

SMOKE&DUST MONITOR

DSM7000B SERIES

Light Transmitting Method



INDICATOR SET

LIGHT RECEIVER UNIT



LIGHT SOURCE UNIT



DAITO INSTRUMENT CO.,LTD

ABSTRACT

This instrument consists of an indicator set and a detector set which includes a light source unit and a light receiver unit. MODEL DSM7000B is able to indicate continuously the relative density of dust by the measuring of the transparency rate of light passing through the smoke duct from the light source unit to the light receiver unit which are fitted at opposite side of duct.

Beam of light is projected directly into the flow of smoke and dust and its light transparency rate is calculated as follows;

$$S_x = \left(1 - \frac{I_x}{I_0}\right) \times 100\%$$

Where S_x : light transparency rate.

I_0 : illuminance of the projected light.

I_x : intensity of illumination when the projected light passes through the thickness, x , of smoke and dust.

Providing two outputs of DC.4-20 mA and a "c" contact (non voltage), any alarm signal setting, continuous recording of figures and the various controls of boundary equipments are capable.

SPECIFICATION

CONDITION

Temperature -10 ~ +50°C
Relative humidity 30~90%

UTILITY

Power supply AC110V(85-132V) or AC220V(170-264V)
50 / 60 Hz
Power consumption 35 VA.
Instrument Air supply 0.5-0.7MPa
Air consumption 100-200L/min.

