SECTION 28 42 00

GAS DETECTION

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American Gas Safety (AGS); Control and Detection Panels.  
This section is based on the products of American Gas Safety, which is located at:  
4500 140th Ave. N. Suite 101.  
Clearwater, Florida 33762.  
Toll Free: None.  
Phone: (727) 608-4375.  
Email: info@americangassafety.com.  
Web: www.americangassafety.com.  
[Click Here] for additional information.  
American Gas Safety (AGS) is the number one manufacturer of gas safety & control solutions in North America, delivering high-quality, internationally recognized products. Our comprehensive range includes fixed gas detection systems, gas safety controllers, gas shut-off controls, and water leak detection systems, all designed and manufactured to meet rigorous UL and CE standards.

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Gas Monitors.
    2. Detectors.
    3. TFT Detectors.
    4. Isolation Controllers.
    5. Ventilation Controllers.
    6. Accessories.
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. European Standards:
       1. EMC Directive 2014/30/EU.
       2. EN 50270, Electromagnetic Compatibility; 2015.
    2. Federal Communications Commission (FCC):
       1. FCC Part 15 Regulation; current edition.
    3. Underwriters Laboratories (UL):
       1. UL 2075, Gas and Vapor Detectors and Sensors; 2025.
       2. UL 61010-1, Standard for Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use; Part 1: General Requirements, 3rd Edition; 2024.
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00.
     2. Product Data:
        1. Manufacturer's data sheets on each product to be used.
        2. Preparation instructions and recommendations.
        3. Storage and handling requirements and recommendations.
        4. Typical installation methods.

\*\* NOTE TO SPECIFIER \*\* Delete if not applicable to product type.

* + 1. Verification Samples: Two representative units of each type, size, pattern, and color.
    2. Shop Drawings: Include details of materials, construction, and finish. Include relationship with adjacent construction.
  1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum of five years documented experience.
     2. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.
     3. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.
  2. PRE-INSTALLATION CONFERENCE
     1. Convene a conference approximately two weeks before scheduled commencement of the Work.
     2. Attendees to include Architect, Contractor and trades involved.
     3. Agenda to include schedule, responsibilities, critical path items and approvals.
  3. DELIVERY, STORAGE, AND HANDLING
     1. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
     2. Protect from damage due to weather, excessive temperature, and construction operations.
  4. PROJECT CONDITIONS
     1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
  5. WARRANTY
     1. Manufacturer's standard limited warranty unless indicated otherwise.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: American Gas Safety, which is located at:4500 140th Ave. N., Suite 101Clearwater, FL 33762Tel: 727-608-4375Fax: 727-530-0428Email: [request info (info@americangassafety.com)](https://arcat.com/rfi?action=email&company=American%252BGas%252BSafety&message=RE%253A%2520Spec%2520Question%2520(13850ags)%253A%2520&coid=52452&spec=13850ags&rep=&fax=727-530-0428);Web: <https://americangassafety.com/>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with the provisions of Section 01 60 00.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. GAS MONITORS
     1. Basis of Design: Merlin GM 100 Dual Gas Monitor, as manufactured and supplied by American Gas Safety; www.americangassafety.com.
        1. Material: ABS Polycarbonate Flame Retardant, Rated IP65 with Splash Guard.
        2. Size: 5.95 x 4.37 x 1.97 inches (151 x 111 x 50 mm).
        3. Electrical:
           1. Power Low Voltage: Nominal 24V AC/DC.
           2. Wiring: 127 Units.
        4. IO:
           1. Digital Output:

BACnet MS/TP.

Modbus RTU, RS485.

* + - * 1. SPST Signal Relay Output: 70mA 30V.
      1. Operating Temperature: Minus 4 to 122 Degrees F (Minus 20 to 50 Degrees C).
      2. Storage Temperature: 32 to 86 Degrees F (0 to 30 Degrees C).
      3. Humidity:
         1. 15 to 90 percent RH, continuous.
         2. 0 to 99 percent, intermittent.
         3. Non-condensing.
      4. Audible Alarm: Internal greater than 85 dB.
    1. Basis of Design: GM200 Single or Dual Channel Gas + PM10 Monitor, as manufactured and supplied by American Gas Safety; www.americangassafety.com.
       1. Material: ABS Flame Retardant UL94 V0.
       2. Size: 8.2 x 5.7 x 2.1 inches (210 x 145 x 55 mm).
       3. Electrical:
          1. Power Input:

90-250VAC.

