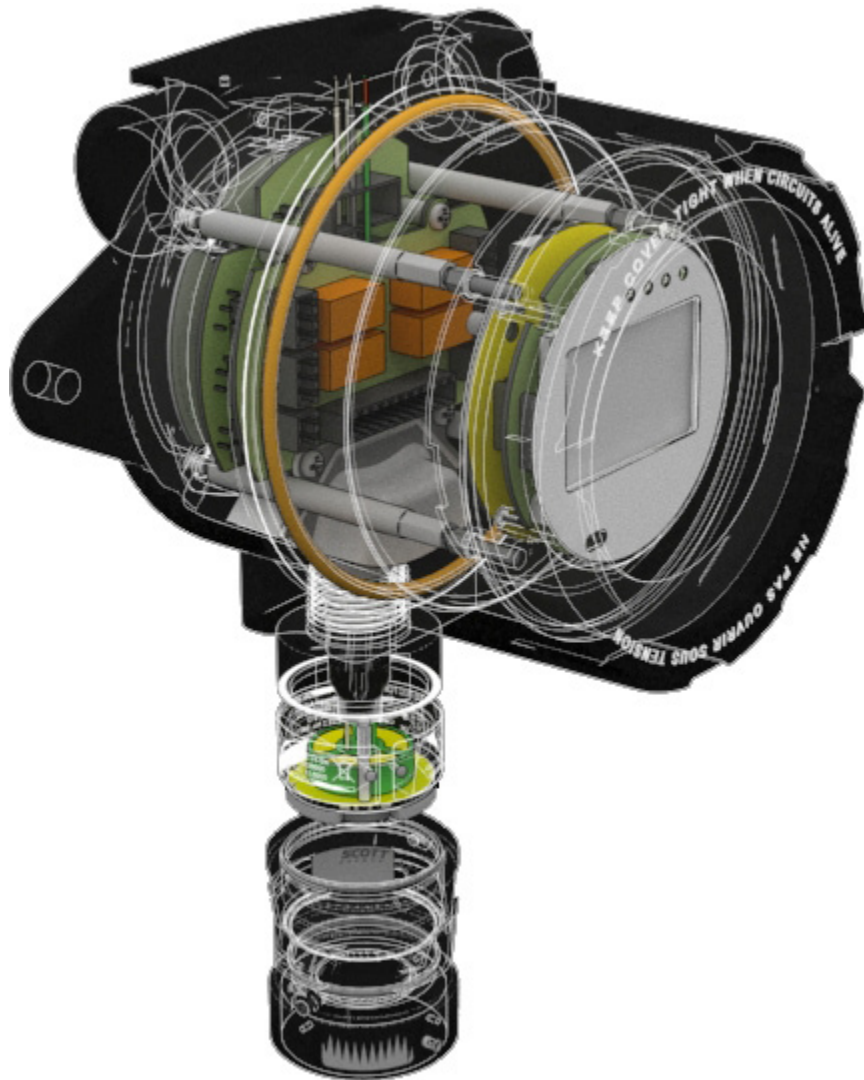


MERIDIAN

UNIVERSAL GAS DETECTOR



TECHNICAL DATA PACKAGE



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MERIDIAN OVERVIEW



● TRUE UNIVERSAL PLATFORM

- Single Transmitter for Combustible and Toxic Applications
- Single Sensor Interface - Plug & Play Design
- Single User Interface
- Common Accessories & Installation Process
- Compatible with industry standard Gateways and Controllers

● ADVANCEMENTS IN SENSOR TECHNOLOGY

- Electrochemical, Infrared, Catalytic Bead and Solid State Sensors
- Scott Rock Solid™ Sensor Technology
- All sensors can be replaced under power in hazardous locations
- Electrochemical sensors offer support for multiple ranges with one sensor
- Calibration of electrochemical sensors is range invariant

● MULTIPLE COMMUNICATION PROTOCOLS

- 4-20 mA, Modbus are standard
- Wired HART (option)
- Wireless HART, ISA100.11A (options)

● GLOBAL APPROVALS

- Designed to the highest international standards for global use
- SIL-2 certified by TUV-Rheinland



