

SPECIFIED CONTROLS



Gas Detection System

5351 East Thompson Road, Suite 128
Indianapolis, IN 46237
Toll-Free: 888.359.0365

www.specifiedcontrols.com

Specified Controls is happy to provide the Gas Detection System or individual components in the following pages for any Gas Detection needs. The products herein are of the highest quality, most reliable and are simple to install and configure. When purchased as individual parts or a full system of components, Specified Controls will not serve as an Engineer Designer, no control drawings or wiring diagrams beyond the basic schematics with the components will be provided.

Specified Controls is also happy to provide customized for the job AutoCAD control drawings, schematics and technical support. This can be included in the pricing for the system if so desired. Additionally, Specified Controls has factory trained Gas Detection Commissioning Experts which can visit your jobsite and assure that the system is installed and functioning properly through commissioning of the Gas Detection System. This can also be included in the pricing for the system if so desired or required.

Whether your needs are parts and components or a full Gas Detection System with factory trained commissioning Specified Controls is here to provide the best value in Gas Detection. Contact your local Specified Controls Sales Representative to learn more about not only our Gas Detection products but also our HVAC zoning systems, VAV Diffusers, Thermostats and other control products.



M-CONTROLLER

Multi-Channel Digital-Analog Controller

PRODUCT DESCRIPTION

The M-Controller is a multi-channel controller and alarm unit. It utilizes both digital and analog communications to interface with a maximum of 32 remote digital transmitter/sensors, and 8 analog transmitter/sensors. Range and alarm setpoints are set either through the front keypad or through software that is downloaded to the controller from a PC or laptop computer. Common relay configurations include voting, averaging, delay on actuation and deactuation, normally/not-normally energized and latching. An additional feature includes 24 VDC transistor outputs for a horn and strobe. A RS-422 responds as a RTU Slave using MODBUS protocol which allows the controller to provide read status information only. The RS-232 interface uses a RJ-11 telephone jack. This is primarily used for uploading and downloading a large configuration database. Also available is an analog output card that includes eight 4-20 mA analog outputs. Each analog output can be defined in complex fashions allowing the averaging of several input signals and the assignment of different values to both the 4 and 20 mA outputs. The M-Controller automatically linearizes the values between these two points.



PRODUCT SPECIFICATIONS

Input Power	24V +/- 4V AC or DC
Fuse	2A
Enclosure	NEMA 1 Type General Purpose
Enclosure Material	Steel, epoxy painted black
Temperature	Industrial -20° to 50° C (-4° to 122° F)
Humidity	Continuous 15 to 90% RH, non-condensing Intermittent 0 to 99% RH, non-condensing
Input Types	4 parallel RS-485 digital ports for up to 32 QEL transmitter/sensors, 99 Relays, 8 analog 4-20 mA inputs from any transmitter/sensors. RS232 programming port using RJ-11 connector
Output Ports	RS-422 to host computer/PLC using Modbus Plus RS-232 programming port using RJ-11 connector optional 8 analog 4-20 mA signals scalable
LED Status Lights	5 Red, Relay 1, Relay 2, Relay 3, Hush, Fault
Recommended Cable	Power: Twisted shielded pair Communication (RS-485) Belden 9841 or equivalent twisted shielded pair, 120 ohm
Panel Controls	4 x 4 tactile and audible keypad
Audio Indicator	90 db at 30 cm, 2700 Hz, Buzzer 1: Continuous Buzzer 2: Double-tap Intermittent, Buzzer 3: Intermittent 50% Duty Cycle
Relay Outputs	3 DPDT rated 5A resistive 3.7A inductive at 240 VAC/30 VDC, Optional 96 DPDT 5A relays 8 per card
Relay Assignment	Independent, individually set to one or all transmitter/sensors. Fail common to all transmitter inputs
Time Delays	Individually set, make, break, average, and voting, 0 to 60 minutes
LCD Digital Display	Two line 16 character back-lit LCD displaying transmitter address, gas type, concentration and alarm status
Display Scroll Rate	Adjustable 1-9 seconds
Power Supply Output	24V supplied externally through controller
System Test	Through front keypad
Product Dimensions	(H) 10.00" (W) 8.00" (D) 2.00"

OPTIONAL ACCESSORIES

- M-RELAY-5X-2 (2 Relays)
- M-RELAY-5X-4 (4 Relays)
- M-RELAY-5X-6 (6 Relays)
- M-RELAY-5X-8 (8 Relays)

