



ISO 9001

MASCI

QMS 17014/1639



NSC- TISI-TIS 17021

QMS 002

Process Instrument Division

Product Catalog

Edition 4



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MASCI

ISO 9001

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NSC- TISI-TIS 17021

QMS 002

ได้รับการรับรองมาตรฐาน ISO 9001:2015

จาก Management System Certification Institute (Thailand) : MASCI

การให้บริการอย่างมีมาตรฐานถือเป็นหัวใจหนึ่งของ **บริษัท เอส.ที. คอนโทรล จำกัด** เพื่อความเป็นระบบบริหารงานคุณภาพตามมาตรฐานสากล (Quality Management System) ในทุกส่วนงานบริการ บริษัทฯ ได้ผ่านการรับรองระบบมาตรฐาน ISO 9001:2015 จาก สถาบันรับรองมาตรฐานไอเอสโอ (สรอ.) (MASCI) เป็นที่เรียบร้อย และยังคงมีการประเมินทุกๆ ปีอย่างต่อเนื่อง



บริษัท เอส. ที. คอนโทรล จำกัด
S.T. Control Co.,Ltd.



MASCI
สถาบันรับรองมาตรฐานไอเอสโอ
Management System Certification Institute (Thailand)

มาตรฐานระบบบริหารงานคุณภาพสากล (ISO 9001:2015)

Introducing the most flexible
gas control system available.
Build your system your way. simple.



Touchpoint Plus Controller

Technical Specifications

- **System:** Fully configurable, robust & economical multi-channel gas detection system
- **LCD Touch Screen:** 7" color LCD touch screen. Graphic User Interface
- **Operating:** -10°C to °C +55°C (14°F to +131°F) continuous.
- **Power DC:** 18 to 32 VDC (+/-10%) Typical 24VDC
- **Power AC:** 110/220VAC. 50HZ~60HZ (manual switch)
- **Certification:** Compliant with UL 61010-1 (3rd Edition) and 508 CSA -C22.2 No.61010-1-04
- **Housing Material:** Polycarbonate ABS
- **Input / Output:** Up inputs 8 (basic) and 24 configurable output



Touchpoint Pro Central Controller

Technical Specifications

- **System:** Centralized or distributed system
- **LCD Touch Screen:** 5.7" TFT Color LCD with LED Backlight (resistive touch screen) 320 x 240 pixels (QVGA) Resolution
- **Operating:** -4°F to 131°F (-20°C to +55°C)
- **Input Voltage:** 18-32 Vdc (24 Vdc nominal)
- **Redundancy:** Redundant Control Centre Board (CCB) Ring Network
- **Certification:** Compliance with EMC/RFI, CSA, ATEX, FM, UL IEC/EN 61508 and EN 50402 SIL2 certification
- **Input:** Up to 16 Input Modules (64 Input channels) per system
- **Output:** Up to 32 Output Modules (128 Output channels) per system



Honeywell's Touchpoint Pro makes gas control system design, installation, configuration and operation simple. Touchpoint Pro uses a 'building block' approach, providing unrivalled flexibility. Any system can be built from just four main building blocks

Searchline Excel Infrared Open Path Flammable Gas Detector

Quick Specs:

- **Response speed:** T90 less than 3 seconds
- **Range:** 0 to 5 LEL. m,
- **Power Supply:** 18V to 32V dc.
- **Operating temperature:** -40°C to +65°C (-40°F to +150°F)
- **Certified:** ATEX, FM, UL, CSA, SAA, GOST, IEC 61508 SIL2
- **Material:** 316 stainless steel, IP66 and IP67
- **Path Lengths:** Short Range 5m to 40m, Medium Range 40m to 120m and Long Range 120m to 200m



Why open path gas detection ?

Open path detectors complement the use of individual point detectors and offer many significant benefits including:

- Wider area coverage - most likely to pick up any leak
- Very high speed of response
- No unrevealed failure modes - No possibility of blocked gas path to detector
- Detector location not as critical
- Indicates size of hazard

Features & benefits

- Fast speed of response provides earliest warning
- High sensitivity allows low alarm set points
- Alignment free design makes installation simple
- Duct flex and vibration tolerance keeps the system online
- Integral functional gas test facility allows for simple system check
- Contamination resistant optics reduce the need for unscheduled maintenance
- Not affected by interference from water vapor
- Immune to catalytic poisons
- Works in inert atmospheres

Full Range of Accessories

- Deluge shield / sunshade • True alignment system
- Gassing cell • Hand-held interrogator



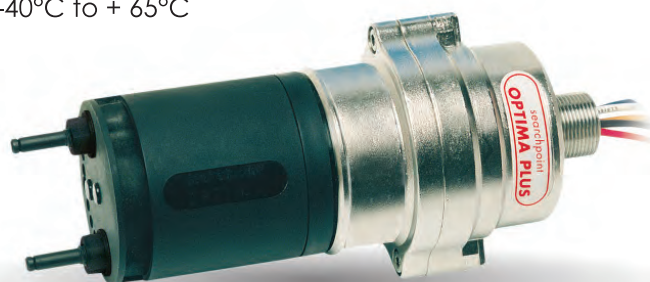
Searchpoint Optima Plus Point Infrared Gas Detector



Quick Specs:

- **Measuring Range:** 0-100% LEL,
- **Power Supply:** 18-32Vdc
- **Material:** 316 stainless steel, IP 66/67
- **Response time:** T50 < 3 seconds, T90 < 4 seconds (methane)
- **Operational and certified temperature range,** : -40°C to + 65°C
- **Certified:** ATEX, IECEx, UL, CSA, IEC 61508 SIL 2,

Experience gained from over
100,000 units installed worldwide



Why Searchpoint Optima Plus is the right choice...

- Experience gained from over 100,000 units installed worldwide
- Improved reliability
- Optional HART® over 4-20mA output
- Can detect a wide range of hydrocarbon gases including solvents
- Increased reliability with no moving parts
- Increased stability from self compensating optics
- Immune to long term component drift
- Remote functional gas test facility
- Certified for North American and European Hazardous areas
- Increased false alarm rejection
- Increased uptime with contaminated optics warning
- Dynamic Heating Control ensures condensation free optics
- No undetected failures
- Improved diagnostics
- Integral event logging
- Reduced power consumption
- Certified to many hazardous area classification schemes including: UL, CSA, ATEX, IECEx and more



Sunshade / Deluge Protection (Part #2108D0275)

This multi-purpose accessory supplied as standard shields Searchpoint OPTIMA PLUS from the extremes of operational environments ensuring reliable operation.



Storm Baffle (Part #2108B0280)

This optional baffle reduces wind chill, salt and dust build-up in exposed applications subjected to high wind speeds e.g. Offshore HVAC intakes and FPSO turrets etc.



Standard Weather Protection (Part #2108B0276)

This accessory supplied as standard, offers the best compromise between water/dust ingress and speed of response.



Dust Barrier (Part #2108B0259)

This optional barrier fitted inside the standard weather protection provides additional protection against the ingress of dust and contamination entering the optical path.



