# EC Sense Selection Guide

20 models · downloadable datasheets also available per model on anchorsensor.com

## TB420-ES4-AsH3 — TB420-ES4-AsH3 Arsine Smart Gas Sensor Module

The EC Sense TB420-ES4-AsH3 is a two-wire 4-20 mA smart gas sensor module built on German solid-polymer electrochemical sensing technology, designed for Arsine detection with a 0 – 1 ppm range and 0.001 ppm resolution. It converts the sensor's small current si…

| | |
|---|---|
| **Target Gas** | Arsine |
| **Detection Range** | 0 – 1 ppm |
| **Resolution** | 0.001 ppm |
| **Order No.** | 04-TB420-ES4-AsH3-1-01 |
| **Operating Principle** | Solid Polymer Electrochemical Sensing Technology |
| **Accuracy** | ± 5% (measurement value) |
| **Repeatability** | < 2% |
| **Linearity** | Linear |
| **Long-Term Drift** | < 5% / year |
| **Expected Lifetime** | > 5 years |
| **Output Signal** | 4-20 mA two-wire (convertible to 40-200 mV via an external resistor) |
| **Supply Voltage** | 9 to 24 V DC, 24 V DC recommended |
| **Supply Current** | 3 to 22 mA |
| **Power Consumption** | < 0.6 W |
| **Maximum Loop Resistance** | < 500 Ω @ 24 V DC |
| **Protection** | Reverse polarity protection |
| **Operating Temperature** | -40 ℃ to +55 ℃ |
| **Operating Humidity** | 15 – 95% RH (non-condensing) |
| **Operating Pressure** | Atmospheric pressure ± 10% |
| **Storage Temperature** | 0 ℃ to 20 ℃ |
| **Size (Including Sensor)** | 45 × 35 × 21.7 mm |
| **Size (Without Sensor)** | 45 × 35 × 11.9 mm |
| **Weight (Including Sensor)** | 11.8 g |
| **Weight (Without Sensor)** | 7.1 g |
| **Certification** | Ex ia IIC Ga intrinsic safety (temperature class T6, -40 ℃ to +55 ℃); RoHS |
| **Warranty** | 12 months |

Every module is professionally calibrated with standard gas before shipment and the calibration data is stored in its flash chip, so it can be used without warm-up. EC Sense provides calibration softw

## TB420-ES4-B2H6 — TB420-ES4-B2H6 Diborane Smart Gas Sensor Module

The EC Sense TB420-ES4-B2H6 is a two-wire 4-20 mA smart gas sensor module built on German solid-polymer electrochemical sensing technology, designed for Diborane detection with a 0 – 1 ppm range and 0.001 ppm resolution. It converts the sensor's small current …

| | |
|---|---|
| **Target Gas** | Diborane |
| **Detection Range** | 0 – 1 ppm |
| **Resolution** | 0.001 ppm |
| **Order No.** | 04-TB420-ES4-B2H6-1-01 |
| **Operating Principle** | Solid Polymer Electrochemical Sensing Technology |
| **Accuracy** | ± 5% (measurement value) |
| **Repeatability** | < 2% |
| **Linearity** | Linear |
| **Long-Term Drift** | < 5% / year |
| **Expected Lifetime** | > 5 years |
| **Output Signal** | 4-20 mA two-wire (convertible to 40-200 mV via an external resistor) |
| **Supply Voltage** | 9 to 24 V DC, 24 V DC recommended |
| **Supply Current** | 3 to 22 mA |
| **Power Consumption** | < 0.6 W |
| **Maximum Loop Resistance** | < 500 Ω @ 24 V DC |
| **Protection** | Reverse polarity protection |
| **Operating Temperature** | -40 ℃ to +55 ℃ |
| **Operating Humidity** | 15 – 95% RH (non-condensing) |
| **Operating Pressure** | Atmospheric pressure ± 10% |
| **Storage Temperature** | 0 ℃ to 20 ℃ |
| **Size (Including Sensor)** | 45 × 35 × 21.7 mm |
| **Size (Without Sensor)** | 45 × 35 × 11.9 mm |
| **Weight (Including Sensor)** | 11.8 g |
| **Weight (Without Sensor)** | 7.1 g |
| **Certification** | Ex ia IIC Ga intrinsic safety (temperature class T6, -40 ℃ to +55 ℃); RoHS |
| **Warranty** | 12 months |

Every module is professionally calibrated with standard gas before shipment and the calibration data is stored in its flash chip, so it can be used without warm-up. EC Sense provides calibration softw

## TB420-ES4-CH4S — TB420-ES4-CH4S Methyl Mercaptan Smart Gas Sensor Module

The EC Sense TB420-ES4-CH4S is a two-wire 4-20 mA smart gas sensor module built on German solid-polymer electrochemical sensing technology, designed for Methyl Mercaptan detection with a 0 – 10 ppm / 0 – 100 ppm / 0 – 5000 ppm range and 0.001 ppm / 0.01 ppm / …

| | |
|---|---|
| **Target Gas** | Methyl Mercaptan |
| **Detection Range** | 0 – 10 ppm / 0 – 100 ppm / 0 – 5000 ppm |
| **Resolution** | 0.001 ppm / 0.01 ppm / 0.1 ppm |
| **Order No.** | 04-TB420-ES4-CH4S-10-01 / 04-TB420-ES4-CH4S-100-01 / 04-TB420-ES4-CH4S-5000-01 |
| **Operating Principle** | Solid Polymer Electrochemical Sensing Technology |
| **Accuracy** | ± 5% (measurement value) |
| **Repeatability** | < 2% |
| **Linearity** | Linear |
| **Long-Term Drift** | < 5% / year |
| **Expected Lifetime** | > 5 years |
| **Output Signal** | 4-20 mA two-wire (convertible to 40-200 mV via an external resistor) |
| **Supply Voltage** | 9 to 24 V DC, 24 V DC recommended |
| **Supply Current** | 3 to 22 mA |
| **Power Consumption** | < 0.6 W |
| **Maximum Loop Resistance** | < 500 Ω @ 24 V DC |
| **Protection** | Reverse polarity protection |
| **Operating Temperature** | -40 ℃ to +55 ℃ |
| **Operating Humidity** | 15 – 95% RH (non-condensing) |
| **Operating Pressure** | Atmospheric pressure ± 10% |
| **Storage Temperature** | 0 ℃ to 20 ℃ |
| **Size (Including Sensor)** | 45 × 35 × 21.7 mm |
| **Size (Without Sensor)** | 45 × 35 × 11.9 mm |
| **Weight (Including Sensor)** | 11.8 g |
| **Weight (Without Sensor)** | 7.1 g |
| **Certification** | Ex ia IIC Ga intrinsic safety (temperature class T6, -40 ℃ to +55 ℃); RoHS |
| **Warranty** | 12 months |

