


# Explosion proof type Infrared Multiple-constituents Analyzer Model IRMD series



Type IRMD51xxSF infrared multiple-constituents analyzer is designed to measure a product constituent and/or thickness. The equipment is the infrared absorption based non-contact multiple-constituents analyzer. Explosion-proof enclosure's frame and cover are cast from aluminum alloy. Indication window and measuring window are made in tempered glass that cemented to enclosure. The lamp has been assessed inherently safe optical radiation and placed inside the flameproof enclosure.

## FEATURES

- Designed to use in explosive atmospheres - Directive 2014/34/EU
- EU-Type Examination certificate Number:  SCA20ATEX069X
- Up to 10 wavelengths, capable of measuring 4 constituents such as; moisture, film-thickness, organism, and coating-thickness in real time simultaneously.
- High-speed & High-repeatability (28ms)
- Self-diagnostic function and easy maintenance
- Conforms to CE standards and IP54

## MODELS

### ANALYZER

IRMD51   SF

Number of Wavelength : 2 to 0(10)

Number of constituents : 1 to 4

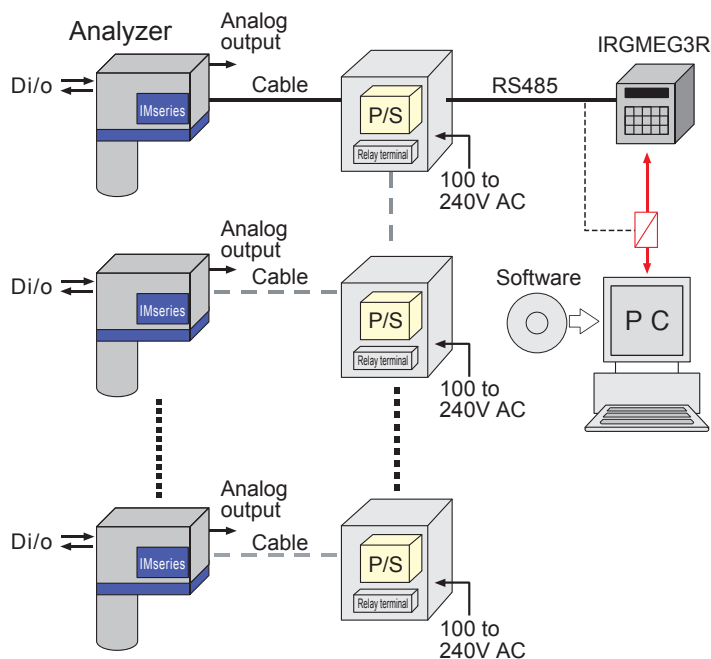
### SETTING DISPLAY UNIT

IRGMEG3R



Setting display unit

## CONFIGURATION



## GENERAL SPECIFICATIONS

### ● INFRARED MULTI ANALYZER



Measuring system:	Infrared absorption type
Measuring wavelength:	Up to 10 wavelengths
Measuring component:	Up to 4 constituents
Light source:	Tungsten lamp
Measuring distance:	200 to 400mm
Measuring diameter:	50mm□/300mm
Analog output:	4 to 20mADC, 0.2% of full scale (Load resistance: less than 500 Ω)
Communications:	RS485 MODBUS
Output renewal cycle:	28ms
Display & setup:	Displays data & setup parameter
Computing:	2 or 3-color ratio calculation Multiple regression calculation
No. of calibration curve:	Up to 99 curves
Calibration curve:	Linear, quadratic, cubic & multiple regression line
Smoothing (delay):	0 to 99 seconds
Calibration:	By checking plate
Detector No. setup:	When multiple detector operation, detector No. is configurable
Channel No. setup:	Calibration curve No. is configurable.
Self-diagnostic:	Outputs contact signal and communications when abnormal conditions
Correction input:	Compensate measured value by external 4 to 20mA DC (sample temperature, etc.)
External Di/o:	Di(contact input) --- Perform either one of preset, data-hold or real/smoothing Do(contact output) --- Selects self -diagnostic(1b) or Hi/low alarm(1a)
Working temperature:	0 to 45°C (Use dry air cooling if higher than 40°C Outlet air temperature must be lower than 30°C)
Power supply:	24V DC supplied from IR-WEP (IR-WEP power supply: 100 to 240VAC)
Power consumption:	Approx. 30VA
Connection:	Terminal connection
Casing:	Aluminum casting
Weight:	Approx. 10.0kg
Mounting:	Bolt suspension method with 4 pieces of M8 bolts
Protective classification:	
Certificate number:	Ex II 2G Ex db op is II B T5 Gb SCA20ATEX069X