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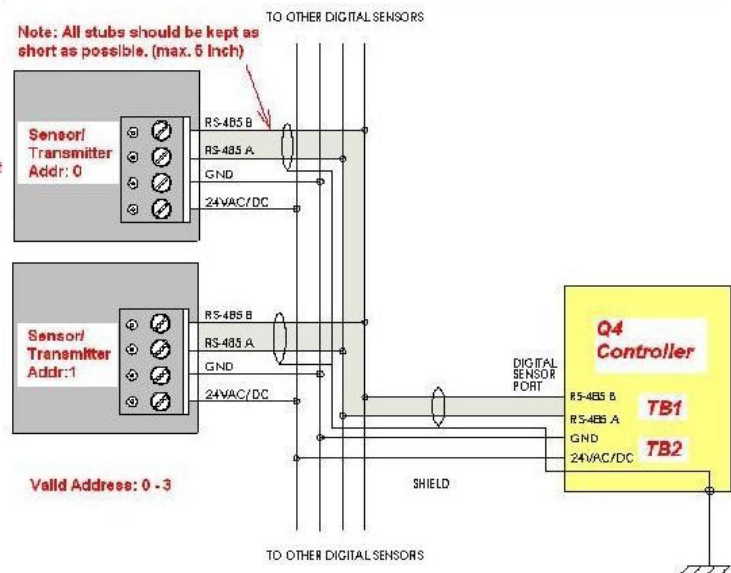
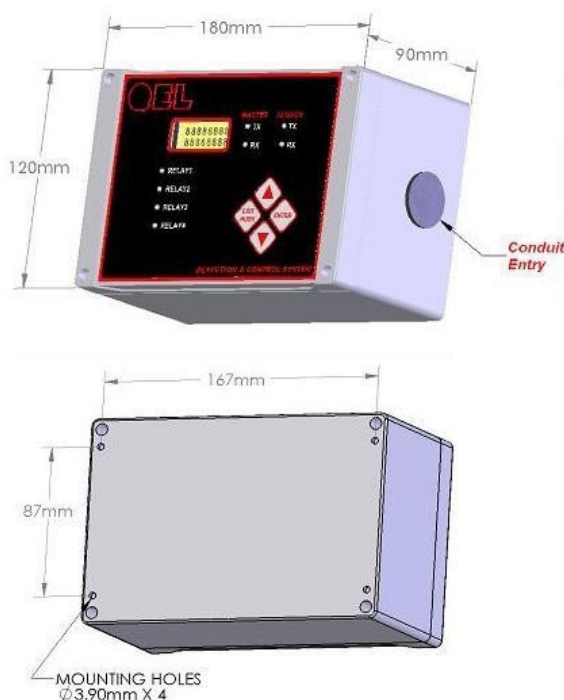
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**All gas detection components provided by Quatrosense Environmental Ltd. (QEL)*

Q4C DIGITAL CONTROLLER

PRODUCT DESCRIPTION

The Q4C is a multi-channel controller display and alarm unit that utilizes digital communications to interface with a maximum of four remote digital QEL transmitter/sensors. These are used to measure a wide variety of toxic gases such as CO, NO, NH₃, H₂S, SO₂, Refrigerants, and Combustibles. The RS-485 communication is connected via a 4-wire 2 3 2 multidrop daisy chain configuration to reduce the overall installation costs of the system. Alarm setpoints are set through the front keypad or through QEL supplied software that is downloaded to the controller from a PC or laptop computer. Common relay configurations include voting, averaging, delay on actuation and de-actuation, normally or not-normally energized and latching. The audible alarm has three buzzer settings, continuous, intermittent and double-tap intermittent. An additional feature includes 24 VDC transistor outputs for a horn and strobe. Available options are a four SPDT relay board, an analog output board that features 4-20 mA, or 2-10 VDC outputs assignable as averaging or peak mode, and an RS-485 output board to communicate with our powerful M-CONTROLLER forty input controller. Each controller comes standard with a 2 x 8 character back-lit display, key pad, software CD and interface cable.



TRANSMITTER/SENSOR WIRING

The Q4C controller provides a serial port for digital communication with QEL transmitter/sensors. A maximum of four sensors can be arranged in any gas configuration to this port. From this port, four wires are connected to the first sensor, from this sensor to the next sensor, and so forth in a daisy chain arrangement. Two of the wires are for power, and two are used for the digital communications. This arrangement reduces the amount of wire, conduit and conduit size, providing for a significant installation cost reduction. Equally the Q4C controller provides additional options such as a relay output board, an analog output board, and an RS-485 board. QEL Engineering can review a proposed system layout and provide recommendations to optimize cost reduction efforts.

