1 SAFETY REGULATIONS

1.1 Correct Use

MSA CHILLGARD® VRF Refrigerant Detector – hereafter referred to as detector – is designed to detect the presence of the most common halogenated refrigerants, and specifically calibrated to detect R410a.

This manual must be carefully read in its entirety and should be left with the responsibility for reading, using, or servicing the product. This product is supporting life and health. Incorrect use, misuse, or servicing of the device and persons who rely on this product for their safety could result in life or serious personal injury.

Furthermore, the national regulations applicable to the user’s country must be taken into account. For safe use of this product. Alternative use, use outside of this specification will be considered as non-compliance. This also applies especially to unauthorized alterations to the product and to consulting texts that has not been carried out by MSA or authorized persons.

1.2 Liability Information

MSA accepts no liability in cases where the product has been used incorrectly or not as intended. The selection and use of this product must be under the direction of a qualified safety professional who has carefully checked the specific hazards of the site where it will be used and who completely familiar with the product and its limitations. The selection and use of this product and its incorporation into the safety scheme of the site is the exclusive responsibility of the employer.

Warranty, also known as express warranties, made by MSA with respect to the product are voided if the product is not used, serviced, or maintained in accordance with the instructions in this manual.

1.3 Safety and Precautionary Measures

Carefully review the following safety limitations and precautions before placing this device in service. Incorrect use, improper operation, or unauthorized servicing can result in serious injury or death.

- Do not install this detector in outdoor areas where combustible concentrations of flammable gases might occur in the atmosphere. Do not paint this detector. Painting will affect the sensing elements.
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2 INSTALLATION GUIDELINES

3 INSTALLATION GUIDELINES

3.1 Locating the Detector

Proper detector location is necessary to ensure accurate measurement of representative air samples.

Locate the detector:

1. Fasten the base to a junction box or other support.
2. The base has a number of openings to allow for mounting to various junction boxes.

3.3 Dimensions in mm [inch]

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.3</td>
<td>For mA – Gas reading as current (4 – 20 mA = 0 - 1000 ppm)</td>
</tr>
<tr>
<td>24.5</td>
<td>For V – Gas reading as voltage (0 - 10 V, 0 - 1000 ppm)</td>
</tr>
<tr>
<td>42.7</td>
<td>Dimensions in mm [inch]</td>
</tr>
<tr>
<td>79.9</td>
<td>Dimensions in mm [inch]</td>
</tr>
<tr>
<td>58.2</td>
<td>Dimensions in mm [inch]</td>
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<tr>
<td>42.7</td>
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<td>52.8</td>
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### Modbus address

- **S301-1, S301-2, and S302-3 are used to represent the Modbus configuration.**
- **S301-3 and S302-3 are used to represent a value using the decimal number system for Modbus address (Range = 1~255). S301 is tens digit number, and S302 is units digit number. The changes will only be valid after power reset. Invalid address will cause an address fault.

### BACnet MAC address

- **S301-3 and S302-3 are used to represent a value using the decimal number system for BACnet MAC address (Range = 0~127).**
- BACnet is hundreds digit number, S302 is units digit number, and S301 is tens digit number. The changes will only be valid after power reset. Invalid address will cause an address fault.

### Baud Rate

- Baud Rates: 9600, 19200, 38400, 57600, 76800, 115200

### Modbus Testing

- **To verify proper sensor operation:**
  1. If the actual alarm level is lower than the concentration of calibration gas, please be aware that the relay may activate. You may modify the alarm level on Modbus or BACnet or you may switch to the alternate alarm level using switch S303-4 (refer to Alarm Level section above).

### BACnet Protocol Implementation Conformance Statement (PICS)

- **BACnet Application Specific Controller (B-ASC)**
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- **ADAPTER**
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- **ADAPTER**

### Calibration Check Procedure

1. **If the actual alarm level is lower than the concentration of calibration gas, please be aware that the relay may activate. You may modify the alarm level on Modbus or BACnet or you may switch to the alternate alarm level using switch S303-4 (refer to Alarm Level section above).**

2. **If appropriate, deactivate any equipment connected to the outputs, or disconnect the wiring of the outputs.**

### CAUTION

- **Any control interlocks connected to this detector are wired to external devices (e.g., horns, exhaust fans, and fire suppression systems), these devices may activate during the following procedures.**

- **To prevent activating these devices while adjusting this monitor, disconnect the wiring to the control equipment. Return all wiring to the control device when the calibration procedure is completed.**

3. **With the tubing connected to the regulator and cylinder, place tubing in the opening of the bottom of this unit (see Figure 6).**

4. **Open the regulator and apply gas. This process may take up to five minutes.**

5. **If the unit is not working properly:**
   - **The Red LED:**
     - *illuminates when concentration level = Calibration Check level or Active Alarm level is a viable through the upper and lower evacuation vents.
     - *the relay will activate if the Active Alarm level is exceeded.**

6. **Adjust the regulator and remove tubing from opening.**

7. **Allow gas level to return to normal.**

8. **Readjust any equipment connected to the outputs or reconnect the wiring to the outputs.**

9. **Repeat to restore any alarm level settings that may have been changed by the Calibration Check.**