Every module is professionally calibrated with standard gas before shipment and the calibration data is stored in its flash chip, so it can be used without warm-up. EC Sense provides calibration softw

## TB420-ES4-CO — TB420-ES4-CO Carbon Monoxide Smart Gas Sensor Module

The EC Sense TB420-ES4-CO is a two-wire 4-20 mA smart gas sensor module built on German solid-polymer electrochemical sensing technology, designed for Carbon Monoxide detection with a 0 – 10 ppm / 0 – 100 ppm / 0 – 1000 ppm / 0 – 2 % vol. range and 0.001 ppm /…

| | |
|---|---|
| **Target Gas** | Carbon Monoxide |
| **Detection Range** | 0 – 10 ppm / 0 – 100 ppm / 0 – 1000 ppm / 0 – 2 % vol. |
| **Resolution** | 0.001 ppm / 0.01 ppm / 0.1 ppm / 0.001% vol. |
| **Order No.** | 04-TB420-ES4-CO-10-01 / 04-TB420-ES4-CO-100-01 / 04-TB420-ES4-CO-1000-01 / 04-TB420-ES4-CO-2%-01 |
| **Operating Principle** | Solid Polymer Electrochemical Sensing Technology |
| **Accuracy** | ± 5% (measurement value) |
| **Repeatability** | < 2% |
| **Linearity** | Linear |
| **Long-Term Drift** | < 5% / year |
| **Expected Lifetime** | > 5 years |
| **Output Signal** | 4-20 mA two-wire (convertible to 40-200 mV via an external resistor) |
| **Supply Voltage** | 9 to 24 V DC, 24 V DC recommended |
| **Supply Current** | 3 to 22 mA |
| **Power Consumption** | < 0.6 W |
| **Maximum Loop Resistance** | < 500 Ω @ 24 V DC |
| **Protection** | Reverse polarity protection |
| **Operating Temperature** | -40 ℃ to +55 ℃ |
| **Operating Humidity** | 15 – 95% RH (non-condensing) |
| **Operating Pressure** | Atmospheric pressure ± 10% |
| **Storage Temperature** | 0 ℃ to 20 ℃ |
| **Size (Including Sensor)** | 45 × 35 × 21.7 mm |
| **Size (Without Sensor)** | 45 × 35 × 11.9 mm |
| **Weight (Including Sensor)** | 11.8 g |
| **Weight (Without Sensor)** | 7.1 g |
| **Certification** | Ex ia IIC Ga intrinsic safety (temperature class T6, -40 ℃ to +55 ℃); RoHS |
| **Warranty** | 12 months |

Every module is professionally calibrated with standard gas before shipment and the calibration data is stored in its flash chip, so it can be used without warm-up. EC Sense provides calibration softw

## TB420-ES4-Cl2 — TB420-ES4-Cl2 Chlorine Smart Gas Sensor Module

The EC Sense TB420-ES4-Cl2 is a two-wire 4-20 mA smart gas sensor module built on German solid-polymer electrochemical sensing technology, designed for Chlorine detection with a 0 – 100 ppm range and 0.01 ppm resolution. It converts the sensor's small current …

| | |
|---|---|
| **Target Gas** | Chlorine |
| **Detection Range** | 0 – 100 ppm |
| **Resolution** | 0.01 ppm |
| **Order No.** | 04-TB420-ES4-Cl2-100-01 |
| **Operating Principle** | Solid Polymer Electrochemical Sensing Technology |
| **Accuracy** | ± 5% (measurement value) |
| **Repeatability** | < 2% |
| **Linearity** | Linear |
| **Long-Term Drift** | < 5% / year |
| **Expected Lifetime** | > 5 years |
| **Output Signal** | 4-20 mA two-wire (convertible to 40-200 mV via an external resistor) |
| **Supply Voltage** | 9 to 24 V DC, 24 V DC recommended |
| **Supply Current** | 3 to 22 mA |
| **Power Consumption** | < 0.6 W |
| **Maximum Loop Resistance** | < 500 Ω @ 24 V DC |
| **Protection** | Reverse polarity protection |
| **Operating Temperature** | -40 ℃ to +55 ℃ |
| **Operating Humidity** | 15 – 95% RH (non-condensing) |
| **Operating Pressure** | Atmospheric pressure ± 10% |
| **Storage Temperature** | 0 ℃ to 20 ℃ |
| **Size (Including Sensor)** | 45 × 35 × 21.7 mm |
| **Size (Without Sensor)** | 45 × 35 × 11.9 mm |
| **Weight (Including Sensor)** | 11.8 g |
| **Weight (Without Sensor)** | 7.1 g |
| **Certification** | Ex ia IIC Ga intrinsic safety (temperature class T6, -40 ℃ to +55 ℃); RoHS |
| **Warranty** | 12 months |

Every module is professionally calibrated with standard gas before shipment and the calibration data is stored in its flash chip, so it can be used without warm-up. EC Sense provides calibration softw

