COSTWELL TEK

Install Gas Detector, Safe Your Life Forever.

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| Air is Colorless and Odorless but Dangerous |

COSTWELLTEK is dedicated to ensuring 24/7 monitoring of air quality and safety in workplaces, outdoors, and during commutes. We understand that air quality is critical to life safety, and we are dedicated to providing the most accurate and real-time information available.

Gas Detector / Alarm Series / SmartMesh / Remote I/O / Sampling System / Cable Grands

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KDS-500

Explosion-proof fixed gas detection

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The COSTWELL TEK KDS-500 explosion-proof fixed gas detectors are ideal for usein hazardous areas. They provide reliable and continuous monitoring, accurately detecting gas leaks to ensure the safety of on-site process and maintenance personnel.

- **Measuring Gas**
  COMB. & O2 gas   LPG / LNG / CH4 / CO / O2 etc...
  Toxic   gas   CO / H2S / NH3 / HCL / CL2 / AN / BD / VCM etc...

- **Detection Principle**
  Photo-Ionization Detector(PID) / Catalytic / Hot wire Semiconductor / Electrochemical cell / Infrared / Thermal conductivity etc...

- **Output Signal**
  4~20mA/HART/RS-485

- **Display Type**
  TFT LCM

- **Alarm Signal Output**
  2-set alarm with 1A 12~30V DC, N.O. dry / wet contact

- **Calibration Method**
  Providing precision magnetic stick to reduce the difficulty of construction for calibration personnel

- **IP and Explosion-proof Grade**
  IP68, ITRI TS Ex db IIC T6 Gb

Various locations   Personal safety   User-friendliness   Easy install   Expandability

Can be installed in various locations to provide on-site workers with timely warnings and maintain on-site work safety

KDS-1000

Explosion-proof professional fixed gas detection

The COSTWELL TEK KDS-1000 is an explosion-proof fixed gas detector designed for hazardous areas that helps prevent accidents caused by gas leaks. It offers accurate and continuous detection, making it highly reliable. The device is highly expandable and can work with various sensors and communication protocols, making it well-suited for use in the Internet of Things (IoT).

- **Measuring Gas**
  COMB. & O2 gas   LPG / LNG / CH4 / CO / O2 etc...
  Toxic   gas   CO / H2S / NH3 / HCL / CL2 / AN / BD / VCM etc...

- **Detection Principle**
  Photo-Ionization Detector(PID) / Catalytic / Hot wire Semiconductor / Electrochemical cell / Infrared / Thermal conductivity etc...

- **Output Signal**
  4~20mA/RS-485/Ethernet/HART/SmartMesh/WiFi/Bluetooth/LoRa

- **Display Type**
  Five-Digit Seven-Segment Display / LCD / OLED

- **Alarm Signal Output**
  3-set alarm with 1A 12~30V DC, N.O. dry / wet contact

- **Calibration Method**
  Providing precision magnetic stick to reduce the difficulty of construction for calibration personnel

- **IP and Explosion-proof Grade**
  IP68, ITRI TS Ex db IIC T6 Gb

Various locations   Personal safety   Support wireless   User-friendliness   Easy install   Expandability

| Can be installed in various locations to provide on-site workers with timely warnings and maintain on-site work safety |

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KDS-1000-AL

Explosion-proof fixed alarm indicator series

The COSTWELL TEK KDS-1000-AL series of explosion-proof alarm indicators provides high brightness and volume. This alerts personnel working outside or performing maintenance in real time, helping to prevent accidents. The dual protections of a protective net and tempered glass cup are designed to withstand harsh industrial environments, increasing the product's durability.

- **Volume and Lighting.**
  Over 100dB/1m sound level with 10 selectable tones.
  Two-color lights can be set to display as a one-stage or two-stage alarm.

