COMBI
GAS DETECTION SYSTEMS

PRODUCT DESCRIPTION:

The Combi range of multi-channel control systems offers an incredibly versatile approach whilst ensuring a reliable safety system across all industries and applications. Having the capacity to monitor up to 64 addressable and 16 direct sensors, 8 of which will accept the CC-1 bridge converter module. Larger system requirements can also be met with over 1000 addressable sensors possible through a networked Combi solution.

Designed to take the user experience to the next level, the Combi can be installed in all customer environments with configurations available as a wall mounted unit, 19" rack system, panel and din rail mount.

Combi features a vast range of optional equipment including Combi software, enabling full data logging facilities with system management, providing real time views showing sensor locations, alarm status and actual gas values.

COMBI OPTIONS

Choosing the gas detection system for your specific requirements

Designed to operate across multiple industries and applications, the unique system architecture offers flexibility with up to six different control panel options. The intuitive user interface sees parameters set via the front panel or alternatively via PC, and detectors supplied pre-calibrated. Combi can be customised to meet your specific requirements, without the need for extensive cabling, providing a comprehensive, highly configurable safety system.

*Dependent on chosen model

Combi 80

- 1 to 64 addressable sensors
- 1-16 direct 4~20 mA sensors
- CC-1 bridge module – mV to 4~20mA converter
- Network up to 16 controllers enabling up to 1024 addressable sensors + direct sensors

Combi 64

- 1 to 64 addressable sensors
- Single 4 core sensor network
- 16 controller network

Combi 16

- 1-16 direct 4~20 mA sensors
- CC-1 bridge module – mV to 4~20mA converter
- 2/3 core sensor cable network
- 16 controller network

Combi 19” Rack System (Combi 80, 64, 16)

- Lightweight aluminium 19” Rack
- 1 to 64 addressable sensors
- 1-16 direct 4~20 mA sensors
- CC-1 bridge module – mV to 4~20mA converter
- 16 controller network

Combi Din Rail Mount (Combi 64)

- Robust mild steel din rail mount to save time and work
- 1 to 64 addressable sensors
- Single 4 core sensor network

Combi Panel Mount (Combi 64)

- Clean, flush finish within an existing panel or door
- 1 to 64 addressable sensors
- Single 4 core sensor network

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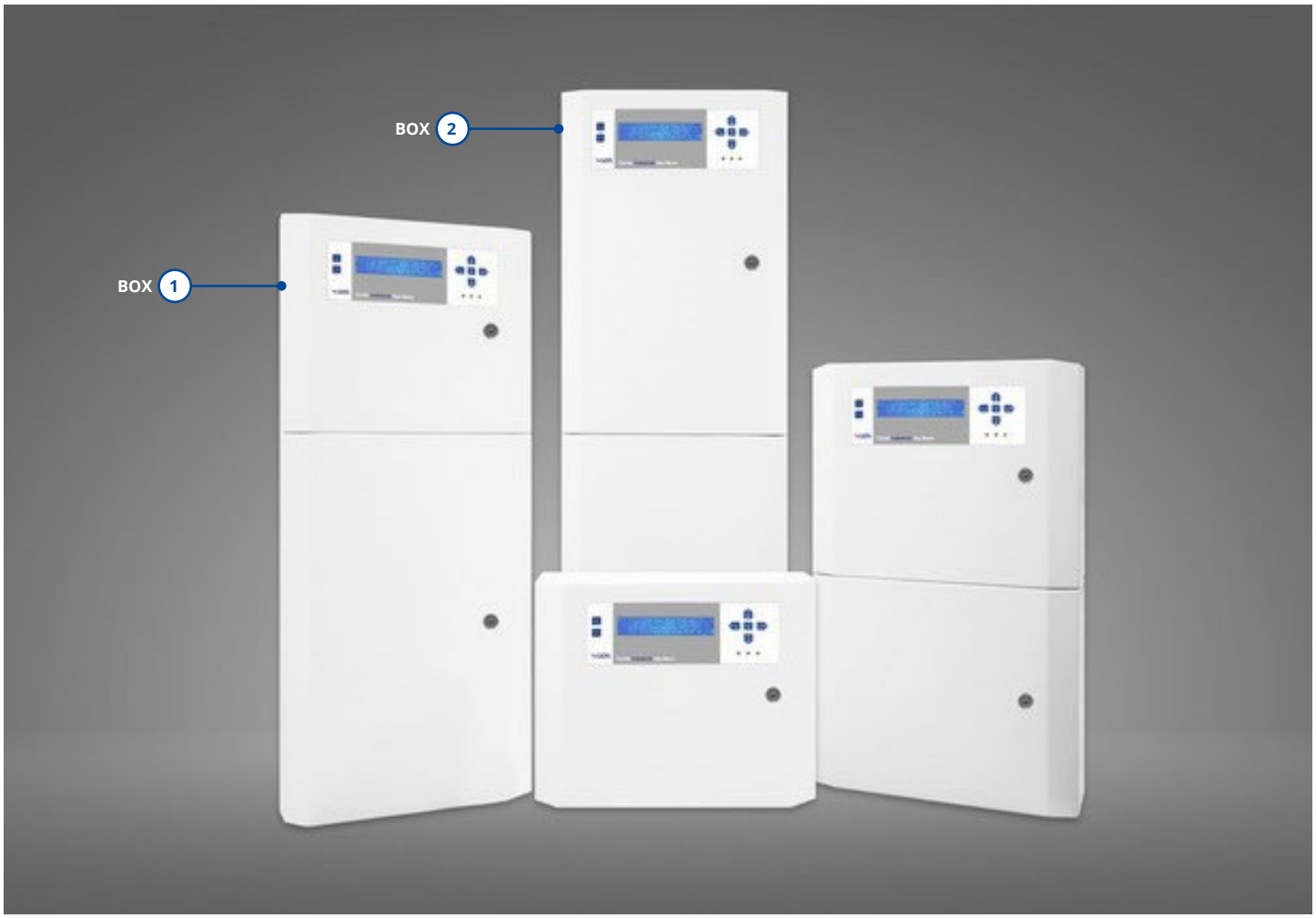
COMBI INDUSTRIAL WALL MOUNT ENCLOSURES