## TB420-ES4-ETO — TB420-ES4-ETO Ethylene Oxide Smart Gas Sensor Module

The EC Sense TB420-ES4-ETO is a two-wire 4-20 mA smart gas sensor module built on German solid-polymer electrochemical sensing technology, designed for Ethylene Oxide detection with a 0 – 10 ppm / 0 – 200 ppm / 0 – 1000 ppm range and 0.001 ppm / 0.1 ppm / 0.1 …

| | |
|---|---|
| **Target Gas** | Ethylene Oxide |
| **Detection Range** | 0 – 10 ppm / 0 – 200 ppm / 0 – 1000 ppm |
| **Resolution** | 0.001 ppm / 0.1 ppm / 0.1 ppm |
| **Order No.** | 04-TB420-ES4-ETO-10-01 / 04-TB420-ES4-ETO-200-01 / 04-TB420-ES4-ETO-1000-01 |
| **Operating Principle** | Solid Polymer Electrochemical Sensing Technology |
| **Accuracy** | ± 5% (measurement value) |
| **Repeatability** | < 2% |
| **Linearity** | Linear |
| **Long-Term Drift** | < 5% / year |
| **Expected Lifetime** | > 5 years |
| **Output Signal** | 4-20 mA two-wire (convertible to 40-200 mV via an external resistor) |
| **Supply Voltage** | 9 to 24 V DC, 24 V DC recommended |
| **Supply Current** | 3 to 22 mA |
| **Power Consumption** | < 0.6 W |
| **Maximum Loop Resistance** | < 500 Ω @ 24 V DC |
| **Protection** | Reverse polarity protection |
| **Operating Temperature** | -40 ℃ to +55 ℃ |
| **Operating Humidity** | 15 – 95% RH (non-condensing) |
| **Operating Pressure** | Atmospheric pressure ± 10% |
| **Storage Temperature** | 0 ℃ to 20 ℃ |
| **Size (Including Sensor)** | 45 × 35 × 21.7 mm |
| **Size (Without Sensor)** | 45 × 35 × 11.9 mm |
| **Weight (Including Sensor)** | 11.8 g |
| **Weight (Without Sensor)** | 7.1 g |
| **Certification** | Ex ia IIC Ga intrinsic safety (temperature class T6, -40 ℃ to +55 ℃); RoHS |
| **Warranty** | 12 months |

Every module is professionally calibrated with standard gas before shipment and the calibration data is stored in its flash chip, so it can be used without warm-up. EC Sense provides calibration softw

## TB420-ES4-GeH4 — TB420-ES4-GeH4 Germane Smart Gas Sensor Module

The EC Sense TB420-ES4-GeH4 is a two-wire 4-20 mA smart gas sensor module built on German solid-polymer electrochemical sensing technology, designed for Germane detection with a 0 – 5 ppm range and 0.01 ppm resolution. It converts the sensor's small current si…

| | |
|---|---|
| **Target Gas** | Germane |
| **Detection Range** | 0 – 5 ppm |
| **Resolution** | 0.01 ppm |
| **Order No.** | 04-TB420-ES4-GeH4-5-01 |
| **Operating Principle** | Solid Polymer Electrochemical Sensing Technology |
| **Accuracy** | ± 5% (measurement value) |
| **Repeatability** | < 2% |
| **Linearity** | Linear |
| **Long-Term Drift** | < 5% / year |
| **Expected Lifetime** | > 5 years |
| **Output Signal** | 4-20 mA two-wire (convertible to 40-200 mV via an external resistor) |
| **Supply Voltage** | 9 to 24 V DC, 24 V DC recommended |
| **Supply Current** | 3 to 22 mA |
| **Power Consumption** | < 0.6 W |
| **Maximum Loop Resistance** | < 500 Ω @ 24 V DC |
| **Protection** | Reverse polarity protection |
| **Operating Temperature** | -40 ℃ to +55 ℃ |
| **Operating Humidity** | 15 – 95% RH (non-condensing) |
| **Operating Pressure** | Atmospheric pressure ± 10% |
| **Storage Temperature** | 0 ℃ to 20 ℃ |
| **Size (Including Sensor)** | 45 × 35 × 21.7 mm |
| **Size (Without Sensor)** | 45 × 35 × 11.9 mm |
| **Weight (Including Sensor)** | 11.8 g |
| **Weight (Without Sensor)** | 7.1 g |
| **Certification** | Ex ia IIC Ga intrinsic safety (temperature class T6, -40 ℃ to +55 ℃); RoHS |
| **Warranty** | 12 months |

Every module is professionally calibrated with standard gas before shipment and the calibration data is stored in its flash chip, so it can be used without warm-up. EC Sense provides calibration softw

## TB420-ES4-H2 — TB420-ES4-H2 Hydrogen Smart Gas Sensor Module

The EC Sense TB420-ES4-H2 is a two-wire 4-20 mA smart gas sensor module built on German solid-polymer electrochemical sensing technology, designed for Hydrogen detection with a 0 – 1000 ppm / 0 – 5000 ppm / 0 – 5 % vol. range and 0.1 ppm / 0.1 ppm / 0.001% vol…

| | |
|---|---|
| **Target Gas** | Hydrogen |
| **Detection Range** | 0 – 1000 ppm / 0 – 5000 ppm / 0 – 5 % vol. |
| **Resolution** | 0.1 ppm / 0.1 ppm / 0.001% vol. |
| **Order No.** | 04-TB420-ES4-H2-1000-01 / 04-TB420-ES4-H2-5000-01 / 04-TB420-ES4-H2-5%-01 |
| **Operating Principle** | Solid Polymer Electrochemical Sensing Technology |
| **Accuracy** | ± 5% (measurement value) |
| **Repeatability** | < 2% |
| **Linearity** | Linear |
| **Long-Term Drift** | < 5% / year |
| **Expected Lifetime** | > 5 years |
| **Output Signal** | 4-20 mA two-wire (convertible to 40-200 mV via an external resistor) |
| **Supply Voltage** | 9 to 24 V DC, 24 V DC recommended |
| **Supply Current** | 3 to 22 mA |
| **Power Consumption** | < 0.6 W |
| **Maximum Loop Resistance** | < 500 Ω @ 24 V DC |
| **Protection** | Reverse polarity protection |
| **Operating Temperature** | -40 ℃ to +55 ℃ |
| **Operating Humidity** | 15 – 95% RH (non-condensing) |
| **Operating Pressure** | Atmospheric pressure ± 10% |
| **Storage Temperature** | 0 ℃ to 20 ℃ |
| **Size (Including Sensor)** | 45 × 35 × 21.7 mm |
| **Size (Without Sensor)** | 45 × 35 × 11.9 mm |
| **Weight (Including Sensor)** | 11.8 g |
| **Weight (Without Sensor)** | 7.1 g |
| **Certification** | Ex ia IIC Ga intrinsic safety (temperature class T6, -40 ℃ to +55 ℃); RoHS |
| **Warranty** | 12 months |