- **Input Operational Voltage**
  Wide range of operating DC voltage 12-30V and AC voltage 100-240V
  Reverse connection protection, high and low voltage protection

- **Control Signals**
  Two dry contacts easy to match field construction.
  1xRS-485 communication
  1xWireless communication

- **IP and Explosion-proof Grade**
  IP68, ITRI TS Ex db IIC T6 Gb

Various locations	Personal safety	Support wireless	User-friendliness	Easy install	Expandability

Can be installed in various locations to provide on-site workers with timely warnings and maintain on-site work safety

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PDS-1000

Explosion-proof sampling pump

The COSTWELL TEK PDS-1000 is an explosion-proof sampling pump that can continuously and stably collect samples. It is suitable for installation in a variety of industrial environments to guarantee the quality of the sample flow and the safety ofthe back-end equipment.

- **Display Type**
  OLED display screen for clear reading of flow rate

- **Operating Voltage**
  Wide range of operating voltage: DC 12-30V

- **Customizable Flow Rate Setting**
  Wide flow rate selection range: 0.3 - 7.0 L/min

- **Alarm Output Contact**
  1A 12~30V DC, N.O. dry / wet contact

- **Main Features**
  Combined with KDS-1000 to form a suction explosion-proof gas detector

- **IP and Explosion-proof Grade**
  IP68, ITRI TS Ex db IIC T6 Gb

| Various locations | Personal safety | Support wireless | User-friendliness | Easy install | Expandability |

Can be installed in various locations to provide on-site workers with timely warnings and maintain on-site work safety

MDS-9100

Intrinsic Safe
Portable gas detector

The COSTWELL TEK MDS-9100 series features an
intrinsically safe design, makingit a reliable option for
single gas detection on the go. Despite its light and compact size,
the MDS-9100 provides effective safety protection for workers in any location.

- **Measuring Gas**
  COMB. & O2 gas   LPG / LNG / CH4 / CO / O2 etc...
  Toxic   gas   CO / H2S / NH3 / HCL / CL2 / AN / BD / VCM etc...

- **Detection Principle**
  Photo-Ionization Detector(PID) / Catalytic / Electrochemical cell / Infrared

- **Communication Function**
  Infrared and Bluetooth wireless transmission functions with signal transmission protocols

- **Main Display Type**
  LCD or OLED

- **Main Features**
  Gas leakage alert / Man down alert / Heat index indication / STEL & TWA alarm /
  Low battery indication / Error indication

- **Alarm Indicator**
  100dB @ 30cm, LED flashing (red light), body vibration, graphic/text indication for errors

- **Battery / Power Consumption**
  AAA alkaline batteries x 2 (>2600hrs in chemical mode, 12hrs in catalytic combustion mode)/
  Rechargeable NiMH batteries x 2 (20hrs in chemical mode, 8hrs in catalytic combustion mode)

- **IP and Explosion-proof Grade**
  IP68 (Progressing)
  ITRI /IECE / ATEX (Progressing)

Various locations   Personal safety   User-friendliness   Easy install   Expandability

Can be installed in various locations to provide on-site workers with timely warnings and maintain on-site work safety

CDS-1000& CDSP-1000

Gas Detector with sampling pump

The COSTWELL TEK CDS-1000 and CDSP-1000 are gas detectors for fixed diffusion and suction, respectively. They are specifically designed to operate in non-hazardous areas and provide continuous, accurate detection to prevent accidents caused by gas leaks. By ensuring the safety of on-site personnel and maintenance processes, they offer reliable protection against potential dangers.

- **Measuring Gas**
  COMB. & O2 gas   LPG / LNG / CH4 / CO / O2 etc...
  Toxic   gas   CO / H2S / NH3/ HCL / CL2 / AN / BD / VCM etc...
- **Detection Principle**
  Photo-Ionization Detector(PID) / Catalytic / Electrochemical cell / Infrared

- **Flow Rate Setting**
  Adjust the pump flow rate dynamically to keep the flow stable.