PRODUCT SPECIFICATIONS

Input Power	24V +/- 4V AC or DC
Fuse	F1: 4A slo-blo. F2: 1A very fast
Enclosure	NEMA 4X Type General Purpose
Enclosure Material	ABS plastic
Dimensions	7" X 4.7" X 3.5" (180 X 120 X 90 mm)
Temperature	Industrial - 20° to +50° C (-4° to +122° F)
Humidity	Continuous 5 to 95% RH, non-condensing Intermittent 0 to 99% RH, non-condensing
Input Types	RS-485 digital port for up to 4 QEL transmitter/sensors. RS-232 programming port using RJ-11 connector
Output Ports	RS-485 to host M-CONTROLLER RS-232 programming port using RJ-11 connector 4-20 mA signals scalable
LED Status Lights	TX/RX Relay 1 Relay 2 Relay 3 Relay 4
Recommended Cable	Power - Twisted shielded pair Communication (RS-485) - Belden 9841 or equivalent twisted shielded pair, 120 ohm
Panel Controls	4 tactile and audible keypad
Audio Indicator	24 VDC transistor outputs, buzzer, strobe, horn
Relay Outputs	4 SPDT rated 10 Amps resistive; 250 VAC / 30 VDC
Relay Assignment	Independent, individually set to one or all
Time Delays	Individually set, make, break, average, and voting, 0 to 59 minutes
LCD Digital Display	2 x 8 back-lit LCD displaying transmitter address, gas type, concentration and alarm status
Display Scroll Rate	Adjustable 1 - 9 seconds
Power Supply Output	24V supplied externally through controller

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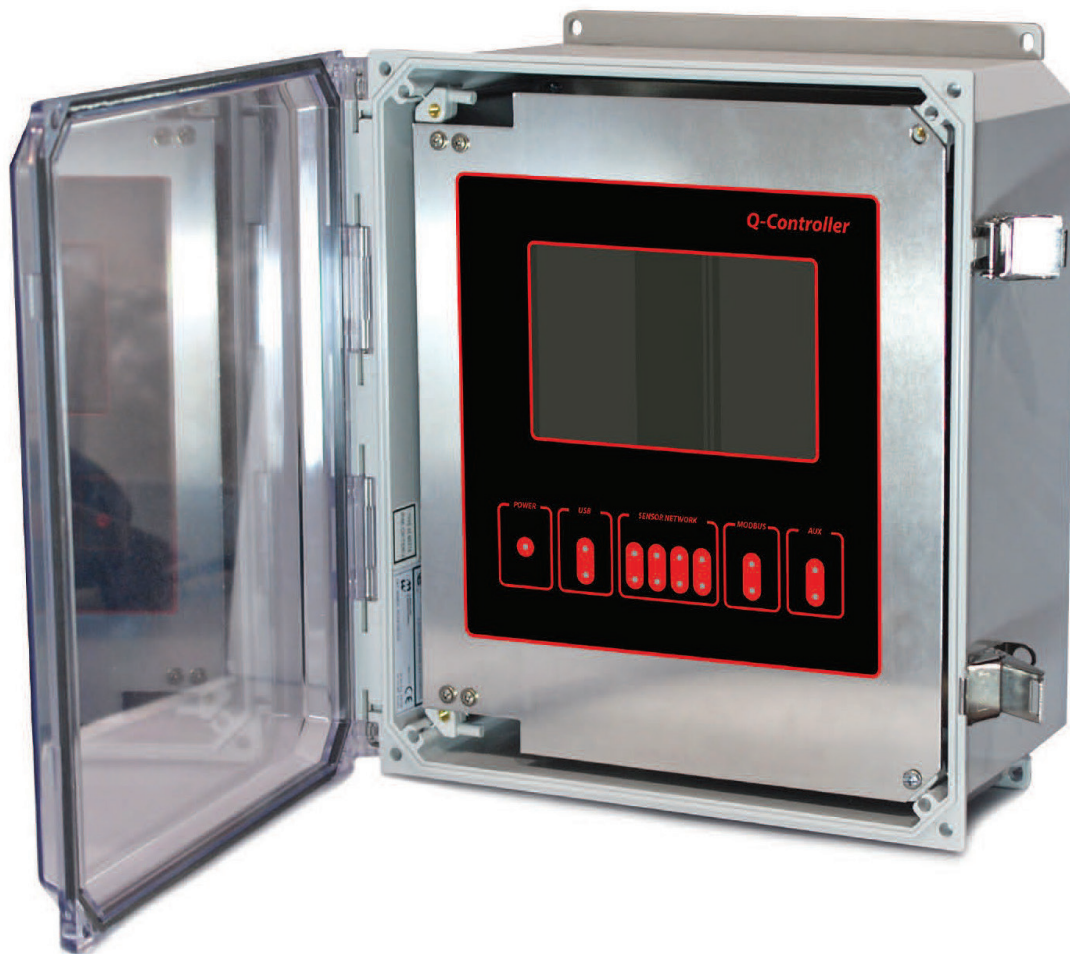
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Q-CONTROLLER Multi-Channel Digital/Analog Controller

PRODUCT DESCRIPTION

The new Q-Controller system uses an RS-485 communication protocol that accommodates 128 channels through four digital ports. In addition, there are 128 analog inputs from any 4-20mA device and 128 4-20mA outputs as well. There are also up to 128 binary inputs and 128 binary outputs. The system communicates wirelessly for programming and downloading of data through your smartphone or tablet device. Input/output boxes can be installed anywhere in the RS-485 network for ease of installation of additional sensors. A touch screen graphic display is used for programming. All relevant gas detection data, such as relay status, historical data, location and addresses of sensors are displayed by scrolling through multiple screens. The controller has a scheduler that can be programmed to activate relays and deactivate relays (4, 10 Amp SPDT relays on main board) several times a day based on a frequency of day, weekday or weekend only. It also has an auto configure program that searches for connected devices. As the unit can accept any 4-20mA signal, it is ideal for additional monitoring such as temperature, humidity and other parameters. Several Q-Controllers can be connected together to a centralized system that will display gas detection concentrations of an entire facility. Remote monitors are an optional item that can be used to observe the concentration of gases prior to entering the space.



