Fuji Electric

INFRARED GAS ANALYZER

DATA SHEET ZPA

This gas analyzer (ZPA) is capable of measuring the concentration of NO,SO_2,CO_2,CO,CH_4 and O_2 components in sample gas. NO, SO_2, CO_2, CO and CH_4 are measured by non-dispersion infrared method (NDIR), while O_2 is measured by fuel cell or paramagnetic and zirconia method. Optimum use as an analyzer unit for measurement of combustion exhaust gas from refuse incinerators and boilers, or gas from various industrial furnaces.

FEATURES

1. High sensitivity
   Equipped with the newest upgraded mass flow sensor.
2. Easy maintenance
   Maintenance is easy due to the simple measurement unit of single-beam system adapted.
3. Small and light
   The size is small 133x483x382mm (HxWxD). (This is for 19inch rack mounting type) and light (11kg). The unit is capable of measuring up to 5 gas components in one analyzer.
4. Extensive functions
   Various optional functions are available such as auto calibration control, atmospheric pressure correction, high and low concentration alarms, remote range switch, and range identification signal,etc.
5. User-friendly operation
   Clear and easy-to-read display of all five gas concentrations at once.
   Simple status and maintenance messages.

SPECIFICATIONS

Standard Specifications

Principle of measurement:

NO, SO_2, CO_2, CO, CH_4 ;
Non-dispersion infrared-ray absorption method
Single light source and single beams (single beam system)

O_2 ;Fuel cell O_2 analyzer (build-in) or paramagnetic O_2 analyzer (build-in) or zirconia O_2 analyzer (externally installed TYPE: ZFK7)

Measurable gas components and measuring range:

	Minimum range	Maximum range
NO	0 - 200ppm	0 - 5000ppm
SO_2	0 - 200ppm	0 - 10vol%
CO_2	0 - 100ppm	0 - 100vol%
CO	0 - 200ppm	0 - 100vol%
CH_4	0 - 500ppm	0 - 100vol%
O_2 (Built in fuel cell)	0 - 10vol%	0 - 25vol%
O_2 (Built-in Paramagnetic)	0 - 5vol%	0 - 100vol%
	None	100 - 95vol%
O_2 (External Zirconia)	0 - 5vol%	0 - 25vol%

- Max. 5 components measurement including O_2.
  For reverse range O_2 measurement, infrared gas measurement is not available (single range O_2 only).
- Measuring range ratio max. 1:10 (except O_2)
- Measuring ranges are changeable between the specified minimum and maximum range
  Settable one range or two ranges
  * In measurement range low range is called first range, high range is called second range.
- For possible combinations of components and ranges, refer to Table1.

Measured value indication:

Digital indication in 4 digits
(LCD panel with LED back light)

- Instantaneous value of each component
- Instantaneous value after O_2 correction (only in NO, SO_2, CO measurement with O_2)
- Average value after O_2 correction (only in NO, SO_2, CO measurement with O_2)
- O_2 average value

Analog output signals:
4 to 20mA DC or 0 to 1V DC, isolated internally from circuit and ground. Output lines are non-isolated each other.; 12 outputs max.
Allowable load 550Ω for 4 to 20mA DC
Allowable load 100KΩ for 0 to 1V DC
* Refer to Table2 for the channel No. of displayed values and analog output signals.

Analog input signal:
For signal input from externally installed O_2 analyzer.
Signal requirement;
(1) Signal from Fuji's Zirconia O_2 analyzer (TYPE: ZFK7)
(2) 0 to 1V DC from an O_2 analyzer
Input section is not isolated. This feature is effective when an O_2 analyzer is not built in.
* Externally installed O_2 analyzer should be purchased separately.

Digital output: (Option)
1c contact (24V DC/1A, resistive load) max.15 outputs
Instrument error, calibration error, range identification, auto calibration status, solenoid valve drive for auto calibration, High/Low limit alarm contact output.
* All relay contacts are isolated mutually and from the internal circuit.

Digital input: (Option)
Voltage contact (supply 12-24VDC (15mA Max.)) Max. 9 inputs
Remote range change over, auto calibration remote start, remote hold, average value reset, Isolated from the internal circuit with photocoupler.

Power supply:
Voltage rating ; 100V to 240V AC
Allowable range ; 85V to 264V AC
Frequency ; 50Hz/60Hz
Power consumption ; 100VA max.

Operation conditions:
Ambient temperature ; –5˚C to 45˚C (40˚C max. when 2 optical system at 200V AC power source)
Ambient humidity ; 90% RH max., non-condensing

Storage conditions:
Ambient temperature ; –20˚C to 60˚C
Ambient humidity ; 100% RH max., non-condensing

Dimensions (H × W × D):
133 x 483 x 382mm

Mass: Approx. 11 kg max.

Finish color: Front panel; Cool gray (PANTON 1C-F)

Enclosure: Steel casing, for indoor use

Material of gas-contacting parts:
Gas inlet/outlet; SUS304
Sample cell; SUS304,chloroprene rubber
Infrared-ray transmitting window; CaF2
Internal piping;Toaron,Teflon, Polypropylene
Paramagnetic O_2 analyzer cell : SUS316
Fuel cell O_2 analyzer cell : ABS resin

Gas inlet/outlet: Rc1/4 or NPT1/4 internal thread

Purge gas flow rate: 1L/min (when required)

Life time of fuel cell O_2 analyzer: 2 years

Standard Functions

Output signal holding:
Output signals are held unchanged during manual and auto calibrations by activation of holding (turning "ON" its setting).
The values held are those just before start calibration mode or setting value.
Usage is selectable.
Indication of instantaneous values will not be held.

Switch ranges: The switch ranges function is available in manual, auto, and remote modes. Only preset switch method is effective.

Manual: Allows range to switch by key operation.

Auto: Automatically switched from first range to second range when the measured value exceeds 90%FS of first range.
Automatically switched from second range to first range when the measured value drops to 80% or less first range.

Remote: (Option) Voltage contact input
Allows range to switch via an external signal when remote range switch input is received.
When the contact input terminals for each component are input voltage, the first range is selected, and it is switched to the second range when the terminals are open.

* These switch range value are settable between the first range and second range values (low/high range values).

Optional Functions

Remote output holding:
Output signal is held at the last value or preset value by voltage input to the remote output holding input terminals.
Holding is maintained while the voltage is input to the terminals. Indication of instantaneous values are not held.

Range identification signal:
The present measuring range is identified by a contact position.
The contact output terminals close for each component when the first range is selected, and open when the second range is selected.

Auto calibration:
Auto calibration is carried out periodically at the preset cycle.
When a standard gas cylinder for calibration and a solenoid valve for opening/closing the gas flow line are prepared externally by the customer, calibration will be carried out with the solenoid valve drive contacts for zero calibration and each span calibration turned on/off sequentially at the set auto calibration timing.

Auto calibration cycle setting:

Auto calibration cycle is set.
Setting is variable within 1 to 99 hours (in increments of 1 hour) or 1 to 40 days (in increments of 1 day).

Gas flow time setting:

The time for flowing each calibration gas in auto calibration is set.
Settable within 60 to 900 seconds (in increments of 1 second)

Auto calibration remote start:

Auto calibration starts by opening the auto calibration remote start input terminal after short circuiting for 1.5 sec or longer.
Auto calibration starts when contacts open.

Auto zero calibration:

Auto zero calibration is carried out periodically at the preset cycle.
This cycle is independent from "Auto calibration" cycle.
When zero calibration gas and solenoid valve for opening/closing the calibration gas flow line are prepared externally by the customer, zero calibration will be carried out at the set auto zero calibration timing.

Auto zero calibration cycle setting:

Auto zero calibration cycle is set.
Setting is variable within 1 to 99 hours (in increments of 1 hour) or 1 to 40 days (in increments of 1 day)

Gas flow time setting:

The timing for flowing zero gas in auto zero calibration is set.
Settable within 60 to 900 seconds (in increments of 1 second)

High/low limit alarm:

Alarm contact output turns on when measurement value reaches the preset high or low limit alarm value.
Contacts close when the instantaneous value of each channel exceeds the high alarm limit value or falls below the low alarm limit value.

Instrument error contact output:

Contacts turn on at occurrence of analyzer error No. 1, 2, 3 or 10.

Calibration error contact output:

Contacts turn on at occurrence of manual or auto calibration error (any of errors No. 4 to 9).

Auto calibration status contact outputs:

Contacts turn on during auto calibration.

O_2 correction: Correction of measured NO, SO_2 and CO gas concentrations into values at reference O_2 concentration.

Correction formula:

$$C = \frac{21-On}{21-Os} \times Cs$$

C : Sample gas concentration after O_2 correction
C_S : Measured concentration of sample gas
O_S : Measured O_2 concentration (Limit setting: 1 to 20% O_2)
O_n : Reference O_2 concentration (value changeable by setting 0 to 19% O_2)

Average value after O_2 correction and O_2 average value calculation:

The result of O_2 correction or instantaneous O_2 value can be output as an average value over the preset period of time.
Moving average method is used. Sampling interval is 30 seconds.
(Output is updated every 30 seconds. Update is the averaged value of the most recent elapsed averaging time period.)
Averaging time period is settable within 1 to 59 minutes (in increments of 1 minute) or 1 to 4 hours (in increments of 1 hour).

Average value resetting:

The above-mentioned output of average value is started from the initial state by opening the average value resetting input terminals after short circuiting for 1.5 sec or longer.
Output is reset by input voltage and restarted by opening the terminal circuit.

Communication function:

RS-485 (9pins D-sub connector)
Half-duplex bit serial
Start-stop synchronization
Modbus RTU™ protocol
Contents : Read/Write parameters
Read measurement concentration and instrument status
Remark : When connecting via RS-232C interface, an RS-232C ↔ RS-485 converter should be used.

Atmospheric pressure correction:

Measure atmospheric pressure and calculate compensation (for use, be sure to relieve the exhaust gas from analyzer to the atmosphere)

After atmospheric pressure correction;
Zero point : No influenced
Span point: The change is 0.5% measured value or less relating to the change of the atmospheric pressure 1%.
Correction range: 700hPa-1050hPa

Performance

Repeatability: ±0.5% of full scale
Linearity: 1% of full scale
prior to atmospheric pressure correction (option)
Zero drift: ±2% of full scale/week
In the case of Auto zero calibration use for 500ppm or less range.
Span drift: ±2% of full scale/week
Response time (for 90% FS response) :
1 to 15 sec electrical response. Within 10-30 seconds including replacement time of sampling gas.
Gas replacement time depends on the number of measuring components,and measuring range.