Our wall mount enclosures are suitable for housing the following Combi control units – 80, 64 and 16.



The two Combi Industrial enclosures offer

- A higher level of ingress protection – IP63
- Key lock door
- Will accommodate all associated Combi equipment (see configuration sheet)
- Increased mechanical strength
- More space for industrial wiring and cable glanding
- Allows additional box extensions for control equipment
- User friendly

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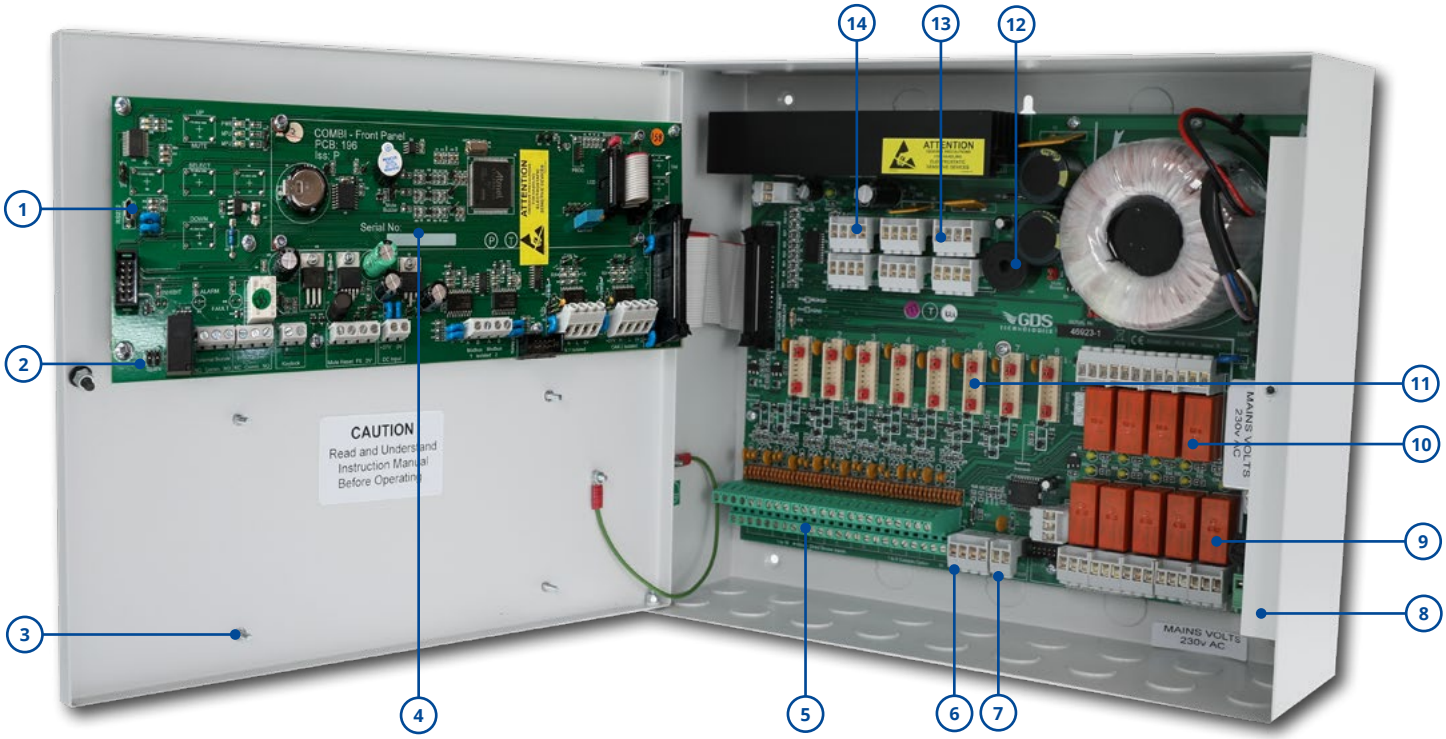
COMBI FEATURES