24V AC/DC (12-32V).

50/60 HZ.

* + - * 1. Wiring: RS485, 127 Units.
      1. IO:
         1. Digital Output 1: Modbus RTU and BACnet MS/TP, field selectable.
         2. Signal 1: Dry Contact 1A, 60 VDC.
         3. Latching Relay 1: Dry Contact 10A at 230V.
         4. Latching Relay 2: Dry Contact 10A at 230V.
         5. Analogue:

0-10V.

4-20mA.

* + - 1. Operating and Storage Temperature: Minus 4 to 122 Degrees F (Minus 20 to 50 Degrees C).
      2. Humidity:
         1. 15 to 90 percent RH, continuous.
         2. 0 to 99 percent, intermittent.
         3. Non-condensing.
      3. Audible Alarm: Internal greater than 80 dB.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. DETECTORS
     1. Basis of Design: AGSHiS, Hydrogen Gas Detector as manufactured and supplied by American Gas Safety; www.americangassafety.com.
        1. Model: Detector i-S.
        2. Target Gas: H, Hydrogen.
        3. Maximum Power Consumption: 1.8W.
        4. Power Rating: 12-24V AC or DC.
        5. Size: 5.95 x 4.37 x 1.97 inches (151 x 111 x 50 mm).
        6. Housing Material: ABS PA765, Flame Retardant, UL 94V-1.
        7. Wiring:
           1. Minimum 2.5 mm2.
           2. 75 Degrees C.
           3. Tinned Copper.
        8. Mounting:
           1. Safe Zone.
           2. Indoor Use.
           3. Wall Mounted.
        9. Operating: 14 to 122 Degrees F (Minus 10 to 50 Degrees C).
        10. Storage Temperature: 32 to 122 Degrees F (0 to 50 Degrees C).
        11. Audible Alarm: Internal greater than 65 dB at 3.28 feet (1 m), quiet conditions.
     2. Basis of Design: AGSCO2iS, CO2 Storage Tank Detector as manufactured and supplied by American Gas Safety; www.americangassafety.com.
        1. Model: AGSCO2iS-50K Detector.
        2. Target Gas: CO2, Carbon Dioxide.
        3. Power Consumption: 90mA maximum at 24VDC.
        4. DC Power: 12-32 VDC, Nominal 24 VDC.
        5. Size: 5.95 x 4.37 x 1.97 inches (151 x 111 x 50 mm).
        6. Housing Material: ABS Polylac, PA765.
        7. Wiring:
           1. #18-24AWG Power Pair.
           2. #18-AWG Data Pair.
           3. Tinned Copper.
        8. Mounting:
           1. 1-foot above finished floor.
           2. Indoor Use.
           3. Wall Mounted.
        9. Operating: 14 to 122 Degrees F (Minus 10 to 50 Degrees C), non-condensing.
        10. Storage Temperature: Minus 13 to 122 Degrees F (Minus 25 to 50 Degrees C).
        11. Audible Alarm: Internal greater than 95dB at 3.28 feet (1 m), quiet conditions.
     3. Basis of Design: AGSCOiS, Carbon Monoxide Detector as manufactured and supplied by American Gas Safety; www.americangassafety.com.
        1. Model: Detector i-S.
        2. Target Gas: CO, Carbon Monoxide.
        3. Power Consumption: Maximum 1.8W.
        4. Power Rating: 12-24V AC or DC.
        5. Size: 5.95 x 4.37 x 1.97 inches (151 x 111 x 50 mm).
        6. Housing Material: ABS PA765, Flame Retardant, UL 94V-1.
        7. Wiring:
           1. Minimum 2.5 mm2.
           2. 75 Degrees C.
           3. Tinned Copper.
        8. Mounting:
           1. Safe Zone.
           2. Indoor Use.
           3. Wall Mounted.
        9. Operating: 14 to 122 Degrees F (Minus 10 to 50 Degrees C).
        10. Storage: 32 to 122 Degrees F (0 to 50 Degrees C).
        11. Audible Alarm: Internal greater than 95dB at 3.28 feet (1 m), quiet conditions.
     4. Basis of Design: AGSNGiS, Natural Gas Detector as manufactured and supplied by American Gas Safety; www.americangassafety.com.
        1. Model: Detector i-S.
        2. Target Gas: NG, Natural Gas.
        3. Power Consumption: Maximum 1.8W.
        4. Power Rating: 12-24V AC or DC.
        5. Size: 5.95 x 4.37 x 1.97 inches (151 x 111 x 50 mm).
        6. Housing Material: ABS PA765, Flame Retardant, UL 94V-1.
        7. Wiring:
           1. Minimum 2.5 mm2.
           2. 75 Degrees C.
           3. Tinned Copper.
        8. Mounting:
           1. Safe Zone.
           2. Indoor Use.
           3. Wall Mounted.
