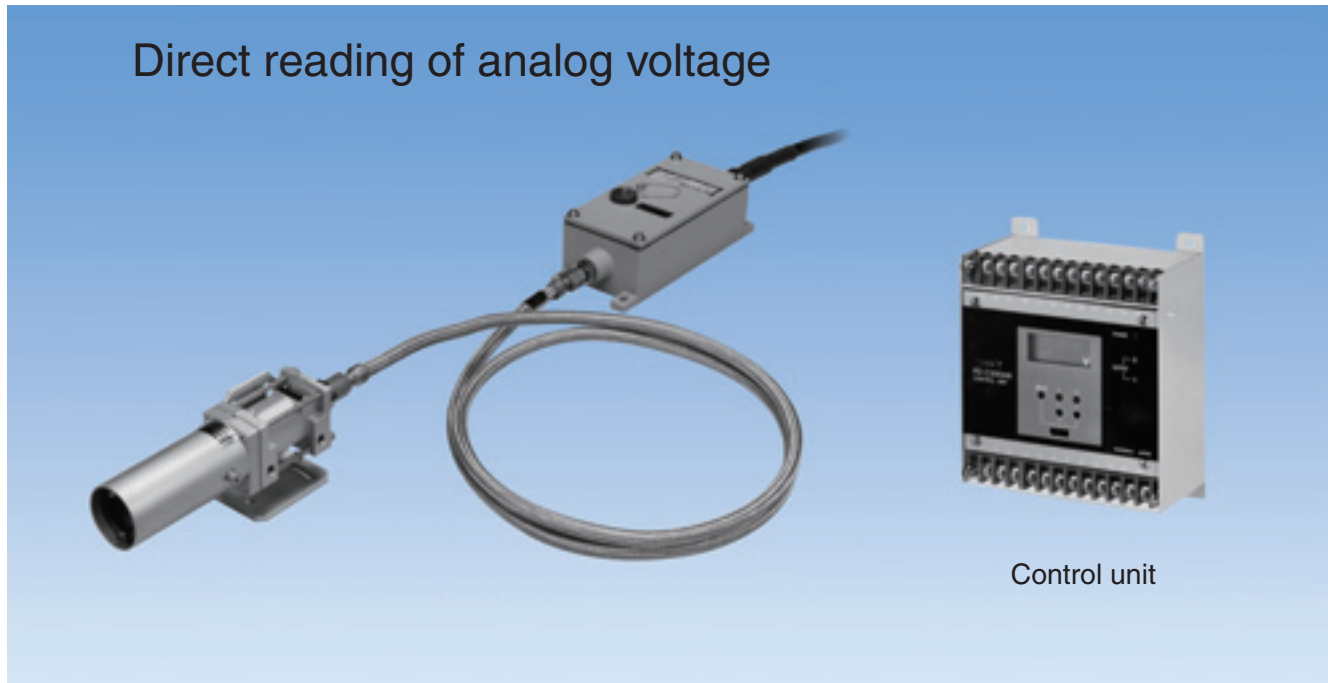


FD-A300AN

Fiber type analog HMD

Direct reading of analog voltage



Control unit

Unlike ordinary HMDs that detect radiation from heated material and output the presence of the material as a signal such as a relay contact, FD-A300AN Series sensors convert the radiation intensity from heated material into analog voltage.

The large analog dynamic range allows analog output of a wide range between low temperature of 350 °C and high temperature of 750 °C.

(The signal is not linearized with reference to temperature and the sensors cannot be used as thermometer.)

Features

- Supports a wide range of temperature 350-750 °C (with fiber optic cable FG2)
Attaching a pinhole plate to the optical head allows analog output ranging from 400 to 850 °C (OHA with ϕ 10 pinhole) or from 460 to 1,100 °C (OHA with ϕ 5 pinhole).
- Direct reading of analog voltage
Output analog quantity is fed into the control unit, which displays the analog voltage.
Setting a comparator at an arbitrary analog quantity provides output of relay contact or open collector output.
Comparator setting corresponds to sensitivity adjustment of the conventional HMDs. With the FD-A300AN Series, viewing concrete figure of analog voltage facilitates setting.
- Dual comparators for a variety of applications
The conventional HMDs had weaknesses such as low accuracy of detection position as in situations where high sensitivity to detect low-temperature material caused unwanted reflection with high-temperature material. The dual comparators for the FD-A300AN allow setting of one of the two for low temperature and the other for high temperature. On top of this, selection of output in agreement with the line conditions can increase the detection position accuracy.
- Use of insulating transformer (isolator) for long-distance transmission
The output from the amplifier is voltage output of 0-10 V and use of a commercially-available insulating transformer allows long-distance transmission as a measurement signal of 4-20 mA.