Interference from other gases:

Interference component	CO_2 analyzer	CO analyzer	CH_4 analyzer	SO_2 analyzer	NO analyzer
CO 1000ppm	≤1.0%FS	—	≤1.0%FS	≤1.0%FS	≤1.0%FS
CO_2 15%	—	≤1.0%FS *1)	≤1.0%FS	≤1.0%FS	≤1.0%FS *2)
H_2O saturation at 20°C	≤1.0%FS	≤1.0%FS *2)	≤1.0%FS	—	—
H_2O saturation at 2°C	—	≤2.0%FS	—	≤2.0%FS	≤2.0%FS
CH_4 1000ppm	≤1.0%FS	≤1.0%FS	—	≤20ppm	—

*1) 0-200ppm range ≤ 2.0%FS
*2) 0-500ppm range or less ≤ 2.0%FS

EC Directive Compliance

The product conforms to the requirements of the Low Voltage Directive 2006/95/EC and EMC directive 89/336/EEC (as amended by Directive 92/31/EEC), both as amended by Directive 93/68/EEC.
It conforms to following standards for product safety and electromagnetic compatibility ;

EN61010-1:2010,EN62311:2008
Safety requirements for electrical equipment for measurement, control and laboratory use.
"Installation Category II"
"Pollution Degree 2"
EN61326-1:2006, EN61326-2-3:2006,
EN61000-3-2:2006, A1:2009,A2:2009
EN61000-3-3:2008
Electrical equipment for measurement, control and laboratory use — EMC requirements.
CE

Requirements for Sample Gas

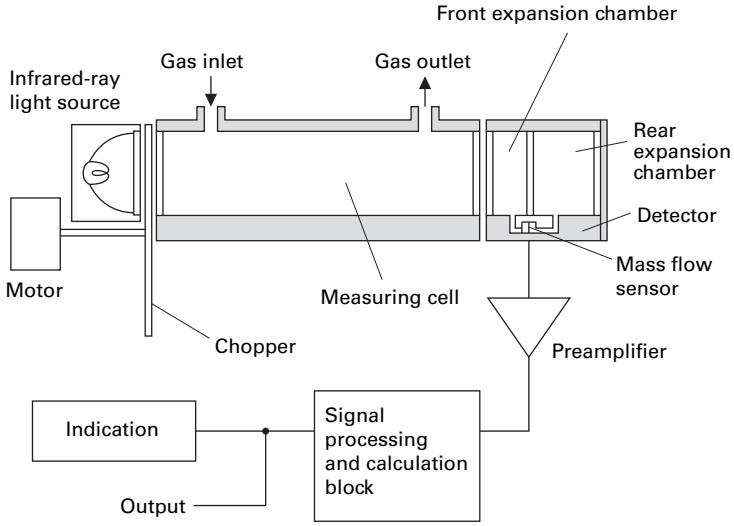
Flow rate: 0.5 ±0.2L / min
Temperature: 0 to 50˚C
Pressure: 10 kPa or less (Gas outlet side should be open to the atmospheric air.)
Dust: 100 μg/Nm^3 or less in particle size of 0.3 μm or smaller
Mist: Unallowable
Moisture: For sample gases NO, SO_2, CO(0-200 ppm range): less than 2˚C saturation point.
For most other sample gases: less than standard room temperature saturation point.

Corrosive component: 1 ppm or less
Standard gas for calibration:
1) Infrared-ray measurable component, standard O_2
Zero gas ; Dry N_2
Span gas ; Each sample gas having concentration 90 to 100% of its measuring range (recommended).
In case a zirconia O_2 analyzer is installed externally and calibration is carried out on the same calibration gas line:
Zero gas ; Dry air or atmospheric air (Do not use with CO_2 measurement)
Span gas ; For other than O_2 measurement, each sample gas having concentration 90 to 100% of its measuring range
For O_2 measurement, O_2 gas of 1 to 2 vol%/remains N_2 gas
2) Reverse range O_2 measurement
Zero gas ; 100vol% O_2
Span gas ; For O_2 measurement, O_2 gas of 95.0~95.5vol%/remains N_2 gas
*For reverse range O_2 measurement, infrared measurable component is not measurable.

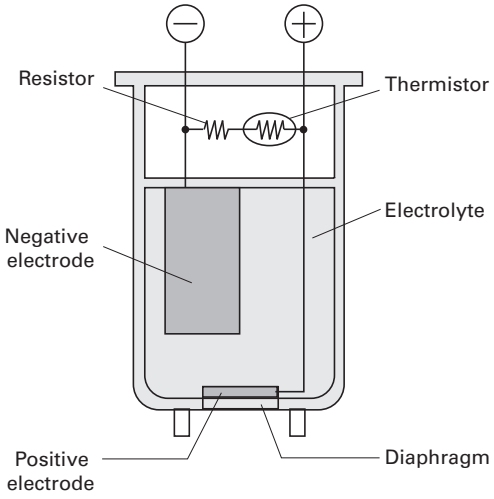
Installation Requirements

- Indoor use (Select a place where the equipment does not receive direct sunlight, draft/rain or radiation from hot substances. If such a place cannot be found, a roof or cover should be prepared for protection.)
- Avoid a place where unit receives heavy vibration
- Select a place where atmospheric air is clean

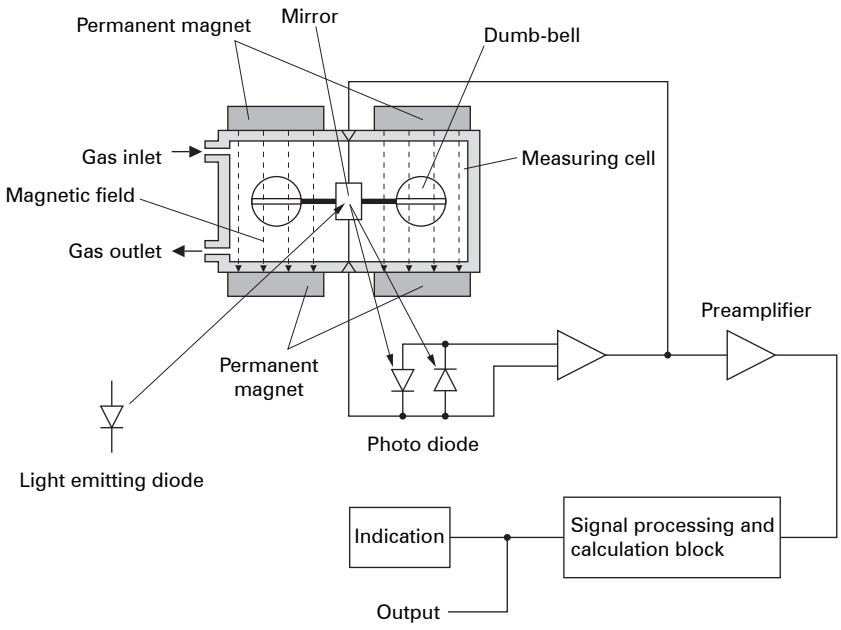
Principle diagram of NDIR type measurement (For NO, SO_2, CO_2, CO, CH_4)



Principle diagram of fuel cell type measurment (For O_2)

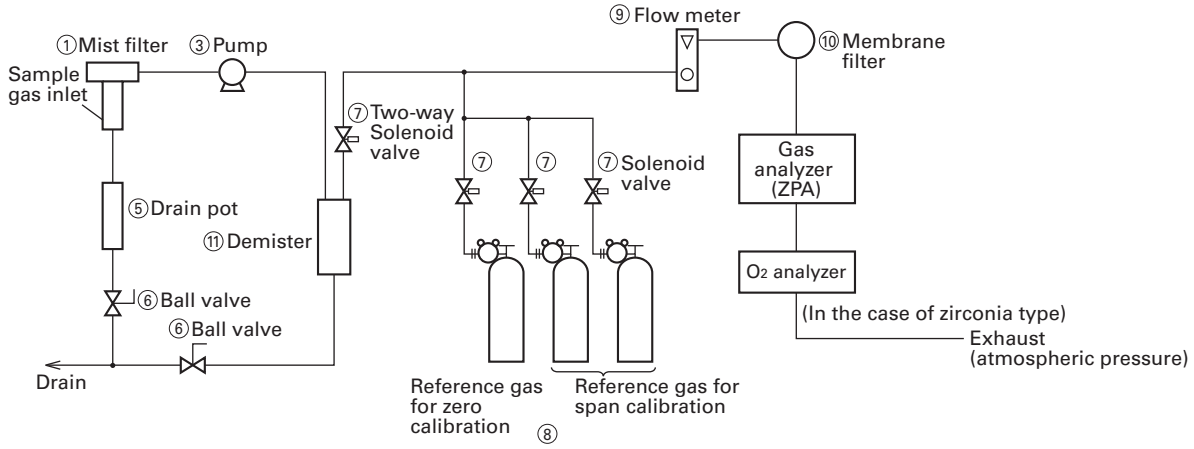


Principle diagram of paramagnetic type measurment (For O_2)

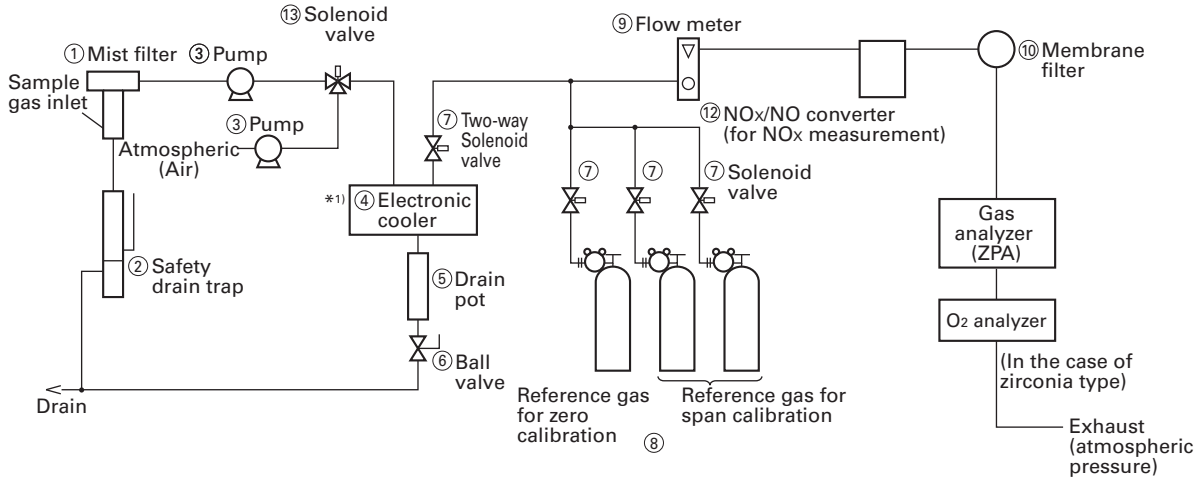


Examples of sampling system configuration including gas analyzer (for reference only)

To measure low moisture content (saturated at room temperature or lower) sample gas (CO, CO_2, CH_4)



To measure high moisture content sample gas, NO, SO_2, or CO (0 to 200 ppm range)



*1) Be sure to use a dehumidifier such as electronic cooler for NO, SO_2, and CO analyzers of 0 to 200 ppm range (≒2°C saturation or lower).

