# CUSTOMER APPLICATION INFORMATION FORM

**This information is required to properly configure an analyzer based on your specifications. Return completed form to sales@h2scan.com**

## 1.0: CUSTOMER INFORMATION

| | | | | H2scan USE ONLY | |
|---|---|---|---|---|---|
| Name | | Date | | *CAI #* | |
| Title | | | | *Date* | |
| Company | | | | *Quote #* | |
| Address | | City | | *SEI #* | |
| State/Province | | Country | | *SO #* | |
| Postal Code | | End Customer | | *Cust PO #* | |
| Phone | | Application | | | |
| E-mail Address | | Project ID/Ref # | | | |

## 2.0: PROCESS INFORMATION

**2.1: Gas Conditions at ☐ ANALYZER or ☐ SAMPLE TAP** (Please indicate either analyzer or sample tap. Conditions at the ANALYZER are preferred if known.)

| Pressure | Gas Temperature | Flow Rate | Dew Point |
|---|---|---|---|
| Units Type | (min) to (max) Units | (min) to (max) Units | Units |
| *Recommended 1 atm absolute at analyzer. See note 1 below.* | *Maximum 60 °C at analyzer.* | *Recommended 1 slpm at analyzer.* | *Must be non-condensing.* |

**2.2: Environmental Conditions**

| | | |
|---|---|---|
| Analyzer Location: Select Location | **Ambient Temperature** | Analyzer Distance from Sample Tap: Units |
| If Other, Please Explain: | (min) to (max) Units | Heat Traced Lines? Select |

| | | | |
|---|---|---|---|
| **2.3: Area Classification** | | **2.4: Other Certifications?** | |

**2.5: Sample Conditioning System from H2scan Requested:** ☐ Yes (Please provide details below) ☐ No (Please continue to Section 3.0)

| | | |
|---|---|---|
| Enclosure Needed? Select | System Type: Select | Instrument Air Available? Select |
| Material: Select | Sample Gas Return: Select | Input Voltage: Select |
| Viewing Window? Select | Min Outlet Pressure: Units Type | |

## 3.0: GAS STREAM DETAILS

**It is critical that *ALL* components present in the gas mixture are listed below. Any non-listed gases may affect the warranty of the analyzer. If the gas composition is different from the specified range(s) below, analyzer performance may be impacted. Contact H2scan with an updated CAI.**

**3.1: Background Gas:** ☐ Air ☐ Other (If other, please fill out entire gas stream composition below.)

| 3.2: Gas Components | Min | Max | Nominal | Units | Comments |
|---|---|---|---|---|---|
| Hydrogen (H2) | | | | ☐ % or ☐ ppm | |
| **IS HYDROGEN ALWAYS PRESENT?** | | ☐ **YES** | ☐ **NO** | **If NO, please provide details below. See note 2 below.** | |
| **Process Description:** | | | | | |
| Nitrogen (N2) | | | | ☐ % or ☐ ppm | |
| Oxygen (O2) | | | | ☐ % or ☐ ppm | *May result in drift. See note 3 below.* |
| Water (H2O) | | | | ☐ % ☐ ppm ☐ %RH | *Must be non-condensing. See note 4 below.* |
| Inert Gases (Ar, He, Ne, etc.) | | | | ☐ % or ☐ ppm | |
| Carbon Dioxide (CO2) | | | | ☐ % or ☐ ppm | |
| Hydrocarbons (C1 – C5) | | | | ☐ % or ☐ ppm | *Must be non-condensing. See note 4 below.* |
| Hydrocarbons (C6+) | | | | ☐ % or ☐ ppm | *Must be non-condensing. See note 4 below.* |
| Carbon Monoxide (CO) | | | | ☐ % or ☐ ppm | *Must be less than 20%. Refer to data sheets.* |
| Hydrogen Sulfide (H2S) | | | | ☐ % or ☐ ppm | *Must be less than 3%. Refer to data sheets.* |
| Other | | | | ☐ % or ☐ ppm | |
| Particulates | | | | ☐ Yes or ☐ No | *Less than 5 microns.* |

**3.3: Comments**

*This information is used by H2scan to properly configure products that we warrant for the customer application. H2scan disclaims responsibility for any action taken in reliance upon customer provided information. Use of an H2scan product in conditions that differ from those provided here may void the warranty. H2scan accepts no liability for the consequences of any actions taken on the basis of the information provided, unless that information is subsequently confirmed in writing.*



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# CUSTOMER APPLICATION INFORMATION FORM

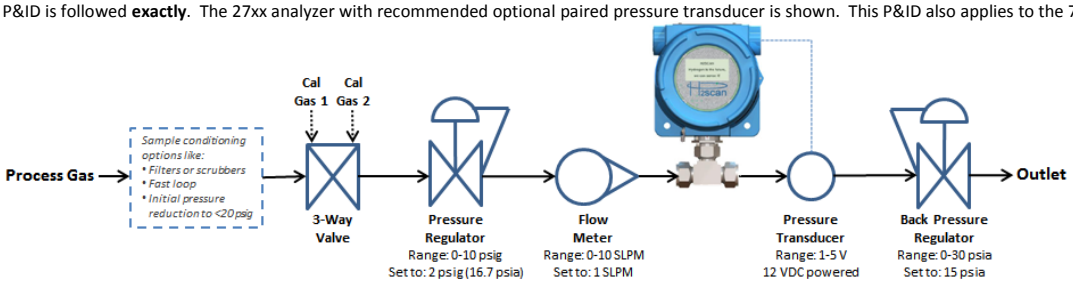
## 4.0: ANALYZER SELECTION (Please be sure to check ALL appropriate boxes below.)