Gassing Cap (Part #2108D0258)

The gassing cap enables confidence checking of the Searchpoint OPTIMA PLUS. It provides a close fit onto the standard weather protection and can be installed without the use of any special tools.

XNX Universal Transmitter

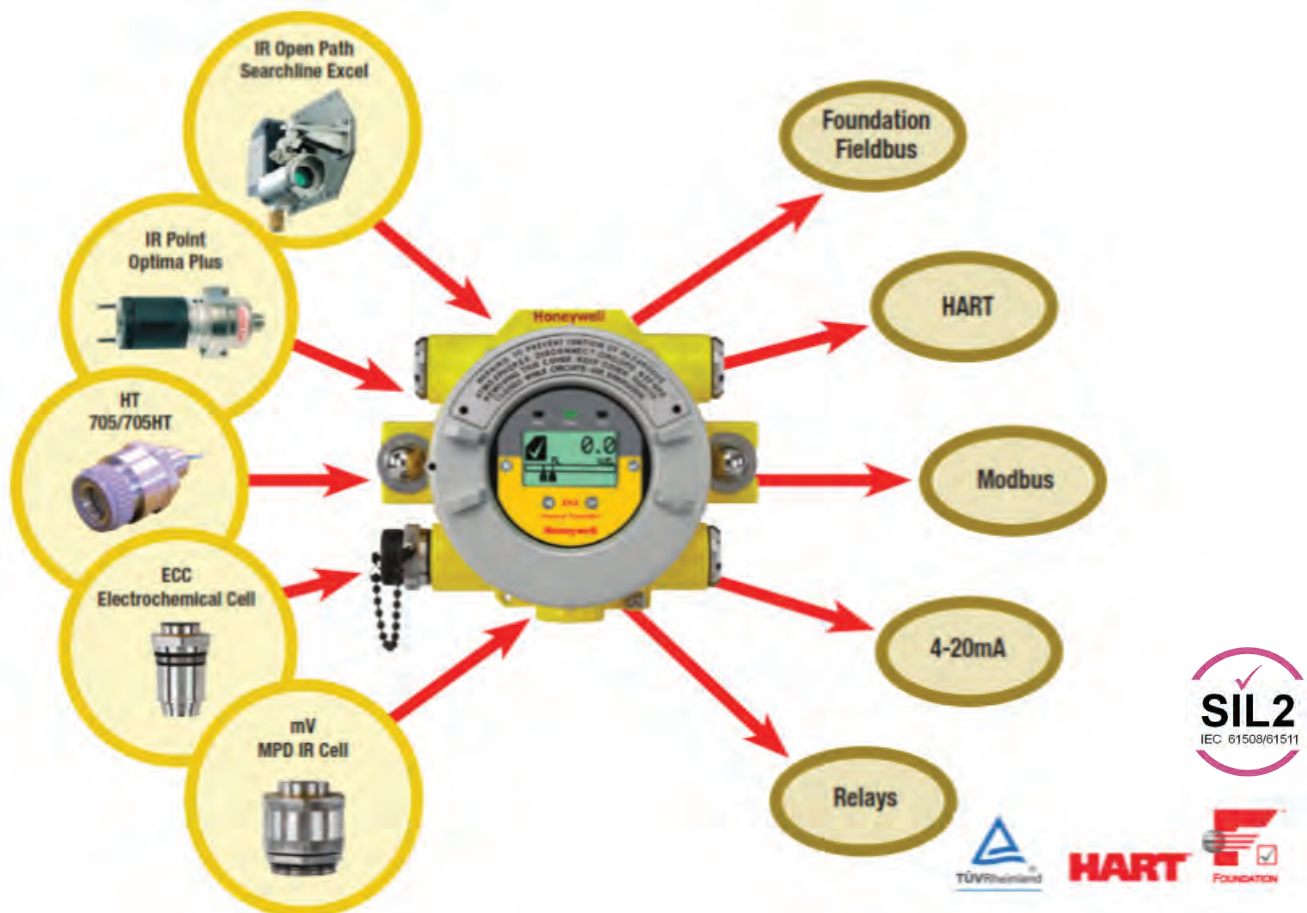


Quick Specs:

High specification universal transmitter for use with a wide range of Honeywell Analytics local or remote gas detectors for the detection of flammable, toxic and Oxygen gas hazards. Suitable for use in Zone 1 and 2 or Zone 21 and 22 hazardous areas, and North American Class I and II Division 1 or 2 areas.

- **Material:** LM25 aluminum, painted (SS316 painted optional)
- **Temperature:** -40° to +65°C / -40° to +150°F (sensor dependent)
- **Humidity:** 0-99%RH (non condensing)
- Fully configurable isolated 4-20mA & HART® output module
- **Functional Safety:** ATEX, IECE, UL, FM, CSA, IEC61508 (SIL2)

A universal transmitter for toxic, oxygen and combustible gas detection compatible with all Honeywell gas sensing technologies. Supports the widest range of sensors on a common platform and offers a modular choice of inputs and outputs (saving customers time and money).



Sensepoint XCD



Quick Specs:

- **Input voltage range:** 16 to 32 VDC (24 VDC nominal)
- **Communication:** 4-20 mA and RS485
- **Certified temperature range:** (-40° to +65°C)
- All-in-one gas monitoring solution
- Detection: Flammable, toxic and Oxygen

Sensepoint XCD RTD



Quick Specs:

- **Input voltage range:** 12 to 32 VDC (24 VDC nominal)
- **Communication:** 3 wire, 4-20mA and RS485 MODBUS output,
- **Certified temperature range:** 40°F to +149°F (-40°C to +65°C)
- **Remotely monitor:** toxic gases in Class 1, Div 2 areas while reducing the maintenance, training and overall cost of gas monitoring
- **Material:** Epoxy painted aluminium alloy LM25 or 316 stainless steel

Series 3000 MkII (Flameproof) and MKIII (intrinsically safe)



Quick Specs:

- **2-wire loop:** 17Vdc loop powered toxic and oxygen gas detector or use in potentially explosive atmospheres
- **Atmospheres:** (+/-10%) to 30Vdc (max) operation; 22mA max. over range
- **Signal:** 0-100%FSD 4-20mA; Fault = 3mA; Calibration due selectable off or 3mA
- **IP rating:** IP66 (EN60529), NEMA 4X
- **Operating humidity:** Continuous 20-90% RH (non-condensing)
- **Certification:** ATEX/IECEX, UL/c-UL

RAEGuard 2 PID Transmitter



Quick Specs:

The RAEGuard 2 PID is a fixed photoionization detector (PID) that measures a broad range of volatile organic compounds (VOCs). The RAEGuard 2 PID operates on 10 to 28 VDC and provides an analog (4-20mA) three-wire signal output, and RS-485 Modbus digital signal output.