Every module is professionally calibrated with standard gas before shipment and the calibration data is stored in its flash chip, so it can be used without warm-up. EC Sense provides calibration softw

## TB420-ES4-H2S — TB420-ES4-H2S Hydrogen Sulfide Smart Gas Sensor Module

The EC Sense TB420-ES4-H2S is a two-wire 4-20 mA smart gas sensor module built on German solid-polymer electrochemical sensing technology, designed for Hydrogen Sulfide detection with a 0 – 5 ppm / 0 – 10 ppm / 0 – 100 ppm / 0 – 1000 ppm / 0 – 5000 ppm range a…

| | |
|---|---|
| **Target Gas** | Hydrogen Sulfide |
| **Detection Range** | 0 – 5 ppm / 0 – 10 ppm / 0 – 100 ppm / 0 – 1000 ppm / 0 – 5000 ppm |
| **Resolution** | 0.001 ppm / 0.001 ppm / 0.01 ppm / 0.1 ppm / 0.1 ppm |
| **Order No.** | 04-TB420-ES4-H2S-5-01 / 04-TB420-ES4-H2S-10-01 / 04-TB420-ES4-H2S-100-01 / 04-TB420-ES4-H2S-1000-01 / 04-TB420-ES4-H2S-5000-01 |
| **Operating Principle** | Solid Polymer Electrochemical Sensing Technology |
| **Accuracy** | ± 5% (measurement value) |
| **Repeatability** | < 2% |
| **Linearity** | Linear |
| **Long-Term Drift** | < 5% / year |
| **Expected Lifetime** | > 5 years |
| **Output Signal** | 4-20 mA two-wire (convertible to 40-200 mV via an external resistor) |
| **Supply Voltage** | 9 to 24 V DC, 24 V DC recommended |
| **Supply Current** | 3 to 22 mA |
| **Power Consumption** | < 0.6 W |
| **Maximum Loop Resistance** | < 500 Ω @ 24 V DC |
| **Protection** | Reverse polarity protection |
| **Operating Temperature** | -40 ℃ to +55 ℃ |
| **Operating Humidity** | 15 – 95% RH (non-condensing) |
| **Operating Pressure** | Atmospheric pressure ± 10% |
| **Storage Temperature** | 0 ℃ to 20 ℃ |
| **Size (Including Sensor)** | 45 × 35 × 21.7 mm |
| **Size (Without Sensor)** | 45 × 35 × 11.9 mm |
| **Weight (Including Sensor)** | 11.8 g |
| **Weight (Without Sensor)** | 7.1 g |
| **Certification** | Ex ia IIC Ga intrinsic safety (temperature class T6, -40 ℃ to +55 ℃); RoHS |
| **Warranty** | 12 months |

Every module is professionally calibrated with standard gas before shipment and the calibration data is stored in its flash chip, so it can be used without warm-up. EC Sense provides calibration softw

## TB420-ES4-HCHO — TB420-ES4-HCHO Formaldehyde Smart Gas Sensor Module

The EC Sense TB420-ES4-HCHO is a two-wire 4-20 mA smart gas sensor module built on German solid-polymer electrochemical sensing technology, designed for Formaldehyde detection with a 0 – 5 ppm / 0 – 100 ppm range and 0.001 ppm / 0.01 ppm resolution. It convert…

| | |
|---|---|
| **Target Gas** | Formaldehyde |
| **Detection Range** | 0 – 5 ppm / 0 – 100 ppm |
| **Resolution** | 0.001 ppm / 0.01 ppm |
| **Order No.** | 04-TB420-ES4-HCHO-5-01 / 04-TB420-ES4-HCHO-100-01 |
| **Operating Principle** | Solid Polymer Electrochemical Sensing Technology |
| **Accuracy** | ± 5% (measurement value) |
| **Repeatability** | < 2% |
| **Linearity** | Linear |
| **Long-Term Drift** | < 5% / year |
| **Expected Lifetime** | > 5 years |
| **Output Signal** | 4-20 mA two-wire (convertible to 40-200 mV via an external resistor) |
| **Supply Voltage** | 9 to 24 V DC, 24 V DC recommended |
| **Supply Current** | 3 to 22 mA |
| **Power Consumption** | < 0.6 W |
| **Maximum Loop Resistance** | < 500 Ω @ 24 V DC |
| **Protection** | Reverse polarity protection |
| **Operating Temperature** | -40 ℃ to +55 ℃ |
| **Operating Humidity** | 15 – 95% RH (non-condensing) |
| **Operating Pressure** | Atmospheric pressure ± 10% |
| **Storage Temperature** | 0 ℃ to 20 ℃ |
| **Size (Including Sensor)** | 45 × 35 × 21.7 mm |
| **Size (Without Sensor)** | 45 × 35 × 11.9 mm |
| **Weight (Including Sensor)** | 11.8 g |
| **Weight (Without Sensor)** | 7.1 g |
| **Certification** | Ex ia IIC Ga intrinsic safety (temperature class T6, -40 ℃ to +55 ℃); RoHS |
| **Warranty** | 12 months |

Every module is professionally calibrated with standard gas before shipment and the calibration data is stored in its flash chip, so it can be used without warm-up. EC Sense provides calibration softw