        9. Operating: 14 to 122 Degrees F (Minus 10 to 50 Degrees C).
        10. Storage: 32 to 122 Degrees F (0 to 50 Degrees C).
        11. Audible Alarm: Internal greater than 65dB at 3.28 feet (1 m), quiet conditions.
     5. Basis of Design: AGSLPGiS, Liquid Petroleum Gas Detector as manufactured and supplied by American Gas Safety; www.americangassafety.com.
        1. Model: Detector i-S.
        2. Target Gas: LPG, Liquid Petroleum Gas.
        3. Power Consumption: Maximum 1.8W.
        4. Power Rating: 12-24V AC or DC.
        5. Size: 5.95 x 4.37 x 1.97 inches (151 x 111 x 50 mm).
        6. Housing Material: ABS PA765, Flame Retardant, UL 94V-1.
        7. Wiring:
           1. Minimum 2.5 mm2.
           2. 75 Degrees C.
           3. Tinned Copper.
        8. Mounting:
           1. Safe Zone.
           2. Indoor Use.
           3. Wall Mounted.
        9. Operating: 14 to 122 Degrees F (Minus 10 to 50 Degrees C).
        10. Storage: 32 to 122 Degrees F (0 to 50 Degrees C).
        11. Audible Alarm: Internal greater than 65dB at 3.28 feet (1 m), quiet conditions.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. TFT DETECTORS
     1. Basis of Design: AGSTFT, Gas Detector as manufactured and supplied by American Gas Safety; www.americangassafety.com.
        1. Model: Merlin Gas Detector TFT.
        2. Target Gases:
           1. Model NGTFT: Methane (CH4).
           2. Model COTFT: Carbon Monoxide.
           3. Model LPGTFT: Propane.
           4. Model HTFT: Hydrogen.
           5. Model O2TFT: Oxygen.
           6. Model RTFT: Refrigerant.
        3. Maximum Power Consumption: 90mA maximum at 24VDC.
        4. DC Power: 12-32 VDC, nominal 24VDC.
        5. Size: 5.51 x 3.74 x 1.18 inches (140 x 95 x 30 mm).
        6. Housing Material: ABS PA765.
        7. Wiring:
           1. #15AWG Power Pair.
           2. #18AWG Data Pair.
           3. Tinned Copper.
        8. Mounting:
           1. Safe Zone.
           2. Indoor Use.
           3. Wall Mounted.
        9. Operating: 14 to 122 Degrees F (Minus 10 to 50 Degrees C), 30 to 80 percent RH, non-condensing.
        10. Storage Temperature: Minus 13 to 122 Degrees F (Minus 25 to 50 Degrees C), up to 95 percent RH, non-condensing.
        11. Audible Alarm: Greater than 70 dB at 3.28 feet (1 m), quiet conditions.
     2. Basis of Design: AGSNGTFT, Natural Gas Detector as manufactured and supplied by American Gas Safety; www.americangassafety.com.
        1. Model: Merlin Gas Detector TFT.
        2. Target Gas: NG, Natural Gas.
        3. Maximum Power Consumption: 90mA maximum at 24VDC.
        4. DC Power: 12-32 VDC, nominal 24 VDC.
        5. Size: 5.51 x 3.74 x 1.18 inches (140 x 95 x 30 mm).
        6. Housing Material: ABS PA765.
        7. Wiring:
           1. #15AWG Power Pair.
           2. #18AWG Data Pair.
           3. Tinned Copper.
        8. Mounting:
           1. Safe Zone.
           2. Indoor Use.
           3. Wall Mounted.
        9. Operating: 14 to 122 Degrees F (Minus 10 to 50 Degrees C), 30 to 80 percent RH, non-condensing.
        10. Storage Temperature: Minus 13 to 122 Degrees F (Minus 25 to 50 Degrees C), up to 95 percent RH, non-condensing.
        11. Audible Alarm: Greater than 70 dB at 3.28 feet (1 m), quiet conditions.
     3. Basis of Design: AGSAMOTFT, Ammonia (NH3) Gas Detector as manufactured and supplied by American Gas Safety; www.americangassafety.com.
        1. Model: AGSAMOTFT.
        2. Target Gas: NH3, Ammonia.
        3. Voltage: 10 VDC - 30 VDC.
        4. Size: 8.5 x 5.5 x 4.25 inches (216 x 132 x 108 mm).
        5. Housing J-Box: NEMA 4X, explosion proof, watertight, cast aluminum with O-ring seal and epoxy powder coat.
        6. Controls: Magnet for calibration functions.
        7. Operating: 14 to 104 Degrees F (Minus 10 to 40 Degrees C), 5-95 percent RH, non-condensing.
        8. Alarm Indication: Visual LED's.
     4. Basis of Design: AGSRTFT, Refrigerant Gas Detector as manufactured and supplied by American Gas Safety; www.americangassafety.com.