FS7 Electro-Optical Fire Detection Systems for Semiconductor Wet Benches



Quick Specs:

Multi-Spectral Infrared and Visible Electro-Optical Fire Detector with sealed polypropylene enclosure. Two stage response, (ALERT & ALARM), with 20ft teflon cable with pigtails, 41" Teflon sleeve. 24 VDC. Approvals: FM & CSFM; FM Certified for Class I, Div2.

Series FSL100 Flame Detectors



Quick Specs:

The new FSL100 series is the latest generation range of Mid market Flame Detectors from Honeywell Analytics. The range consists of UV, UVIR and IR3 flame detectors.

All utilise sophisticated sensing and signal analysis to detect fires quickly while also rejecting false alarms. The FSL100 may be small and lightweight for easy installation but they are designed to work in tough environments both in and out of doors as well as potentially explosive atmospheres. With a large field of view they can detect a range of different types of fire including hydrocarbon and non hydrocarbon sources.

FS24X™ GrudBand™ Triple IR Fire and Flame Detector (IR/IR/IR/Visible)



Quick Specs:

- **Sensitivity:** Very high, high, medium and low - switch selectable
- **Operating voltage:** 24 VDC nominal (18-32 VDC) - regulated
- **Operating Temp:** 110° Field of View FS24X: -40 to +185°F (-40 to +85°C); 90° Field of View FS24X: -76 to +185°F (-60 to +85°C)
- **Humidity range:** 5 to 98% relative humidity, non-condensing
- **Patented* WideBand:** IR™ Technology
- **Dual microprocessors:** for reliable performance
- **Certified:** ATEX, FM, CE
- **Enclosure Type:** NEMA 4 & 4X, IP66, 316 Stainless Steel

FS20X Multi-Spectrum Fire and Flame Detector (IR/IR/UV)



Quick Specs:

- **Sensitivity:** Very high, high, medium and low - switch selectable
- **Operating Temp:** -40 to +185°F (-40 to +85°C)
- **Humidity Range:** 5 to 98% relative humidity, non-condensing
- **Operating voltage:** 24 VDC nominal (18-32 VDC) - regulated
- **Field of view:** 90° full 100% core of vision, ± 45° from on axis
- **Patented* WideBand:** IR™ Infrared combined with Ultraviolet
- **Dual Microprocessors:** for reliable performance
- **Certified:** ATEX, FM, CE
- **Enclosure Type:** NEMA 4 & 4X, IP66, 316 Stainless Steel

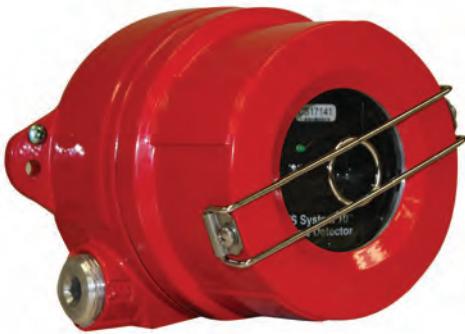
SS4-AS Series Multi-Spectrum™ Electro-Optical Digital Fire and Flame Detector (UV/IR), SIL2



Quick Specs:

- **Sensitivity:** Adjustable between 60 ft., 45 ft., 30 ft, and 15 ft. to a 1 sq. ft. gasoline fire
- **Operating Temp:** -40 to 185°F (-40 to 85°C)
- **Humidity Range:** 5 to 98% RH, non-condensing
- **Operating voltage:** 24 Vdc nominal (20.5 to 34 Vdc)
- **Field of view:** 120° cone of vision (60° degrees from on axis).
- **Multi-Spectrum™:** senses ultraviolet, visible and Wide Band Infrared™ and Built-in test for optical "through the lens" testing
- **Microprocessor based algorithms:** FirePic™, Snapshot™ and Tri-Mode Plot™

FS10 Fire Detection Systems for Liquid and Powder Electrostatic Paint Booths



Quick Specs:

- Immune to false alarms caused by arcs or corona discharges
- Built-in automatic "through the lens" self-test
- Not sensitive to background radiant energy sources such as paint heaters
- A high-speed microprocessor based fire detection and process control system specially designed for liquid and powder coating applications, the Fire Sentry FS System 10™ quickly detects the presence of a flame, reacts by initiating a shutdown of the electrostatic finishing process in a matter of milliseconds; and effectively interrupts the fire before residues and wet paint films can ignite.

SS2-AM Series (UV/IR) Ultra-High Speed Digital Fire and Flame Detector

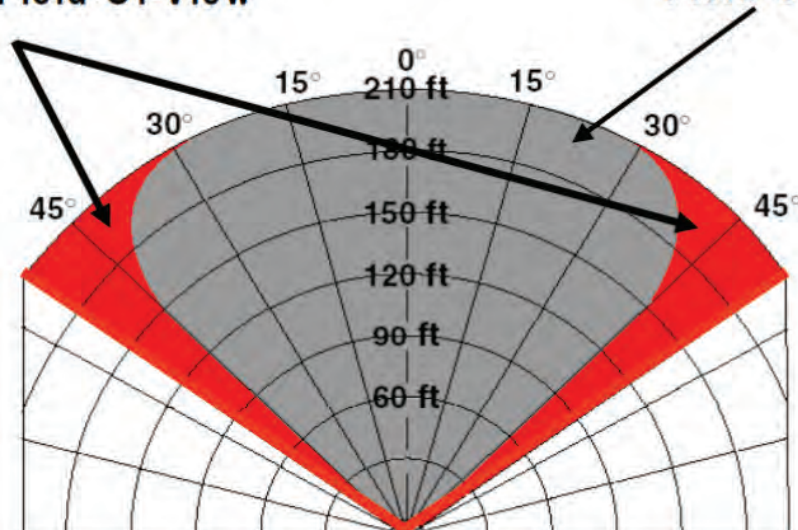


Quick Specs:

- **Sensitivity:** 60 ft. to a 1 sq. ft. n-heptane fire
- **Operating Temp:** -40° to 185°F (-40° to 85°C)
- **Humidity Range:** 0 to 90% RH, non-condensing
- **Operating voltage:** 24 Vdc nominal (20.5 to 34 Vdc)
- **Field of view:** 120° cone of vision (60° from on axis).
- **Certified:** Explosion-proof Class I, Div. 1 & 2, Groups B, C and D
- **Enclosure Type:** 316 SS & Copper-free aluminum NEMA4 (IP66)

WideBand™ IR
110 Degree Field-Of-View

Traditional Triple IR
Field-Of-View



Honeywell Analytics New Product Launch

OELD

"Bluetooth-enabled local display for Searchpoint Optima Plus and Searchline Excel gas detectors."



OELD enables nonintrusive commissioning, configuration and maintenance from the palm of your hand. No hot works, no hassle.