List of sampling devices (example)

No.	Device name	Fuji's type
①	Mist filter	ZBBK1V03-0
②	Safety drain trap	ZBH51603
③	Pump	ZBG80
④	Electoric cooler	ZBC91004
⑤	Drain pot	ZBH13003 (Length 255mm)
⑥	Ball valve	ZBFB1
⑦	Two-way solenoid valve	
⑧	Standard gas for calibration	ZBM□Y04-0□(Codes in□ to be selected depending on application)
⑨	Flow meter	ZBD42203
⑩	Membrane filter	ZBBM2V03-0
⑪	Demister	ZBH35003
⑫	NO_2/NO converter	ZDL02001
⑬	Three-way solenoid valve	

Note) The above is a typical configuration example. As configuration may differ depending on measuring objects, please consult us.

CODE SYMBOLS

standard multi components

Digit	Description				note	1 2 3 4 5 6 7 8	9 10 11 12 13	14 15 16 17 18 19 20	21 22 23 24 25 ← Digit
						Z P A B	1	-	-	-
4	<Specification/Structure>								
	Horizontal type (Terminal block for power supply)					A			
	Horizontal type (Power inlet, with lock)				note1	D			
5	<Mounting>								
	19inch rack mounting type EIA conformity					B			
6	<Measurable component (NDIR)>								
	1st component	2nd component	3rd component	4th component					
	None	-	-	-	note2	Y			
	NO	-	-	-		P			
	SO_2	-	-	-		A			
	CO_2	-	-	-		D			
	CO	-	-	-		B			
	CH_4	-	-	-		E			
	NO	SO_2	-	-		F			
	NO	CO	-	-		G			
	CO_2	CO	-	-		J			
	CH_4	CO	-	-		K			
	CO_2	CH_4	-	-		L			
	NO	SO_2	CO	-		N			
	CO_2	CO	CH_4	-		T			
	NO	SO_2	CO_2	CO		V			
	Others					Z			
7	<Measurable component (O_2)>								
	None					Y			
	External O_2 analyzer				note3	1			
	External zirconia O_2 analyzer (ZFK7)					2			
	Built-in fuel cell O_2 analyzer					3			
	Built-in paramagnetic O_2 analyzer					4			
8	<Revision code>						1		
9	<Measuring range (NDIR)>1st component, 1st range				note4				
10	<Measuring range (NDIR)>1st component, 2nd range				note4				
11	<Measuring range (NDIR)>2nd component, 1st range				note4				
12	<Measuring range (NDIR)>2nd component, 2nd range				note4				
13	<Measuring range (NDIR)>3rd component, 1st range				note4				
14	<Measuring range (NDIR)>3rd component, 2nd range				note4				
15	<Measuring range (NDIR)>4th component, 1st range				note4				
16	<Measuring range (NDIR)>4th component, 2nd range				note4				
17	<Measuring range (O_2)>								
	None							Y	
	0-5/10vol%							A	
	0-5/25vol%							B	
	0-10/25vol%							C	
	0-5vol%							L	
	0-10vol%							M	
	0-25vol%							V	
	0-50vol%							P	
	0-100vol%							R	
	100-95vol%							S	
	Others							Z	
18	<Gas connection>								
	Rc1/4							1	
	NPT1/4							2	
19	<Output>								
	DC0-1V								A
	DC4-20mA								B
	DC0-1V+Communication function								C
	DC4-20mA+Communication function								D
20	<Indication/power supply cord>								
	In Japanese, cord rated	125V (PSE)			note5				J
	In English, cord rated	125V (UL)			note5				E
	In English, cord rated	250V (CEE)			note5				U
	In Chinese, cord rated	250V (CCC)			note5				C
21	<O_2 correction and O_2 correction average output>				note6				
	None								Y
	O_2 correction								A
	O_2 correction average								B
	O_2 correction and O_2 correction average								C
22	<Optional function (DIO)>								
	FAULT	A. Cal.	H/L Alarm	RangeID/Remote range					
	None								Y
	○								A
	○	○							B
	○		○						C
	○			○					D
	○	○	○						E
	○		○	○					F
	○	○		○					G
	○	○	○	○	note7				H

Digit	Description	note
23	<Pressure compensation> None Pressure compensation	
24	<Unit> ppm, vol% mg/m³, g/m³	 note8
25	<Adjustment> For standard For heat treatment furnace For converter Others	 note9

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 ← Digit

Z P A [ ] [ ] [ ] [ ] 1 - [ ] [ ] [ ] [ ] [ ] - [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] - [ ] [ ] [ ] [ ] [ ]

23: Y (None) / 1 (Pressure compensation)

24: A (ppm, vol%) / B (mg/m³, g/m³)

25: A (For standard) / C (For heat treatment furnace) / D (For converter) / Z (Others)

RANGE CODE

Range	Code
None	Y
0~100ppm	B
0~200ppm	C
0~250ppm	D
0~300ppm	S
0~500ppm	E
0~1000ppm	F
0~2000ppm	G
0~2500ppm	U
0~3000ppm	T
0~5000ppm	H

Range	Code
0~1vol%	J
0~2vol%	K
0~3vol%	Q
0~5vol%	L
0~10vol%	M
0~20vol%	N
0~25vol%	V
0~40vol%	W
0~50vol%	P
0~70vol%	X
0~100vol%	R
Others	Z

O_2 measurement range

Measurement range	Range code	Fuel cell O_2 analyzer (built - in)	Paramagnetic O_2 analyzer (built - in)	Zirconia O_2 analyzer (external)
0~5/10 vol%	A		○	○
0~5/25 vol%	B		○	○
0~10/25 vol%	C	○	○	○
0~5 vol%	L		○	○
0~10 vol%	M	○	○	○
0~25 vol%	V	○	○	○
0~50 vol%	P		○	
0~100 vol%	R		○	
100~95 vol%	S		○	

note1) When "D" is specified at 4th digit, Power supply cord is supplied in the scope of supply. Cord specification should be specified at the 20th digit.

note2) When only O_2 measurement is necessary, "Y" should be specified at 6th digit.

note3) When "1" is specified at 7th digit, O_2 pt analyzer signal has to be set as 0-1V DC linear corresponding to full scale. External zirconia O_2 analyzer and external O_2 analyzer are not included in the scope of supply, and has to be separately ordered.

note4) Refer to Table 1 for possible combination of measuring components and ranges in this manual. When "Y" is specified at 6th digit, "Y" should be specified at 9th to 16th digit. For fuel cell O_2 analyzer, range is 0-10vol% or more.

note5) Select the type of voltage rating, plug type and applicable standard of the power supply cord by 20th digit. Select a power supply cord for using at the location of end-user. When "A" is specified at 4th digit, Power supply cord will not be included in scope of delivery. When English is specified for display language, "E" should be selected at 20th digit.

note6) O_2 correction is calculated only for NO, SO_2 and CO.

note7) When 5 components measurement is specified, "H" must not be specified at 22nd digit.
When 4 components measurement is specified and "H" is specified at 22nd digit, 3 points is maximum for alarm output function.

note8) When "B" is specified at 24th digit, measuring range should be specified by ppm range code. In this case NO, SO_2 and CO measuring range are corresponding range in mg/m³. Please refer to the table shown below for the corresponding range code based on "mg/m³".

note9) When A to D is specified at 25th digit, the analyzer will be adjusted and delivered with the following gasses. Standard "A": balance gas N_2.
For heat treatment furnace "C": balance gas 30vol% H_2/remaining N_2.
For converter "D": balance gas CO, CO_2.
When other adjustment is required, please specify "Z".
When "Z" is specified, please attach a list of gas composition contained in the measuring gas.

Corresponding mg/m³

		Corresponding range in mg/m³		
Range code	Unit : ppm	NO	SO_2	CO
B	0-100ppm	0-130mg/m³	0-280mg/m³	0-125mg/m³
C	0-200ppm	0-260mg/m³	0-570mg/m³	0-250mg/m³
D	0-250ppm	0-325mg/m³	0-700mg/m³	0-300mg/m³
S	0-300ppm	0-400mg/m³	0-850mg/m³	0-375mg/m³
E	0-500ppm	0-650mg/m³	0-1,400mg/m³	0-600mg/m³
F	0-1,000ppm	0-1,300mg/m³	0-2,800mg/m³	0-1,250mg/m³
G	0-2,000ppm	0-2,600mg/m³	0-5,600mg/m³	0-2,500mg/m³
U	0-2,500ppm	0-3,300mg/m³	0-7,100mg/m³	0-3,000mg/m³
T	0-3,000ppm	0-4,000mg/m³	0-8,500mg/m³	0-3,750mg/m³
H	0-5,000ppm	0-6,600mg/m³	0-14.00g/m³	0-6,250mg/m³

The conversion formula "ppm" unit into "mg/m³" unit.
NO (mg/m³) = 1.34 NO (ppm)
SO_2 (mg/m³) = 2.86 SO_2 (ppm)
CO (mg/m³) = 1.25 CO (ppm)

Table 1 Measurable component and range - availability check table -

Procedure of range selection

On one component analyzer:

First determine 1st range, then select 2nd range from the corresponding right column.

More than two components analyzer:

The 2nd range in the tables for two and more components is maximum available range.

Select the 2nd range less than or equal to the "2nd range (max)".

