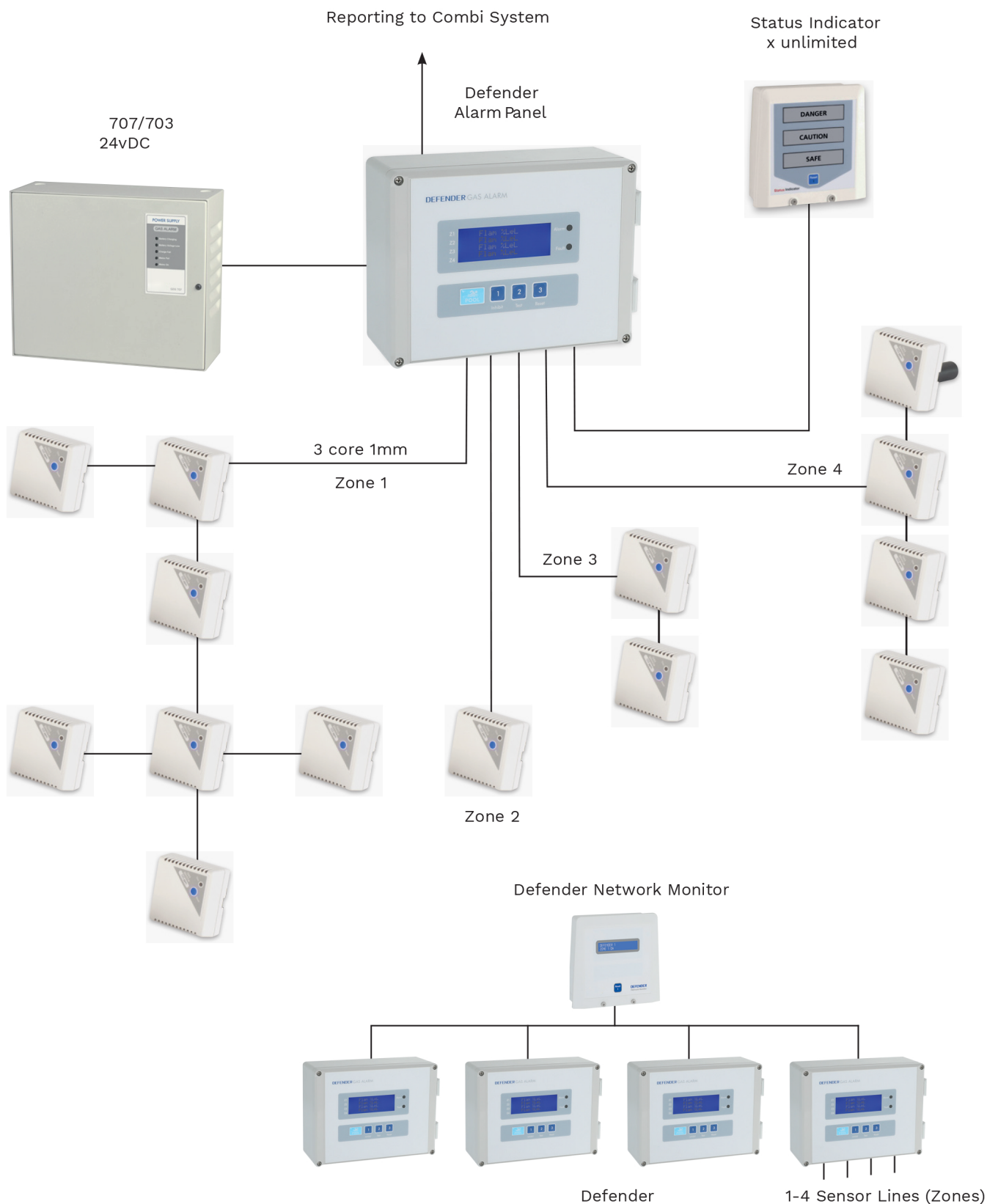
WATCHGAS DEFENDER

1	Mains 230/115 v AC	9	Global & Zones - Alarm 3 / Overrange
2	Sensor Inputs Zone 1	10	Global & Zones - Alarm 2 / Hi
3	Sensor Inputs Zone 2	11	Global & Zones - Alarm 1 / Hi
4	Sensor Inputs Zone 3	12	CAN Terminal Connector
5	Sensor Inputs Zone 4	13	RS232 Programming Communications
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
WATCHGAS707 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)