## TB420-ES4-HCN — TB420-ES4-HCN Hydrogen Cyanide Smart Gas Sensor Module

The EC Sense TB420-ES4-HCN is a two-wire 4-20 mA smart gas sensor module built on German solid-polymer electrochemical sensing technology, designed for Hydrogen Cyanide detection with a 0 – 50 ppm range and 0.01 ppm resolution. It converts the sensor's small c…

| | |
|---|---|
| **Target Gas** | Hydrogen Cyanide |
| **Detection Range** | 0 – 50 ppm |
| **Resolution** | 0.01 ppm |
| **Order No.** | 04-TB420-ES4-HCN-50-01 |
| **Operating Principle** | Solid Polymer Electrochemical Sensing Technology |
| **Accuracy** | ± 5% (measurement value) |
| **Repeatability** | < 2% |
| **Linearity** | Linear |
| **Long-Term Drift** | < 5% / year |
| **Expected Lifetime** | > 5 years |
| **Output Signal** | 4-20 mA two-wire (convertible to 40-200 mV via an external resistor) |
| **Supply Voltage** | 9 to 24 V DC, 24 V DC recommended |
| **Supply Current** | 3 to 22 mA |
| **Power Consumption** | < 0.6 W |
| **Maximum Loop Resistance** | < 500 Ω @ 24 V DC |
| **Protection** | Reverse polarity protection |
| **Operating Temperature** | -40 ℃ to +55 ℃ |
| **Operating Humidity** | 15 – 95% RH (non-condensing) |
| **Operating Pressure** | Atmospheric pressure ± 10% |
| **Storage Temperature** | 0 ℃ to 20 ℃ |
| **Size (Including Sensor)** | 45 × 35 × 21.7 mm |
| **Size (Without Sensor)** | 45 × 35 × 11.9 mm |
| **Weight (Including Sensor)** | 11.8 g |
| **Weight (Without Sensor)** | 7.1 g |
| **Certification** | Ex ia IIC Ga intrinsic safety (temperature class T6, -40 ℃ to +55 ℃); RoHS |
| **Warranty** | 12 months |

Every module is professionally calibrated with standard gas before shipment and the calibration data is stored in its flash chip, so it can be used without warm-up. EC Sense provides calibration softw

## TB420-ES4-NH3 — TB420-ES4-NH3 Ammonia Smart Gas Sensor Module

The EC Sense TB420-ES4-NH3 is a two-wire 4-20 mA smart gas sensor module built on German solid-polymer electrochemical sensing technology, designed for Ammonia detection with a 0 – 10 ppm / 0 – 100 ppm range and 0.001 ppm / 0.01 ppm resolution. It converts the…

| | |
|---|---|
| **Target Gas** | Ammonia |
| **Detection Range** | 0 – 10 ppm / 0 – 100 ppm |
| **Resolution** | 0.001 ppm / 0.01 ppm |
| **Order No.** | 04-TB420-ES4-NH3-10-01 / 04-TB420-ES4-NH3-100-01 |
| **Operating Principle** | Solid Polymer Electrochemical Sensing Technology |
| **Accuracy** | ± 5% (measurement value) |
| **Repeatability** | < 2% |
| **Linearity** | Linear |
| **Long-Term Drift** | < 5% / year |
| **Expected Lifetime** | > 5 years |
| **Output Signal** | 4-20 mA two-wire (convertible to 40-200 mV via an external resistor) |
| **Supply Voltage** | 9 to 24 V DC, 24 V DC recommended |
| **Supply Current** | 3 to 22 mA |
| **Power Consumption** | < 0.6 W |
| **Maximum Loop Resistance** | < 500 Ω @ 24 V DC |
| **Protection** | Reverse polarity protection |
| **Operating Temperature** | -40 ℃ to +55 ℃ |
| **Operating Humidity** | 15 – 95% RH (non-condensing) |
| **Operating Pressure** | Atmospheric pressure ± 10% |
| **Storage Temperature** | 0 ℃ to 20 ℃ |
| **Size (Including Sensor)** | 45 × 35 × 21.7 mm |
| **Size (Without Sensor)** | 45 × 35 × 11.9 mm |
| **Weight (Including Sensor)** | 11.8 g |
| **Weight (Without Sensor)** | 7.1 g |
| **Certification** | Ex ia IIC Ga intrinsic safety (temperature class T6, -40 ℃ to +55 ℃); RoHS |
| **Warranty** | 12 months |

Every module is professionally calibrated with standard gas before shipment and the calibration data is stored in its flash chip, so it can be used without warm-up. EC Sense provides calibration softw

## TB420-ES4-NO2 — TB420-ES4-NO2 Nitrogen Dioxide Smart Gas Sensor Module

The EC Sense TB420-ES4-NO2 is a two-wire 4-20 mA smart gas sensor module built on German solid-polymer electrochemical sensing technology, designed for Nitrogen Dioxide detection with a 0 – 5 ppm / 0 – 50 ppm / 0 – 100 ppm / 0 – 1000 ppm / 0 – 2000 ppm range a…

| | |
|---|---|
| **Target Gas** | Nitrogen Dioxide |
| **Detection Range** | 0 – 5 ppm / 0 – 50 ppm / 0 – 100 ppm / 0 – 1000 ppm / 0 – 2000 ppm |
| **Resolution** | 0.001 ppm / 0.01 ppm / 0.01 ppm / 0.01 ppm / 0.01 ppm |
| **Order No.** | 04-TB420-ES4-NO2-5-02 / 04-TB420-ES4-NO2-50-01 / 04-TB420-ES4-NO2-100-01 / 04-TB420-ES4-NO2-1000-01 / 04-TB420-ES4-NO2-2000-01 |
| **Operating Principle** | Solid Polymer Electrochemical Sensing Technology |
| **Accuracy** | ± 5% (measurement value) |
| **Repeatability** | < 2% |
| **Linearity** | Linear |
| **Long-Term Drift** | < 5% / year |
| **Expected Lifetime** | > 5 years |
| **Output Signal** | 4-20 mA two-wire (convertible to 40-200 mV via an external resistor) |
| **Supply Voltage** | 9 to 24 V DC, 24 V DC recommended |
| **Supply Current** | 3 to 22 mA |
| **Power Consumption** | < 0.6 W |
| **Maximum Loop Resistance** | < 500 Ω @ 24 V DC |
| **Protection** | Reverse polarity protection |
| **Operating Temperature** | -40 ℃ to +55 ℃ |
| **Operating Humidity** | 15 – 95% RH (non-condensing) |
| **Operating Pressure** | Atmospheric pressure ± 10% |
| **Storage Temperature** | 0 ℃ to 20 ℃ |
| **Size (Including Sensor)** | 45 × 35 × 21.7 mm |
| **Size (Without Sensor)** | 45 × 35 × 11.9 mm |
| **Weight (Including Sensor)** | 11.8 g |
| **Weight (Without Sensor)** | 7.1 g |
| **Certification** | Ex ia IIC Ga intrinsic safety (temperature class T6, -40 ℃ to +55 ℃); RoHS |
| **Warranty** | 12 months |