MERIDIAN SPECIFICATIONS

Certifications	
Global Approvals	IECEX, cCSA _{US} , ATEX, INMETRO, EURASIAN CUSTOMS UNION, CHINA EX, CCCF, RCM, FCC, INDUSTRY CANADA, CE, ANATEL, MARINE DIRECTIVE - SHIP'S WHEEL, ABS SIL-2 (Third Party Certification by TUV-Rheinland)
Area Classification	Class I Div. 1 Group ABCD, Class II Div. 1 Group EFG, Class III Equipment Group I/II, Zone 0/20 & Zone 1/21, IIC
Environmental	
Operating Temperature	-40° to 167° Fahrenheit / -40° to 75° Celsius
Humidity	5-95% RH (non condensing)
Storage Temperature	-67° to 167° Fahrenheit / -55° to 75° Celsius
Transmitter Specification	
Power	2 wire, 3 wire, 4 wire
Operating Voltage 3/4 Wire	10-30 VDC (24 VDC nominal)
Operating Voltage 2 Wire	18-30 VDC (24 VDC nominal)
Power Consumption	2.2 - 3.2 Watts based on sensor configuration Add 2.6 Watts to any configuration if heated display is used
Enclosure Material	Copper Free Aluminum 316 Stainless Steel
Enclosure Ingress Protection	NEMA 4X, IP66
Conduit Connections	3/4" NPT (M20 thread adapter available)
Communication Protocols	Standard: 4-20 mA, Modbus Optional: HART, Wireless HART, ISA100.11A
Maximum 4-20 loop load Ohms (@24 VDC)	840 Ohms non isolated current source 680 Ohms current sink
Alarms	3 programmable alarms with set and reset (adjustable deadband); 1 fail safe system fault
Relays	4 Form C relays, rated 5 Amp at 30 VDC/240 VAC, resistive loads
Display	Graphical LCD display visible in bright sunlight; Display indicates Sensor Name, Gas Name, Full Scale of Range, Gas Concentration, Fault, Alarm Status, Trend Graph WITH selectable time scale showing current reading, set points and full scale. Display provides simple, intuitive calibration instructions and guides user through the calibration process.
Languages	English, Portuguese, French, Spanish, Chinese, Russian

User Configuration Control	Transmitter GUI, HART hand-held Communicator, Modbus
Access Control	Transmitter provides controlled access to sensor range, alarm settings and other safety functions; password protection for secure configuration control
Memory	Non-volatile memory ensures configuration parameters are retained in the event of power loss
Accessories	Rain shield/Deluge Guard, Flow Cell, Calibration Adapter, Duct Mount Kit, Sun Shield, Universal Mounting Adapter Plate
Flexible Design	Flexible design allows for ease of calibration without the need to remove instrument components
Weight	6.5 lbs/3 kg (Aluminum enclosure) 11 lbs/5 kg (Stainless Steel enclosure)
Wiring	Transmitter accept industry standard 2-wire, 3-wire, or 4-wire inputs
Flexible Mounting Option	Transmitter provides multiple conduit entry points for sensor, power, signal, and relay wiring
Mounting Flange Surface Area	6.50"x5.78" / 165mm x 147mm (Aluminum Enclosure) 7.00"x5.25" / 178mm x 133mm (Stainless Steel Enclosure) 4.72"x4.92" / 120mm x 125mm (Aluminum Junction Box Enclosure)
Mounting Bolt Holes	Diametrically opposed 5.85"; 0.315" / 149mm; 8mm holes (Aluminum Enclosure); Diametrically opposed 6.25"; 0.300" / 159mm; 8mm holes (Stainless Steel Enclosure); Diametrically opposed on 45° angle, 4.5"; 0.315" / 114mm; 8mm holes (Aluminum Junction Box)
Pipe Threads	3/4" NPT (M20 thread adapter available)
Sensor Specification	
Universal Detector Head	Detector head accepts all sensor types
Sensor Types	Combustible: Catalytic Bead, Infrared Electrochemical: Standard and Scott Rock Solid sensors Solid State: Metal Oxide Semiconductor (MOS)
Number of Sensors	Supports up to 3 sensors per transmitter
Sensor Replaceable Under Power	Sensors can be replaced under power without declassifying the area
Automatic Sensor Voltage Adjustment	Sensor voltage is automatically detected and adjusted by the transmitter during installation
Simple Plug & Play Sensor Install	Plug and play design allows for one hand sensor installation
Remote Calibration	Sensor can be bench calibrated and then installed in field without additional re-calibration on site; Available Duct Mount calibration kit makes it easy to perform calibration on remote transmitter installations that are difficult to access
User Selectable Range	Sensor offers multiple sensor ranges allowing user to select the specific range for their application requirements without the need to recalibrate the sensor
Range Invariant Calibration	Sensor range can be changed without recalibration
Sensor Refurbishment	Smart sensor electronics and snap fit housing makes it possible to refurbish sensor at the end of its useful life
Environment Friendly	Environment friendly sensor design allows for reuse of sensor electronics and housing with simple kernel replacement