\*\* NOTE TO SPECIFIER \*\* Consult manufacturer's product data sheet to fill in the blank with the appropriate detectable gas identifier. A comprehensive chart is on page 1 of the product data sheet for this model.

* + - 1. Model: AGSRTFT - \_\_\_.
      2. Target Gases: See manufacturer's product data sheet for table of detectable gases and part numbers.
      3. Maximum Power Consumption: 90mA maximum at 24VDC.
      4. DC Power: 12-32 VDC, nominal 24 VDC.
      5. Size: 5.95 x 4.37 x 1.97 inches (151 x 111 x 50 mm).
      6. Housing Material: ABS PA765.
      7. Wiring:
         1. #18-24AWG Power Pair.
         2. #18-24AWG Data Pair.
         3. Tinned Copper.
      8. Mounting:
         1. Mount 1-foot above finished floor.
         2. Indoor Use.
         3. Wall Mounted.
      9. Operating: 14 to 122 Degrees F (Minus 10 to 50 Degrees C), 30 to 80 percent RH, non-condensing.
      10. Storage Temperature: Minus 13 to 122 Degrees F (Minus 25 to 50 Degrees C), up to 95 percent RH, non-condensing.
      11. Audible Alarm: Greater than 95 dB at 3.28 feet (1 m), quiet conditions.
    1. Basis of Design: AGSRTFT-PRO, Refrigerant Gas Detector as manufactured and supplied by American Gas Safety; www.americangassafety.com.

\*\* NOTE TO SPECIFIER \*\* Consult manufacturer's AGS Refrigerant Alarm Levels Section Sheet for the RTFT Detectors to fill in the blank with the appropriate detectable gas identifier.

* + - 1. Model: AGSRTFT-PRO - \_\_\_.
      2. Target Gases: See manufacturer's product data sheet for table of detectable gases and part numbers.
      3. Maximum Power Consumption: 90mA maximum at 24VDC.
      4. DC Power: 12-32 VDC, nominal 24 VDC.
      5. Size: 5.95 x 4.37 x 1.97 inches (151 x 111 x 50 mm).
      6. Housing Material: ABS PA765.
      7. Wiring:
         1. #18-24AWG Power Pair.
         2. #18-24AWG Data Pair.
         3. Tinned Copper.
      8. Mounting:
         1. Mount 1-foot above finished floor.
         2. Indoor Use.
         3. Wall Mounted.
      9. Operating: 14 to 122 Degrees F (Minus 10 to 50 Degrees C), 30 to 80 percent RH, non-condensing.
      10. Storage Temperature: Minus 13 to 122 Degrees F (Minus 25 to 50 Degrees C), up to 95 percent RH, non-condensing.
      11. Audible Alarm: Greater than 95 dB at 3.28 feet (1 m), quiet conditions.
    1. Basis of Design: AGSRTFT-LITE, Refrigerant Gas Detector as manufactured and supplied by American Gas Safety; www.americangassafety.com.

\*\* NOTE TO SPECIFIER \*\* Consult manufacturer's AGS Refrigerant Alarm Levels Section Sheet for the RTFT Detectors to fill in the blank with the appropriate detectable gas identifier.