FD-A300AN

Rating/Performance/ Specification/Environmental Specification

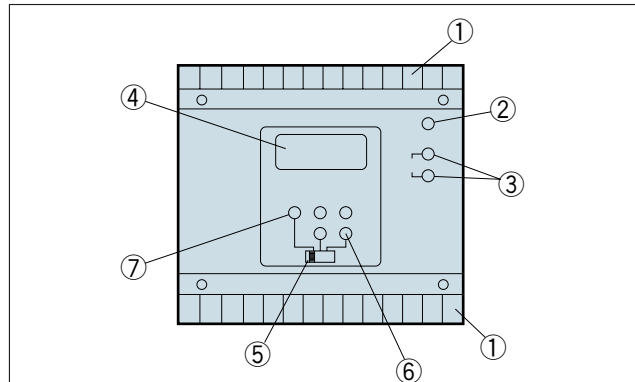
● Amplifier

Model	FD-A300AN
Detection method	Fiber type
Detection temperature analog range	350~750°C (with optical head OHA and fiber optic cable FG2)
Power Supply	AC100~220V ±10% 50/60Hz
Power consumption	10W Max.
Output mode	Voltage output: 0-10 V; output impedance: 10 kΩ Effective range: 1.0-10.0 V
Response time	5ms./Full
Indicator	5-point level indicator (yellow LED)
Case material	Aluminum die-cast
Connection	Connector type: cord length 2 m
Mass	About 1.5kg
Ambient temperature	-25 +50°C (Non-freezing)
Ambient humidity	35 - 85%RH (Non-condensing)
Protective structure	IP66

● Control unit

Model	FD-C300AN
Power Supply	AC100~220V ±10% 50/60Hz
Power consumption	10W max.
Input mode	Linear input: 0-10 V; input impedance: 10 kΩ
Comparator	2
Output type	2 relay contact 1c 250 VAC 3 A outputs (resistance load) 2 NPN open collector (photocoupler) 30 VDC 100 mA outputs
Response time	Relay contact output: 20 ms max. NPN open collector output: 1 ms
Input voltage display	Panel meter (LCD) display/ Character height: 12.7 mm
Indicator	POWER: power indicator (green LED) OUTPUT 1/2: output indicator (yellow LED) INPUT 1/2: panel meter switching (green LED)
Volume	2 comparator adjustment volumes: 4-turn
Switch	Panel meter switching Selectable between input voltage/comparator voltage 1 and 2
Connection	Terminal block
Mass	About 1kg
Ambient temperature	-25 +50°C (Non-freezing)
Ambient humidity	35 - 85%RH Max. (Non-condensing)

Control Unit Panel Description

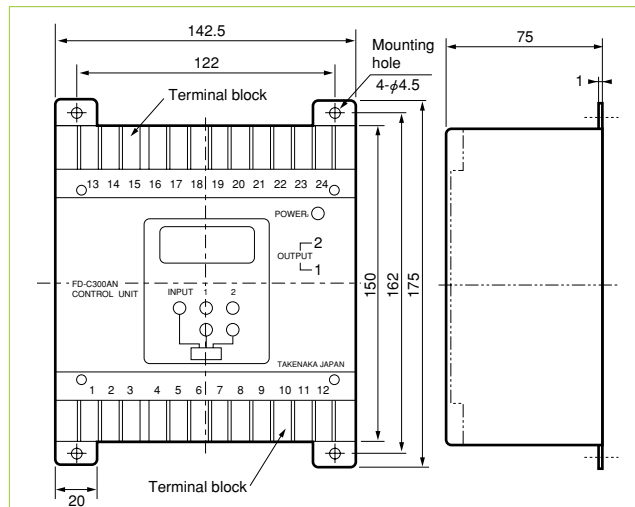


- (1) Terminal block, (2) Power indicator, (3) Output indicator
- (4) Panel meter
- (5) Panel meter switching

The panel meter usually shows the input voltage and individual comparator voltages can be shown by switching the display. For this reason, set the display at Comparator for adjusting comparator voltage and normally set at Input.

- (6) Comparator voltage adjustment, (7) Panel meter switching indicator

Dimension (in mm)

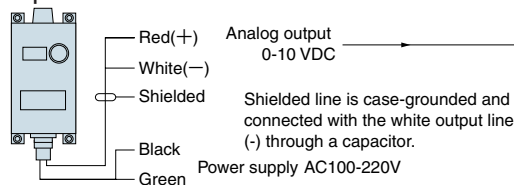


● Head

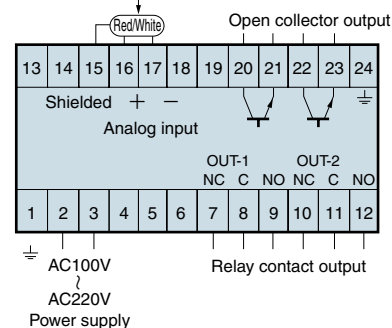
Hoods, optical head and fiber are the same with those for FD-A300P, etc. (See P. 492.)

Connection

Amplifier



Control unit



- Ideally, the amplifier and control unit should be installed in the same box. For separate installation, wiring should be several meters to several tens of meters in principle. For longer wiring of tens-to-hundreds of meters, use an instrument isolator. The length of a data transmission cable depends on the ambient noise and this information should only be used as guidelines.

Connect Terminal No. 1 to ground.

Do not connect anything to the unused terminals, which may be used for the circuitry.