EASE OF MAINTENANCE

- Simplified maintenance with familiar smartphone technology
- Non-intrusive interaction to reduce time and safety risk
- Easy access to hard-to-reach detectors
- Know before you go: pre-empt maintenance issues

FEATURES

- Robust Aluminium or Stainless steel housing
- Worldwide approvals for hazardous areas including ATEX, IECEx, cULus
- Green/yellow/red/blue multi-colour backlight to show status
- Bluetooth® (BLE) range up to 10 m (30 feet)
- Ingress protection IP66 / Type 4X
- Assessed to have no effect on functional safety of connected gas sensor
- Backward compatible with all versions of Searchpoint Optima Plus and Searchline Excel
- Secure access to OELD units can be easily managed by a primary user via the OELD app

LOCAL VISIBILITY OF SAFETY ISSUES

- Bright "traffic light" indicator for safety awareness
- Easier to locate a unit in fault/warning
- Real-time gas readings

Honeywell Analytics New Product Launch

Sensepoint XCL



Sensepoint XCL is a safe area fixed point gas leak detector that is designed to meet the needs of commercial and light industrial applications. With over 50 years experience in gas leak detection, Honeywell offers a flexible range of highly-reliable sensing devices to meet those needs.

- Quicker installation
- Rapid configuration
- Simple to operate
- Straightforward to maintain

Specification

Protection Rating :	IP65, Type 4 (in accordance with NEMA 250)
Available Sensors :	Flamable, Toxic gases and Oxygen ranges
Power Supply :	24 VDC
Analog Output :	0-22 mA
Digital Output :	Modbus RTU
Visual Indicator :	Multi-colour LED light ring
Wireless Interface :	Bluetooth 4.0 Dedicated mobile app, enabling wireless Connect up to 10 m away Running android 4.3 or above
Operating Temperature :	-20 to 50 °C
Humidity :	0 to 99%(non-condensing)
Approvals :	EN/UL/IEC61010-1 CSA-C22.2 No. 61010-1-12
Casing Material :	Polycarbonate (Charcoal or white)

FEATURES



Hospitals / MRI Rooms



Food/Meat Processing Units



Boiler Rooms



Commercial Kitchens



Cosmetic Labs



Bottling and Beavery Units



Fuel Stations



Parking Areas



Loading Bays



Bus Stations



High-Rise Condominium



Garages

Gas Options

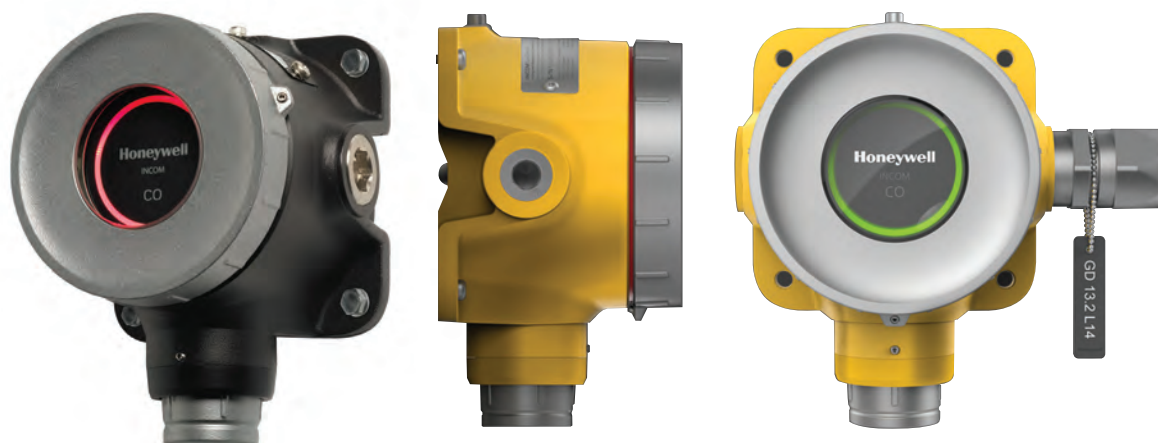
Oxygen O₂
Hydrogen Sulfide H₂S
Combustible
Ammonia NH₃

Carbon Monoxide CO
Nitrogen Dioxide NO₂
Hydrogen H₂

Honeywell Analytics New Product Launch

Sensepoint XRL Fixed Gas Detector

NEW



Sensepoint XRL is a fixed point gas leak detector that is designed to meet the needs of commercial and light industrial applications. With over 50 years experience in gas leak detector, Honeywell offers a flexible range of highly-reliable sensing devices to meet those needs.

Flexible Output Options

Sensepoint XRL is available with either mA loop analog output or Modbus RTU. The result is a flexible solution that can easily be incorporated into legacy systems as well as new installations.

Specification

Protection Rating :	IP66, NEMA 4X
Available Sensor :	Flamable, Toxic gases and Oxygen ranges
Power Supply :	24 VDC
Analog Output :	0-22 mA
Digital Output :	Modbus RTU
Visual Indicator :	Multi-colour LED light ring
Wireless Interface :	Bluetooth 4.0 Dedicated mobile app, enabling wireless Connect up to 10 m away Running android 4.3 or above
Operating Temperature :	-40 to 65 °C
Humidity :	0 to 100% (non-condensing)
Approvals :	UL1203 & EN60079-1
Material :	Aluminium alloy or 316 stainless steel



The Family of Portable Gas Detectors you can count on.

Multi Gas Clip Pump



Quick Specs:

- **Size:** 5.7 x 3.0 x 1.5 in. (147 x 78 x 38.3 mm.)
- **Weight:** 12.4 oz. (352g)
- **Temp:** -4° to +122°F (-20° to +50°C)
- **Battery Life:** IR-5 days continuous, Pellistor 30 hours continuous
- **Charge Time:** 4 - 6 hours
- **Log:** 25 Bump tests, 25 Events, 25 Calibration
- **Gas Inlet:** 1/8" Barbed Fitting
- **Approval:** CSA, IECEx, ATEX, CE, EN, UL, InMetro, NCC. IP 67
- **Sensor Type:** H₂S, CO, O₂, Single plug-in electrochemical cell
Combustible Plug-in infrared (IR) or pellistor
- **Warranty:** Full 2 years
- **Gases:**

H ₂ S	0-100 PPM(0.1PPM increments)
CO	0-500 PPM (1 PPM increments)
Combustible(LEL)	0-100% LEL (0.1% increments)
O ₂	0-30% vol.(0.1% increments)

Multi Gas Clip



Quick Specs:

- **Size:** 4.7 x 2.4 x 1.2 in. (118.6 x 61.6 x 31.7 mm.)
- **Weight:** 7.7 oz. (240g)
- **Temp:** -4° to +122°F (-20° to +50°C)
- **Battery Life:** IR-60 days continuous, Pellistor-25 hours (typical)
- **Charge Time:** 4 - 6 hours
- **Log:** 25 Bump tests, 25 Events, 25 Calibration
- **Test:** Full function self-test upon activation sensor
- **Approval:** CSA, IECEx, ATEX, CE, EN, UL, InMetro, NCC. IP: 67
- **Sensor Type:** H₂S, CO, O₂, Single plug-in electrochemical cell
- **Combustible:** Plug-in infrared (IR) or pellistor
- **Warranty:** Full 2 years
- **Gases:**