PRODUCT SPECIFICATIONS

Voltage	24VDC nominal, range 18 to 30VDC 24VAC nominal, range 15 to 24VAC 50/60HZ
Current	Q-Controller: max. 0.75 A (fuse protected) Strobe & Horn: max. 0.75 A (fuse protected)
Fuse	F1, F2 on Main Board: Polyswitch 750mA, Polyswitch device resets after the fault is cleared and power to the circuit is removed
Display	7 inch LCD touchscreen display 800 x 480 resolution and capacitive multi-touch TN panel for easily navigate screen
Panel	15 Status LEDs
Indicators	Power Status USB TX/RX status 4 RS-485 port TX/RX Status (Network Module) 1 RS-485 port TX/RX Status (Modbus) 1 RS-485 port TX/RX Status for BACnet Module or AUX
Relays	Onboard 4 pluggable Relays SPDT, Dry contacts Resistive load: 10A at 250VAC, 10A at 30VDC Inductive load: 7.5A at 250VAC, 5A at 30VDC
Switch	4 channel switch inputs
Inputs	The switch can be Q-Switch or any ON-OFF switch
Buzzer	100 dBA at 10 cm, 3700 Hz Continuous
Horn and Strobe	Two relay contacts are dedicated max 750mA on 24VDC supply
Remote Devices	4 X RS485 ports with QEL, Protocol: M5, Q5, Q8, QIRF & QTS-8000
Modbus Slave	RS485
Port	Responds as Modbus Slave RTU Protocol Q-Controller supplies read status only
BACnet Port	RS485 Port Connects to QEL/BACnet IP Module

OPTIONAL ACCESSORIES

- AI-BOX-0 (8 channel Analog Input Module)
- BI-BOX-0 (4 channel Switch Input Module)
- AO-BOX-0 (8 channel Analog Output Module)
- BO-BOX-0 (4 channel Relay Output Module)
- IO-BOX-0 (DIN Rail Mounting Box for Modules)
- Q-SWITCHa-0 (Manual Switch)

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Q5

Toxic & Combustible Sensor

PRODUCT DESCRIPTION

The Q5 Series is a microprocessor based “smart” gas transmitter. It is paired with either an electrochemical gas sensor for toxic gases, or a catalytic bead sensor for combustible gases. Pre-calibrated sensors can be purchased and installed by the user, thereby reducing calibration costs and minimizing downtime. The user can select from numerous display options, including relay status, time, TWA, STEL, concentration, or nothing at all. All programming and calibration is nonproprietary and is accessed through a user selectable password which protects system integrity.



PRODUCT SPECIFICATIONS

Supply Voltage DC	24 VDC nominal, range 18 to 30 VDC, 0.3A DC total maximum
Supply Voltage AC	24 VAC nominal, range 15 to 24 VAC, 0.3AAC Total maximum (AC must not be grounded)
Sensor Type	Electrochemical or Infrared (Toxic) or Catalytic Bead (Combustible)
Sensor Life Span	2 to 3 years typical (toxic gas), >5 yrs in clean environment
Gas Measurement Range	See ordering information
Outputs	4-20 mA, 1-5 VDC, 2-10 VDC, Digital RS-485, Modbus 3 Relays
Sampling Method	Diffusion or flow through
Accuracy/Repeatability (Combustible)	+/- 2.0% of LEL/+/- 2.0% of LEL
Buzzer Rating	Rated for 80 dB @ 10 cm, 2,700 Hz with 3 programmable tones
Enclosure Rating	IP66 and NEMA 4, 4X, 12 and 13
Indicators	Backlit LCD graphic display (5) LED's for Relay and RS-485 Status
Operating Temperature Range	-40o to 70oC (-40o to 158oF), depends on sensor specification
Operating Humidity Range	5 to 95%, non-condensing
Relay Rating	(3) SPDT Form 1C; rated 1A @ 30 VDC, 0.3A maximum @ 125 VAC
Maximum Sensor Coverage Area	7,500 ft ² (CH ₄ ,C ₃ H ₈ ,CO,O ₂ ,H ₂ ,NH ₃ ,NO,NO ₂) 5,000 ft ² (CL ₂ ,CLO ₂ ,HCL,HCN,H ₂ S,O ₃ ,SO ₂)
Mounting Height Above Floor	Contact ACI or visit www.workaci.com
Product Dimensions	(H) 5.90" (W) 3.54" (D) 2.55"