| | ☐ HY-OPTIMA 7xxB Series | ☐ HY-OPTIMA 17xx Intrinsically Safe Series | ☐ HY-OPTIMA 27xx Explosion Proof Series |
|---|---|---|---|
| |  |  |  ATEX / IECEx Certification: ☐ Yes ☐ No *Note: ATEX/IECEx limits pressure at analyzer to <1.1 atm abs* |
| **Fittings** | **Default: ½ in. MNPT Thread**<br>Available: ☐ ½ in. FNPT thread<br>☐ -8 SAE/MS thread | **Default: ½ in. MNPT Thread**<br>Available: ☐ ½ in. FNPT thread<br>☐ -8 SAE/MS thread | **Default: ¾ in. Union Tee Compression**<br>Optional: ☐ ¾ in. to ¼ in. Reducer *($)* |
| **Power** | **Included: 4m Cable**<br>Optional: ☐ 10m Cable *($)*<br>Optional: ☐ 12 VDC Power Supply *($)* | **Included: 4m Armored Cable & Power Barrier**<br>Optional: ☐ 10m IS Power Cable *($)*<br>Optional: ☐ 24 VDC IS Power Supply *($)* | *Customer supplied* |
| **Serial Cable** | **Included: 4m Cable w/DB9 connector**<br>Optional: ☐ 10m Cable *($)*<br>Optional: ☐ Serial to USB Adapter *($)* | **Included: 4m Cable**<br>Optional: ☐ 10m Cable *($)*<br>Optional: ☐ RS422 Serial Barrier *($)* | *Customer supplied*<br>Optional: ☐ Serial to USB Adapter *($)* |
| **Relay Cable** | Optional: ☐ 4m Cable *($)* ☐ 10m Cable *($)* | Optional: ☐ Analog output barrier with relays *($)* | *Customer supplied* |
| **Analog Output** | **Default: 4-20 mA**<br>Available: ☐ 0-5 VDC | **Included: 4-20 mA** | **Included: 4-20 mA** |
| **Serial Output** | **Default: RS-232**<br>Available: ☐ RS-422 | **Included: RS-422** | **Default: RS-232**<br>Available: ☐ RS-422 |
| **H2 Measurement Scale** | % H2 (Low)<br>% H2 (High)<br>*Default is 0-100%*<br>*(0-5% for 720B model)* | % H2 (Low)<br>% H2 (High)<br>*Default is 0-100%*<br>*(0-5% for 1720 model)* | % H2 (Low)<br>% H2 (High)<br>*Default is 0-100%*<br>*(0-5% for 2720 model)* |
| **Relay Set Points** | Alert (Amber LED): % H2<br>Alarm (Red LED): % H2 | Alert (Amber LED): % H2<br>Alarm (Red LED): % H2<br>*Requires analog output barrier* | Alert (Amber LED): % H2<br>Alarm (Red LED): % H2 |
| **Other Options** | | | Paired Pressure Transducer: ☐ Yes *($)* |

*CONTACT H2SCAN FOR PRICING ON ANY OPTIONS OR ACCESSORIES INDICATED BY ($)*

## 5.0: RECOMMENDED INSTALLATION

The sample conditioning P&ID shown here has been developed by H2scan to help ensure proper analyzer performance. Typical set points for pressure and flow are also indicated. It is highly recommended that this P&ID is followed **exactly**. The 27xx analyzer with recommended optional paired pressure transducer is shown. This P&ID also applies to the 7xx and 17xx analyzers.




## 6.0: CUSTOMER ACKNOWLEDGEMENT

1. The pressure at the analyzer must be constant, ideally in the range of 0.95 to 1.1 atm absolute (14.0 to 16.1 psia). Operation above this range typically requires a special factory calibration which has an additional fee and may extend the delivery time. For ATEX / IECEx compliance the pressure at the analyzer may not exceed 1.1 atm absolute (16.1 psia). For all other applications the pressure at the analyzer may not exceed 2 atm absolute (29.4 psia).
2. The HY-OPTIMA™ -10, -30, and -40 analyzers are intended for use with hydrogen ALWAYS present.
   a. Brief periods (less than 15 minutes) during process startup or shutdown without hydrogen are OK.
   b. If hydrogen always present cannot be ensured, then during periods of operation with no hydrogen present you must either i) power off the analyzer, or ii) use valves to trap at least 1000 ppm of H2 around the sensor whenever the analyzer is powered on. Hydrogen is not required when the analyzer is off.
   c. Failure to do this may result in the sensor drifting outside of H2scan's published specifications. This can usually be corrected by performing a field calibration. H2scan cannot guarantee the performance of the analyzer if this is not followed.
3. The HY-OPTIMA™ -10, -30, and -40 analyzers are intended for use with oxygen NOT present. The presence of oxygen may result in sensor performance outside of H2scan's published specifications. H2scan cannot guarantee the performance of the analyzer when oxygen is present in the stream. Note: the HY-OPTIMA™ -20 analyzers are intended for use in processes with air or inert backgrounds where hydrogen is only occasionally present for short periods (up to 1 hour).
4. Non-condensing streams only. Moisture should always be removed as it will damage the sensor. Sensor failure from moisture is not covered by H2scan's warranty.

☐ PLEASE CHECK THIS BOX TO ACKNOWLEDGE THAT YOU HAVE READ AND UNDERSTOOD THESE GUIDELINES. H2SCAN CANNOT GUARANTEE OPERATION OUTSIDE OF OUR PUBLISHED DATA SHEET SPECIFICATIONS AND/OR ANY NOTES ON THIS CAI FORM. IT IS THE CUSTOMER'S RESPONSIBILITY TO PROVIDE ACCURATE INFORMATION TO H2SCAN. REFER TO THE PRODUCT MANUALS FOR PROPER OPERATION. **ORDERS CANNOT BE PROCESSED IF THIS BOX IS NOT CHECKED.**