1-component analyzer : CO

1st range	2nd range
0 - 200ppm	None, 0 - 250ppm,300ppm,500ppm,1000ppm,2000ppm
0 - 250ppm	None, 0 - 300ppm,500ppm,1000ppm,2000ppm,2500ppm
0 - 300ppm	None, 0 - 500ppm,1000ppm,2000ppm,2500ppm
0 - 500ppm	None, 0 - 1000ppm,2000ppm,2500ppm,3000ppm,5000ppm
0 - 1000ppm	None, 0 - 2000ppm,2500ppm,3000ppm,5000ppm,1%
0 - 2000ppm	None, 0 - 2500ppm,3000ppm,5000ppm,1%,2%
0 - 2500ppm	None, 0 - 3000ppm,5000ppm,1%,2%
0 - 3000ppm	None, 0 - 5000ppm,1%,2%
0 - 5000ppm	None, 0 - 1%,2%,3%,5%
0 - 1%	None, 0 - 2%,3%,5%,10%
0 - 2%	None, 0 - 3%,5%,10%,20%
0 - 3%	None, 0 - 5%,10%,20%,25%
0 - 5%	None, 0 - 10%,20%,25%,40%,50%
0 - 10%	None, 0 - 20%,25%,40%,50%,70%,100%
0 - 20%	None, 0 - 25%,40%,50%,70%,100%
0 - 25%	None, 0 - 40%,50%,70%,100%
0 - 40%	None, 0 - 50%,70%,100%
0 - 50%	None, 0 - 70%,100%
0 - 70%	None, 0 - 100%
0 - 100%	None

1-component analyzer : CO_2

1st range	2nd range
0 - 100ppm	None, 0 - 200ppm,250ppm,300ppm,500ppm,1000ppm
0 - 200ppm	None, 0 - 250ppm,300ppm,500ppm,1000ppm,2000ppm
0 - 250ppm	None, 0 - 300ppm,500ppm,1000ppm,2000ppm,2500ppm
0 - 300ppm	None, 0 - 500ppm,1000ppm,2000ppm,2500ppm
0 - 500ppm	None, 0 - 1000ppm,2000ppm,2500ppm,3000ppm,5000ppm
0 - 1000ppm	None, 0 - 2000ppm,2500ppm,3000ppm,5000ppm,1%
0 - 2000ppm	None, 0 - 2500ppm,3000ppm,5000ppm,1%,2%
0 - 2500ppm	None, 0 - 3000ppm,5000ppm,1%,2%
0 - 3000ppm	None, 0 - 5000ppm,1%,2%
0 - 5000ppm	None, 0 - 1%,2%,3%,5%
0 - 1%	None, 0 - 2%,3%,5%,10%
0 - 2%	None, 0 - 3%,5%,10%,20%
0 - 3%	None, 0 - 5%,10%,20%,25%
0 - 5%	None, 0 - 10%,20%,25%,40%,50%
0 - 10%	None, 0 - 20%,25%,40%,50%,70%,100%
0 - 20%	None, 0 - 25%,40%,50%,70%,100%
0 - 25%	None, 0 - 40%,50%,70%,100%
0 - 40%	None, 0 - 50%,70%,100%
0 - 50%	None, 0 - 70%,100%
0 - 70%	None, 0 - 100%
0 - 100%	None

1-component analyzer : NO

1st range	2nd range
0 - 200ppm	None, 0 - 250ppm,300ppm,500ppm,1000ppm,2000ppm
0 - 250ppm	None, 0 - 300ppm,500ppm,1000ppm,2000ppm,2500ppm
0 - 300ppm	None, 0 - 500ppm,1000ppm,2000ppm,2500ppm
0 - 500ppm	None, 0 - 1000ppm,2000ppm,2500ppm,3000ppm,5000ppm
0 - 1000ppm	None, 0 - 2000ppm,2500ppm,3000ppm,5000ppm
0 - 2000ppm	None, 0 - 2500ppm,3000ppm,5000ppm
0 - 2500ppm	None, 0 - 3000ppm,5000ppm
0 - 3000ppm	None, 0 - 5000ppm
0 - 5000ppm	None

1-component analyzer : SO_2

1st range	2nd range
0 - 200ppm	None, 0 - 250ppm,300ppm,500ppm,1000ppm,2000ppm
0 - 250ppm	None, 0 - 300ppm,500ppm,1000ppm,2000ppm,2500ppm
0 - 300ppm	None, 0 - 500ppm,1000ppm,2000ppm,2500ppm
0 - 500ppm	None, 0 - 1000ppm,2000ppm,2500ppm,3000ppm,5000ppm
0 - 1000ppm	None, 0 - 2000ppm,2500ppm,3000ppm,5000ppm,1%
0 - 2000ppm	None, 0 - 2500ppm,3000ppm,5000ppm,1%,2%
0 - 2500ppm	None, 0 - 3000ppm,5000ppm,1%,2%
0 - 3000ppm	None, 0 - 5000ppm,1%,2%
0 - 5000ppm	None, 0 - 1%,2%,3%,5%
0 - 1%	None, 0 - 2%,3%,5%,10%
0 - 2%	None, 0 - 3%,5%,10%
0 - 3%	None, 0 - 10%
0 - 5%	None, 0 - 10%
0 - 10%	None

1-component analyzer : CH_4

1st range	2nd range
0 - 500ppm	None, 0 - 1000ppm,2000ppm,2500ppm,3000ppm,5000ppm
0 - 1000ppm	None, 0 - 2000ppm,2500ppm,3000ppm,5000ppm,1%
0 - 2000ppm	None, 0 - 2500ppm,3000ppm,5000ppm,1%,2%
0 - 2500ppm	None, 0 - 3000ppm,5000ppm,1%,2%
0 - 3000ppm	None, 0 - 5000ppm,1%,2%
0 - 5000ppm	None, 0 - 1%,2%,3%,5%
0 - 1%	None, 0 - 2%,3%,5%,10%
0 - 2%	None, 0 - 3%,5%,10%,20%
0 - 3%	None, 0 - 5%,10%,20%,25%
0 - 5%	None, 0 - 10%,20%,25%,40%,50%
0 - 10%	None, 0 - 20%,25%,40%,50%,70%,100%
0 - 20%	None, 0 - 25%,40%,50%,70%,100%
0 - 25%	None, 0 - 40%,50%,70%,100%
0 - 40%	None, 0 - 50%,70%,100%
0 - 50%	None, 0 - 70%,100%
0 - 70%	None, 0 - 100%
0 - 100%	None

2-component analyzer : NO/SO_2

1-component : NO	
1st range	2nd range (max.)
0 - 200ppm	0 - 2000ppm
0 - 250ppm	0 - 2500ppm
0 - 300ppm	0 - 2500ppm
0 - 500ppm	0 - 5000ppm
0 - 1000ppm	0 - 5000ppm
0 - 2000ppm	0 - 5000ppm
0 - 2500ppm	0 - 5000ppm
0 - 3000ppm	0 - 5000ppm
0 - 5000ppm	None

2-component : SO_2	
1st range	2nd range (max.)
0 - 200ppm	0 - 2000ppm
0 - 250ppm	0 - 2500ppm
0 - 300ppm	0 - 2500ppm
0 - 500ppm	0 - 5000ppm
0 - 1000ppm	0 - 5000ppm
0 - 2000ppm	0 - 5000ppm
0 - 2500ppm	0 - 5000ppm
0 - 3000ppm	0 - 5000ppm
0 - 5000ppm	None

- The 2nd component should be selected as shown in the right table.

2-component analyzer : NO/CO

1-component : NO	
1st range	2nd range (max.)
0 - 200ppm	0 - 2000ppm
0 - 250ppm	0 - 2500ppm
0 - 300ppm	0 - 2500ppm
0 - 500ppm	0 - 5000ppm
0 - 1000ppm	0 - 5000ppm
0 - 2000ppm	0 - 5000ppm
0 - 2500ppm	0 - 5000ppm
0 - 3000ppm	0 - 5000ppm
0 - 5000ppm	None

2-component : CO	
1st range	2nd range (max.)
0 - 200ppm	0 - 2000ppm
0 - 250ppm	0 - 2500ppm
0 - 300ppm	0 - 2500ppm
0 - 500ppm	0 - 5000ppm
0 - 1000ppm	0 - 5000ppm
0 - 2000ppm	0 - 5000ppm
0 - 2500ppm	0 - 5000ppm
0 - 3000ppm	0 - 5000ppm
0 - 5000ppm	None

- The 2nd component should be selected as shown in the right table.

2-component analyzer: CO_2/CO

1-component: CO_2		2-component: CO
1st range	2nd range (max.)	1st range/2nd range (max.)
0-100ppm	0-1000ppm	0-200/2000ppm, 0-250/2500ppm, 0-300/2500ppm, 0-500/2500ppm, 0-1000/2500ppm, 0-2000/2500ppm, 0-2500ppm
0-200ppm	0-2000ppm	0-200/2000ppm, 0-250/2500ppm, 0-300/2500ppm, 0-500/5000ppm, 0-1000/5000ppm, 0-2000/5000ppm, 0-2500/5000ppm, 0-3000ppm/2%, 0-5000ppm/3%, 0-1/3%, 0-2/3%,
0-250ppm	0-2500ppm	0-3%
0-300ppm		
0-500ppm		
0-500ppm	0-5000ppm	0-500/5000ppm, 0-1000/5000ppm, 0-2000/5000ppm, 0-2500/5000ppm, 0-3000ppm/2%, 0-5000ppm/3%, 0-1/3%, 0-2/3%, 0-3%
0-1000ppm	0-5000ppm	0-200/2000ppm, 0-250/2500ppm, 0-300/2500ppm, 0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/10%, 0-2/10%,
0-2000ppm		0-3/10%, 0-5/50%, 0-10/50%, 0-20/50%, 0-25/50%, 0-40/50%, 0-50%
0-1000ppm	0-1%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/10%, 0-2/10%, 0-3/10%, 0-5/50%, 0-10/50%, 0-20/50%, 0-25/50%, 0-40/50%, 0-50%
0-2000ppm	0-1%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/10%, 0-2/10%, 0-3/25%, 0-5/50%, 0-10/50%, 0-20/50%, 0-25/50%, 0-40/50%, 0-50%
0-2000ppm	0-2%	0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/10%, 0-2/10%, 0-3/25%, 0-5/50%, 0-10/50%, 0-20/50%, 0-25/50%, 0-40/50%, 0-50%
0-2500ppm	0-1%	0-200/2000ppm, 0-250/2500ppm, 0-300/2500ppm, 0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/10%, 0-2/10%,
		0-3/25%, 0-5/50%, 0-10/50%, 0-20/50%, 0-25/50%, 0-40/50%, 0-50%
0-2500ppm	0-2%	0-200/2000ppm, 0-250/2500ppm, 0-300/2500ppm, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/10%, 0-2/10%, 0-3/25%, 0-5/50%, 0-10/50%,
		0-20/50%, 0-25/50%, 0-40/50%, 0-50%
0-3000ppm	0-1%	0-200/2000ppm, 0-250/2500ppm, 0-300/2500ppm, 0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/10%, 0-2/10%,
		0-3/25%, 0-5/50%, 0-10/100%, 0-20/100%, 0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-3000ppm	0-2%	0-200/2000ppm, 0-250/2500ppm, 0-300/2500ppm, 0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/10%, 0-2/10%, 0-3/25%, 0-5/25%,
		0-10/100%,0-20/100%, 0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-5000ppm	0-3%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/10%, 0-2/20%, 0-3/25%, 0-5/50%, 0-10/100%, 0-20/100%,
0-1%	0-5%	0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-2%	0-5%	
0-5000ppm	0-5%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/10%, 0-2/20%, 0-3/25%, 0-5/50%, 0-10/50%, 0-20/100%,
		0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-1%	0-10%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/1%, 0-2500ppm/1%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/10%, 0-2/20%, 0-3/25%, 0-5/25%, 0-10/100%, 0-20/100%,
		0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-2%	0-20%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/1%, 0-2500ppm/1%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/10%, 0-2/20%, 0-3/25%, 0-5/50%, 0-10/50%, 0-20/100%,
		0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-2%	0-10%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/1%, 0-2500ppm/1%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/10%, 0-2/20%, 0-3/25%, 0-5/50%, 0-10/100%, 0-20/100%,
0-3%	0-25%	0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-5%	0-50%	
0-10%	0-100%	0-1000ppm/1%, 0-2000ppm/1%, 0-2500ppm/1%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/10%, 0-2/20%, 0-3/25%, 0-5/50%,
0-20%		0-10/100%, 0-20/100%, 0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-25%		
0-40%		
0-50%		
0-70%		
0-100%	None	