GAS TYPE

- **CH₃CO-100L** (Acetone, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **NH₃** (Ammonia, Electrochemical, 0-100 PPM) (Span: **100P**)
- **NH₃** (Ammonia, Electrochemical, 0-1000 PPM) (Span: **1000P**)
- **ASH₃** (Arsine, Electrochemical, 0-1 PPM) (Span: **1P**)
- **C₆H₆** (Benzene, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **C₄H₁₀** (Iso-Butane, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **BUTAN** (Butanol, n-Butane, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **CO₂** (Carbon Dioxide, Infrared, 0-5000 PPM) (Span: **5000P**)
- **CO₂** (Carbon Dioxide, Infrared, 0-5% VOL) (Span: **5V**)
- **CO₂** (Carbon Dioxide, Infrared, 0-20% VOL) (Span: **20V**)
- **CO₂** (Carbon Dioxide, Infrared, 0-100% VOL) (Span: **100V**)
- **CO** (Carbon Monoxide, Electrochemical, 0-250 PPM) (Span: **250P**)
- **CO** (Carbon Monoxide, Electrochemical, 0-1000 PPM) (Span: **1000P**)
- **CL₂** (Chlorine, Electrochemical, 0-5 PPM) (Span: **5P**)
- **CLO₂** (Chlorine Dioxide, Electrochemical, 0-2 PPM) (Span: **2P**)
- **GENL*** (Combustible, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **B₂H₆** (Diborane, Electrochemical, 0-2 PPM) (Span: **2P**)
- **C₂H₄** (Ethylene, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **ETO** (Ethylene Oxide, Electrochemical, 0-20 PPM) (Span: **20P**)
- **GEH₄** (Germaine, Electrochemical, 0-2 PPM) (Span: **2P**)
- **H₂** (Hydrogen, Electrochemical, 0-1000 PPM) (Span: **1000P**)
- **H₂** (Hydrogen, Electrochemical, 0-2000 PPM) (Span: **2000P**)
- **H₂** (Hydrogen, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **HBR** (Hydrogen Bromide, Electrochemical, 0-30 PPM) (Span: **30P**)
- **HCL** (Hydrogen Chloride, Electrochemical, 0-30 PPM) (Span: **30P**)
- **HCN** (Hydrogen Cyanide, Electrochemical, 0-50 PPM) (Span: **50P**)
- **H₂S** (Hydrogen Sulphide, Electrochemical, 0-25 PPM) (Span: **25P**)
- **H₂S** (Hydrogen Sulphide, Electrochemical, 0-100 PPM) (Span: **100P**)
- **CH₄** (Methane, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **CH₃OH** (Methanol, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **NO** (Nitric Oxide, Electrochemical, 0-100 PPM) (Span: **100P**)
- **NO₂** (Nitrogen Dioxide, Electrochemical, 0-10 PPM) (Span: **10P**)
- **O₂** (Oxygen, Electrochemical, 0-25% VOL) (Span: **25V**)
- **O₃** (Ozone, Electrochemical, 0-1 PPM) (Span: **1P**)
- **C₅H₁₂** (Iso-Pentane, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **PH₃** (Phosphine, Electrochemical, 0-1 PPM) (Span: **1P**)
- **PH₃** (Phosphine, Electrochemical, 0-5 PPM) (Span: **5P**)
- **C₃H₈** (Propane, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **SIH₄** (Silane, Electrochemical, 0-50 PPM) (Span: **50P**)
- **SO₂** (Sulphur Dioxide, Electrochemical, 0-6 PPM) (Span: **6P**)

ENCLOSURE

- **O** (Standard Enclosure)
- **P** (Enclosure, Pump-Thru Cap Kit)
- **S** (Enclosure, Splash Guard Kit)
- **D** (Enclosure, Duct Mount Kit)

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**All gas detection components provided by Quatrosense Environmental Ltd. (QEL)*

Toxic & Combustible Sensor with BACnet™ Protocol

PRODUCT DESCRIPTION

The B5 Series is a BACnet™ enabled, microprocessor based “smart” gas transmitter. It is paired with either an electrochemical gas sensor for toxic gases, or a catalytic bead sensor for combustible gases. Pre-calibrated sensors can be purchased and installed by the user, thereby reducing calibration costs and minimizing downtime. The user can select from numerous display options, including relay status, time, TWA, STEL, concentration, or nothing at all. The units can be installed as stand-alone, or networked digitally with a BACnet™ enabled controller. The B5 supports BACnet™ MS/TP protocol and can be networked to form a BACnet™ MS/TP network. The B5 can be set to be a Master Node or a Slave Node in the field. Default is Slave Node. All relay parameters can be controlled and programmed through a BACnet™ controller or set individually on the unit.