### ● SETTING DISPLAY UNIT

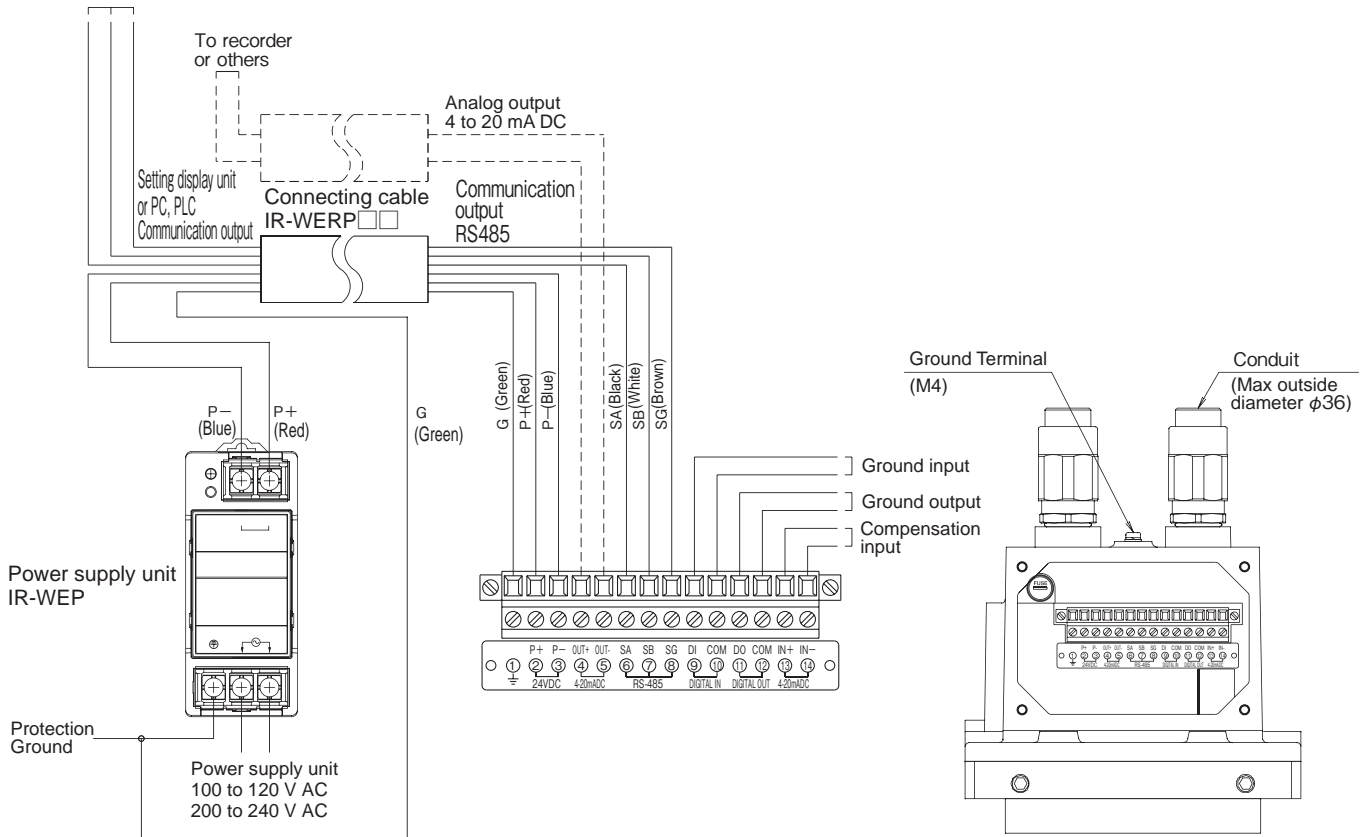


**IRGMEG3R**

Input signal:	RS485, up to 9 detectors connectable
Analog output:	4 to 20 mA DC, 3 output (Load resistance : output 1, 2 : Less than 600 Ω, 3 : Less than 400 Ω) (Component 1 of detector no.1 to 3 is outputted for multi head)
Communications:	RS232C
Output renewal cycle:	28ms x detector number
Display:	1. Measured data, LED 5 digit 2. Detector No., component No., calibration curve No., parameter setup (Component No. is displayed for detector multi- component meter)
Detector No. setup:	Detector No. 1 to 9 is key configurable
Component No. setup:	Component No. 1 to 4 is key configurable (Depending on the detector)
Calibration curve No. setup:	Calibration curve No. is key configurable for each of detector No. also configurable by external contact
Smoothing time:	Smoothing time setting at smoothing calculation T=0.0 to 9.9, 10 to 99 seconds
Calibration function:	Perform calibration by key operation or by external contact in use of checking plate
Hold / preset:	Hold or preset the display and output by key operation or by external contact
Calibration curve correction:	Online correction of calibration curve linear and quadratic correction
External setup:	Detector No., component No., calibration curve No., calibration, hold or preset
Alarm function:	High/low limit alarm individual contact output (a contact, common) beyond setting range
Self-diagnostic:	Outputs contact signal(1b) when abnormal condition
Case material:	Flame retardant polycarbonate
