AGSMG MerlinGuard Gas Detection & Ventilation Control System

Product Overview:

The AGS Controls MerlinGuard is a gas detection & ventilation panel to be used with up to sixteen (16) AGSTFT detectors. It is intended for use in spaces that require either refrigerant, toxic or combustible gas detection and provides a pre-programmed control panel including features such as fan control options, alarm damper control, and connectivity to Building Management Systems (BMS).

The panel has four output options for pre-alarm and high-alarm conditions, and contains a 0-10V output that can be utilized by the BMS or for fan control via VFD.

Technical Specifications

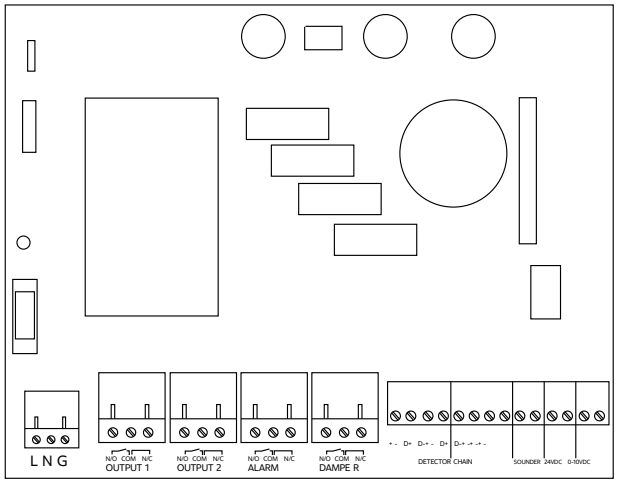
General	
Model:	AGSMG MerlinGuard
Capacity:	Up To 16 Channels Per Controller Unit
Size: (H x W x D)	7.08" x 10.03" x 3" Inches
Housing Material:	ABS Polyac - PA765 / UL 94 V-1
Mounting:	Indoor Use - Wall Mounting
Weight:	2lb 13.85oz
Display:	4.3" TFT Touch Screen
Visual Indicators:	Green: Normal | Amber:Alarm Delay | Yellow: Pre-Alarm | Red:Alarm Relay Outputs ON/OFF Gas Detection Status
Audible Alarm:	>70dB @ 3.28ft (1m). Quiet conditions
Buttons:	Common for Silence/Reset operation
Power Consumptions:	14.5W Max
AC Power:	100-120V - 50/60Hz
Internal Fuse:	T3.15A L250V
Relay Output::	Volt Free Relay Outputs x4 (non-latching) - NO/COM/NC 6A @ 120V User Configurable - Energised/De-Energised - Time Delay - 24VDC Switching
Common Output:	24VDC Permanent / 0-10VDC Variable
Ingress Protection:	Nema 4 / IP64 (See Manual For Further Information)
Operating:	14~122°F 30 ~ 80% RH (non-condensing)
Storage:	-13~122F° up to 95% RH (non-condensing)
Typical Wiring:	Power & Relay: ~#18-12AWG / Detector: #12-18AWG Power Pair; #18-22AWG Data Pair / Other: #18-22AWG
Electromagnetic Compatibility and Electrical Safety:	IEC 61010-1:2010 + AMD1:2016; EN 61010-1:2010 +A1:2019; UL61010-1/2012/ CAN CSA C22.2 No. 61010-1-12/ A1:2018-11 EMC EN 61326-1:2013