SUPPORTED GASES

FULL RANGE OF COMBUSTIBLE AND TOXIC GASES

COMBUSTIBLE

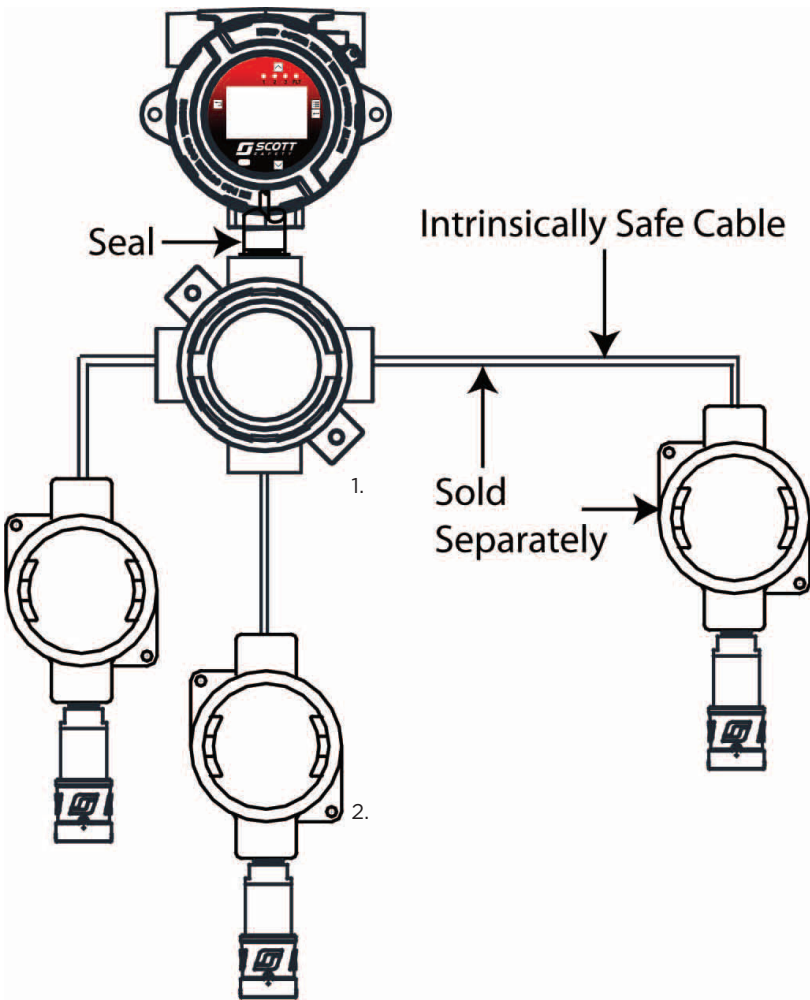
<i>Gas Type</i>	<i>Range</i>
Acetone	0-100% LEL
Benzene	0-100% LEL
Butadiene	0-100% LEL
Butane	0-100% LEL
Ethane	0-100% LEL
Ethanol	0-100% LEL
Ethylene	0-100% LEL
Hexane	0-100% LEL
Hydrogen	0-100% LEL
Isobutanol	0-100% LEL
Isopropyl Alcohol	0-100% LEL
Methane	0-100% LEL
Methanol	0-100% LEL
Methyl Ethyl Ketone (MEK)	0-100% LEL
Pentane	0-100% LEL
Propane	0-100% LEL
Propylene	0-100% LEL
Toluene	0-100% LEL
Xylene	0-100% LEL