* + - 1. Model: AGSRTFT-LITE - \_\_\_.
      2. Target Gases: See manufacturer's product data sheet for table of detectable gases and part numbers.
      3. Maximum Power Consumption: 90mA maximum at 24VDC.
      4. DC Power: 12-32 VDC, nominal 24 VDC.
      5. Size: 5.95 x 4.37 x 1.97 inches (151 x 111 x 50 mm).
      6. Housing Material: ABS PA765.
      7. Wiring:
         1. #18-24AWG Power Pair.
         2. #18-24AWG Data Pair.
         3. Tinned Copper.
      8. Mounting:
         1. Mount 1-foot above finished floor.
         2. Indoor Use.
         3. Wall Mounted.
      9. Operating: 14 to 122 Degrees F (Minus 10 to 50 Degrees C), 30 to 80 percent RH, non-condensing.
      10. Storage Temperature: Minus 13 to 122 Degrees F (Minus 25 to 50 Degrees C), up to 95 percent RH, non-condensing.
      11. Audible Alarm: Greater than 95 dB at 3.28 feet (1 m), quiet conditions.
    1. Basis of Design: AGSO2TFT, Oxygen Depletion/Enrichment Gas Detector as manufactured and supplied by American Gas Safety; www.americangassafety.com.
       1. Model: Merlin Gas Detector TFT.
       2. Target Gas: O2, Oxygen.
       3. Maximum Power Consumption: 90mA maximum at 24VDC.
       4. DC Power: 12-32 VDC, nominal 24 VDC.
       5. Size: 5.51 x 3.74 x 1.18 inches (140 x 95 x 30 mm).
       6. Housing Material: ABS PA765.
       7. Wiring:
          1. #15AWG Power Pair.
          2. #18AWG Data Pair.
          3. Tinned Copper.
       8. Mounting:
          1. Safe Zone.
          2. Indoor Use.
          3. Wall Mounted.
       9. Operating: 14 to 122 Degrees F (Minus 10 to 50 Degrees C), 30 to 80 percent RH, non-condensing.
       10. Storage Temperature: Minus 13 to 122 Degrees F (Minus 25 to 50 Degrees C), up to 95 percent RH, non-condensing.
       11. Audible Alarm: Greater than 70 dB at 3.28 feet (1 m), quiet conditions.
    2. Basis of Design: AGLPGTFT, Liquid Petroleum Gas Detector as manufactured and supplied by American Gas Safety; www.americangassafety.com.
       1. Model: Merlin Gas Detector TFT.
       2. Target Gas: LPG, Liquid Petroelum Gas.
       3. Maximum Power Consumption: 90mA maximum at 24VDC.
       4. DC Power: 12-32 VDC, nominal 24 VDC.
       5. Size: 5.51 x 3.74 x 1.18 inches (140 x 95 x 30 mm).
       6. Housing Material: ABS PA765.
       7. Wiring:
          1. #15AWG Power Pair.
          2. #18AWG Data Pair.
          3. Tinned Copper.
       8. Mounting:
          1. Safe Zone.
          2. Indoor Use.
          3. Wall Mounted.
       9. Operating: 14 to 122 Degrees F (Minus 10 to 50 Degrees C), 30 to 80 percent RH, non-condensing.
       10. Storage Temperature: Minus 13 to 122 Degrees F (Minus 25 to 50 Degrees C), up to 95 percent RH, non-condensing.
       11. Audible Alarm: Greater than 70 dB at 3.28 feet (1 m), quiet conditions.
    3. Basis of Design: AGSHTFT, Hydrogen Gas Detector as manufactured and supplied by American Gas Safety; www.americangassafety.com.
       1. Model: Merlin Gas Detector TFT.
       2. Target Gas: H, Hydrogen.
       3. Maximum Power Consumption: 90mA maximum at 24VDC.
       4. DC Power: 12-32 VDC, nominal 24 VDC.
       5. Size: 5.51 x 3.74 x 1.18 inches (140 x 95 x 30 mm).
       6. Housing Material: ABS PA765.
       7. Wiring:
          1. #15AWG Power Pair.
          2. #18AWG Data Pair.
          3. Tinned Copper.
       8. Mounting:
          1. Safe Zone.
          2. Indoor Use.
          3. Wall Mounted.
       9. Operating: 14 to 122 Degrees F (Minus 10 to 50 Degrees C), 30 to 80 percent RH, non-condensing.
       10. Storage Temperature: Minus 13 to 122 Degrees F (Minus 25 to 50 Degrees C), up to 95 percent RH, non-condensing.