DEFENDER CONTROLLER CONFIGURATION



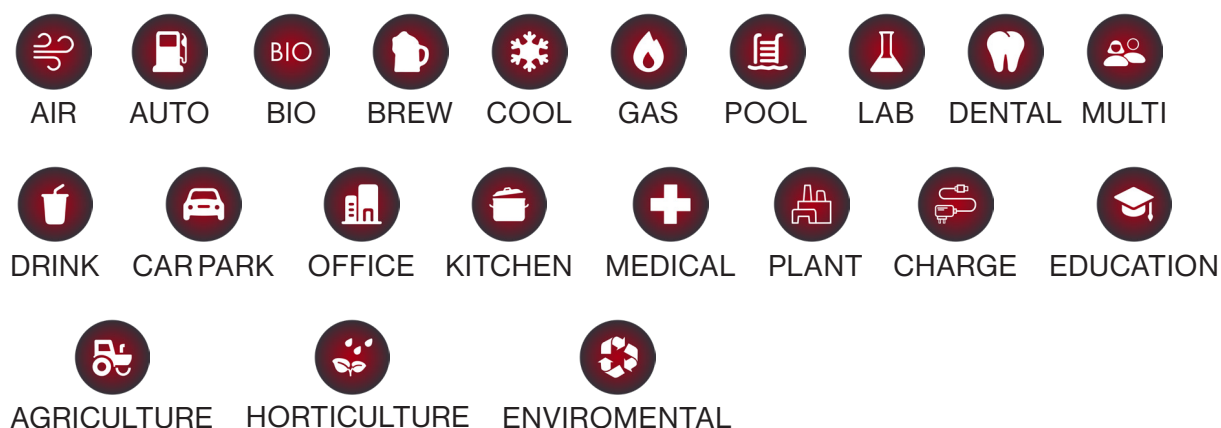
AVAILABLE GASES

GASES	RELATIVE DENSITY AIR =1	UNITS	STANDARD RANGE	ALARM LEVEL 1	ALARM LEVEL 2
O ₂ Oxygen	1.105	% Vol	0-25%	19%	17%
CO Carbon Monoxide	0.96	ppm	0~200 ppm	20 ppm	100 ppm
SO ₂ Sulfur Dioxide	2.26	ppm	0~5 ppm	0.5 ppm	1 ppm
NO Nitric Oxide	1.03	ppm	0~10 ppm	2 ppm	3 ppm
NO ₂ Nitrogen Dioxide	2.62	ppm	0~5 ppm	0.5 ppm	1 ppm
CL Chlorine	2.41	ppm	0~5 ppm	0.3 ppm	0.5 ppm
ClO ₂ Chlorine Dioxide	2.33	ppm	0~1ppm	0.1 ppm	0.3ppm
H ₂ Hydrogen	0.06	ppm	0~2000 ppm	250 ppm	500 ppm
HCN Hydrogen Cyanide	0.93	ppm	0~10 ppm	0.9 ppm	4.5 ppm
H ₂ S Hydrogen Sulphide	1.18	ppm	0~50 ppm	5 ppm	10ppm
HCL Hydrogen Chloride	1.26	ppm	0~10 ppm	1 ppm	5 ppm
NH ₃ Ammonia	0.58	ppm	0~100 ppm	25 ppm	35ppm
O ₃ Ozone	1.66	ppm	0~1 ppm	0.1 ppm	0.2ppm
HF Hydrogen Fluoride	0.7	ppm	0~10 ppm	1.8 ppm	3 ppm
CH ₄ Methane	0.55	% LEL	0~100%	20%	40%
C ₃ H ₈ Propane	1.55	% LEL	0~100%	20%	40%
C ₄ H ₁₀ Butane	2.11	% LEL	0~100%	20%	40%
C ₅ H ₁₂ Pentane	2.48	% LEL	0~100%	20%	40%
H ₂ Hydrogen	0.06	% LEL	0~100%	20%	40%
CO ₂ Carbon Dioxide	1.52	% Vol	0-2%	0.50%	1.50%
CH ₄ Methane	0.55	% LEL	0~100%	20%	40%
C ₃ H ₈ Propane	1.55	% LEL	0~100%	20%	40%
C ₄ H ₁₀ Butane	2.11	% LEL	0~100%	20%	40%
LPG	1.55	% LEL	0~100%	20%	40%
C ₂ H ₆₀ Ethanol	1.51	% LEL	0~100%	20%	40%
C ₄ H ₈ Iso-butylene	1.94	ppm	200 ppm	20 ppm	40 ppm

DEFENDER SPECIFICATION

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 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 1mm ² 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 WatchGas 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

DEFENDER ENVIROMENTS



WATCHGAS DEFENDER

Gas detection system



DEFENDER SENSOR SPECIFICATION

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



WatchGas703 auxiliary
power supply 11A
@ 24vDC for 35+
sensors

FOR MORE INFORMATION

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WatchGas is dedicated to continuously improving its products. Therefore,
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