TOXIC

<i>Gas Type</i>	<i>Range</i>
Ammonia	50, 100, 250 300 500 ppm
Arsine	500, 1000 ppb
Boron Trichloride	10 ppm
Boron Trifluoride	5, 15 ppm
Bromine	1, 10 ppm
Carbon Dioxide	0-5% v/v
Carbon Monoxide	50, 100, 150, 500, 1000 ppm
Chlorine	1, 3, 5, 10, 20, 30 ppm
Chlorine Dioxide	1, 3, 5 ppm
Diborane	1 ppm, 5 ppm
Fluorine	1, 3, 5, 10, 25 ppm
Germane	1000 ppb
Hydrogen	1, 4% v/v
Hydrogen Bromide	1, 5, 10, 30 ppm
Hydrogen Chloride	1, 10, 25, 50, 100 ppm
Hydrogen Cyanide	10, 25, 100 ppm
Hydrogen Fluoride	1, 5, 10, 30, 100 ppm
Hydrogen Sulfide	10, 25, 50, 100, 200 ppm
Methanol	500 ppm
Methyl Mercaptan	3, 10 ppm
Methyl Iodide	25 ppm
Nitric Oxide	50 ppm
Nitrogen Dioxide	10, 20 ppm
Oxygen	10, 25% v/v
Ozone	1, 3 ppm
Phosphine	500, 1000 ppb
Silane	1 ppm, 10 ppm
Silicon Tetrafluoride	5 ppm
Sulfur Dioxide	1, 3, 10, 25, 50, 100, 500 ppm
TEOS	50 ppm
Tungsten Hexafluoride	1, 3 ppm

MULTI SENSOR CONFIGURATIONS

MERIDIAN UNIVERSAL GAS DETECTOR



MERIDIAN UNIVERSAL GAS DETECTOR CAN SUPPORT UP TO 3 SENSORS

1. Junction box integral to transmitter (included with multiple sensor configuration)
2. Junction box for remote detector (sold separately)

MERIDIAN 3/4 WIRE TRANSMITTER
ALLOWED SENSOR COMBINATIONS
(USE ONLY WITH IS BARRIER ASSEMBLY
096-3448)

Sensor #1	Sensor #2	Sensor #3
ECHEM*	ECHEM *	ECHEM *
	O2 **	ECHEM *
	O2 **	O2 **
O2 (096-3473-19)	ECHEM *	ECHEM *
	O2 **	ECHEM *
	O2 **	O2 **
COMBUSTIBLE CAT BEAD (096-3473-55)	ECHEM *	ECHEM *
	O2 **	ECHEM *
	O2 **	O2 **
MOS (096-3473-57)	ECHEM *	ECHEM *
	O2 **	ECHEM *
	O2 **	O2 **
IR - CO2 (096-3473-58)	N/A	N/A
	O2 **	N/A
	N/A	N/A
COMBUSTIBLE IR (096-3473-56)	N/A	N/A
	O2 **	N/A
	N/A	N/A