Every module is professionally calibrated with standard gas before shipment and the calibration data is stored in its flash chip, so it can be used without warm-up. EC Sense provides calibration softw

## TB420-ES4-O2 — TB420-ES4-O2 Oxygen Smart Gas Sensor Module

The EC Sense TB420-ES4-O2 is a two-wire 4-20 mA smart gas sensor module built on German solid-polymer electrochemical sensing technology, designed for Oxygen detection with a 0 – 25 % vol. range and 0.01% vol. resolution. It converts the sensor's small current…

| | |
|---|---|
| **Target Gas** | Oxygen |
| **Detection Range** | 0 – 25 % vol. |
| **Resolution** | 0.01% vol. |
| **Order No.** | 04-TB420-ES4-O2-25%-01 |
| **Operating Principle** | Solid Polymer Electrochemical Sensing Technology |
| **Accuracy** | ± 5% (measurement value) |
| **Repeatability** | < 2% |
| **Linearity** | Linear |
| **Long-Term Drift** | < 5% / year |
| **Expected Lifetime** | > 5 years |
| **Output Signal** | 4-20 mA two-wire (convertible to 40-200 mV via an external resistor) |
| **Supply Voltage** | 9 to 24 V DC, 24 V DC recommended |
| **Supply Current** | 3 to 22 mA |
| **Power Consumption** | < 0.6 W |
| **Maximum Loop Resistance** | < 500 Ω @ 24 V DC |
| **Protection** | Reverse polarity protection |
| **Operating Temperature** | -40 ℃ to +55 ℃ |
| **Operating Humidity** | 15 – 95% RH (non-condensing) |
| **Operating Pressure** | Atmospheric pressure ± 10% |
| **Storage Temperature** | 0 ℃ to 20 ℃ |
| **Size (Including Sensor)** | 45 × 35 × 21.7 mm |
| **Size (Without Sensor)** | 45 × 35 × 11.9 mm |
| **Weight (Including Sensor)** | 11.8 g |
| **Weight (Without Sensor)** | 7.1 g |
| **Certification** | Ex ia IIC Ga intrinsic safety (temperature class T6, -40 ℃ to +55 ℃); RoHS |
| **Warranty** | 12 months |

Every module is professionally calibrated with standard gas before shipment and the calibration data is stored in its flash chip, so it can be used without warm-up. EC Sense provides calibration softw

## TB420-ES4-O3 — TB420-ES4-O3 Ozone Smart Gas Sensor Module

The EC Sense TB420-ES4-O3 is a two-wire 4-20 mA smart gas sensor module built on German solid-polymer electrochemical sensing technology, designed for Ozone detection with a 0 – 5 ppm / 0 – 50 ppm / 0 – 100 ppm range and 0.001 ppm / 0.01 ppm / 0.01 ppm resolut…

| | |
|---|---|
| **Target Gas** | Ozone |
| **Detection Range** | 0 – 5 ppm / 0 – 50 ppm / 0 – 100 ppm |
| **Resolution** | 0.001 ppm / 0.01 ppm / 0.01 ppm |
| **Order No.** | 04-TB420-ES4-O3-5-01 / 04-TB420-ES4-O3-50-01 / 04-TB420-ES4-O3-100-01 |
| **Operating Principle** | Solid Polymer Electrochemical Sensing Technology |
| **Accuracy** | ± 5% (measurement value) |
| **Repeatability** | < 2% |
| **Linearity** | Linear |
| **Long-Term Drift** | < 5% / year |
| **Expected Lifetime** | > 5 years |
| **Output Signal** | 4-20 mA two-wire (convertible to 40-200 mV via an external resistor) |
| **Supply Voltage** | 9 to 24 V DC, 24 V DC recommended |
| **Supply Current** | 3 to 22 mA |
| **Power Consumption** | < 0.6 W |
| **Maximum Loop Resistance** | < 500 Ω @ 24 V DC |
| **Protection** | Reverse polarity protection |
| **Operating Temperature** | -40 ℃ to +55 ℃ |
| **Operating Humidity** | 15 – 95% RH (non-condensing) |
| **Operating Pressure** | Atmospheric pressure ± 10% |
| **Storage Temperature** | 0 ℃ to 20 ℃ |
| **Size (Including Sensor)** | 45 × 35 × 21.7 mm |
| **Size (Without Sensor)** | 45 × 35 × 11.9 mm |
| **Weight (Including Sensor)** | 11.8 g |
| **Weight (Without Sensor)** | 7.1 g |
| **Certification** | Ex ia IIC Ga intrinsic safety (temperature class T6, -40 ℃ to +55 ℃); RoHS |
| **Warranty** | 12 months |

Every module is professionally calibrated with standard gas before shipment and the calibration data is stored in its flash chip, so it can be used without warm-up. EC Sense provides calibration softw