- **Output Signal**
  4~20mA/RS-485/Ethernet/HART/SmartMesh/WiFi/Bluetooth/LoRa
- **Display Type**
  LCD or OLED

- **Alarm Function**
  3-set alarm with 1A 12~30V DC, N.O. dry / wet contact

- **Calibration Method**
  Providing precision magnetic sticks to reduce the difficulty of construction for calibration personnel

- **Ingress Protection Grade**
  IP65

Various locations   Personal safety   Support wireless   User-friendliness   Easy install   Expandability

Can be installed in various locations to provide on-site workers with timely warnings and maintain on-site work safety

DTR-01/02/03/04 Remote data receiver

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The COSTWELL TEK DTR series is a remote I/O module that has been designed for remote data collection. These modules are small in size, provide full isolation with independent power supply, dynamic range switching, and easy installation. Additionally, they can be directly controlled by the COSTWELL KDS series, which can help to save on installation and additional costs. Furthermore, they are capable of transmitting information wirelessly with the DTR-05.

- **DTR-01 Analog Input**
  Input channels : Up to 16 single-ended inputs at the same time.
  Every two single-ended inputs can be configured as differential inputs,
  allowing for up to 8 differential inputs.
  Voltage input : 0 - 50 mV, 0 - 100 mV,0 - 500 mV, 0 - 1 V, 0 - 2.5 V, 0 - 5 V, 0 - 10V
  Current input: 20 mA, 0 - 20mA, 4 - 20mA (no additional resistor required)
  RTD input: Up to four sets for 2 - 4 wire inputs
  Thermocouple input: Up to four sets for B, E, J, K, N, R, S type
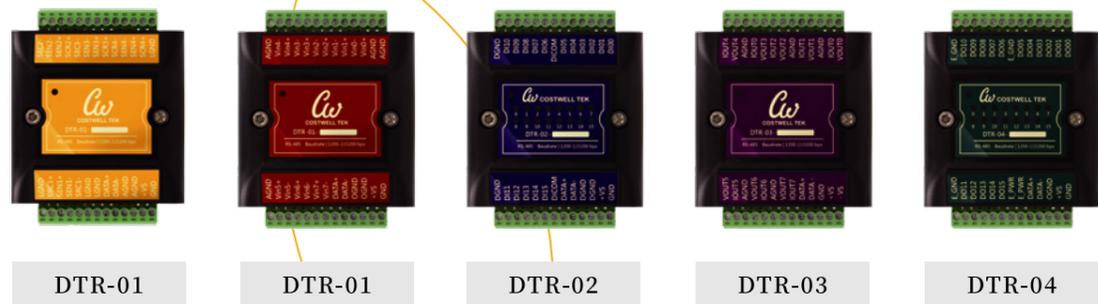
- **DTR-02 Digital Input**
  Input channels: Up to 16 channels of input.
  On input voltage level: 10 - 50V@DC.
  Off input voltage level: 0 - 4V@DC.