       11. Audible Alarm: Greater than 70 dB at 3.28 feet (1 m), quiet conditions.
    4. Basis of Design: AGSCOTFT, Carbon Monoxide Detector as manufactured and supplied by American Gas Safety; www.americangassafety.com.
       1. Model: Merlin Gas Detector TFT.
       2. Target Gas: CO, Carbon Monoxide.
       3. Maximum Power Consumption: 90mA maximum at 24VDC.
       4. DC Power: 12-32 VDC, nominal 24 VDC.
       5. Size: 5.51 x 3.74 x 1.18 inches (140 x 95 x 30 mm).
       6. Housing Material: ABS PA765.
       7. Wiring:
          1. #15AWG Power Pair.
          2. #18AWG Data Pair.
          3. Tinned Copper.
       8. Mounting:
          1. Safe Zone.
          2. Indoor Use.
          3. Wall Mounted.
       9. Operating: 14 to 122 Degrees F (Minus 10 to 50 Degrees C), 30 to 80 percent RH, non-condensing.
       10. Storage Temperature: Minus 13 to 122 Degrees F (Minus 25 to 50 Degrees C), up to 95 percent RH, non-condensing.
       11. Audible Alarm: Greater than 70 dB at 3.28 feet (1 m), quiet conditions.
    5. Basis of Design: AGSCO2TFT, Carbon Dioxide Gas Detector as manufactured and supplied by American Gas Safety; www.americangassafety.com.
       1. Model: Merlin Gas Detector TFT.
       2. Target Gas: CO2, Carbon Dioxide.
       3. Maximum Power Consumption: 90mA maximum at 24VDC.
       4. DC Power: 12-32 VDC, nominal 24 VDC.
       5. Size: 5.51 x 3.74 x 1.18 inches (140 x 95 x 30 mm).
       6. Housing Material: ABS PA765.
       7. Wiring:
          1. #15AWG Power Pair.
          2. #18AWG Data Pair.
          3. Tinned Copper.
       8. Mounting:
          1. Safe Zone.
          2. Indoor Use.
          3. Wall Mounted.
       9. Operating: 14 to 122 Degrees F (Minus 10 to 50 Degrees C), 30 to 80 percent RH, non-condensing.
       10. Storage Temperature: Minus 13 to 122 Degrees F (Minus 25 to 50 Degrees C), up to 95 percent RH, non-condensing.
       11. Audible Alarm: Greater than 70 dB at 3.28 feet (1 m), quiet conditions.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. ISOLATION CONTROLLERS
     1. Basis of Design: GDP2 Gas Detection System as manufactured and supplied by American Gas Safety; www.americangassafety.com.
        1. Model: GDP2 Gas Detection Controller.
        2. Mounting: Wall mount.
        3. Power Consumption: Maximum 20W, Full Load.
        4. Power Voltage Input Range: 100-120VAC.
        5. Gas Valve Output Range: 100-120VAC.
        6. Terminal Wire Ratings: Copper 18AWG (0.75 mm2), minimum 25 screw terminals.
        7. Fuse: 3.15A.
        8. Size: 5.51 x 7.48 x 2.44 inches (140 x 190 x 62 mm).
        9. Housing Material: Polylac, PA765.
        10. Operating: 14 to 122 Degrees F (Minus 10 to 50 Degrees C), 30 to 80 percent RF.
     2. Basis of Design: GDP2X Advanced Gas Detection System as manufactured and supplied by American Gas Safety; www.americangassafety.com.
        1. Model: GDP2X Gas Detection Control Panel.
        2. Mounting: Wall mount.
        3. Power Consumption: Maximum 20W, Full Load.
        4. Power Voltage Input Range: 100-120VAC.
        5. Gas Valve Output Range: 100-120VAC.
        6. Terminal Wire Ratings: Copper 18AWG (0.75 mm2), minimum 25 screw terminals.
        7. Fuse: 3.15A.
        8. Size: 5.51 x 7.48 x 2.44 inches (140 x 190 x 62 mm).
        9. Housing Material: Polylac, PA765.
        10. Operating: 14 to 122 Degrees F (Minus 10 to 50 Degrees C), 30 to 80 percent RF.
     3. Basis of Design: GDP4 Gas Detection System as manufactured and supplied by American Gas Safety; www.americangassafety.com.
        1. Model: GDP4 Gas Detection Controller.
        2. Mounting: Wall mount.
        3. Power Consumption: Maximum 20W, Full Load.