Combi 80 Control Unit			
1	USB Programmable Input	**8**	AC Input
2	Front Panel Status LCD's	**9**	Global Sounder Relay
3	Optional Battery back up mounting	**10**	Standard 8 Relays
4	Front Panel Display PCB	**11**	Optional 1~8 plug in catalytic module ports
5	1~16 4~20mA Direct Detector Input Connections	**12**	Sounder
6	DC Input	**13**	64 Addressable CANbus Detector Input Connections
7	DC Output	**14**	MODbus Connections

Optional Equipment	
Network Controller	8 Way 4~20mA Output Unit
Repeater Panel	4 Way Alarm Relay Unit
CAN Status Indicator	8 Way Alarm Relay Unit
Combi Soft	32 Way Alarm Relay Unit
Data Link	Sensor Signal Booster 1K+
CC-1 bridge module – mV to 4~20mA converter	Weatherproof Over housing IP66
CC-16 multi bridge module unit	GDS707 Battery Back-Up 11A @ 24v DC
8 Way 4~20mA Input CAN Signal Converter	

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COMBI CONTROLLER CONFIGURATION

Defender
XDI
XDI-Win
15/30J-Win
15/30J
(Aspirated Sensor Option)
GDS101

Sensors

8 way 4-20mA
sensor input unit

1~64 addressable sensors

Sensor signal booster
up to 1km (3 max)

CAN 4 or 8 way
alarm relay unit

8 way 4~20mA
output relay unit

4 core – CANbus / 24vDC

2 core

24vDC
power pack
21+ sensors

4 core - 1km max

Repeater panel
x16 max

3-5 core

CAN Status
indicators

GDS101

2/3 core 1~16 direct
sensors (4~20mA source)
or
1~8 direct sensors and
1~8 catalytic bridge
sensors

Combi

32 way
relay unit
x2 max

XDI-Win

XDI

16 channel
mV to 4~20mA
converter
C1510

Data Link - internet access

Dual coms - modbus 485

15/30J-Win

Sensor programming
9-D type

Combi panel
programming
via text file

Combi soft
Data logging/storage
System monitoring

15/30J

Stand-alone sensor
C759

USB high speed
serial adaptor
(if required by
PC)

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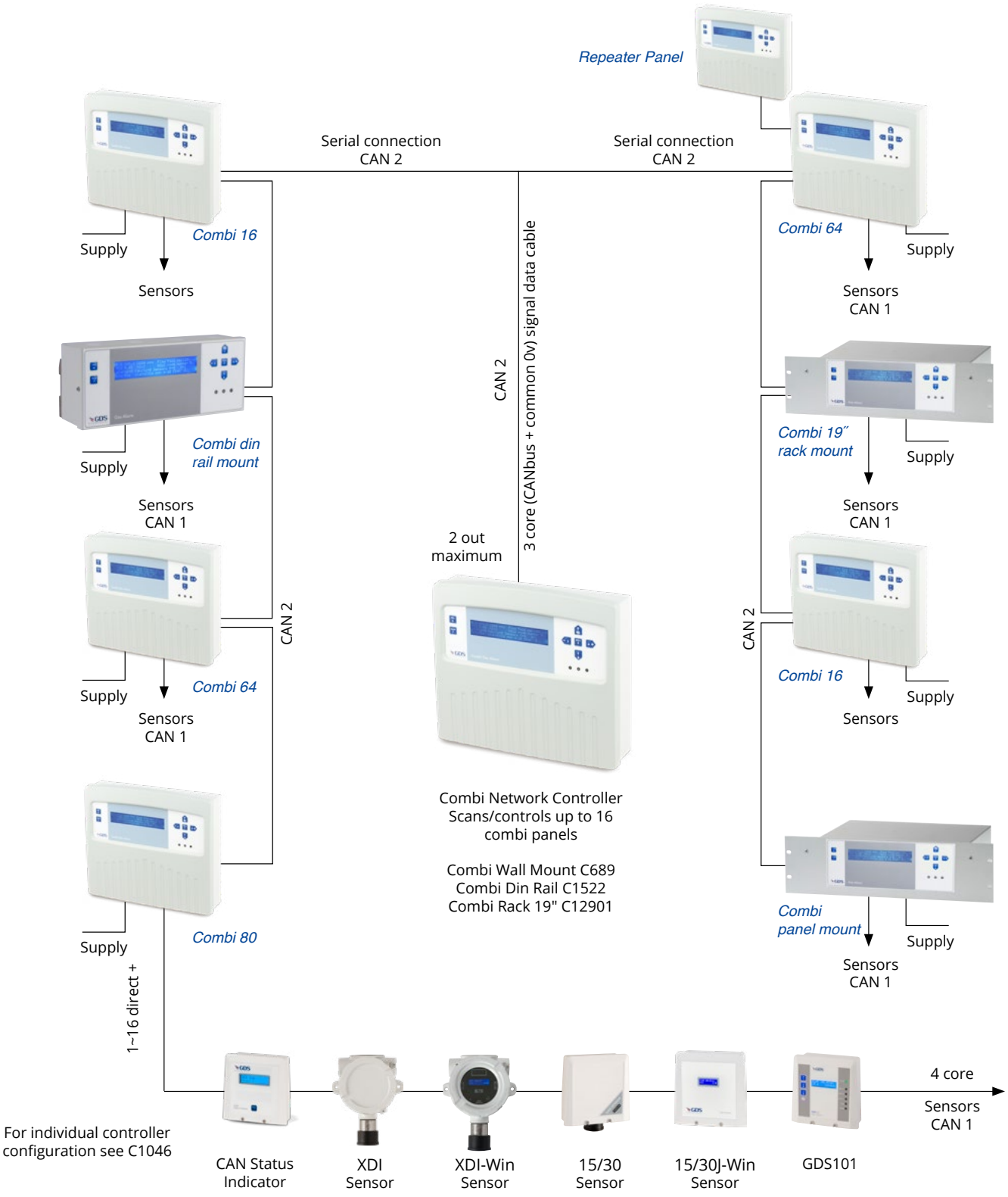
COMBI NETWORK CONTROLLER CONFIGURATION