2-component analyzer: CH_4/CO

1-component: CH_4		2-component: CO
1st range	2nd range (max.)	1st range/2nd range (max.)
0-500ppm	0-5000ppm	0-200/2000ppm, 0-250/2500ppm, 0-300/2500ppm, 0-500/2500ppm, 0-1000/2500ppm, 0-2000/2500ppm
0-1000ppm	0-5000ppm	0-200/2000ppm, 0-250/2500ppm, 0-300/2500ppm, 0-500/5000ppm, 0-1000/5000ppm, 0-2000/5000ppm, 0-2500/5000ppm, 0-3000/5000ppm
0-1000ppm	0-1%	0-500/5000ppm, 0-1000/5000ppm, 0-2000/5000ppm, 0-2500/5000ppm, 0-3000/5000ppm
0-2000ppm	0-5000ppm	0-200/2000ppm, 0-250/2500ppm, 0-300/2500ppm, 0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/1%, 0-2500ppm/1%, 0-3000ppm/1%, 0-5000ppm/5%, 0-1/5%, 0-2/20%,
		0-3/20%, 0-5/20%, 0-10/20%
0-2500ppm	0-5000ppm	0-200/2000ppm, 0-250/2500ppm, 0-300/2500ppm, 0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/1%, 0-2500ppm/1% 0-3000ppm/1%,
0-3000ppm		0-5000ppm/5%, 0-1/5%, 0-2/20%, 0-3/25%, 0-5/25%, 0-10/25%
0-2000ppm	0-1%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/1%, 0-2500ppm/1%, 0-3000ppm/1%, 0-5000ppm/5%, 0-1/5%, 0-2/20%, 0-3/20%, 0-5/20%, 0-10/20%
0-2500ppm	0-1%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/1%, 0-2500ppm/1%, 0-3000ppm/1%, 0-5000ppm/5%, 0-1/5%, 0-2/20%, 0-3/25%, 0-5/25%, 0-10/25%
0-3000ppm		
0-2000ppm	0-2%	0-1000ppm/1%, 0-2000ppm/1%, 0-2500ppm/1%, 0-3000ppm/1%, 0-5000ppm/5%, 0-1/5%, 0-2/20%, 0-3/20%, 0-5/20%, 0-10/20%
0-2500ppm	0-2%	0-1000ppm/1%, 0-2000ppm/1%, 0-2500ppm/1%, 0-3000ppm/1%, 0-5000ppm/5%, 0-1/5%, 0-2/20%, 0-3/25%, 0-5/25%, 0-10/25%
0-3000ppm		
0-5000ppm	0-1%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/1%, 0-2500ppm/1%, 0-3000ppm/1%, 0-5000ppm/5%, 0-1/5%, 0-2/20%, 0-3/25%, 0-5/50%, 0-10/50%, 0-20/50%,
		0-25/50%, 0-40/50%, 0-50%
0-5000ppm	0-3%	0-1000ppm/1%, 0-2000ppm/1%, 0-2500ppm/1%, 0-3000ppm/1%, 0-5000ppm/5%, 0-1/5%, 0-2/10%, 0-3/25%, 0-5/50%, 0-10/50%, 0-20/50%, 0-25/50%, 0-40/50%, 0-50%
0-5000ppm	0-5%	0-1000ppm/1%, 0-2000ppm/1%, 0-2500ppm/1%, 0-3000ppm/1%, 0-5000ppm/5%, 0-1/5% 0-2/5%, 0-3/25%, 0-5/25%, 0-10/50%, 0-20/50%, 0-25/50%, 0-40/50%, 0-50%
0-1%	0-5%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/1%, 0-2500ppm/1% ,0-3000ppm/1%, 0-5000ppm/5%, 0-1/10%, 0-2/20%, 0-3/25%, 0-5/50%, 0-10/100%, 0-20/100%,
		0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-1%	0-10%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/1%, 0-2500ppm/1% ,0-3000ppm/1%, 0-5000ppm/1%, 0-1/10%, 0-2/10%, 0-3/10%, 0-5/50%, 0-10/50%, 0-20/100%,
		0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-2%	0-10%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/2%, 0-1/10%, 0-2/20%, 0-3/20%, 0-5/50%, 0-10/100%, 0-20/100%,
		0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-2%	0-20%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/2%, 0-1/10%, 0-2/20%, 0-3/20%, 0-5/20%, 0-10/100%, 0-20/100%,
		0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-3%	0-10%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/2%, 0-1/10%, 0-2/20%, 0-3/20%, 0-5/50%, 0-10/100%, 0-20/100%,
		0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-3%	0-25%	0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/2%, 0-1/10%, 0-2/20%, 0-3/20%, 0-5/20%, 0-10/100%, 0-20/100%, 0-25/100%, 0-40/100%,
		0-50/100%, 0-70/100%, 0-100%
0-5%	0-25%	0-1000ppm/1%, 0-2000ppm/1%, 0-2500ppm/1%, 0-3000ppm/1%, 0-5000ppm/5%, 0-1/10%, 0-2/20%, 0-3/25%, 0-5/25%, 0-10/100%, 0-20/100%, 0-25/100%, 0-40/100%,
		0-50/100%, 0-70/100%, 0-100%
0-5%	0-50%	0-1000ppm/1%, 0-2000ppm/1%, 0-2500ppm/1%, 0-3000ppm/1%, 0-5000ppm/5%, 0-1/5%, 0-2/5%, 0-3/25%, 0-5/25%, 0-10/100%, 0-20/100%, 0-25/100%, 0-40/100%,
		0-50/100%, 0-70/100%, 0-100%
0-10%	0-50%	0-1000ppm/1%, 0-2000ppm/1%, 0-2500ppm/1%, 0-3000ppm/1%, 0-5000ppm/5%, 0-1/10%, 0-2/10%, 0-3/25%, 0-5/50%, 0-10/50%, 0-20/100%, 0-25/100%, 0-40/100%,
		0-50/100%, 0-70/100%, 0-100%
0-10%	0-100%	0-5000ppm/5%, 0-1/10%, 0-2/10%, 0-3/10%, 0-5/50%, 0-10/50%, 0-20/100%, 0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-20%	0-50%	0-1000ppm/1%, 0-2000ppm/1%, 0-2500ppm/1%, 0-3000ppm/1%, 0-5000ppm/5%, 0-1/10%, 0-2/20%, 0-3/25%, 0-5/50%,
0-25%		0-10/100%, 0-20/100%, 0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-40%		
0-20%	0-100%	0-5000ppm/5%, 0-1/10%, 0-2/20%, 0-3/20%, 0-5/50%, 0-10/100%, 0-20/100%, 0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-25%		
0-40%		
0-50%		
0-70%		
0-100%	None	

2-component analyzer: CO_2/CH_4

1-component: CO_2		2-component: CH_4
1st range	2nd range (max.)	1st range/2nd range (max.)
0-100ppm	0-1000ppm	0-500/5000ppm, 0-1000/5000ppm, 0-2000/5000ppm, 0-2500/5000ppm, 0-3000/5000ppm, 0-5000ppm
0-200ppm	0-2000ppm	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/1%, 0-2500ppm/1%, 0-3000ppm/1%, 0-5000ppm/1%, 0-1%
0-250ppm	0-2500ppm	
0-300ppm	0-2500ppm	
0-500ppm	0-2500ppm	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/2%, 0-1/2%, 0-2/10%, 0-3/10%, 0-5/10%, 0-10%
0-500ppm	0-5000ppm	0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/2%, 0-1/2%, 0-2/10%, 0-3/10%, 0-5/10%, 0-10%
0-1000ppm	0-2500ppm	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/3%, 0-1/3%, 0-2/20%, 0-3/20%, 0-5/20%, 0-10/20%, 0-20%
0-1000ppm	0-5000ppm	0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/3%, 0-1/3% 0-2/20%, 0-3/20%, 0-5/20%, 0-10/20%, 0-20%
0-1000ppm	0-1%	0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/3%, 0-1/3%, 0-2/20%, 0-3/20%, 0-5/20%, 0-10/20%, 0-20%
0-2000ppm	0-2500ppm	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/5%, 0-2/20%, 0-3/20%, 0-5/20%, 0-10/20%, 0-20%
0-2000ppm	0-5000ppm	0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/5%, 0-2/20%, 0-3/20%, 0-5/20%, 0-10/20%, 0-20%
0-2000ppm	0-2%	0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/5%, 0-2/20%, 0-3/20%, 0-5/20%, 0-10/20%, 0-20%
0-2500ppm	0-5000ppm	0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/5%, 0-2/20%, 0-3/20%, 0-5/25%, 0-10/25%, 0-20/25%, 0-25%
0-2500ppm	0-2%	0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/5%, 0-2/20%, 0-3/20%, 0-5/25%, 0-10/25%, 0-20/25%, 0-25%
0-3000ppm	0-2%	0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/5% 0-2/20%, 0-3/20%, 0-5/25%, 0-10/25%, 0-20/25%, 0-25%
0-5000ppm	0-3%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/2%, 0-1/10%, 0-2/20%, 0-3/20%, 0-5/50%, 0-10/50%, 0-20/50%, 0-25/50%, 0-40/50%, 0-50%
0-5000ppm	0-5%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/2%, 0-1/10%, 0-2/20%, 0-3/20%, 0-5/20%, 0-10/50%, 0-20/50%, 0-25/50%, 0-40/50%, 0-50%
0-1%	0-10%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/2%, 0-1/10%, 0-2/20%, 0-3/25%, 0-5/50%, 0-10/50%, 0-20/50%, 0-25/50%, 0-40/50%, 0-50%
0-2%	0-20%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/2%, 0-1/10%, 0-2/10%, 0-3/10%, 0-5/25%, 0-10/100%, 0-20/100%, 0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-2%	0-10%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/2%, 0-1/10%, 0-2/20%, 0-3/25%, 0-5/50%, 0-10/100%, 0-20/100%,
0-3%		0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-3%	0-25%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/2%, 0-1/10%, 0-2/20%, 0-3/25%, 0-5/25%, 0-10/100%, 0-20/100%, 0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-5%	0-20%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/2%, 0-1/10%, 0-2/20%, 0-3/25%, 0-5/50%, 0-10/100%, 0-20/100%, 0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-5%	0-50%	0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/2%, 0-1/10%, 0-2/20%, 0-3/25%, 0-5/50%, 0-10/50%, 0-20/100%, 0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-10%	0-20%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/2%, 0-1/10%, 0-2/20%, 0-3/25%, 0-5/50%, 0-10/100%, 0-20/100%, 0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-10%	0-50%	0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/2%, 0-1/10%, 0-2/20%, 0-3/25%, 0-5/50%, 0-10/100%, 0-20/100%, 0-25/100%, 0-40/100%,
0-20%		0-50/100%, 0-70/100%, 0-100%
0-25%		
0-40%		
0-10%	0-100%	0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/2%, 0-1/10%, 0-2/10%, 0-3/10%, 0-5/50%, 0-10/100%, 0-20/100%, 0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-20%	0-100%	0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/2%, 0-1/10%, 0-2/10%, 0-3/25%, 0-5/50%, 0-10/100%, 0-20/100%, 0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-25%	0-100%	0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/2%, 0-1/10%, 0-2/20%, 0-3/25%, 0-5/50%, 0-10/100%, 0-20/100%, 0-25/100%, 0-40/100%, 0-50/100%,
0-40%		0-70/100%, 0-100%
0-50%		
0-70%		
0-100%	None	