H ₂ S	0-100 PPM(0.1PPM increments)
CO	0-500 PPM (1 PPM increments)
Combustible(LEL)	0-100% LEL (0.1% increments)
O ₂	0-30% vol.(0.1% increments)

Single Gas Clip Plus (SGC Plus)



Quick Specs:

- **Size:** 85.6 mm H x 50 mm W x 29.2 mm D
- **Weight:** 76g (2.7 oz)
- **Temp:** H₂S: -40°C to +50°C/-40°F to +122°F
CO: -40°C to +50°C/-40°F to +122°F
- **Alarms:** Visual, vibrating, audible (minimum 95dB)
- **Tests:** Full function self-test on activation and every 20 hours
- **Humidity:** 5% to 95% non-condensing.
- **Sensor Type:** H₂S, CO, O₂
- **IP:** EMC Directives 2004/108/EC IP 67.
- **Approval:** UL, CSA, ATEX, IECEX
- **Warranty:** Full 2 years

Single Gas Clip



Quick Specs:

- **Size:** 3.37 in H x 1.97 in W x 1.15 in D
- **Weight:** 76g (2.7 oz)
- **Temp:** H₂S: -40°C to +50°C/-40°F to +122°F
CO: -40°C to +50°C/-40°F to +122°F
O₂: -35°C to +50°C/-31°F to +122°F
- **Alarms:** Visual, vibrating, audible (minimum 95dB)
- **Tests:** Full function self-test on activation and every 20 hours
- **Humidity:** 5% to 95% non-condensing.
- **Sensor Type:** H₂S, CO, O₂
- **IP:** EMC Directives 2004/108/EC IP 67.
- **Approval:** UL, CSA, ATEX, IECEX
- **Warranty:** Full 2 years

GCT Manager Software via the IR Link:



Features:

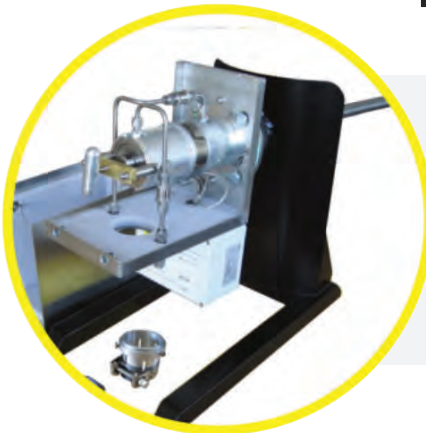
- Docking Station Location
- Number of Event Logs
- Auto Power-Off Time
- Gas Cylinder Expiration Date
- Gas Cylinder Lot #
- Gas Cylinder Concentration
- Feature Administration Controls
- Station Test Logs
- Individual Instrument Logs
- Inventory Report
- All IR Link Software features




***System Requirements:** Available for Windows® based PCs (XP, Vista, Windows 7) ; Users must also install Microsoft Net 4.0 software.



Innovation in Gas Analysis



Gas sample Probes Series JES-301

- Large filter element for long lifetime
- Easy and comfortable maintenance without tools and dismantling the sample line
- Heated sample tube available
- Versions for Ex-Zone available 
- Integrated heated process shut off valve available

Gas Conditioning System Series JCT-300


- Modular upgradable from sample gas cooler to turnkey sample gas conditioner
- 1 up 4 gas paths
- Remote monitoring with integrated electronic status outputs
- Low gas dissolution rates
- Short T-90 response times through minimized dead volume



Heated Sample Lines Series JH

- Flexible heated hoses for portable applications
- Small bend radius
- Various tube materials & sizes
- Different external jackets
- Versions for Ex-Zone available 

Sample Gas Coolers Series JCT

- High flow heat exchanger design
- High performance compressor
- ATEX version available 



Sample Gas Coolers Series JCM

- High efficient electronic with pulse width modulation for precise outlet dewpoint
- High performance peltier element
- Compact & lightweight



JCT Analysentechnik GmbH

Innovation in Gas Analysis

Portable Gas Sample Probe JPES

- Portable, lightweight and comfortable usage
- Easy, too free start up and maintenance with quick connectors
- Ready to use sampling unit
- Flexible, lightweight and robust heated hose
- Comprehensive list of options for different applications



Gas Conditioning System JCT and JCC


- Turnkey portable gas conditioning unit
- Compressor or peltier based cooling
- With gas pump, filter, flowmeter & condensate detector
- Easy and comfortable operation

Nox-Converter Series JNOX

- Long life cartridge with service life up to 4 years
- Efficiency of the converter > 96% (during lifetime)
- High flow design
- Sophisticated approved technology



Accessories

- Condensate pre-separator
- Sample gas pumps also Ex-approved 
- Condensate drainers
- Peristaltic pumps
- Heated and unheated analysis filters
- Aerosol filter
- Fittings made of PVDF, PFA and SS316
- Condensate detectors
- Liquid stop

Continuous Emission Measurement Systems - CEMS

The continuous emission measurement system from JCT ensures easy measurement of combustion gases in power plants, Incinerators, cement and steel plants and in industrial combustion processes. All analyzers are installed in a turnkey cabinet and are suitable for the measurement of CO, SO₂, NO_x, org. C and O₂

- Turnkey Solution
- Easy to Use
- Low maintenance



Real Time TOC Analysis in Steam and Condensate

Executive Summary

Steam in petro/chemical plants

Hydrocarbons (TOC = Total Organic Carbons) from various sources. In any case this is a sign for defects in the process, whether it they occur in the heat exchanger, the blow down vessel, the condensate recovery or other parts of the system.

Conventional solutions to monitor such contaminations use TOC analyzers that have been developed for water (drinking water, waste water, boiler feed water)

This paper presents a solution that is based on an online FID (flameionization detector) to monitor TOC contamination directly in the hot steam/hot condensate in real time to allow quick and reliable treatment (i.e. removal) of the polluted condensate.

JFID Total Hydrocarbon and Non-Methane Hydrocarbon Analyzer



JFID-ES



JFID-FE

APPLICATIONS

- Continuous monitoring of
 - Total hydrocarbon THC or
 - Non-methane hydrocarbon NMHC or
 - Methane CH₄
- Emission monitoring
- Process monitoring
- LEL monitoring

FEATURES

- Proven heated FID (Flame Ionization Detector)
- Simultaneous monitoring of NMHC and THC or CH₄
- Simultaneous display of NMHC and THC or CH₄
- Display in ppm or mg/m³
- Oxidation catalyst switchable
- Automatic start-up