PRODUCT SPECIFICATIONS

Supply Voltage DC	24 VDC nominal, range 18 to 30 VDC, 0.3A DC total maximum
Supply Voltage AC	24 VAC nominal, range 15 to 24 VAC, 0.3AAC Total maximum (AC must not be grounded)
Sensor Type	Electrochemical or Infrared (Toxic) or Catalytic Bead (Combustible)
Sensor Life Span	2 to 3 years typical (toxic gas), >5 yrs in clean environment
Gas Measurement Range	See ordering information
Outputs	BACnet™ MS/TP (Default is Slave), 38400 bps default
Sampling Method	Diffusion or flow through
Accuracy/Repeatability (Combustible)	+/- 2.0% of LEL/+/- 2.0% of LEL
Buzzer Rating	Rated for 80 dB @ 10 cm, 2,700 Hz with 3 programmable tones
Enclosure Rating	IP66 and NEMA 4, 4X, 12 and 13
Indicators	Backlit LCD graphic display (5) LED's for Relay and RS-485 Status
Operating Temperature Range	-40o to 70oC (-40o to 158oF), depends on sensor specification
Operating Humidity Range	5 to 95%, non-condensing
Relay Rating	(3) SPDT 2 Form C Rated 1A @ 30 VDC 0.3A @ 125 VAC
Maximum Sensor Coverage Area	7,500 ft2 (CH4,C3H8,CO,O2,H2,NH3,NO,NO2): 5,000 ft2 (CL2,CLO2,HCL,HCN,H2S,O3,SO2)
Mounting Height Above Floor	Contact Specified Controls at 888.359.0365
Approvals	B5CO** (ANSI/UL 2075) All other Models: (CAN / CSA C22.2 NO 61010-1); conforms to UL 61010-1
Product Dimensions	(H) 5.90" (W) 3.54" (D) 2.55"

GAS TYPE

- **CH3CO-100L** (Acetone, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **B5-CH3CO-100L** (Acetone, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **B5-NH3** (Ammonia, Electrochemical, 0-100 PPM) (Span: **100P**)
- **B5-NH3** (Ammonia, Electrochemical, 0-1000 PPM) (Span: **1000P**)
- **B5-ASH3** (Arsine, Electrochemical, 0-1 PPM) (Span: **1P**)
- **B5-C6H6** (Benzene, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **B5-C4H10** (Iso-Butane, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **B5-BUTAN** (Butanol,n-Butane,Catalytic Bead,0-100% LEL)(Span: **100L**)
- **B5-CO2** (Carbon Dioxide, Infrared, 0-5000 PPM) (Span: **5000P**)
- **B5-CO2** (Carbon Dioxide, Infrared, 0-5% VOL) (Span: **5V**)
- **B5-CO2** (Carbon Dioxide, Infrared, 0-20% VOL) (Span: **20V**)
- **B5-CO2** (Carbon Dioxide, Infrared, 0-100% VOL) (Span: **100V**)
- **B5C-CO**** (Carbon Monoxide,Electrochemical,0-250 PPM)(Span: **250P**)
- **B5C-CO**** (Carbon Monoxide,Electrochemical,0-1000 PPM)(Span:**1000P**)
- **B5-CL2** (Chlorine, Electrochemical, 0-5 PPM) (Span: **5P**)
- **B5-CLO2** (Chlorine Dioxide, Electrochemical, 0-2 PPM) (Span: **2P**)
- **B5-GENL*** (Combustible, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **B5-B2H6** (Diborane, Electrochemical, 0-2 PPM) (Span: **2P**)
- **B5-C2H4** (Ethylene, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **B5-ETO** (Ethylene Oxide, Electrochemical, 0-20 PPM) (Span: **20P**)
- **B5-GEH4** (Germane, Electrochemical, 0-2 PPM) (Span: **2P**)
- **B5-H2** (Hydrogen, Electrochemical, 0-1000 PPM) (Span: **1000P**)
- **B5-H2** (Hydrogen, Electrochemical, 0-2000 PPM) (Span: **2000P**)
- **B5-H2** (Hydrogen, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **B5-HBR** (Hydrogen Bromide, Electrochemical, 0-30 PPM) (Span: **30P**)
- **B5-HCL** (Hydrogen Chloride, Electrochemical, 0-30 PPM) (Span: **30P**)
- **B5-HCN** (Hydrogen Cyanide, Electrochemical, 0-50 PPM) (Span: **50P**)
- **B5-H2S** (Hydrogen Sulphide, Electrochemical, 0-25 PPM) (Span: **25P**)
- **B5-H2S** (Hydrogen Sulphide,Electrochemical,0-100 PPM)(Span: **100P**)
- **B5-CH4** (Methane, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **B5-CH3OH** (Methanol, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **B5-NO** (Nitric Oxide, Electrochemical, 0-100 PPM) (Span: **100P**)
- **B5-NO2** (Nitrogen Dioxide, Electrochemical, 0-10 PPM) (Span: **10P**)
- **B5-O2** (Oxygen, Electrochemical, 0-25% VOL) (Span: **25V**)
- **B5-O3** (Ozone, Electrochemical, 0-1 PPM) (Span: **1P**)
- **B5-C5H12** (Iso-Pentane, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **B5-PH3** (Phosphine, Electrochemical, 0-1 PPM) (Span: **1P**)
- **B5-PH3** (Phosphine, Electrochemical, 0-5 PPM) (Span: **5P**)
- **B5-C3H8** (Propane, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **B5-SIH4** (Silane, Electrochemical, 0-50 PPM) (Span: **50P**)
- **B5-SO2** (Sulphur Dioxide, Electrochemical, 0-6 PPM) (Span: **6P**)