3-component analyzer: $NO/SO_2/CO$ >>> Combination of 1st component NO and 2nd component SO_2 / 3rd component CO

1-component: NO			2-component: SO_2		3-component: CO
1st range	2nd range (max.)		1st range	2nd range (max.)	1st range/2nd range (max.)
0-200ppm	0-2000ppm		0-200ppm	0-2000ppm	0-200/2000ppm, 0-250/2500ppm, 0-300/2500ppm, 0-500/2500ppm, 0-1000/2500ppm, 0-2000/2500ppm, 0-2500ppm
0-250ppm	0-2500ppm		0-250ppm	0-2500ppm	
0-300ppm	0-2500ppm		0-300ppm		
0-500ppm	0-5000ppm	+	0-500ppm	0-2500ppm	0-200/2000ppm, 0-250/2500ppm, 0-300/2500ppm, 0-500/5000ppm, 0-1000/5000ppm, 0-2000/5000ppm, 0-5000ppm
0-1000ppm	0-5000ppm		0-1000ppm		
0-2000ppm	0-5000ppm		0-2500ppm	None	
0-2500ppm	0-5000ppm		0-1000ppm	0-5000ppm	0-500/5000ppm, 0-1000/5000ppm, 0-2000/5000ppm, 0-2500/5000ppm, 0-3000/5000ppm, 0-5000ppm
0-3000ppm	0-5000ppm		0-2000ppm		
0-5000ppm	None		0-2500ppm		
			0-3000ppm		
			0-5000ppm	None	

3-component analyzer: $CO_2/CO/CH_4$ >>> Combination of 1st component CO_2 / 2nd component CO and 3rd component CH_4

1-component: CO_2		2-component: CO
1st range	2nd range (max.)	1st range/2nd range (max.)
0-5000ppm	0-3%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/10%, 0-2/20%,
0-1%	0-5%	0-3/25%, 0-5/50%, 0-10/100%, 0-20/100%, 0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-2%	0-5%	
0-5000ppm	0-5%	0-500/5000ppm, 0-1000ppm/1%, 0-2000ppm/2%, 0-2500ppm/2%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/10%, 0-2/20%,
		0-3/25%, 0-5/50%, 0-10/50%, 0-20/100%, 0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-1%	0-10%	0-500/5000ppm , 0-1000ppm/1%, 0-2000ppm/1%, 0-2500ppm/1%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/10%, 0-2/20%,
		0-3/25%, 0-5/25%, 0-10/100%, 0-20/100%, 0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-2%	0-20%	0-500/5000ppm , 0-1000ppm/1%, 0-2000ppm/1%, 0-2500ppm/1%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/10%, 0-2/20%,
		0-3/25%, 0-5/50%, 0-10/50%, 0-20/100%, 0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-2%	0-10%	0-500/5000ppm , 0-1000ppm/1%, 0-2000ppm/1%, 0-2500ppm/1%, 0-3000ppm/2%, 0-5000ppm/5%, 0-1/10%, 0-2/20%,
0-3%	0-25%	0-3/25%, 0-5/50%, 0-10/100%, 0-20/100%, 0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-5%	0-50%	
0-10%	0-100%	0-1000ppm/1%, 0-2000ppm/1%, 0-2500ppm/1%, 0-3000ppm/2%,
0-20%		0-5000ppm/5%, 0-1/10%, 0-2/20%, 0-3/25%, 0-5/50%, 0-10/100%,
0-25%		0-20/100%, 0-25/100%, 0-40/100%, 0-50/100%, 0-70/100%, 0-100%
0-40%		
0-50%		
0-70%		
0-100%	None	

+

3-component: CH_4		
1st range	2nd range (max.)	Availability of product
0-5000ppm	0-5%	Product available only when CO analyzer max. measuring range is 50% or less
0-1%	0-10%	Product available
0-2%	0-20%	
0-3%	0-25%	Product available only when CO analyzer measuring range is 0 to 1000ppm or more.
0-5%	0-10%	
0-10%	0-20%	
0-20%	0-25%	Product available only when CO analyzer measuring range is 0 to 5000ppm or more.
0-25%	0-40%	
0-40%	0-50%	
0-50%	0-70%	Product available only when CO analyzer measuring range is more than 5000ppm or CO_2 analyzer range is more than 2%.
0-70%	0-100%	
0-100%	None	

4-component analyzer: NO/SO_2/CO_2/CO >>> Combination of 1st component NO /4th component CO and component 2nd component SO_2/3rd component CO_2

1-component: NO		4-component: CO
1st range	2nd range (max.)	1st range/2nd range (max.)
0-200ppm	0-2000ppm	0-200/2000ppm, 0-250/2500ppm, 0-300/2500ppm, 0-500/2500ppm, 0-1000/2500ppm, 0-2000/2500ppm, 0-2500ppm, None
0-250ppm	0-2500ppm	
0-300ppm	0-2500ppm	
0-500ppm	0-2000ppm	
0-1000ppm	0-2000ppm	
0-2000ppm	None	
0-500ppm	0-5000ppm	0-500/2500ppm, 0-1000/2500ppm, 0-2000/2500ppm, 0-2500ppm, None
0-1000ppm	0-5000ppm	
0-2000ppm	0-5000ppm	
0-2500ppm	0-5000ppm	
0-3000ppm	0-5000ppm	
0-5000ppm	None	

+

2-component analyzer: SO_2		3-component analyzer: CO_2
1st range	2nd range (max.)	1st range/2nd range (max.)
0-200ppm	0-2000ppm	0-1/10%, 0-2/20%, 0-3/20%, 0-5/50%, 0-10/50%, 0-20/50%, 0-25/50%, 0-40/50%, 0-50%/None
0-250ppm	0-2500ppm	
0-300ppm	0-2500ppm	
0-500ppm	0-5000ppm	
0-1000ppm	0-5000ppm	
0-2000ppm	0-5000ppm	
0-2500ppm	0-5000ppm	
0-3000ppm	0-5000ppm	
0-5000ppm	None	

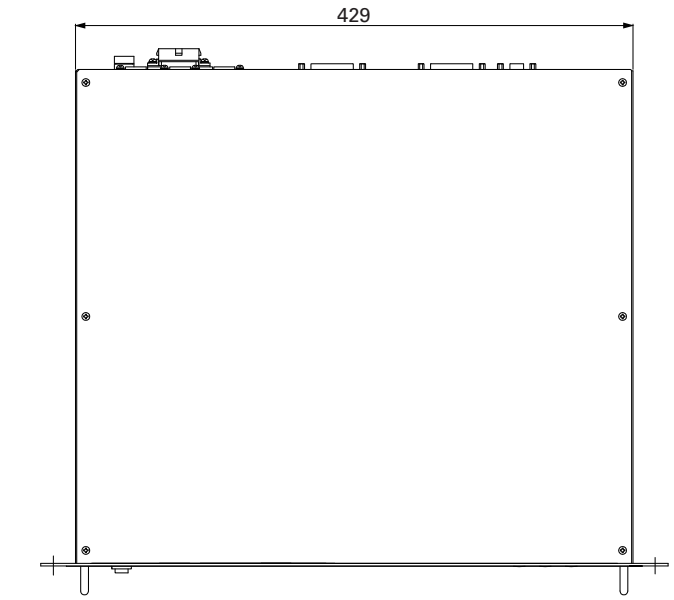
Table 2 Channel (Ch) No. and display/output contents comparison table