BENEFITS

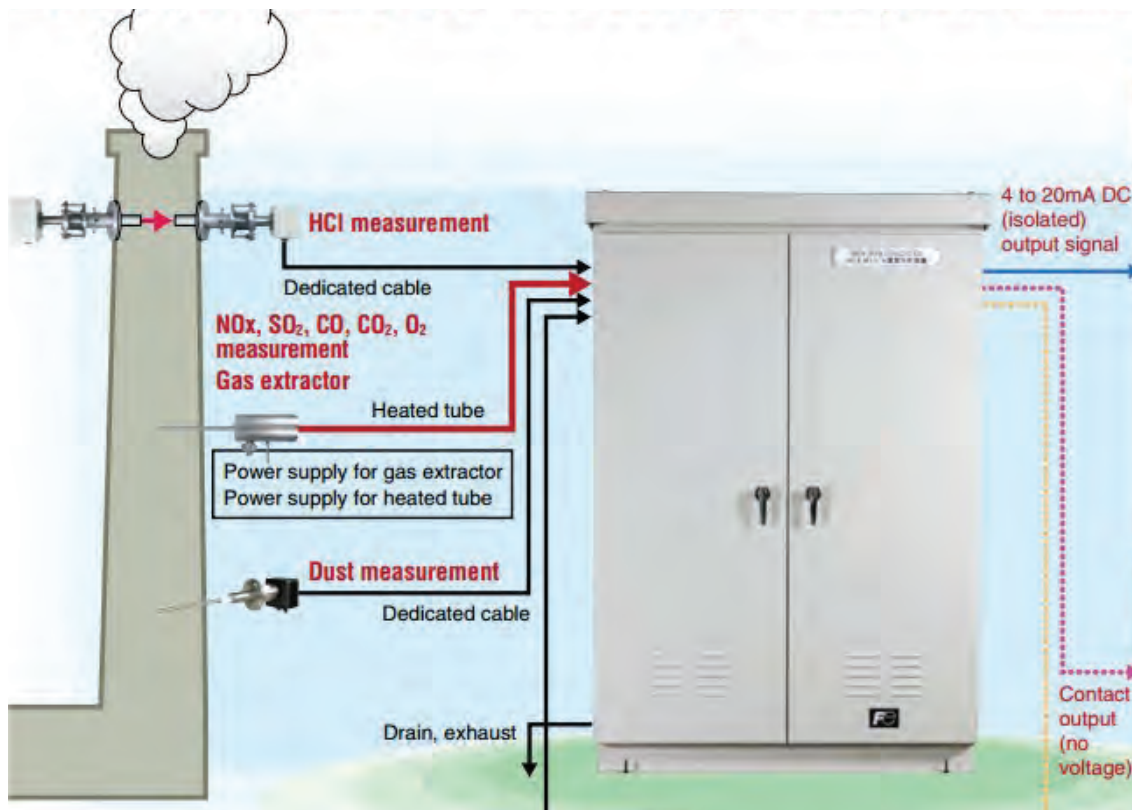
- Fast response time
- Low maintenance
- Relays for alarms, events and diagnostics
- Independent of pressure fluctuation
- Accurate and reliable
- Adjustable ranges
- Automatic calibration and span check
- Automatic flame ignition
- Electronic flow control
- Built-in combustion air
- Built-in zero air
- Complete diagnostics of all utilities

Fuji Electric's CEMS & Process Monitoring Gas Analyzers

Fuji Electric's CEMS & Process Monitoring Gas Analyzers provide infrared and cross-stack laser process analysis for compliant CEMS and process applications. Multi-component infrared analyzers are available for up to 5 gases, including CO, CO₂, NO_x, and SO_x, methane, and oxygen. Models of higher and lower range ratios are available to meet customer project requirements. In addition, Fuji Electric sells specialized models for automobile and heat treatment emissions applications.



The Gas Analyzer of stack-gas analysis systems



Extractive Sampling Systems for Gas Analyzer



- Monitors up to 7 gas concentrations: Simultaneous and continuous measurement of NO_x, SO₂, CO, CO₂, O₂, HCl, and dust.
- Space-saving design :All the necessary equipment are housed in a cabinet of 1215 (W) x 700 (D) x 1780 (H) mm size.
- Maintenance-free HCl measurement enabled by laser technology his laser gas analyzer can be installed at a later time.
- Energy saving Approx. 40% less power-consumption compared to conventional systems, thanks to the use of laser gas analyzer and by integrating multiple equipment into the cabinet.

INFRARED GAS ANALYZER best suited for measuring exhaust gas in stack

Type: ZKJ Dual Beam NDIR



Type: ZPA Single Beam NDIR



Measure 5 components including O₂ Simultaneously and continuously measures up to four components out of NO_x, SO₂, CO, CO₂, CH₄ and N₂O, plus O₂, or up to totally five components

- NDIR have 2 systems are Double beam (For low range) and Single beam (For high range) can measure NO_x, SO₂, CO, CO₂, CH₄ and N₂O
- Drift +/-1% FS/week (more than 0 to 200 ppm range)
- Ultra low range minimum to 10 ppm.
- For O₂ analyzer including analyzer has 3 types
 1. Zirconia cell
 2. Paramagnetic
 3. Fuel cell (Electrochemical)

Portable gas analyzer with great mobility



- Compact size with excellent functionality and operability
- For exhaust gas measurement and R&D
- A maximum 5 components out of NO_x, SO₂, CO, CO₂, CH₄, and O₂ can be measured simultaneously.

CO₂ CONTROLLER

Type: ZFP

best suited for building ventilation and green house

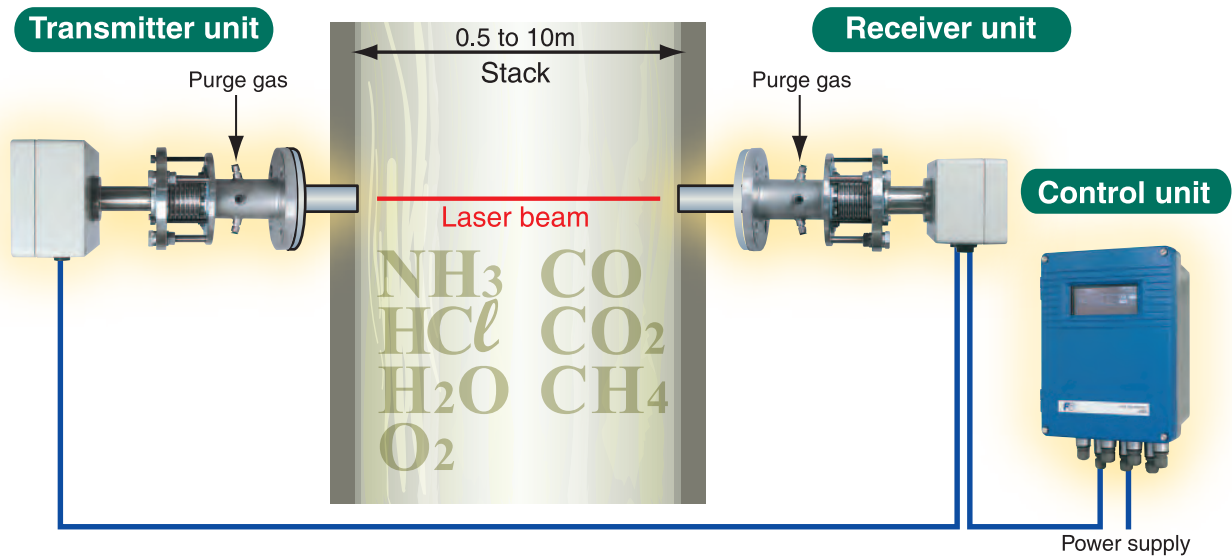


Type: ZFG

CO, CO₂, CH₄ ANALYZER



In-situ measurement: Direct insertion type ZSS



- Measure NH_3 , HCl , H_2O , O_2 , CO , CO_2 , and CH_2 gas concentrations in a stack at high speed .
- Ultra-high speed response: 1 to 5 seconds
- Direct insertion system eliminates the need for maintenance.
- Air purge method is adopted for O_2 meter which is no need of nitrogen gas.
- Measurement in a high-temperature/high particulate concentration environment