PRODUCT SPEC SHEET MerlinGuard

c UL us LISTED

AGS CONTROLS
A Division of American Gas Safety

AGSMG MerlinGuard PCB Overview



0-10V OUTPUT

LINEAR OUTPUT BASED ON MEASURING RANGE OF DETECTOR

24VDC PERMANENT OUTPUT

USED IN CONJUNCTION WITH PANEL RELAYS TO CREATE 24V SWITCHED POWER TO CONTROL EXTERNAL CONTACTORS, IF REQUIRED

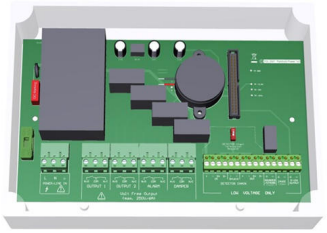
24VDC SOUNDER STROBE

SENDS 24VDC WHEN SYSTEM ENTERS ALARM

DETECTOR CHAIN

DAISY CHAIN IN/OUT

AGSRTFT DETECTOR



MERLINGUARD

POWER IN 120VAC

6A MAX

OUTPUT 1 RELAY

6A MAX 120VAC OR 250VAC CHANGES STATE AT PRE-ALARM LEVEL

OUTPUT 2 RELAY

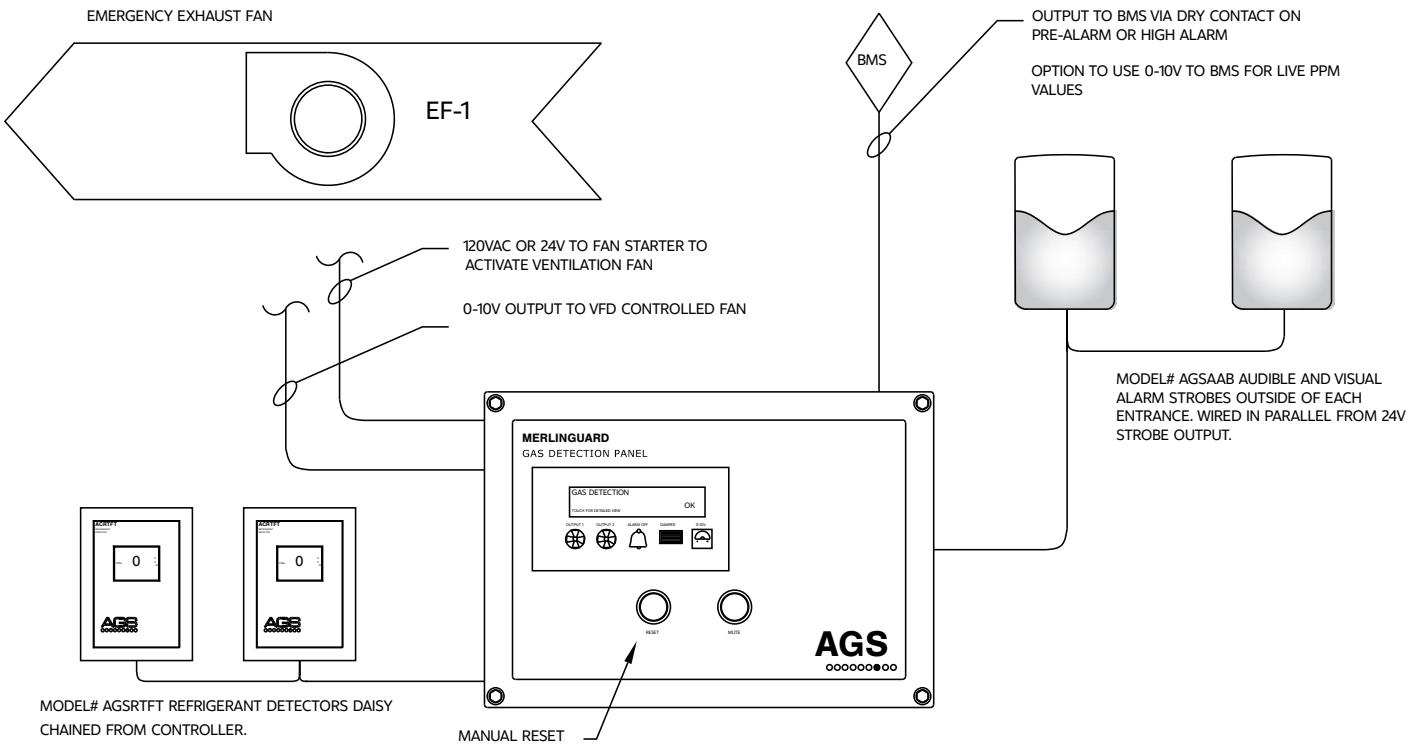
6A MAX 120VAC OR 250VAC CHANGES STATE AT HIGH ALARM LEVEL

ALARM RELAY

6A MAX 120VAC OR 250VAC CHANGES STATE AT HIGH ALARM, AFTER SET TIME DELAY IF TURNED ON

DAMPER RELAY

6A MAX 120VAC OR 250VAC CHANGES STATE WITH EITHER OUTPUT 1 OR OUTPUT 2 RELAY. SETTINGS CHANGED ON PANEL VIA DIPSWITCHES



1. Use the high alarm relay (output 2) to send 120VAC or 24VAC power to the fans to activate them. This design would require two fans. One fan would cover your standby airflow rate, and the second fan would turn on during a gas detected scenario and increase the ventilation rate to the emergency extraction rate defined by ASHRAE of 100X the standby rate. Use ASHRAE 8.9.8.1 to calculate ventilation rate.
2. Use the 0-10V output to signal a VFD control fan, and have it run at a continuous standby rate and ramp up to the emergency extraction rate upon detection. The 0-10V output will send a linear voltage signal to the VFD based on the sensing range of the detector.