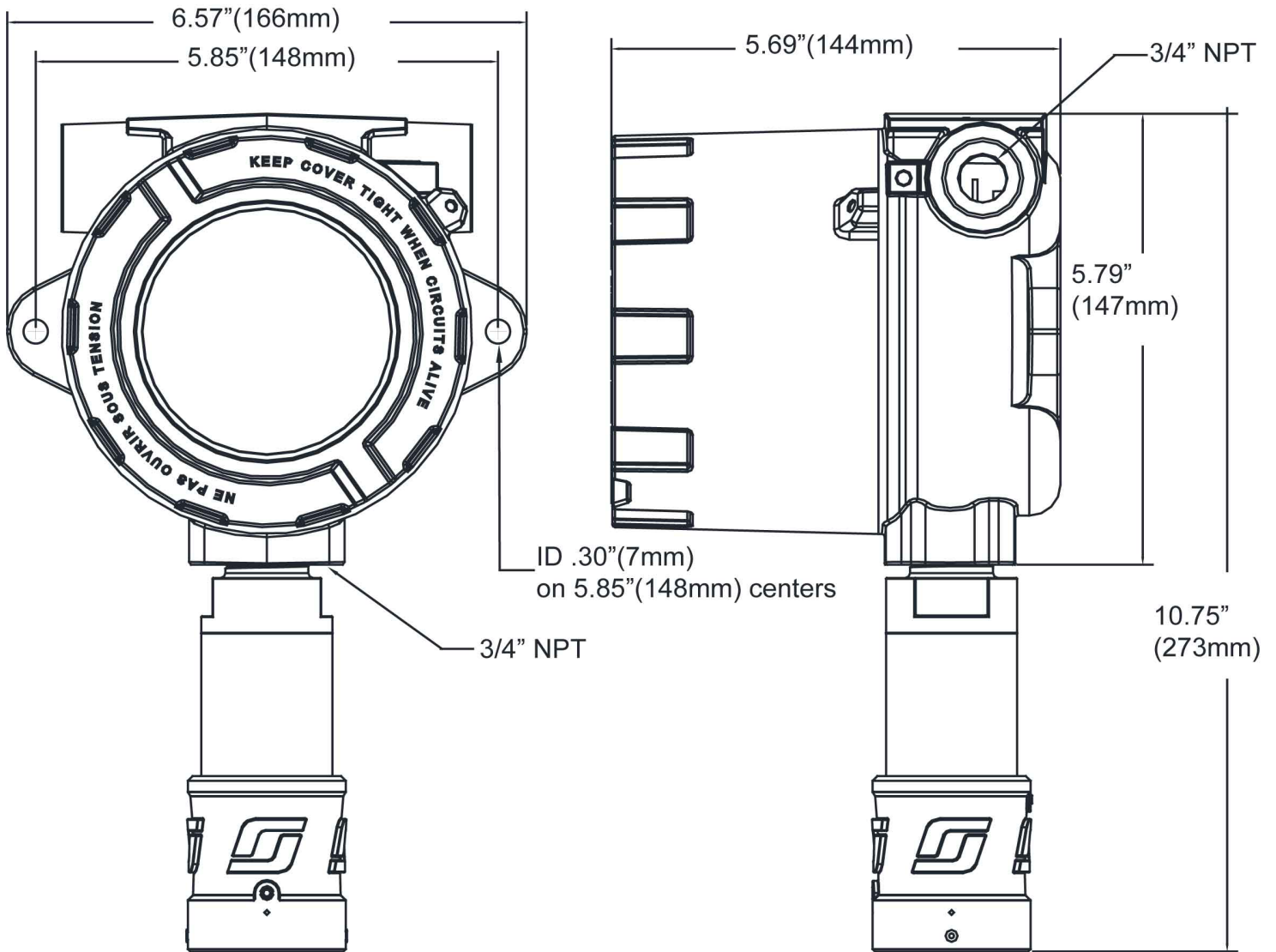
N/A : Not available in order to meet intrinsic safety requirements.

* ECHEM SENSOR PART NUMBERS
096-3473-01 THRU 096-3473-18,
096-3473-20 THRU 096-3473-54, AND
SENSOR SIMULATOR 096-3395

** OXYGEN SENSOR PART NUMBER 096-3473-19.

TECHNICAL DRAWINGS

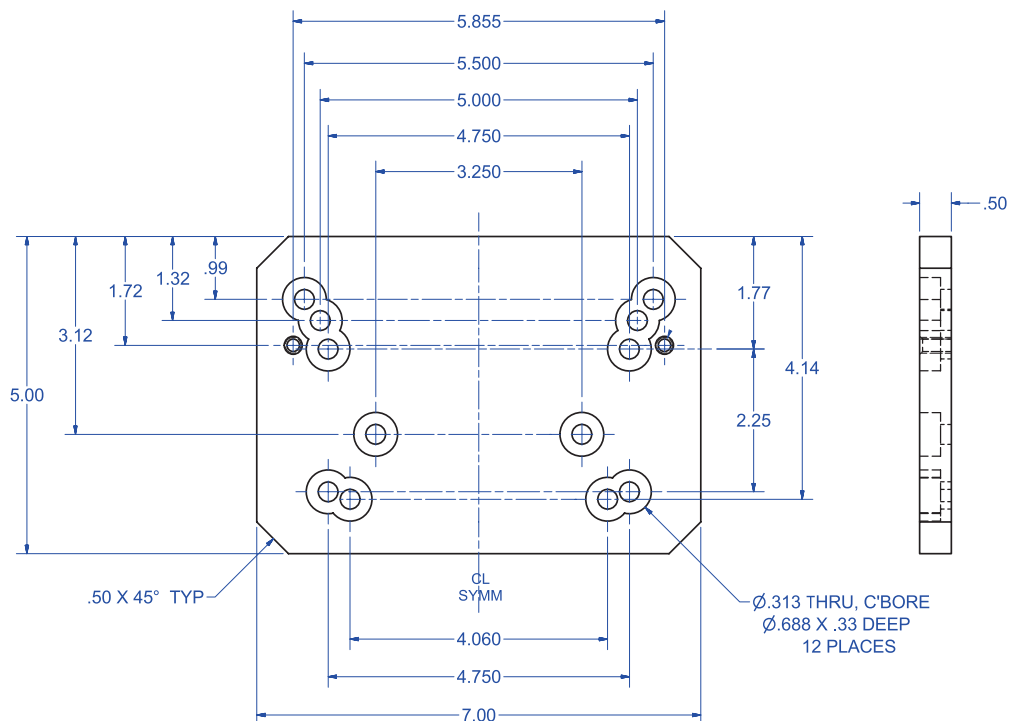
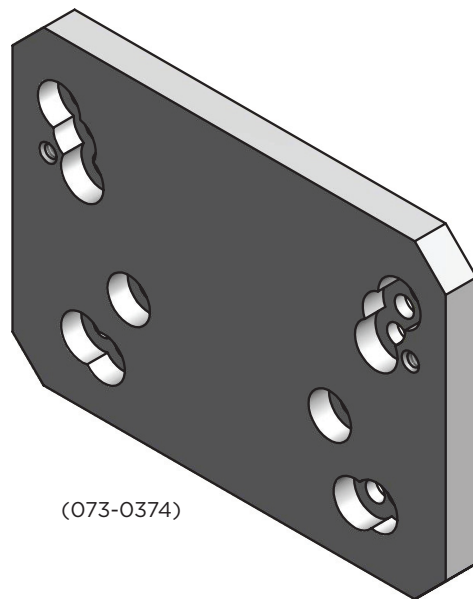
WALL MOUNTING OPTION