Code symbol			
6th digit	7th digit	21st digit	Display/output contents
Y	1 to 3	Y	Ch1:O_2
P	Y	Y	Ch1:NO
A	Y	Y	Ch1:SO_2
D	Y	Y	Ch1:CO_2
B	Y	Y	Ch1:CO
E	Y	Y	Ch1:CH_4
F	Y	Y	Ch1:NO, Ch2:SO_2
G	Y	Y	Ch1:NO, Ch2:CO
J	Y	Y	Ch1:CO_2, Ch2:CO
K	Y	Y	Ch1:CH_4, Ch2:CO
L	Y	Y	Ch1:CO_2, Ch2:CH_4
N	Y	Y	Ch1:NO, Ch2:SO_2, Ch3:CO
T	Y	Y	Ch1:CO_2, Ch2:CO, Ch3:CH_4
V	Y	Y	Ch1:NO, Ch2:SO_2, Ch3:CO_2, Ch4:CO
P	1 to 3	Y	Ch1:NO, Ch2:O_2
A	1 to 3	Y	Ch1:SO_2, Ch2:O_2
D	1 to 3	Y	Ch1:CO_2, Ch2:O_2
B	1 to 3	Y	Ch1:CO, Ch2:O_2
E	1 to 3	Y	Ch1:CH_4, Ch2:O_2
F	1 to 3	Y	Ch1:NO, Ch2:SO_2, Ch3:O_2
G	1 to 3	Y	Ch1:NO, Ch2:CO, Ch3:O_2
J	1 to 3	Y	Ch1:CO_2, Ch2:CO, Ch3:O_2
K	1 to 3	Y	Ch1:CH_4, Ch2:CO, Ch3:O_2
L	1 to 3	Y	Ch1:CO_2, Ch2:CH_4, Ch3:O_2
N	1 to 3	Y	Ch1:NO, Ch2:SO_2, Ch3:CO, Ch4:O_2
T	1 to 3	Y	Ch1:CO_2, Ch2:CO, Ch3:CH_4, Ch4:O_2
V	1 to 3	Y	Ch1:NO, Ch2:SO_2, Ch3:CO_2, Ch4:CO, Ch5:O_2
P	1 to 3	A *	Ch1:NOx, Ch2:O_2, Ch3:corrected NOx
A	1 to 3	A *	Ch1:SO_2, Ch2:O_2, Ch3:corrected SO_2
B	1 to 3	A *	Ch1:CO, Ch2:O_2, Ch3:corrected CO
F	1 to 3	A *	Ch1:NOx, Ch2:SO_2, Ch3:O_2, Ch4:corrected NOx, Ch5:corrected SO_2
G	1 to 3	A *	Ch1:NOx, Ch2:CO, Ch3:O_2, Ch4:corrected NOx, Ch5:corrected CO
J	1 to 3	A *	Ch1:CO_2, Ch2:CO, Ch3:O_2, Ch4:corrected CO
N	1 to 3	A *	Ch1:NOx, Ch2:SO_2, Ch3:CO, Ch4:O_2, Ch5:corrected NOx, Ch6:corrected SO_2, Ch7:corrected CO
V	1 to 3	A *	Ch1:NOx, Ch2:SO_2, Ch3:CO_2, Ch4:CO, Ch5:O_2, Ch6:corrected NOx, Ch7:corrected SO_2, Ch8:corrected CO
P	1 to 3	C *	Ch1:NOx, Ch2:O_2, Ch3:corrected NOx, Ch4:corrected NOx average
A	1 to 3	C *	Ch1:SO_2, Ch2:O_2, Ch3:corrected SO_2, Ch4:corrected SO_2 average
B	1 to 3	C *	Ch1:CO, Ch2:O_2, Ch3:corrected CO, Ch4corrected CO average
F	1 to 3	C *	Ch1:NOx, Ch2:SO_2, Ch3:O_2, Ch4:corrected NOx, Ch5:corrected SO_2, Ch6:corrected NOx average, Ch7:corrected SO_2 average
G	1 to 3	C *	Ch1:NOx, Ch2:CO, Ch3:O_2, Ch4:corrected NOx, Ch5:corrected CO, Ch6:corrected NOx average, Ch7:corrected CO average
J	1 to 3	C *	Ch1:CO_2, Ch2:CO, Ch3:O_2, Ch4:corrected CO, Ch5:corrected CO average
N	1 to 3	C *	Ch1:NOx, Ch2:SO_2, Ch3:CO, Ch4:O_2, Ch5:corrected NOx, Ch6:corrected SO_2, Ch7:corrected CO, Ch8:corrected NOx average, Ch9:corrected SO_2 average, Ch10:corrected CO average
V	1 to 3	C *	Ch1:NOx, Ch2:SO_2, Ch3:CO_2, Ch4:CO, Ch5:O_2, Ch6:corrected NOx, Ch7:corrected SO_2, Ch8:corrected CO, Ch9:corrected NOx average, Ch10:corrected SO_2 average$_2$, Ch11:corrected CO average

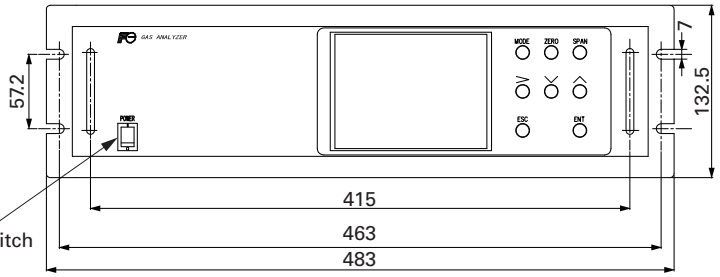
* When the 21st digit code is A or C, the component of the NO analyzer is displayed as NOx.

OUTLINE DIAGRAMS (Unit : mm)

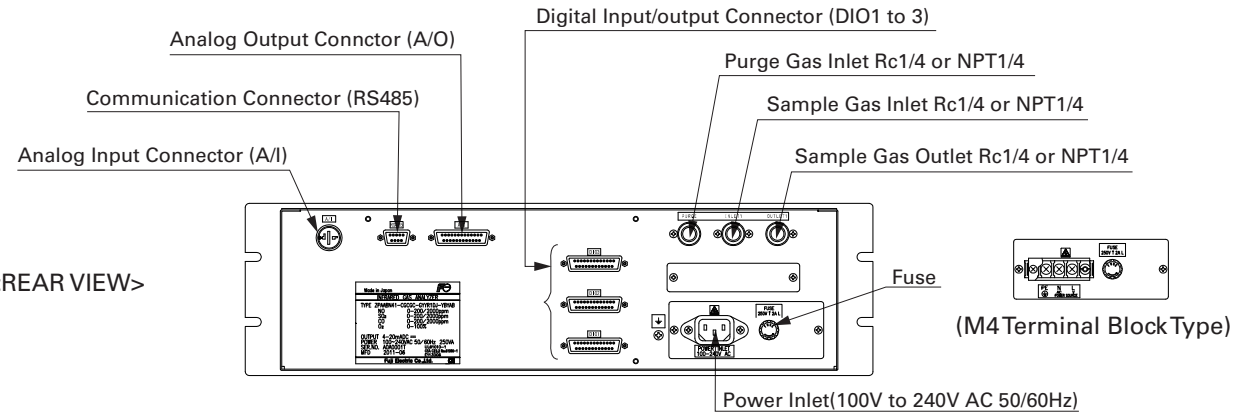
<TOP VIEW>



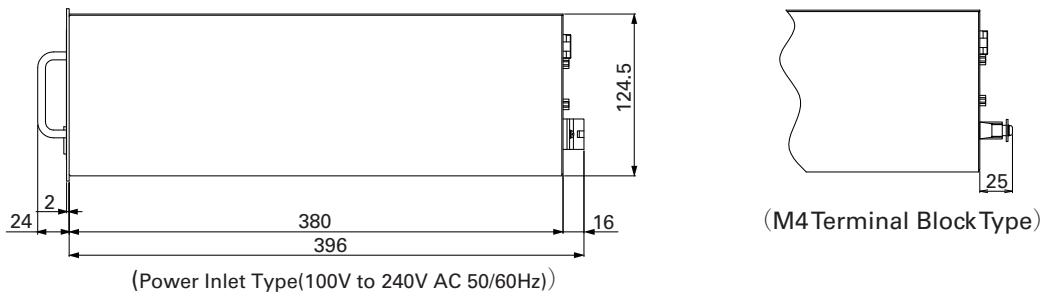
<FRONT VIEW>



<REAR VIEW>



<SIDE VIEW>

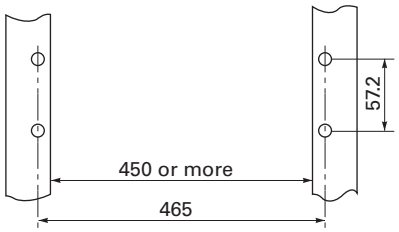


Mounting method

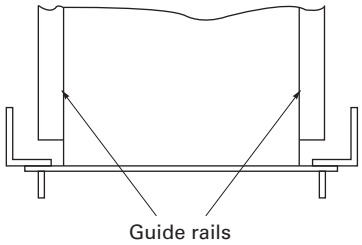
The analyzer weight should be supported at the bottom of the case.

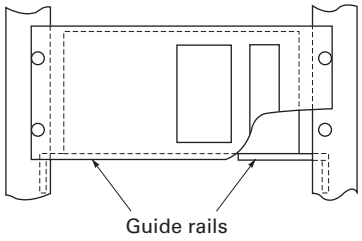
19-inch rack mounting type

<Rack dimensions>



Mounting diagram





SCOPE OF DELIVERY

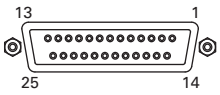
- Gas analyzer ... 1 unit
- Replacement fuse (250V, 2A AC, delay type) ... 2 pcs
- Instruction manual ... 1 copy
- Connector for I/O connection ... 1 set
- Power supply cord (standard inlet type 2m) ... 1 pc

ORDERING INFORMATION

1. Code symbols
2. Application and composition of sample gas

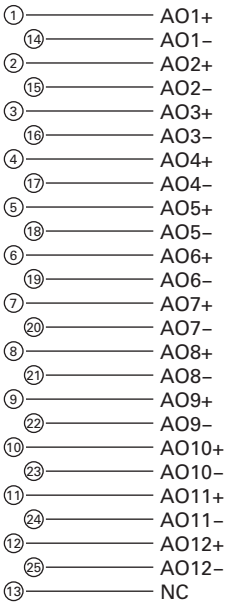
EXTERNAL CONNECTION

<Analog output> A/O connector

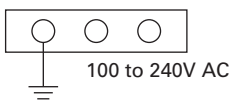


D-sub 25pins female

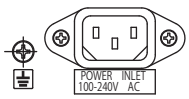
* In standard, displayed Channel No. and Analog Output No. are same.