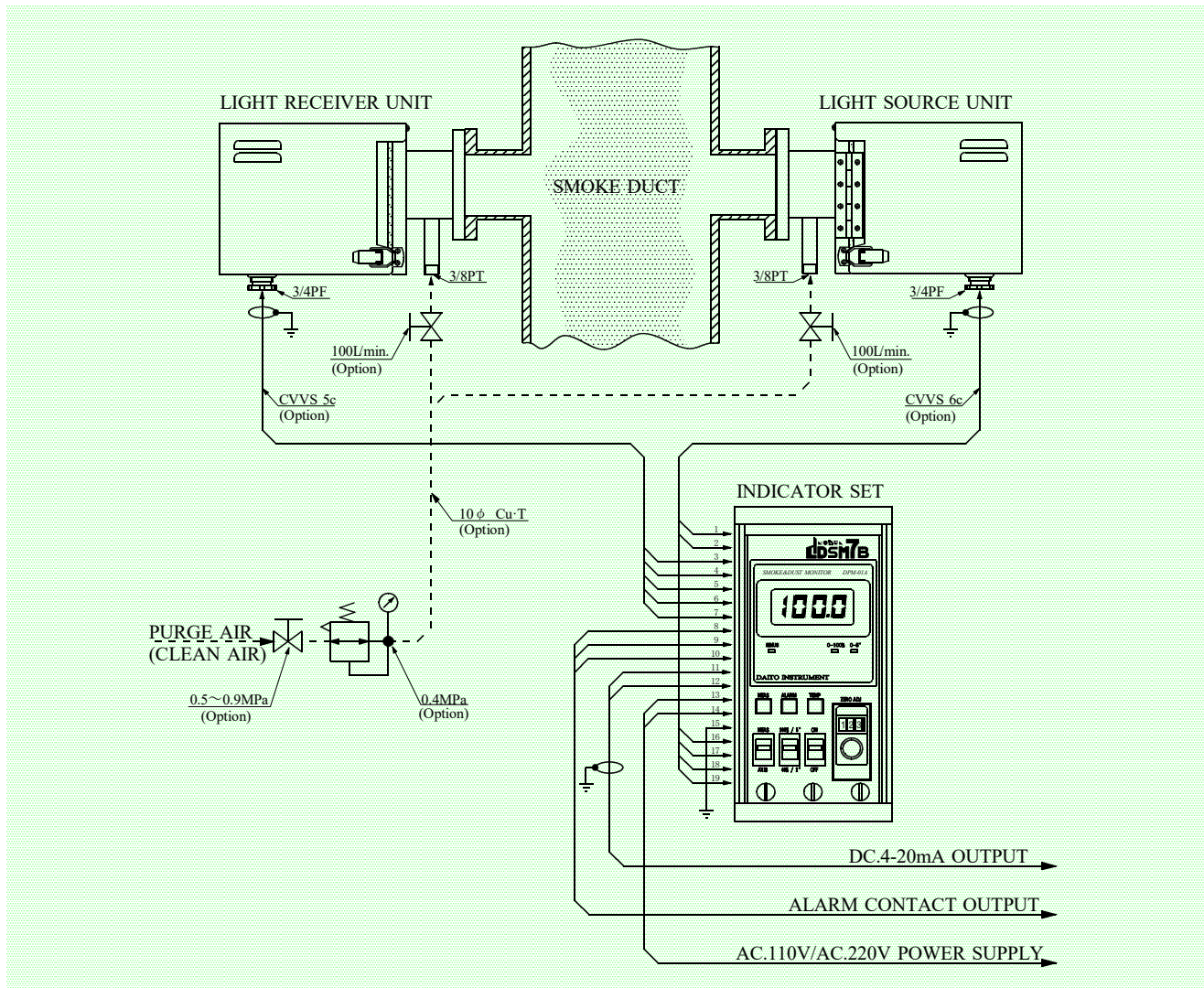
MEASUREMENT CONDITION

Gas temperature max. 350 °C
Duct size max. 8,000mm

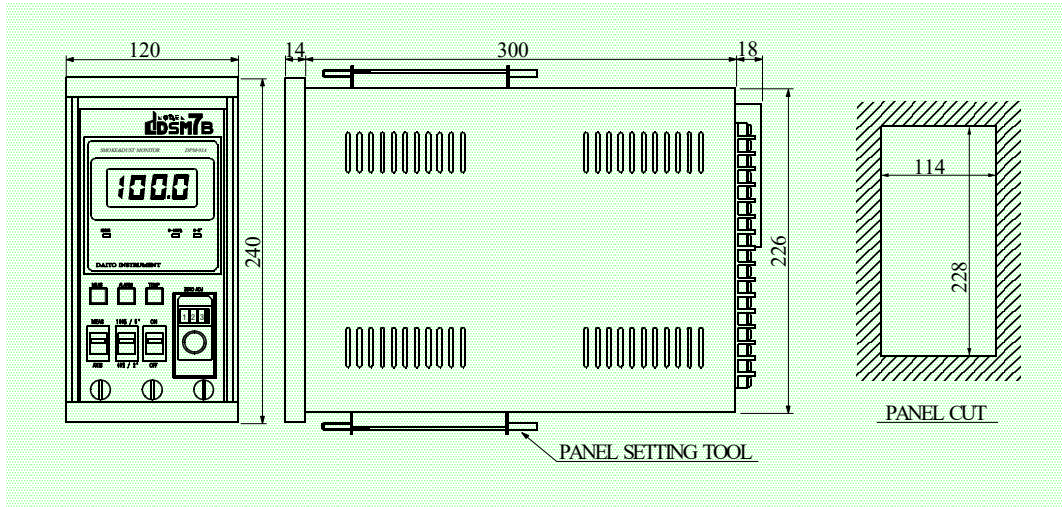
ELECTRICAL SPECIFICATION

Principle Measurement Light transmitting method
Measurement Range Opacity 0-100% / 0-40%
Ringelmann 0-5 / 0-2
Output signal DC.4-20mA
Drift Zero Drift ±2%/week
Span Drift ±1%/week
Response time 100ms
Alarm output Adjustable alarm set point
Alarm contact rating AC125V / 0.5A , DC24V / 1A

SYSTEM DIAGRAM



INDICATOR SET



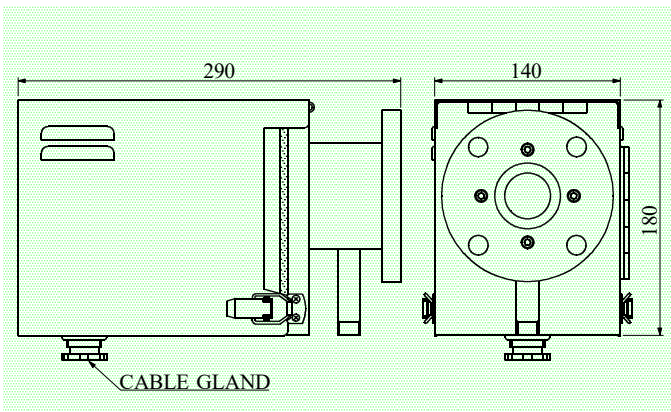
Model
Meter scale
Output signal
Cable connection

DSM-7B (Panel setting type)
0-100% & 0-40% (2-Ranges)
DC.4-20mA
Terminal board 19p

Alarm setting
Alarm contact
Alarm contact rating
Weight

Adjustable setting point.
"c" contact.
AC.125V 0.5A / DC.24V 1A
5 kg.

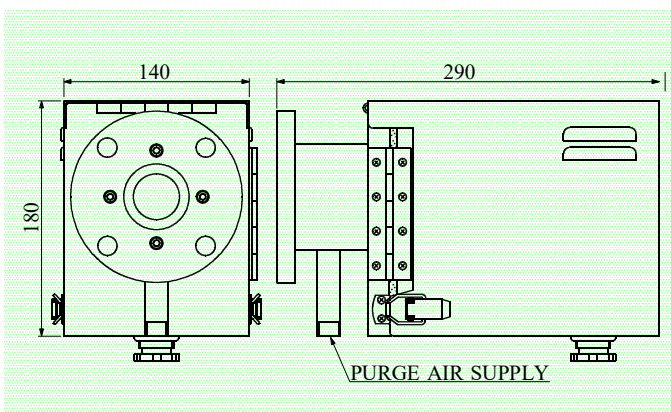
LIGHT SOURCE UNIT



Model
Flange
Lamp
Light axis adjusting
Beam of light
Filter protection
Air supply
Cable connection
Color
Weight

DET-701E (All weather type)
JIS5K50A FF (ANSI2B150LB RF)
24V20W Tungsten filament lamp.
3 adjusting screws with spring.
(Maximum incline 2°)
Variable of the illuminance of light.
Air purge system (supply port 3/8"PT)
Over 50mmAq. add to the inside pressure of the duct.
Terminal board 6P.
Cable gland (3/4"PF)
Munsell N-4.0
10 kg

LIGHT RECEIVER UNIT



Model
Flange
Transducer
Filter protection
Air supply
Cable connection
Color
Weight

DET-702E (All weather type)
JIS5K50A FF (ANSI2B150LB RF)
Silicone photo-diode.×2
(Main and auxiliary)
Air purge system (supply port 3/8"PT)
Over 50mmAq. add to the inside pressure of the duct.
Terminal board 5P.
Cable gland (3/4"PF)
Munsell N-4.0
10 kg



 **DAITO INSTRUMENT CO.,LTD**

9-6, Shirokane 3-chome Minato-ku, Tokyo 108-0072, JAPAN
TEL. +81-3-3446-9511 FAX. +81-3-3446-1030