## TB420-ES4-PH3 — TB420-ES4-PH3 Phosphine Smart Gas Sensor Module

The EC Sense TB420-ES4-PH3 is a two-wire 4-20 mA smart gas sensor module built on German solid-polymer electrochemical sensing technology, designed for Phosphine detection with a 0 – 5 ppm / 0 – 20 ppm / 0 – 100 ppm / 0 – 2000 ppm range and 0.001 ppm / 0.01 pp…

| | |
|---|---|
| **Target Gas** | Phosphine |
| **Detection Range** | 0 – 5 ppm / 0 – 20 ppm / 0 – 100 ppm / 0 – 2000 ppm |
| **Resolution** | 0.001 ppm / 0.01 ppm / 0.01 ppm / 0.1 ppm |
| **Order No.** | 04-TB420-ES4-PH3-5-01 / 04-TB420-ES4-PH3-20-01 / 04-TB420-ES4-PH3-100-01 / 04-TB420-ES4-PH3-2000-01 |
| **Operating Principle** | Solid Polymer Electrochemical Sensing Technology |
| **Accuracy** | ± 5% (measurement value) |
| **Repeatability** | < 2% |
| **Linearity** | Linear |
| **Long-Term Drift** | < 5% / year |
| **Expected Lifetime** | > 5 years |
| **Output Signal** | 4-20 mA two-wire (convertible to 40-200 mV via an external resistor) |
| **Supply Voltage** | 9 to 24 V DC, 24 V DC recommended |
| **Supply Current** | 3 to 22 mA |
| **Power Consumption** | < 0.6 W |
| **Maximum Loop Resistance** | < 500 Ω @ 24 V DC |
| **Protection** | Reverse polarity protection |
| **Operating Temperature** | -40 ℃ to +55 ℃ |
| **Operating Humidity** | 15 – 95% RH (non-condensing) |
| **Operating Pressure** | Atmospheric pressure ± 10% |
| **Storage Temperature** | 0 ℃ to 20 ℃ |
| **Size (Including Sensor)** | 45 × 35 × 21.7 mm |
| **Size (Without Sensor)** | 45 × 35 × 11.9 mm |
| **Weight (Including Sensor)** | 11.8 g |
| **Weight (Without Sensor)** | 7.1 g |
| **Certification** | Ex ia IIC Ga intrinsic safety (temperature class T6, -40 ℃ to +55 ℃); RoHS |
| **Warranty** | 12 months |

Every module is professionally calibrated with standard gas before shipment and the calibration data is stored in its flash chip, so it can be used without warm-up. EC Sense provides calibration softw

## TB420-ES4-SMELL — TB420-ES4-SMELL Odor & Smell Smart Gas Sensor Module

The EC Sense TB420-ES4-SMELL is a two-wire 4-20 mA smart gas sensor module built on German solid-polymer electrochemical sensing technology, designed for Odor & Smell detection with a 0 – 5 ppm / 0 – 10 ppm / 0 – 200 ppm / 0 – 500 ppm range and 0.001 ppm / 0.0…

| | |
|---|---|
| **Target Gas** | Odor & Smell |
| **Detection Range** | 0 – 5 ppm / 0 – 10 ppm / 0 – 200 ppm / 0 – 500 ppm |
| **Resolution** | 0.001 ppm / 0.001 ppm / 0.1 ppm / 0.1 ppm |
| **Order No.** | 04-TB420-ES4-SMELL-5-01 / 04-TB420-ES4-SMELL-10-01 / 04-TB420-ES4-SMELL-200-01 / 04-TB420-ES4-SMELL-500-01 |
| **Operating Principle** | Solid Polymer Electrochemical Sensing Technology |
| **Accuracy** | ± 5% (measurement value) |
| **Repeatability** | < 2% |
| **Linearity** | Linear |
| **Long-Term Drift** | < 5% / year |
| **Expected Lifetime** | > 5 years |
| **Output Signal** | 4-20 mA two-wire (convertible to 40-200 mV via an external resistor) |
| **Supply Voltage** | 9 to 24 V DC, 24 V DC recommended |
| **Supply Current** | 3 to 22 mA |
| **Power Consumption** | < 0.6 W |
| **Maximum Loop Resistance** | < 500 Ω @ 24 V DC |
| **Protection** | Reverse polarity protection |
| **Operating Temperature** | -40 ℃ to +55 ℃ |
| **Operating Humidity** | 15 – 95% RH (non-condensing) |
| **Operating Pressure** | Atmospheric pressure ± 10% |
| **Storage Temperature** | 0 ℃ to 20 ℃ |
| **Size (Including Sensor)** | 45 × 35 × 21.7 mm |
| **Size (Without Sensor)** | 45 × 35 × 11.9 mm |
| **Weight (Including Sensor)** | 11.8 g |
| **Weight (Without Sensor)** | 7.1 g |
| **Certification** | Ex ia IIC Ga intrinsic safety (temperature class T6, -40 ℃ to +55 ℃); RoHS |
| **Warranty** | 12 months |

Every module is professionally calibrated with standard gas before shipment and the calibration data is stored in its flash chip, so it can be used without warm-up. EC Sense provides calibration softw

## TB420-ES4-SO2 — TB420-ES4-SO2 Sulfur Dioxide Smart Gas Sensor Module

The EC Sense TB420-ES4-SO2 is a two-wire 4-20 mA smart gas sensor module built on German solid-polymer electrochemical sensing technology, designed for Sulfur Dioxide detection with a 0 – 5 ppm / 0 – 50 ppm / 0 – 100 ppm / 0 – 1000 ppm / 0 – 2000 ppm range and…