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ENCLOSURE

- **O** (Standard Enclosure)

QIRF Refrigerant Sensor

PRODUCT DESCRIPTION

The QIRF refrigerant gas detectors are configured to meet the international Mechanical Code, ASHRAE 15, and B52 requirements. Infrared technology facilitates specific gas type refrigerant detection without any cross-sensitive interferences. Sensor housings are thermally controlled at elevated temperatures to eliminate errors due to condensate formation and temperature fluctuations. This allows operation in temperatures from -49°F to 149°F (-45 to 65°C). This series has the option of being connected to either the M-Controller or Q4C controller via RS-485 digital communication for a cost effective installation method. Controllers can be equipped with internal and external horns and strobes to alert personnel prior to entering the hazardous area. Consult Specified Controls for specific gases.



PRODUCT SPECIFICATIONS

Supply Voltage	+18 to 30 VDC or 15 to 24 VAC
Outputs	4-20 mA, +2-10 VDC, Digital RS-485, Modbus
Accuracy/Repeatability	+/- 3% of Reading/+/- 1.0% of full scale
Gas Measurement Range	0 to 100 ppm (R123)/0-1000 ppm (all other refrigerants)
Temperature Range	-45 to 65oC (-49 to 149oF)
Operating Humidity	5 to 95% Continuous, 0 to 99% Intermittent (based on non-condensing)
Operating Pressure Range	Atmospheric +/- 10%
Sensor Type	Infra-Red Temperature Controlled
Response Time	Less than 30 seconds typical for a 90% step change
Sensor Life Span	14 years typical (under normal conditions)
Sensor Coverage	7,500 square feet (max)
Mounting Height	1 foot above floor
Relays	(3) SPDT, 1A maximum @ 30 VDC and 0.3A maximum @ 125 VAC (for resistive loads)
Buzzer Rating	Rated for 80 dB @ 10 cm, 2700 Hz
Enclosure Materials	Polycarbonate/ABS blend IP66, NEMA 4X, 12, 13
Keypad	4 magnetic sensors with magnet tool
Indicators	(5) Red LED's for Relay Status; 2x8 character LCD display with backlight
Product Dimensions	(H) 4.72" (W) 7.87" (D) 3.54"

GAS TYPE

- **0R22x** (Gas Type: R22) (Measurement Range: 0-1000 ppm)
- **123x** (Gas Type: R123) (Measurement Range: 0-100 ppm)
- **134Ax** (Gas Type: R134a) (Measurement Range: 0-1000 ppm)
- **404Ax** (Gas Type: R404a) (Measurement Range: 0-1000 ppm)
- **407Cx** (Gas Type: R407a) (Measurement Range: 0-1000 ppm)
- **408Ax** (Gas Type: R408a) (Measurement Range: 0-1000 ppm)
- **410Ax** (Gas Type: R410a) (Measurement Range: 0-1000 ppm)
- **507Ax** (Gas Type: R507a) (Measurement Range: 0-1000 ppm)
- **R114x** (Gas Type: R114) (Measurement Range: 0-1000 ppm)
- **R116x** (Gas Type: R116) (Measurement Range: 0-1000 ppm)
- **0R11x** (Gas Type: R11) (Measurement Range: 0-1000 ppm)
- **R438Ax** (Gas Type: R438a) (Measurement Range: 0-1000 ppm)