- **DTR-03 Analog Output**
  Output channels: Up to 8 channels of output
  Voltage output: ±5V, ±10V.
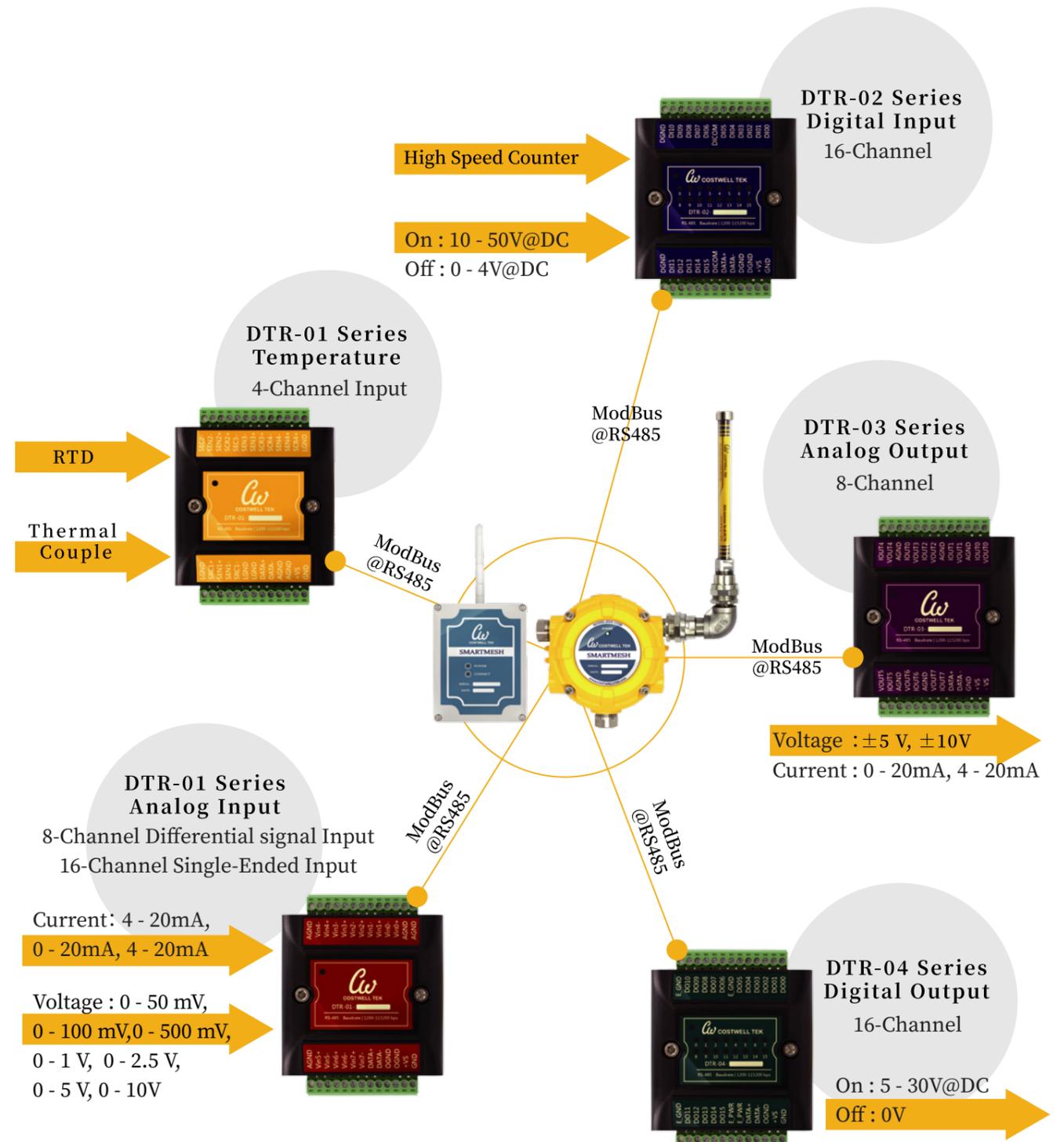 Current output: 0 - 20mA, 4 - 20mA.

- **DTR-04 Digital Output**
  Output channels: Up to 16 output channels of output
  On output voltage level: 5 - 30V@DC
  Off output voltage level: 0V

DTR-01	DTR-01	DTR-02	DTR-03	DTR-04

DTR-02 Series Digital Input 16-Channel

High Speed Counter

On : 10 - 50V@DC

DTR-01 Series Temperature 4-Channel Input

RTD

Thermal Couple

ModBus @RS485

DTR-03 Series Analog Output 8-Channel

ModBus @RS485

Voltage : ±5 V, ±10V
Current : 0 - 20mA, 4 - 20mA

ModBus @RS485

ModBus @RS485

DTR-01 Series Analog Input
8-Channel Differential signal Input
16-Channel Single-Ended Input