TECHNICAL DRAWINGS

WALL MOUNTING OPTION

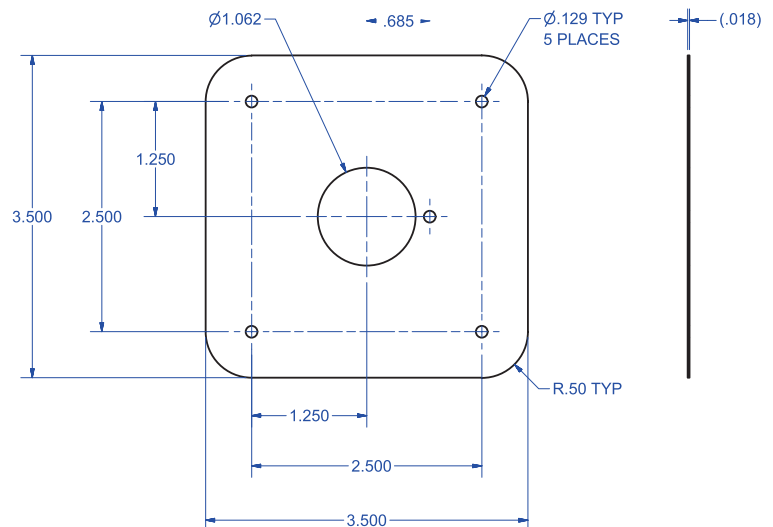
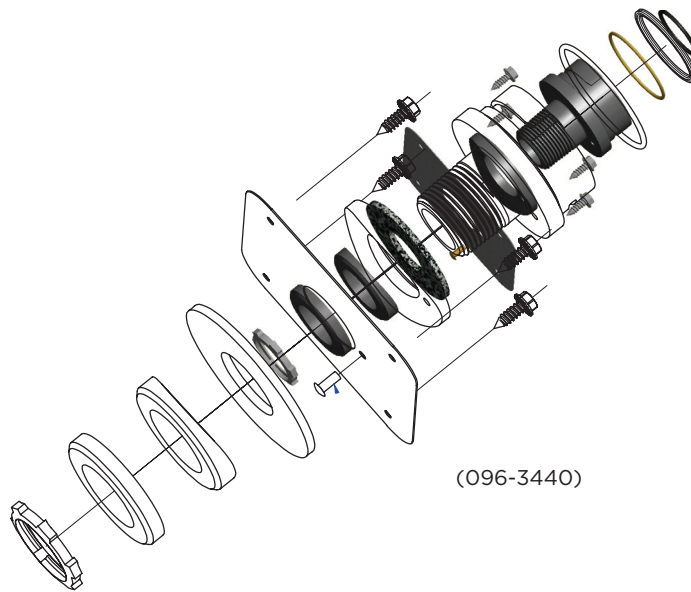
UNIVERSAL MOUNTING ADAPTER PLATE