| | |
|---|---|
| **Target Gas** | Sulfur Dioxide |
| **Detection Range** | 0 – 5 ppm / 0 – 50 ppm / 0 – 100 ppm / 0 – 1000 ppm / 0 – 2000 ppm |
| **Resolution** | 0.001 ppm / 0.01 ppm / 0.01 ppm / 0.1 ppm / 0.1 ppm |
| **Order No.** | 04-TB420-ES4-SO2-5-01 / 04-TB420-ES4-SO2-50-01 / 04-TB420-ES4-SO2-100-01 / 04-TB420-ES4-SO2-1000-01 / 04-TB420-ES4-SO2-2000-01 |
| **Operating Principle** | Solid Polymer Electrochemical Sensing Technology |
| **Accuracy** | ± 5% (measurement value) |
| **Repeatability** | < 2% |
| **Linearity** | Linear |
| **Long-Term Drift** | < 5% / year |
| **Expected Lifetime** | > 5 years |
| **Output Signal** | 4-20 mA two-wire (convertible to 40-200 mV via an external resistor) |
| **Supply Voltage** | 9 to 24 V DC, 24 V DC recommended |
| **Supply Current** | 3 to 22 mA |
| **Power Consumption** | < 0.6 W |
| **Maximum Loop Resistance** | < 500 Ω @ 24 V DC |
| **Protection** | Reverse polarity protection |
| **Operating Temperature** | -40 ℃ to +55 ℃ |
| **Operating Humidity** | 15 – 95% RH (non-condensing) |
| **Operating Pressure** | Atmospheric pressure ± 10% |
| **Storage Temperature** | 0 ℃ to 20 ℃ |
| **Size (Including Sensor)** | 45 × 35 × 21.7 mm |
| **Size (Without Sensor)** | 45 × 35 × 11.9 mm |
| **Weight (Including Sensor)** | 11.8 g |
| **Weight (Without Sensor)** | 7.1 g |
| **Certification** | Ex ia IIC Ga intrinsic safety (temperature class T6, -40 ℃ to +55 ℃); RoHS |
| **Warranty** | 12 months |

Every module is professionally calibrated with standard gas before shipment and the calibration data is stored in its flash chip, so it can be used without warm-up. EC Sense provides calibration softw

## TB420-ES4-SiH4 — TB420-ES4-SiH4 Silane Smart Gas Sensor Module

The EC Sense TB420-ES4-SiH4 is a two-wire 4-20 mA smart gas sensor module built on German solid-polymer electrochemical sensing technology, designed for Silane detection with a 0 – 10 ppm range and 0.001 ppm resolution. It converts the sensor's small current s…

| | |
|---|---|
| **Target Gas** | Silane |
| **Detection Range** | 0 – 10 ppm |
| **Resolution** | 0.001 ppm |
| **Order No.** | 04-TB420-ES4-SiH4-10-01 |
| **Operating Principle** | Solid Polymer Electrochemical Sensing Technology |
| **Accuracy** | ± 5% (measurement value) |
| **Repeatability** | < 2% |
| **Linearity** | Linear |
| **Long-Term Drift** | < 5% / year |
| **Expected Lifetime** | > 5 years |
| **Output Signal** | 4-20 mA two-wire (convertible to 40-200 mV via an external resistor) |
| **Supply Voltage** | 9 to 24 V DC, 24 V DC recommended |
| **Supply Current** | 3 to 22 mA |
| **Power Consumption** | < 0.6 W |
| **Maximum Loop Resistance** | < 500 Ω @ 24 V DC |
| **Protection** | Reverse polarity protection |
| **Operating Temperature** | -40 ℃ to +55 ℃ |
| **Operating Humidity** | 15 – 95% RH (non-condensing) |
| **Operating Pressure** | Atmospheric pressure ± 10% |
| **Storage Temperature** | 0 ℃ to 20 ℃ |
| **Size (Including Sensor)** | 45 × 35 × 21.7 mm |
| **Size (Without Sensor)** | 45 × 35 × 11.9 mm |
| **Weight (Including Sensor)** | 11.8 g |
| **Weight (Without Sensor)** | 7.1 g |
| **Certification** | Ex ia IIC Ga intrinsic safety (temperature class T6, -40 ℃ to +55 ℃); RoHS |
| **Warranty** | 12 months |

Every module is professionally calibrated with standard gas before shipment and the calibration data is stored in its flash chip, so it can be used without warm-up. EC Sense provides calibration softw

## TB420-ES4-TVOC — TB420-ES4-TVOC Volatile Organic Compounds (TVOC) Smart Gas Sensor Module

The EC Sense TB420-ES4-TVOC is a two-wire 4-20 mA smart gas sensor module built on German solid-polymer electrochemical sensing technology, designed for Volatile Organic Compounds (TVOC) detection with a 0 – 10 ppm / 0 – 200 ppm / 0 – 1000 ppm / 0 – 2000 ppm r…

| | |
|---|---|
| **Target Gas** | Volatile Organic Compounds (TVOC) |
| **Detection Range** | 0 – 10 ppm / 0 – 200 ppm / 0 – 1000 ppm / 0 – 2000 ppm |
| **Resolution** | 0.001 ppm / 0.1 ppm / 0.1 ppm / 0.1 ppm |
| **Order No.** | 04-TB420-ES4-TVOC-10-01 / 04-TB420-ES4-TVOC-200-01 / 04-TB420-ES4-TVOC-1000-01 / 04-TB420-ES4-TVOC-2000-01 |
| **Operating Principle** | Solid Polymer Electrochemical Sensing Technology |
| **Accuracy** | ± 5% (measurement value) |
| **Repeatability** | < 2% |
| **Linearity** | Linear |
| **Long-Term Drift** | < 5% / year |
| **Expected Lifetime** | > 5 years |
| **Output Signal** | 4-20 mA two-wire (convertible to 40-200 mV via an external resistor) |
| **Supply Voltage** | 9 to 24 V DC, 24 V DC recommended |
| **Supply Current** | 3 to 22 mA |
| **Power Consumption** | < 0.6 W |
| **Maximum Loop Resistance** | < 500 Ω @ 24 V DC |
| **Protection** | Reverse polarity protection |
| **Operating Temperature** | -40 ℃ to +55 ℃ |
| **Operating Humidity** | 15 – 95% RH (non-condensing) |
| **Operating Pressure** | Atmospheric pressure ± 10% |
| **Storage Temperature** | 0 ℃ to 20 ℃ |
| **Size (Including Sensor)** | 45 × 35 × 21.7 mm |
| **Size (Without Sensor)** | 45 × 35 × 11.9 mm |
| **Weight (Including Sensor)** | 11.8 g |
| **Weight (Without Sensor)** | 7.1 g |
| **Certification** | Ex ia IIC Ga intrinsic safety (temperature class T6, -40 ℃ to +55 ℃); RoHS |
| **Warranty** | 12 months |

Every module is professionally calibrated with standard gas before shipment and the calibration data is stored in its flash chip, so it can be used without warm-up. EC Sense provides calibration softw