Current：4 - 20mA,
0 - 20mA, 4 - 20mA

Voltage : 0 - 50 mV,
0 - 100 mV,0 - 500 mV,
0 - 1 V, 0 - 2.5 V,
0 - 5 V, 0 - 10V

ModBus @RS485

DTR-04 Series Digital Output 16-Channel
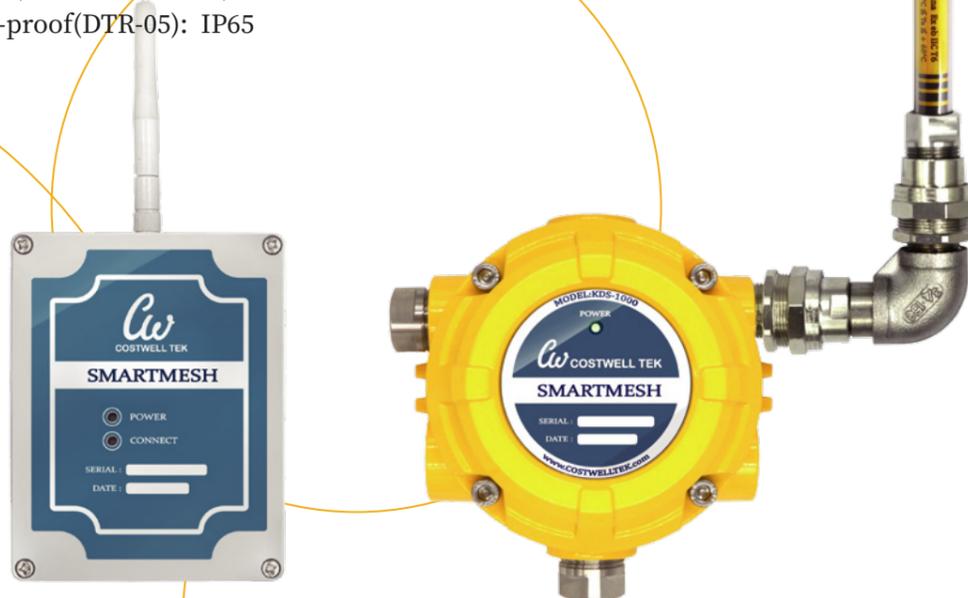
On : 5 - 30V@DC
Off : 0V

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DTR-05 & KDS-1000-NA1W SMARTMESH

Explosion proof antenna

COSTWELL TEK has been concentrating on IoT and big data analysis in recent years. We have designed wireless transmission modules for factories that are low-power, high-reliability, and come in both explosion-proof (KDS-1000-NA0W) and non-explosion-proof (DTR-05) types. These modules are capable of maintaining a transmission efficiency of 99.999% even in high-interference environments.

The COSTWELL TEK KDS-Antenna is an explosion-proof antenna that is specifically designed for extreme industrial environments with harsh conditions. The KDS-Antena is suitable for both single and triple explosion environments, making it a versatile option for wireless products used in hazardous areas. Our antenna provides complete protection, ensuring the safety of your wireless products.

- **Input Operational Voltage**
  Wide operating range of 12-30V DC and 100-240V AC, with input protection

- **4-20mA Signal Input**
  Support five groups of 12-bits 4-20mA input and Two-Wire System active power supply

- **Variable Digital Communication**
  Up to two RS-485 communication
  1x Ethernet communication
  1x USB UART communication
  1x I2C communication
  1x SPI communication
  Up to nine 3.3V GPIO input/output control signals

- **Antenna Connector and Impedance**
  RP-SMA (M)
  50Ω

- **IP and Explosion-proof Grade**
  IP67, ITRI TS Ex eb IIC T6 Gb

- **IP and Explosion-proof Grade**
  Explosion-proof(KDS-1000-NA1W): IP67 ITRI TS Ex db IIC T6 Gb
  Non-Explosion-proof(DTR-05): IP65

Explosion-Proof Antenna

Explosion-Proof Antenna - L Type

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Explosion-proof cable gland

COSTWELL TEK's CG series of explosion-proof cable glands are designed for use in harsh industrial environments. They offer a variety of thread types, making it easyto connect various instruments on-site. The glands provide improved explosion-proof protection in dusty and gas environments, making them a safer and more comprehensive protection solution.