TECHNICAL DRAWINGS

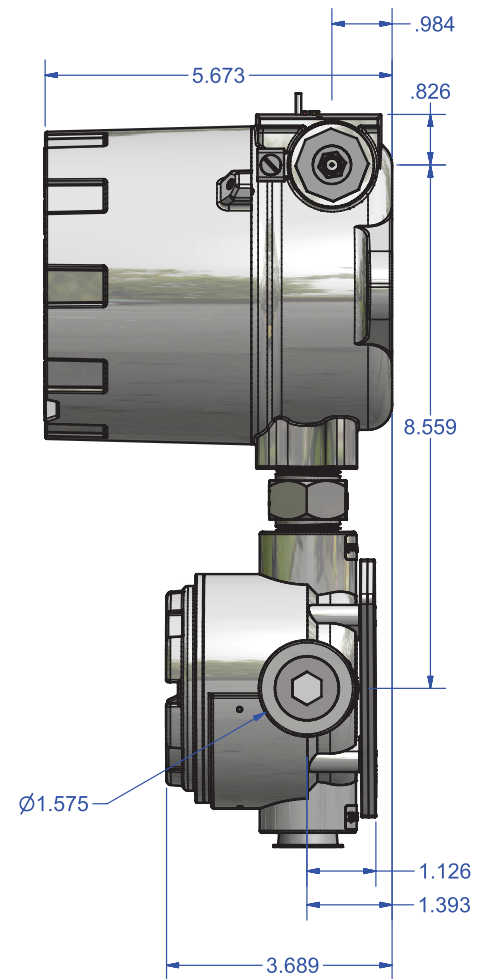
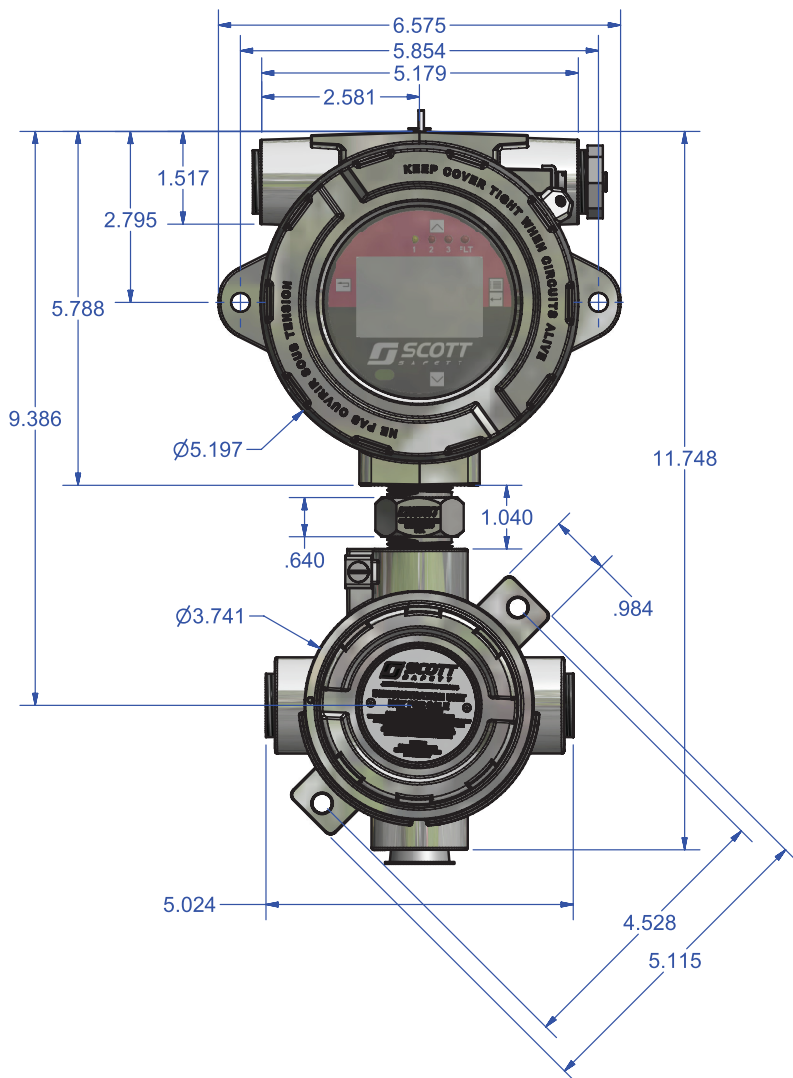
DUCT MOUNTING OPTION