Working ambient:	0 to 50°C
Mounting:	Panel-mount type
Weight:	Approx. 0.6kg
Power supply:	100 to 240V AC 50/60Hz Power consumption Max. 20VA
CE-standards:	EMC : EN61326-1 Class A Low voltage : EN61010-1, EN61010-2-30 RoHS : EN50581

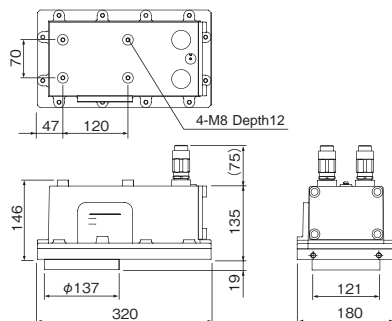
## CONNECTION

Setting display unit  
or PC, PLC  
Communication output

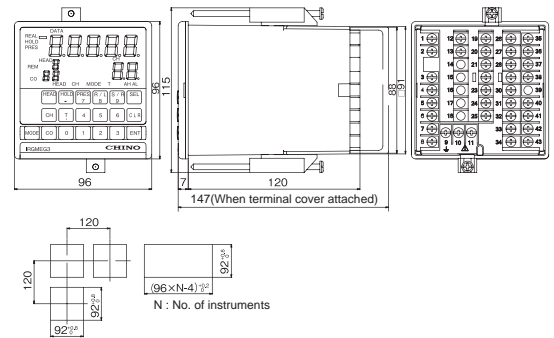


## EXTERNAL DIMENSION

### ANALYZER



### SETTING DISPLAY UNIT IRGMEG3R



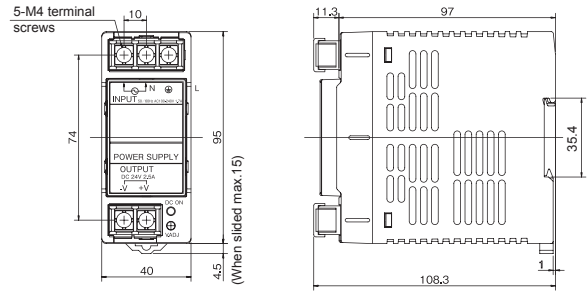
Unit : mm

**ACCESSORIES**

**Power supply unit IR-WEP**

Supply 24V DC to Analyzer

- Supply voltage: 24V DC
- Power consumption: 60W
- Output current: 2.5A
- Casing: Resin
- Working temperature: -10 to 50°C
- Mounting method: DIN rail mounting
- Power supply: 100 to 240 V AC  
47 to 450 Hz
- Weight: Approximate 330 g
- Allowable voltage fluctuation: 85 to 264 V AC

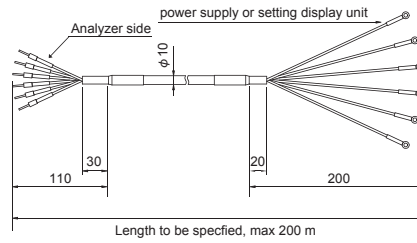


**Connecting cable IR-WERPD**

Cable length

Exclusive cable between Analyzer and Setting display unit

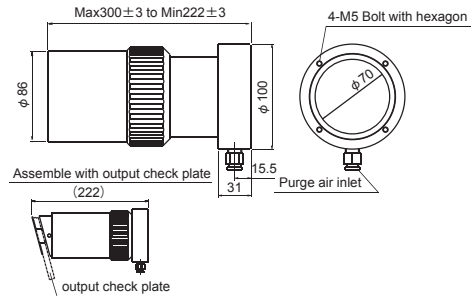
- Structure: 4 core cap type cable
- Outside diameter:  $\phi 10$ mm
- Length: 200m max
- Connection: Analyzer side : Pin (Stick type)  
Display side : Chip (Ring Terminal)



**Air purge hood IR-WEA**

Shade from external light-source, and use air purging for measuring window and light-path

- Purge air: Flow rate 50 to 200L/min(normal)
- Pressure Max 200kPa
- (Use clean-dry air)



Unit : mm

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