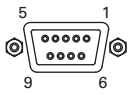
<Screw terminal (M4)>



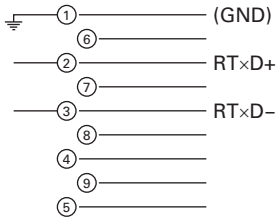
<Power inlet>



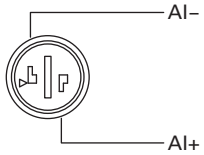
<RS485 communication signal>



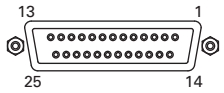
D-sub 9pins female



<Analog input> A/I connector (O_2 signal input)

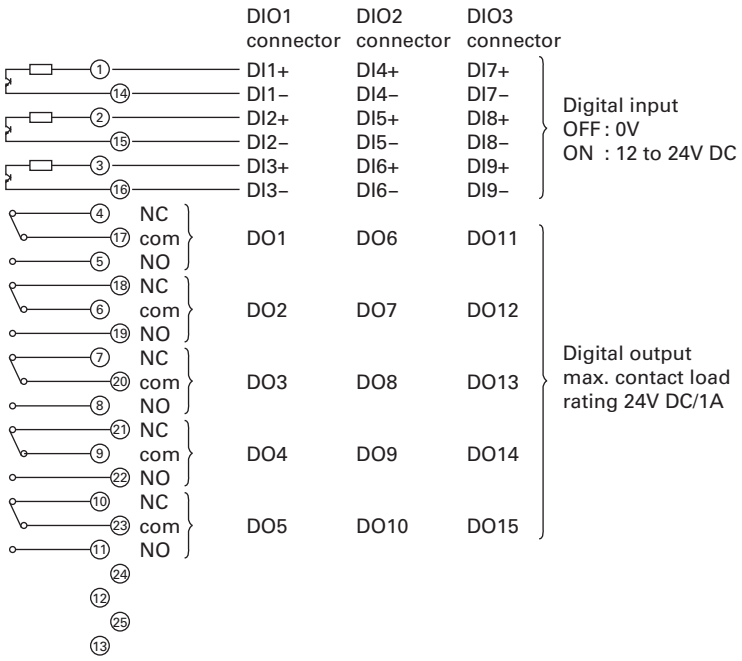


<Digital I/O> DIO 1 to 3 connector (option)



D-sub 25pins female

* DIO 1 to 3 are all as same connector.



Contents of digital input signal

DI1	Remote hold
DI2	Average value reset
DI3	A. cal. start
DI4	A. zero. cal. start
DI5	Remote range Ch1
DI6	Remote range Ch2
DI7	Remote range Ch3
DI8	Remote range Ch4
DI9	Remote range Ch5

Allocation table of digital input signal

22th digit →	A	B	C	D	E	F	G	H	Y
DI1	○	○	○	○	○	○	○	○	
DI2	○	○	○	○	○	○	○	○	
DI3		○			○		○	○	
DI4		○			○		○	○	
DI5				○		○	○	○	
DI6				○*		○*	○*	○*	
DI7				○*		○*	○*	○*	
DI8				○*		○*	○*	○*	
DI9				○*		○*	○*	○*	

○ sign shows the function is valid.
* : The function might be invalid depending on the number of measurable components.
For example: DI5 corresponds to 1st component, DI6 corresponds to 2nd components.

Contents of digital output signal

	Independent on the number of component	1-component analyzer		2-component analyzer	3-component analyzer
22th digit →	A, C	B, E	D, F, G, H	B, D, E, F, G, H	B, D, E, F, G, H
DO1	Instrument error	Instrument error	Instrument error	Instrument error	Instrument error
DO2	Calibration error	Calibration error	Calibration error	Calibration error	Calibration error
DO3		A.cal.status	(A.cal.status)	(A.cal.status)	(A.cal.status)
DO4		For zero gas	(For zero gas)	(For zero gas)	(For zero gas)
DO5		For span gas Ch1	(For span gas Ch1)	(For span gas Ch1)	(For span gas Ch1)
DO6	(Alarm1)	(Alarm1)		(For span gas Ch2)	(For span gas Ch2)
DO7	(Alarm2)	(Alarm2)			(For span gas Ch3)
DO8	(Alarm3)	(Alarm3)			(Range identification Ch1)
DO9	(Alarm4)	(Alarm4)		(Range identification Ch1)	(Range identification Ch2)
DO10	(Alarm5)	(Alarm5)	Range identification Ch1	(Range identification Ch2)	(Range identification Ch3)
DO11			(Alarm1)	(Alarm1)	(Alarm1)
DO12			(Alarm2)	(Alarm2)	(Alarm2)
DO13			(Alarm3)	(Alarm3)	(Alarm3)
DO14			(Alarm4)	(Alarm4)	(Alarm4)
DO15			(Alarm5)	(Alarm5)	(Alarm5)

The items in the parentheses may not be available depending on the selected type on 22th digit.

The normal open side (NO) of digital output is close when the function is active without range ID.

In case of range ID, normal open (NO) side is close with First range.
The normal close (NC) side is close with Second range.

	4-component analyzer				5-component analyzer		
22th digit →	B, E	D, F	G	H	B, E	D, F	G
DO1	Instrument error	Instrument error	Instrument error	Instrument error	Instrument error	Instrument error	Instrument error
DO2	Calibration error	Calibration error	Calibration error	Calibration error	Calibration error	Calibration error	Calibration error
DO3	A.cal.status		A.cal.status	A.cal.status	A.cal.status		A.cal.status
DO4	For zero gas		For zero gas	For zero gas	For zero gas		For zero gas
DO5	For span gas Ch1		For span gas Ch1	For span gas Ch1	For span gas Ch1		For span gas Ch1
DO6	For span gas Ch2		For span gas Ch2	For span gas Ch2	For span gas Ch2	Range identification Ch1	For span gas Ch2
DO7	For span gas Ch3	Range identification Ch1	For span gas Ch3	For span gas Ch3	For span gas Ch3	Range identification Ch2	For span gas Ch3
DO8	For span gas Ch4	Range identification Ch2	For span gas Ch4	For span gas Ch4	For span gas Ch4	Range identification Ch3	For span gas Ch4
DO9		Range identification Ch3		Range identification Ch1	For span gas Ch5	Range identification Ch4	For span gas Ch5
DO10		Range identification Ch4		Range identification Ch2		Range identification Ch5	
DO11	(Alarm1)	(Alarm1)		(Alarm1)	(Alarm1)	(Alarm1)	Range identification Ch1
DO12	(Alarm2)	(Alarm2)	Range identification Ch1	(Alarm2)	(Alarm2)	(Alarm2)	Range identification Ch2
DO13	(Alarm3)	(Alarm3)	Range identification Ch2	(Alarm3)	(Alarm3)	(Alarm3)	Range identification Ch3
DO14	(Alarm4)	(Alarm4)	Range identification Ch3	Range identification Ch3	(Alarm4)	(Alarm4)	Range identification Ch4
DO15	(Alarm5)	(Alarm5)	Range identification Ch4	Range identification Ch4	(Alarm5)	(Alarm5)	Range identification Ch5

Exclusive Zirconia O_2 analyzer (to be purchased separately)

For O_2 correction, the gas analyzer ZPA can accept linearized 0 to 1V DC signal from the O_2 analyzer calibrated 0 to 25vol% O_2 full scale. If the analyzer is not available, Fuji can supply exclusive Zirconia O_2 analyzer Model ZFK.

Measuring method:
Zirconia system

Measurable component and measuring range:

Measurable component		Range
O2	Oxygen	0 to 25vol%

Repeatability: Within ± 0.5% of full scale
Linearity: Within ± 1% of full scale
Zero drift: Within ± 1% of full scale/week
Span drift: Within ± 2% of full scale/week
Response time: Approx. 20 seconds (for 90% response)
Measured gas flow rate:
0.5 ± 0.25L / min

Remark: The Zirconia system, due to its principle, may produce a measuring error due to relative concentration versus the combustible O_2 gas concentration. Also, a corrosive gas (SO_2 of 250 ppm or more, etc.) may affect the life of the analyzer.

Gas inlet/outlet size:
Rc1/4 or NPT1/4

Power supply: Rated voltage ; 100 to 115V AC or 200 to 240V AC
Rated frequency ; 50Hz/60Hz
Max. rated power ; 215VA (during power ON)
65VA (during steady-state operation)

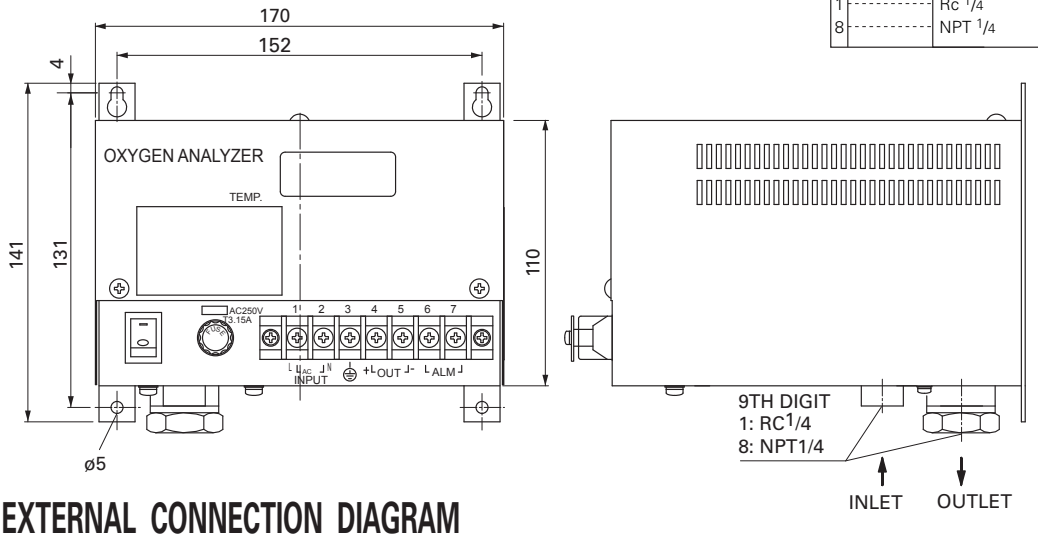
Enclosure: Steel casing, for indoor application
Indication: Temperature indication (LED)
Temperature alarm output:
Contact output 1a contact,
Contact capacity 220V, 1A AC (resistive load)

Outer dimensions (H x W x D):
141 x 170 x 190mm
Mass {weight}: Approx. 3kg
Finish color: Munsell 5Y 7/1

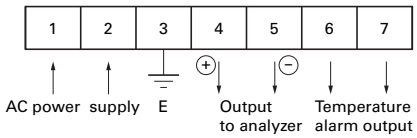
CODE SYMBOLS

1	2	3	4	5	6	7	8		9	10	11	12	13	Description
Z	F	K	7	Y	Y		4	-		Y	0	Y	Y	**Measuring method**
			7	Y	Y									Zirconia method
														Power supply
									9					100 to 115V AC 50/60Hz(Standard)
									B					200 to 240V AC 50/60Hz(Standard)
									C					200 to 240V AC 50/60Hz(CE mark)
														Gas inlet/outlet size
									1					Rc 1/4
									8					NPT 1/4

OUTLINE DIAGRAM (Unit:mm)



EXTERNAL CONNECTION DIAGRAM



⚠ Caution on Safety

*Before using this product, be sure to read its instruction manual in advance.

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