DUCT MOUNT ADAPTER KIT

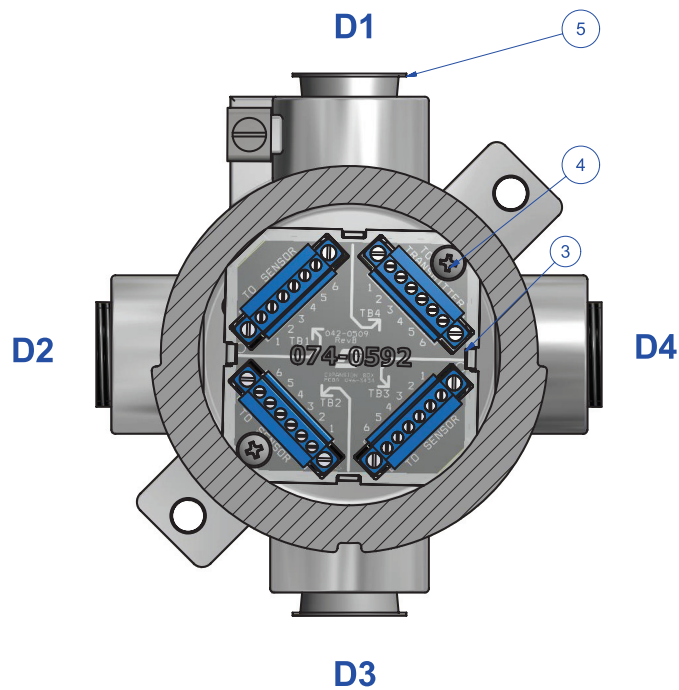
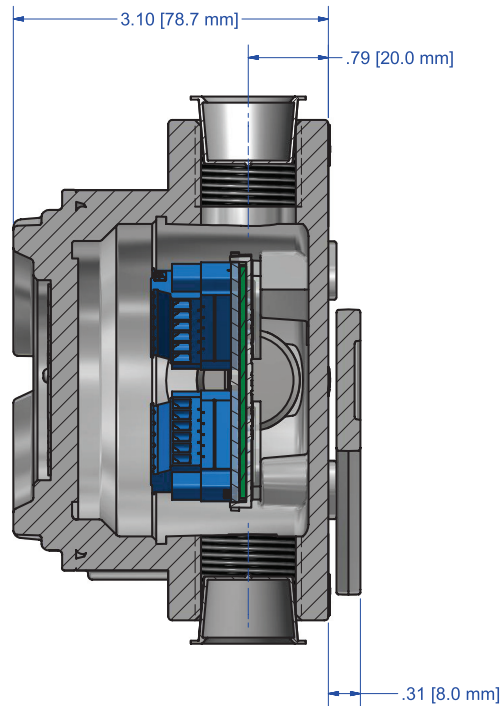


TECHNICAL DRAWINGS

TRANSMITTER AND JUNCTION BOX ASSEMBLY



TECHNICAL DRAWINGS



ACCESSORIES

MERIDIAN UNIVERSAL GAS DETECTOR



CALIBRATION
ADAPTER
SKU: 096-3438



FLOW CELL
ADAPTER
SKU: 096-3439



DUCT MOUNT
ADAPTER
SKU: 096-3440



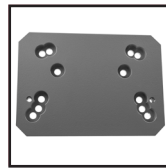
DELUGE
GUARD
SKU: 096-3441



JUNCTION
BOX
SKU: 096-3475



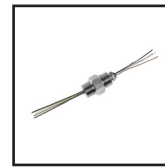
SUNSHIELD
SKU: 073-0373



UNIVERSAL
ADAPTER
PLATE
SKU: 073-0374



STAINLESS
STEEL END CAP
SKU: 096-3437-2



NPT/ NPT
GLAND FITTING
SKU: 096-3483



SENSOR
SIMULATOR
SKU: 096-3395

NOTES

MERIDIAN UNIVERSAL GAS DETECTOR





At Scott, we've been developing ways to protect people since 1932. Our founder, Earl Scott, began the company by tinkering with inventions in his basement in Lancaster, NY. Since that time, the Scott name has stood for unquestioned quality when safety is critical. Facilities across hundreds of industries rely on Scott's attention to detail, fail-safe measures, attentive service and constant innovation. The Meridian universal gas detector is another offering in our long, proud history of safety equipment.

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