Specified Controls

5351 East Thompson Road, Suite 128
Indianapolis, IN 46237

888.359.0365 • www.specifiedcontrols.com

**All gas detection components provided by Quatrosense Environmental Ltd. (QEL)*

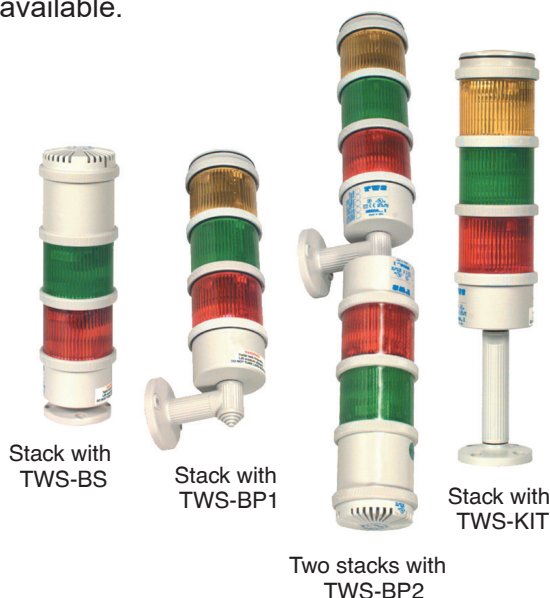
75 MM TOWER LIGHTS

PRODUCT DESCRIPTION

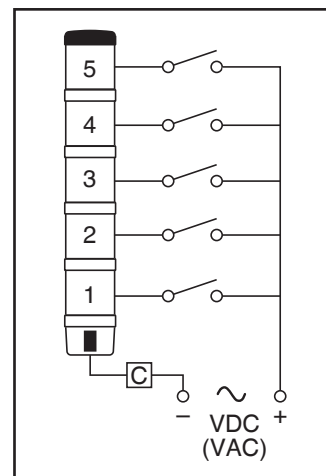
The TWS Series Tower Lights enable stacking of up to five signaling devices. Each device has its own set of contacts. Starting with a bottom module, up to five devices can be added in any combination of continuous and flashing incandescent lights, continuous and flashing LED lights, and Xenon strobes. Each stack can be capped with a horn. Each light comes in a variety of colors, and all lamps are replaceable. Several wall- and pedestal-mounting configurations are available.

OPERATION

- Horns
- IP20 upward mount
- IP24 downward mount
- Ratings IP66



WIRING DIAGRAM



PRODUCT SPECIFICATIONS

Supply Voltage	12-24 VAC/VDC, 24-240 VAC
Voltage Range	24 VAC/ VDC, 110 VAC, 24 VAC , 24 VDC
Power	Light module: 5W 12-120 VAC/VDC (7W 240 VAC) Horn module: 12V-2.7 mA, 24V-6 mA, 110V-4mA,240V-8.5 mA
Color	Blue, amber,red,green, yellow, clear
Flash Rate	Incandescent: LED 110 FPM \pm 20 FPM Strobe: 65 FPM \pm 10 FPM(24 VAC/DC) 90 FPM \pm 20 FPM (110/240 VAC)
Horn Loudness	Medium, 76-86 dB
Operating Temperature	-22° to 140°F (-30° to 60°C)
Strobe Dimensions	14° to 122°F (-10° to 50°C)
Dimensions	Base 2.68"H x 2.95" dia (6.8 x 7.5 cm) Light 2.72"H x 2.95" dia (6.9 x 7.5 cm) Horn 3.11"H x 2.95" dia (7.9 x 7.5 cm)
Mounting	Wall, two holes; surface, four holes; 2.13" (5.4 cm) centers
Enclosure	IP66
Horn	IP20 upward mount; IP24 downward mount
Approvals	CE UL Listed File E194312
Warranty	18 months

TR100VA001

PRODUCT DESCRIPTION

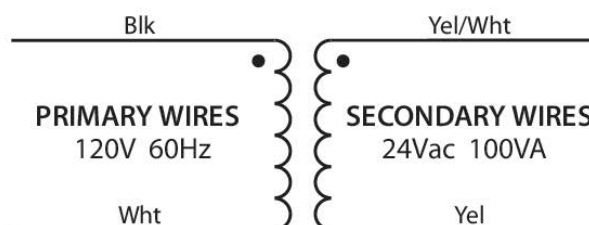
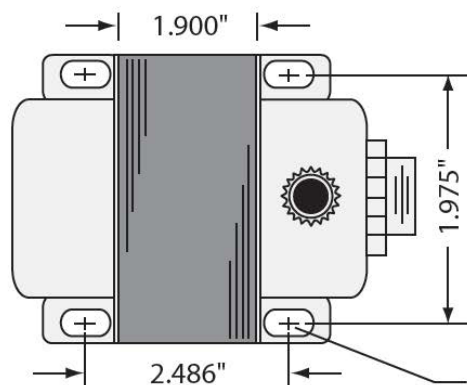
The TR100VA001 is a Class II, 100 VA, 120 to 24 Vac Transformer with an integral circuit breaker. The foot and single threaded hub mount makes this transformer ideal for panel or junction box mounting.

PRODUCT SPECIFICATIONS

VA Rating:	100
Frequency:	50/60 Hz
Mounting:	Foot & single threaded hub
Over Current Protection:	Circuit Breaker
Dimensions:	3.0" x 2.5" x 4.0" (w/ .500" NPT Hub)
Wire Length:	9.5" Typical w/ .5" Strip
Operating Temperature:	-30 to 140°F
MTBF:	100,000 Hours @ 77°F
Construction:	Split-Bobbin
Weight:	4.06 lbs.
Approvals:	Class II UL5085-3 Listed, C-UL, CE, RoHS



PRODUCT DIMENSIONS



Secondary Yel/Wht wire in phase with Primary Blk wire.