For individual controller configuration see C1046

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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_5H_{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_5H_{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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Specification Sheet Ref C1819C v1

SPECIFICATION

	Combi 80	Combi 64	Combi 16	Combi Din Rail Mount	Combi Panel Mount	Combi 19" Rack
Sensors	1-64 addressable 4 wire 16 direct 4~20mA - 3 wire 1~8 optional mV bridge inputs 3 wire	1-64 addressable 4 wire	16 direct 4~20mA 1~8 optional mV bridge inputs 3 wire	1-64 addressable 4 wire		1-64 addressable 4 wire 16 direct 4~20mA - 3 wire 1~8 optional mV bridge inputs 3 wire
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					
Control Panels Available	Wall Mount Unit 19" Rack System	Wall Mount Unit 19" Rack System Panel Mount Din Rail Mount	Wall Mount Unit 19" Rack System	Wall Mount Unit 19" Rack System Panel Mount Din Rail Mount		Wall Mount Unit 19" Rack System
Outputs	MODbus 8 User Selectable Relays Optional: 4~20mA / Up to 64 Relays					
Relays	Global relay S.P.C.O - Inhibit relay S.P.C.O 8 user selectable relays Type: 2 D.P.C.O/6 S.P.C.O rated @ 5A-230v AC Relay Modes: NE/ND Delay			See options		Global relay S.P.C.O Inhibit relay S.P.C.O
Power	230/115v AC or 24v DC ± 15%Control unit 7.5w quiescent 17w full alarm Sensor – 1.25w Internal power supply 20 sensors max					
Panel Indication	Dot matrix LCD 4 line 40 character-indicates sensor location, gas type, alarm status, system fault, sensor line fault, sensor fault, inhibit, real time clock, event memory Red LED – global alarm Amber LED – global fault Amber LED - inhibit					
Audible Alarm	Alarm / Fault – Permanent Mute Option 68dB @ 1m					
Digital Communications	USB Data Log / Event Log RS485 x 2 – MODbus					
Event Logging	Combi Soft – Full data logging management tool Individual sensor logging – 1-60 min storage readings Data Link – Remote logging					
Operating Temperature	-10°C to +50°C					
Storage Temperature	+5°C to +55°C					
Humidity	0-95 non condensing					
Ingress Protection	IP52 *IP65 available with over housing* IP63 - Combi Industrial			IP52	IP50	IP50
Dimensions	Standard: 315W x 265H x 95D Combi Industrial Box 1: 386W x 280H x 137D Combi Industrial Box 2: 386W x 500H x 137D			295W x 120H x 80D	310W x 115H x 50D	19" x 3U x 300mm
Weight	5.5KG	4.5KG	5.5KG	1.5KG	0.7KG	6KG
Enclosure	Ash Grey BSA01, Mild Steel Powder Coat				Brushed Aluminium	
Standards	EMC BSEN 50270 Low Voltage BS EN 61010-1					

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.

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