Oxygen Analyzer Series best suited for combustion control and energy saving



- For Oxygen measurement in noncombustible gas
- Gas sampling device is unnecessary For quick response, insert the detector directly into the flue Gas sampling functions such as a gas aspirator and a dehumidifier are not required.
- Easy maintenance The sensor equipped with the detector, has unit construction, it is easy to replace.
- Enhanced safety design with integrated and remote power isolation functions
- High-speed response of 4 to 7 seconds
- Explosion-proof case structure available in addition to IP66 and IP67
- You can operate ZKM1 and ZKME without opening the cover
- Direct insertion system eliminates the need for gas sampling devices

Beijing Kaloon Analytical Instruments

Analyzers house and shelters are built to provide a controlled environment for the equipment used in hazardous areas. Depending on the climatic conditions, we can also offer shelters to protect analyzer equipment in cabinets. We supply all units fully equipped with gas chromatographs, samplers, purges, data loggers and complete subsystems to serve multiple lines and sampling points

Features and Benefits



Cement Rotary Kiln Inlet Sampling Systems



Kaloon Rotary Cement Kiln sampling system is designed for sampling of hot cement flue gas with high dust load for gas analysis. The sampling System is designed for usage in harsh Condition where dust and heat level is extremely high. Equipped

with a water cooled system and pneumatically driven probe retractor with Automatic oven flap cover. This system has automatic setting for cyclic cleaning of probe and filter .



Fire protection monitors and nozzles

Our monitors come in a range of sizes, materials and levels of performance, designed to suit any situation or requirement.

Our monitors and nozzles are designed with corrosion resistance one of the primary design goals. In addition, we provide a variety of nozzles that can be used in conjunction with our monitors. Because of this, we can offer superior performance and enhanced reliability. DNV, IECEx approval.

Range of monitors is as follows:

- **Ensign series:** lightweight portable stainless-steel ground monitors
- **Ranger series:** high-capacity monitors designed for marine environments and hazardous areas, available in hand operated, electric or hydraulic remote control varieties
- **Sentinel series:** lightweight small-capacity manual monitors made from stainless steel with water oscillating nozzles manufactured for special applications
- **Warden series:** cast bronze medium-capacity deck monitors, designed for marine environments; these are available in hand operated, electric or hydraulic remote control or water oscillating varieties
- **Commando series:** stainless-steel monitors similar to the Warden monitors and available in 316 and 6Mo grades

Warden 3533 Water Oscillating Monitor



Specifications

- **Max Recommended Flow:** up to 4,500 lpm
- **Horizontal Rotation:** 360° Adjustable
- **Vertical Movement:** swivel lock knob
- **Inlet Connection:** 3", 4" ANSI #150
- **Outlet Connection:** 65mm BSP Male
- **Weight (approx.):** 38 kg, Ex Nozzle

Warden 4273 Hydraulic Remote Controlled



Specifications

- **Max Recommended Flow:** 7,500 lpm
- **Horizontal Rotation:** 360° Continuous
- **Vertical Movement:** -85° + 90°
- **Inlet Connection:** Flanged
- **Outlet Connection:** 80mm BSP Male
- **Weight (approx.):** 60 kg

Commando 4151 EX Electric Remote Controlled



Specifications

- **Max Recommended Flow:** 7,500 lpm
- **Horizontal Rotation:** -250° to +250° (360°)
- **Vertical Movement:** -75° to +90°
- **Inlet Connection:** Flanged 4" ANSI #150
- **Outlet Connection:** 80mm or 100mm BSP Male
- **Certifications:** IECEx for Class 1, Zone 1 IP66. DNV

Commando 4051 Manual Geared



Specifications

- **Max Recommended Flow:** 7,500 lpm
- **Horizontal Rotation:** 360°
- **Vertical Movement:** -75° + 90°
- **Inlet Connection:** Flanged
- **Outlet Connection:** 80mm BSP Male
- **Weight (approx.):** 27 kg

The Defender Fire Vehicle Monitor IP66 Monitor with Monitor control panel



Specifications

- **Max Recommended Flow:** 1,500 lpm
- **Horizontal Rotation:** 350°
- **Vertical Movement:** -45° + 90°
- **Inlet Connection:** 50mm BSP Female
- **Outlet Connection:** 50mm BSP Male

Foam Proportioning

ILBP Type Foam Pump Units



Description

There are a number of implementations of balanced proportioning systems. These systems use a venturi device that is a variant of the line proportioner. If the foam concentrate is supplied to the proportioner at the same pressure as the water then the proportioning rate is constant over a wide range of flows. Turn down ratios of 7 to 10 (ratio of maximum to minimum flow) are possible with these systems.

Pumped systems use a foam concentrate pump to supply the foam concentrate and a double acting control valve to regulate the foam concentrate supply pressure to the water supply pressure. Pumped systems are commonly used for large installations where one proportioning pump unit can be used for many different foam systems. Pressure balancing can be done at the pump (surplus systems) or at the proportioner (ILBP systems).

The difference in the implementation of the ILBP proportioning method comes in the way the foam concentrate is supplied and how the pressure balance is maintained. With ILBP proportioners foam concentrate is supplied to the proportioner by the foam pump at a pressure greater than the maximum water supply pressure by 1 Bar or more and the pressure balance is maintained by the balance valve built into the proportioner.

This style of proportioning is particularly useful for centralised pumping systems where many different risks are protected. ILBP proportioning can offer more flexibility between minimum and maximum flow than surplus type systems. The proportioners can be located considerable distance from the foam pump provided a proper hydraulic analysis is carried out to ensure sufficient foam concentrate pressure at the proportioner.

Foam Proportioning Horizontal Bladder Tanks



Description

Orion horizontal bladder tanks are supplied with capacities ranging from 400 litres to more than 12,000 litres. We will also manufacture tanks to other sizes on request.

Orion Bladder Tanks are manufactured to AS1210 but other suitable standards will be accommodated if required. Each tank is finished with a two pack epoxy paint system externally before delivery. The standard colour is AS 2700 R13, Signal Red. The maximum working pressure for the standard tanks is 1,200 kPa and the test pressure is 1,770 kPa.

Tanks are fitted with two ball valves on the foam connections and a sight glass is standard.