        4. Power Voltage Input Range: 100-120VAC.
        5. Gas Valve Output Range: 100-120VAC.
        6. Terminal Wire Ratings: Copper 18AWG (0.75 mm2), minimum 25 screw terminals.
        7. Fuse: 3.15A.
        8. Size: 7.08 x 10.03 x 3 inches (180 x 255 x 77 mm).
        9. Housing Material: Polylac, PA765.
        10. Operating: 14 to 122 Degrees F (Minus 10 to 50 Degrees C), 30 to 80 percent RF.
     4. Basis of Design: AGSGDPX+ Advanced Gas Detection System as manufactured and supplied by American Gas Safety; www.americangassafety.com.
        1. Model: GDPX+ Gas Detection Control Panel.
        2. Mounting: Wall mount.
        3. Power Consumption: Maximum 48W, Full Load.
        4. Power Voltage Input Range: 100-120VAC.
        5. Gas Valve Output Range: 100-120VAC.
        6. Electrical Contactor Output Range: 100-120VAC.
        7. Communication: RS485 MODBUS RTU.
        8. Terminal Wire Ratings: Copper 18AWG (0.75 mm2), minimum 25 screw terminals.
        9. Fuse: 3.15A.
        10. Size: 7.08 x 10.03 x 3 inches (180 x 255 x 77 mm).
        11. Housing Material: Polylac, PA765.
        12. Operating: 14 to 122 Degrees F (Minus 10 to 50 Degrees C), 30 to 80 percent RF.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. VENTILATION CONTROLLERS
     1. Basis of Design: MerlinGuard Gas Detection and Ventilation Control System as manufactured and supplied by American Gas Safety; www.americangassafety.com.
        1. Model: MerlinGuard Controller.
        2. Mounting: Indoor use, wall mounting.
        3. Power Consumption: Maximum 14.5W.
        4. AC Power: 100-120V, 50/60Hz.
        5. Wiring:
           1. Power and Relay: #18-12AWG.
           2. Detector: #12-18AWG Power Pair, #18-22AWG Data Pair.
           3. Other: #18-22AWG.
        6. Common Output: 24VDC Permanent, 0-10VDC Variable.
        7. Size: 7.08 x 10.03 x 3 inches (180 x 255 x 77 mm).
        8. Housing Material: Polylac, PA765, UL 94 V-1.
        9. Operating: 14 to 122 Degrees F (Minus 10 to 50 Degrees C), 30 to 80 percent RH, non-condensing.
        10. Storage Temperature: Minus 13 to 122 Degrees F (Minus 25 to 50 Degrees C), up to 95 percent RH, non-condensing.
        11. Audible Alarm: Greater than 70 dB at 3.28 feet (1 m), quiet conditions.
        12. For use with AGS TFT Detectors.
     2. Basis of Design: AGSParkSafe Gas Detection and Ventilation Control System as manufactured and supplied by American Gas Safety; www.americangassafety.com.
        1. Model: PARKSAFE Controller.
        2. Mounting: Indoor use, wall mounting.
        3. Power Consumption: Maximum 14.5W.
        4. AC Power: 100-120V, 50/60Hz.
        5. Wiring:
           1. Power and Relay: #18-12AWG.
           2. Detector: #12-18AWG Power Pair, #18-22AWG Data Pair.
           3. Other: #18-22AWG.
        6. Common Output: 24VDC Permanent, 0-10VDC Variable.
        7. Size: 7.08 x 10.03 x 3 inches (180 x 255 x 77 mm).
        8. Housing Material: Polylac, PA765, UL 94 V-1.
        9. Operating: 14 to 122 Degrees F (Minus 10 to 50 Degrees C), 30 to 80 percent RH, non-condensing.
        10. Storage Temperature: Minus 13 to 122 Degrees F (Minus 25 to 50 Degrees C), up to 95 percent RH, non-condensing.
        11. Audible Alarm: Greater than 70 dB at 3.28 feet (1 m), quiet conditions.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. ACCESSORIES
     1. Alarm Strobe Relay:
        1. Size: 5.95 x 4.37 x 1.97 inches (151 x 111 x 50 mm).
        2. Housing Material: ABS PA765. Flame Rating UL94 V-1.
        3. Mounting:
           1. Safe Zone.
           2. Indoor Use.
           3. Wall Mounted.
        4. Visual Indicators: LED.
        5. Power Consumption: 3W maximum without strobe.