- **IP and Explosion-proof Grade**
  IP67, ITRI TS Ex db IIC T6 Gb

- **Material Stainless Steel, Operating Temperature : -20℃~75℃**

Zone 1　Zone 2　Zone 21　Zone 22　IP67

Explosion-proof Cable Gland

Inlet　　Outlet　　Inlet　　Outlet

Model Number	Inlet size	Outlet size	Model Number	Inlet size	Outlet size
CG-N12NA12	NPT 1/2"	Male thread NPT 1/2"	CG-M20NA12	M20	Male thread NPT 1/2"
CG-N12NA34	NPT 1/2"	Male thread NPT 3/4"	CG-M20NA34	M20	Male thread NPT 3/4"
CG-N12MA20	NPT 1/2"	Male thread M20	CG-M20MA20	M20	Male thread M20
CG-N12MA25	NPT 1/2"	Male thread M25	CG-M20MA25	M20	Male thread M25
CG-N12NB12	NPT 1/2"	Female thread NPT 1/2"	CG-M20NB12	M20	Female thread NPT 1/2"
CG-N12NB34	NPT 1/2"	Female thread NPT 3/4"	CG-M20NB34	M20	Female thread NPT 3/4"
CG-N12MB20	NPT 1/2"	Female thread M20	CG-M20MB20	M20	Female thread M20
CG-N12MB25	NPT 1/2"	Female thread M25	CG-M20MB25	M20	Female thread M25
CG-N34NA12	NPT 3/4"	Male thread NPT 1/2"	CG-M25NA12	M25	Male thread NPT 1/2"
CG-N34NA34	NPT 3/4"	Male thread NPT 3/4"	CG-M25NA34	M25	Male thread NPT 3/4"
CG-N34MA20	NPT 3/4"	Male thread M20	CG-M25MA20	M25	Male thread M20
CG-N34MA25	NPT 3/4"	Male thread M25	CG-M25MA25	M25	Male thread M25
CG-N34NB12	NPT 3/4"	Female thread NPT 1/2"	CG-M25NB12	M25	Female thread NPT 1/2"
CG-N34NB34	NPT 3/4"	Female thread NPT 3/4"	CG-M25NB34	M25	Female thread NPT 3/4"
CG-N34MB20	NPT 3/4"	Female thread M20	CG-M25MB20	M25	Female thread M20
CG-N34MB25	NPT 3/4"	Female thread M25	CG-M25MB25	M25	Female thread M25
Cable Applicable Specifications					
Range of 8mm cable is 7-9mm		Range of 10mm cable is 9-11mm		Range of 12mm cable is 11-13mm	

Customized sampling system

At COSTWELL TEK, we offer tailor-made front-end Sample Conditioning Systems that cater to a variety of industrial applications. Our systems are specifically designed to optimize isolation, filtration, pressure, temperature, flow, and moisture control, resulting in reliable, accurate, and long-lasting performance. This not only enhances measurement accuracy for analyzers, but also extends sensor life cycles and reduces maintenance costs.

- **Multiple Pre-processing Techniques**
  There are various pre-processing methods that can be selected depending on the site environment. These methods should be chosen based on their ability to withstand conditions such as high humidity, high temperature, high pressure, high dust, corrosion, oil-water separation, and viscous organic compounds

- **Multiple Sampling Methods**
  Continuous, batch, composite, headspace analysis, and programmable blowing control

- **Multiple Fluid Analyses**
  Suitable for gas, liquid, and oil products

Dust　　Temperature　　Humidity　　**Sample in**

Clean!

Sample out

√ High temperature detection
√ High humidity detection
√ High dust detection
√ Extending the lifespan of sensors
√ Easy and quick installation