Engineered Packages Deluge Skids



Description

A typical deluge valve skid description could be as follows. The deluge skid has an incoming water connection flanged Class 150. The water flow is controlled by a deluge valve that opens loss of air pressure from the detection line, manually at the skid or by operation of the solenoid valve by a signal from the Fire & Gas System. An air receiver is fitted to provide a short term back-up air supply for the skid.

Water flows into the foam proportioner that includes a foam pump to draw foam from the foam storage tank. A pressure switch is fitted to the outlet pipe to provide a signal to the Fire & Gas System that the deluge system is running.

The foam deluge system is mounted on an open frame skid fabricated from steel RHS.

DPI 620 Genii/Foundation Fieldbus - Modular Calibrator and HART®



Features and Benefits

- The unique modular pressure system provides two channel measurement and pneumatic and hydraulic generation from 25mar/10inH20 up to 1000bar/15,000 psi.
- Pressure modules and generating stations are
- Fully interchangeable with DPI 620 and DPI 620 Genii systems.
- Working to industry leading accuracy from 0.0025%rdg +0.002%FS. Genii is also re-rangeable at a fraction of the cost of new instrument.

DPI620-IS Multifunction Calibrator and HART®



Features and Benefits

The DPI 620IS is an Intrinsically Safe ultra-compact electrical, temperature and frequency calibrator and HART® communicator, which provides simultaneous measurement and source capabilities with a fully featured HART® digital interface. It integrates with pressuremodules and pressure generation stations to form uniquely capable pressure test and calibration systems allowing configuration and multi-function calibration in hazardous areas.

UNIK 5000 Silicon Pressure Sensor



Features and Benefits

- Three grades of performance: Industrial (+/-0.2% FS BSL), Improved (+/- 0.1% FS BSL) and Premium (+/- 0.04% FS BSL)
- UNIK 5000 configured sensors can be built for most environments with operating temperature ranges from -55 °C to +125 °C
- operating over temperature ranges from -55°C to +125°C (-67°F to 257°F), IP (Nema 4) ratings, IECEx/ATEX and FM FMc and DNV
- UNIK 5000 has multiple options: voltage, millivolts, and milliamps

UPS III - Loop Calibrator for mA & V



Features and Benefits

- Measuring 3" x 5" and weighing just 9.7 ounces,
- Measure or Source 0 to 24 mA
- Accuracy 0.01% of reading
- Dual mA and % readout, linear or flow
- Step, Span Check, Valve Check, Ramp
- 6 VDC measurement and continuity
- HART® compatible

UPS III IS - Intrinsically Safe Loop Calibrator for mA & V



Features and Benefits

- Adjustable resolution & display contrast, Uses industry standard AA batteries
- Battery voltage and battery low indicator
- Information screen reports serial number, software version and calibration date, Primary reading in mA or %
- Auto power off (enable or disable)
- Pin protected, closed case calibration
- Leather case with carry strap.
- The UPS III IS must be used in the case for hazardous area use.

PV212 Druck Hydraulic Hand Pump



Features and Benefits

- Hydraulic pressure up to 1000 bar (15,000 psi)
- Compatible with many different liquids
- Large transparent 100cc capacity reservoir
- Quick priming and pressure generation using scissor action pump
- High pressure / priming selector
- It is an ideal tool for calibrating pressure transmitters, pressure transducers, pressure switches and pressure gauges.

PV411A Druck Four-in-One Hand Pump



Features and Benefits

- Multi-function "4 in 1" hand pump
- Pneumatic pressures 0 to 600 psi
- Hydraulic pressures 0 to 10,000 psi
- Generates vacuum 0 to -28.5 inHg
- Vacuum priming for hydraulic systems
- Excellent low pressure control
- Adjustable over pressure protection

DPI 104IS - Digital Pressure Gauge - Intrinsically Safe



Features and Benefits

- 0.05% full scale accuracy, Pressure ranges 10 to 20,000 psi (1400 bar)
- ATEX, IECEx and CSA intrinsically safe approvals
- 11 selectable pressure units, Pressure switch test
- Large easy to read display with five-digit resolution
- % pressure indication and additional bar graph for quick visual reference
- Minimum/maximum, tare and alarm functions, Pump Kits available
- Stainless & Inconel wetted parts for aggressive media

DPI 104 - Digital Pressure Gauge



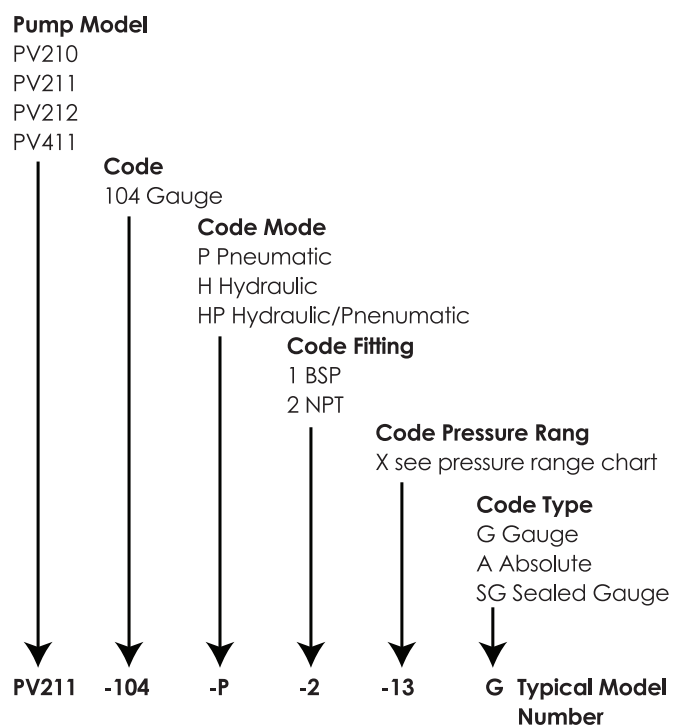
Features and Benefits

- 11 selectable pressure units, 0.05% full scale accuracy
- Pressure ranges 70mbar to 1400bar (10 to 20,000 psi)
- Large, easy to read display with five digit resolution
- % pressure indication with bar graph for visual reference
- Temperature compensated accuracy from -10°C to 50°C (14°F to 122°F)
- Pressure switch test, Min/Max, tare and alarm functions
- Adjustable mounting positions
- UPM/UPMP (IDOS) compatible with RS 232 interface and networking capability, 0-5V analogue output
- Stainless & Inconel wetted parts for aggressive media Druck PV Hand Pump Kits available

Pressure Range Chart

code	Pressure Range	Pump
04	10 psi (700 mbar)	PV210
07	30 psi (2 bar)	PV210
10	100 psi (7 bar)	PV211, PV411A
13	300 psi (20 bar)	PV211, PV411A
16	1,000 psi (70 bar)	PV212, PV411A
18	3,000 psi (200 bar)	PV212, PV411A
20	5,000 psi (350 bar)	PV211, PV411A
22	10,000 psi (700 bar)	PV212, PV411A
23	15,000 psi (1000 bar)	PV212,

Test Kit Ordering Information



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technologies

 **GE Druck**

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