        6. AC Power: 100-120V, 50/60Hz.
        7. Internal Fuse: Anti-Surge 3.15A, 250VAC.
        8. Overvoltage Category: II.
        9. Pollution Degree: 2.
        10. Dry Contact Relay Output: 3x 1A switching current (resistive load) at 120VAC.
        11. Wiring:
            1. Minimum 18AWG.
            2. 75 Degrees C.
            3. Tinned Copper.
        12. Product: AGSRGR Alarm Strobe Relay; www.americangassafety.com.
     2. Fire Alarm Bypass:
        1. Power Supply: 110-120VAC, 50/60HZ.
        2. Enclosure:
           1. Wall mount.
           2. Flush mount.
        3. Dimensions: 7-1/2 x 5-1/2 x 5-1/5 inches (191 x 140 x 127).
        4. BAS Output: N/C COM N/O, Maximum 1A at 120VAC.
        5. To Merlin Panel Terminals, Switched Connection: Dry Contact.
        6. To Fire panel Terminals, Switched Connection: Dry Contact.
        7. Product: AGS AGSFAB-1 Fire Alarm Bypass; www.americangassafety.com.
     3. Two Double Pole / Double Throw Relay Pack:
        1. Contact:
           1. One pole 16A.
           2. One form C (CO) or one form A (NO) contact.
        2. Control Coil Type: DC, non-latching.
        3. Coil Resistance: 360 Ohms.
        4. Coil Contact: 5kV/10 mm coil-contact, reinforced insulation.
        5. Ambient Temperature: 85 Degrees C.
        6. Product: AGSRP2 Two Double Pole/Double Throw Relay Pack; www.americangassafety.com.
     4. Audible Alarm Beacon:
        1. Operating Voltage: 12VDC-24VDC.
        2. Operating Current:
           1. 0.42 at 12VDC.
           2. 0.22A at 24VDC.
        3. Operating Temperature: Minus 4 to 140 Degrees F.
        4. Volume at 1-foot: High 105dB, Low 85dB.
        5. Alarm Trigger: Trigger on Power.
        6. Lens Tamper: N.C. 12VDC, 50mA Dry Contact.
        7. IP Rating: IP54.
        8. Product: AGSAAB Audible Alarm Beacon; www.americangassafety.com.
     5. Detector Guard: 9-gauge steel wire cage with corrosion-resistant polyester coating.
        1. Size: 7 x 5-3/4 x 4-1/2 inches (178 x 146 x 114 mm).
        2. Product: AGS Detector Guard; www.americangassafety.com.
     6. Water Resistant Cover:
        1. Spacer: 8-1/2 x 6-1/2 x 4 inches (216 x 165 x 102 mm).
        2. Product: AGSDETECTOR SPLASHGUARD Water Resistant Cover; www.americangassafety.com.
     7. Calibration Test Gases:
        1. Non-Reactive:
           1. CO.
           2. CH4 (Methane).
           3. LPG.
           4. H - Hydrogen.
           5. O2 - Oxygen.
        2. Reactive:
           1. NO2.
        3. Products:
           1. Non-Reactive, Cylinder and Regulator; AGS-CAL-SIZE-KIT; www.americangassafety.com.
           2. Reactive, Cylinder and Regulator; AGS-TEST-GAS-SIZE-KIT; www.americangassafety.com.

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until the substrates have been properly constructed and prepared.
      2. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.
   2. PREPARATION
      1. Clean surfaces thoroughly prior to installation.
      2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
   3. INSTALLATION
      1. Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.
   4. FIELD QUALITY CONTROL
      1. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

\*\* NOTE TO SPECIFIER \*\* Include if manufacturer provides field quality control with onsite personnel for instruction or supervision of product installation, application, erection, or construction. Delete if not required.

* + 1. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.
  1. CLEANING AND PROTECTION
     1. Clean products in accordance with the manufacturer's recommendations.
     2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION