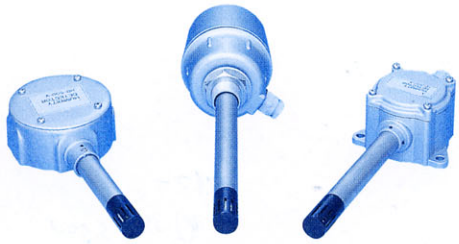
HYGROMETER · HYGROTHERMOMETER

"FOR YOUR HUMIDITY CONTROL"

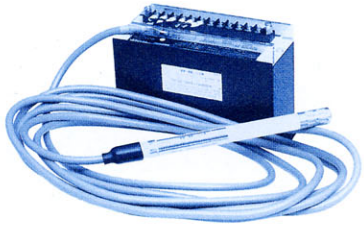




HD-500 series (THD-500 series)



THD-500-F□



HT-400

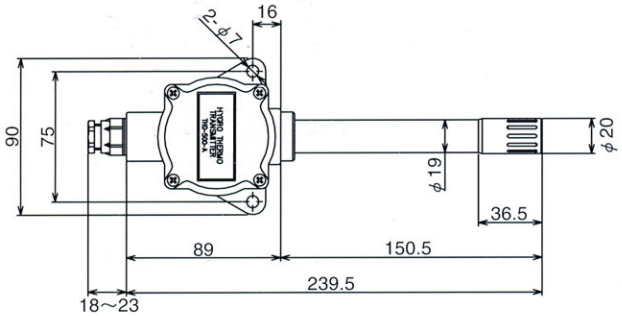
Humidity transmitter [HD-500], Hygrothermo transmitter [THD-500]

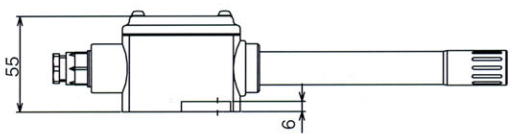
■Standard specifications

Model name		HD-500-A, THD-500-A	HD-500-B, THD-500-B	HD-500-V, THD-500-V
Measuring range		Temperature: 0 to 50℃ (For THD-500-A, THD-500-B, THD-500-V) Humidity : 20 to 90%RH		
Type of sensor		Temperature: Platinum thin film RTD (JIS Pt100 B class) (For THD-500-A, THD-500-B, THD-500-V) Humidity : High polymer thin film resistor		
Accuracy		Temperature: ± [0.3+0.005×| Measuring temperature|] ℃ (JIS C1604 B class) (For THD-500-A, THD-500-B, THD-500-V) Humidity : ±5%RH (at 10 to 50℃)		
Response time		Temperature: 35s (For THD-500-A, THD-500-B, THD-500-V) Humidity : Within 2min (30 ⟷ 80%RH)		
Hysteresis		Humidity : Within approx. 1%RH		
Using atmosphere		Unable to use in the chlorine, sulfur and condensing environment, or the thin film of the humidity sensor will be degraded.		
Output		Temperature: Pt100 3-wire system (For THD-500-A, THD-500-B, THD-500-V) Humidity : 0 to 1Vdc (Correspond 0 to 100%RH)		
Power supply (For Humidity)		5Vdc (Supplied from an exclusive equipment or power source.)		
Working temperature		0 to 50℃ (non-condensing for the humidity sensor)		
Environment		Ambient temperature: −20 to 60℃ Ambient humidity: 5 to 90%RH (non-condensing)		
Protective tube	Length	150mm	200mm	125mm
	Material	SUS304		
Body	Material	Aluminum die casting		Galvanized sheet iron
	Color	Silver metallic finish		
Mounting method		Wall surface	Wall flush	Wall surface
Weight		Approx. 500g	Approx. 550g	Approx. 450g

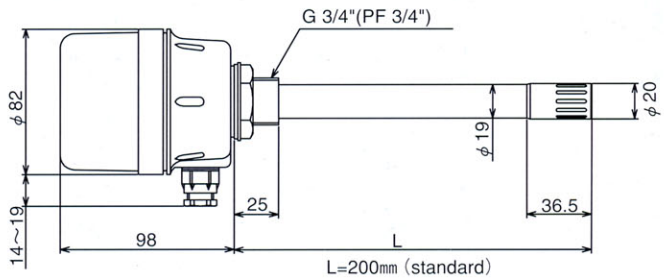
■External dimension drawing (Common to HD-500 series and THD-500 series)

HD-500-A, THD-500-A



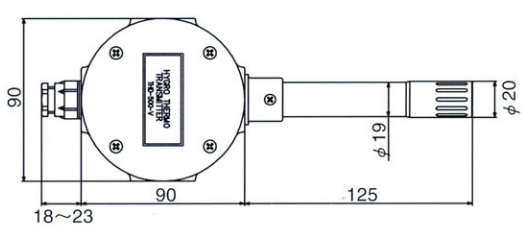


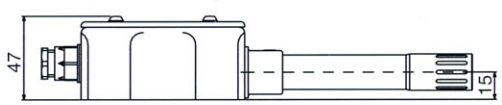
HD-500-B, THD-500-B



The length can be spcified from 200mm over every 100mm.

HD-500-V, THD-500-V





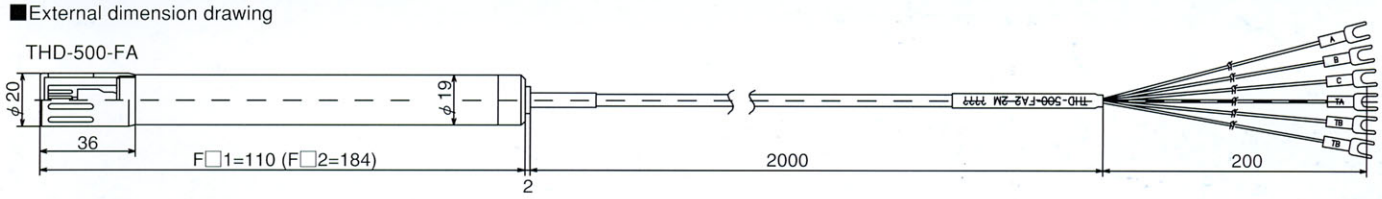
Hygrothermo transmitter [THD-500-FA, THD-500-FB]

■Standard specifications

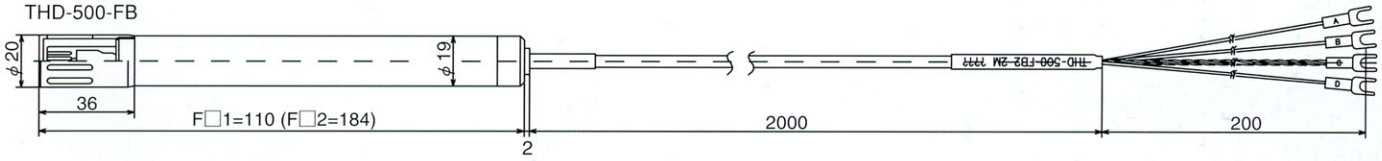
Model name	THD-500-FA1	THD-500-FA2	THD-500-FB1	THD-500-FB2
Measuring range	Temperature: −20 to 60℃ Humidity : 20 to 90%RH		Temperature: 5 to 60℃ Humidity : 20 to 90%RH	
Type of sensor	Temperature: Platinum thin film RTD Humidity : High polymer thin film resistor		Temperature: Semiconductor integrated type temperature delector Humidity : High polymer thin film	
Accuracy	Temperature: 0±0.3℃, 60±0.6℃ Humidity : ±5%RH (at 10 to 50℃)		Temperature: ±0.5℃ (at 25℃) Humidity : ±5%RH (at 10 to 50℃)	
Response time	Temperature: 35s (63.2% response) Humidity : Within 2min (30 ⟷ 80%RH)		Temperature: 1min (63.2% response) Humidity : Within 2min (30 ⟷ 80%RH)	
Hysteresis	Humidity : Approx. within 1%RH			
Using atmosphere	Unable to use in the chlorine, sulfur and condensing environment, or the thin film of the humidity sensor will be degraded.			
Output	Temperature: Pt100 3-wire system Humidity : 0 to 1Vdc (Correspond 0 to 100%RH)		Temperature: 0 to 1Vdc (Correspond 0 to 100℃) Humidity : 0 to 1Vdc (Correspond 0 to 100%RH)	
Power supply (For Humidity)	5Vdc (Within±5%) (Supplied from an exclusive equipment or power source.)			
Working temperature	−20 to 60℃ (non-condensing for the humidity sensor)		Temperature: 0 to 60℃ Humidity :−20 to 60℃ (non-condensing for the humidity sensor)	
Environment	Ambient temperature: −20 to 60℃ Ambient humidity: 5 to 90%RH (non-condensing)			
Protective tube length	110mm	184mm	110mm	184mm
Material ・ Color	Protective tube: Aluminium, painted (Color: Black) , Bush mounting: Polyacetal (Color: Violet) Cap: Polyacetal (Color: Black) , Lead wire: Heat resistant rubber 2m (Standard)			
Mounting method	Panel fixing type by the bush.			
Weight	Approx. 130g (Lead length: 2m)	Approx. 150g (Lead length: 2m)	Approx. 130g (Lead length: 2m)	Approx. 150g (Lead length: 2m)

■External dimension drawing

THD-500-FA



THD-500-FB



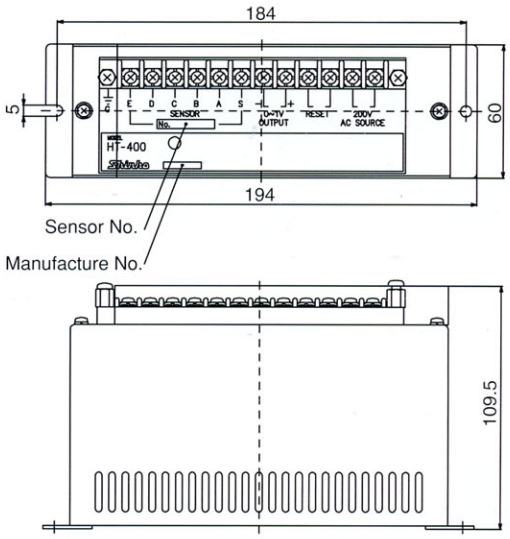
Humidity transmitter [HT-400]

■Standard specifications

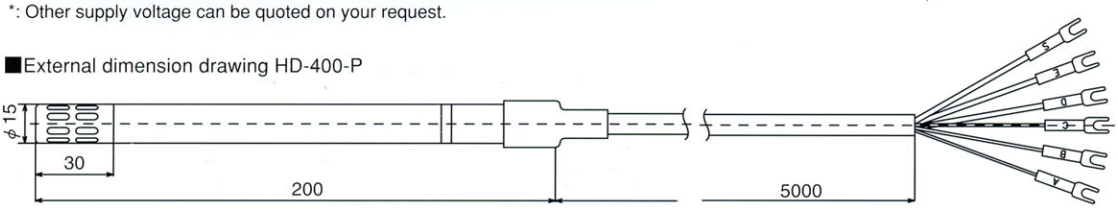
Model name	HT-400 (Converter)
Input	HD-400-P (Exclusive humidity transmitter)
Measuring range	25 to 95%RH
Measuring method	Ceramic surface conductive resistance measuring system
Total accuracy (with transmitter)	±4%RH (between 70 and 90%RH) ±5%RH (between 25 and 70%RH and between 90 and 95%RH)
Response time	Within 2min (at 30 ⟷ 80%RH variation) in the wind velocity 0.1m／s
Using atmosphere	Unable to use in the chlorine, sulfur and condensing environment, or the thin film of the humidity sensor will be degraded.
Output	0 to 1Vdc (Correspond 0 to 100%RH)
Output impedance	100Ω
Ambient temperature	Sensor probe: 0 to 60℃, Converter: 0 to 50℃
Auto-cleaning	When the power is supplied and 27 hours of period. (Manual-cleaning is also available.)
Temperature coefficient	±0.05%RH／℃ (±0.5mV／℃)
Supply voltage	100Vac 50／60Hz or 200Vac 50／60Hz standard. *
Power consumption	2VA (When measuring) , 7VA (When cleaning)
Weight	Sensor probe (cable:5m) : Approx. 540g, Converter: Approx.1250g

*: Other supply voltage can be quoted on your request.

■External dimension drawing HT-400



■External dimension drawing HD-400-P

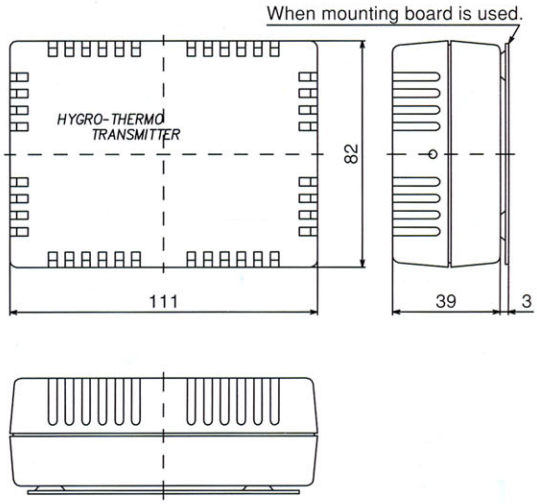


Hygrothermo transmitter [THD-500-W,RV, THD-500-W,RA]

■Standard specifications

Model name	THD-500-W, RV or THD-500-W, RA
Measuring range	Temperature: 0 to 50℃ Humidity : 20 to 90%RH
Type of sensor	Temperature: Platinum thin film RTD (JIS Pt100 B class) Humidity : High polymer thin film resistor
Accuracy	Temperature: ± [0.3+0.005×|Measuring temperature|] ℃ Humidity : ±5%RH (at 10 to 50℃)
Response time	Temperature: Within 1min Humidity: Within 2min (When the wind velocity is 1.5m/s, 63% response)
Hysteresis	Humidity : Within Approx. 1%RH
Using atmosphere	Unable to use in the chlorine, sulfur and condensing environment, or the film of the humidity sensor will be degraded.
Output	RV type ··· R (Temperature) : Pt100 3-wire system V (Humidity) : 0 to 1Vdc (Correspond 0 to 100%RH) load resistance: 10kΩ or greater RA type ··· R (Temperature) : Pt100 3-wire system A (Humidity) : 4 to 20mAdc (Correspond 0 to 100%RH) load resistance: 600Ω or less
Power supply	RV type: 5Vdc (Exclusive power source R-101-H or exclusive receiving instrument is provided on request.) RA type: 24Vdc Current capacity: 20mA or greater Load resistance : 600Ω or less (Exclusive power source R-101-P is provided on request.)
Working temperature	Temperature: 0 to 50℃ Humidity : 10 to 50℃ (Within ±5%RH of accuracy range)
External dimension	111×82×42mm (W×H×D)
Mounting method	Wall mounting
Ambient temperature	−20 to 60℃
Ambient humidity	5 to 90%RH (non-condensing)
Case	Flame resisting resin Color: Ivory
Weight	Approx. 140g

■External dimension drawing



■Optional specifications

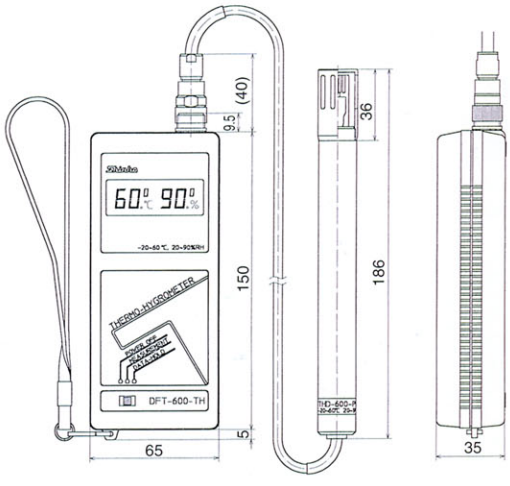
RTD [R]	One line can be added besides the Pt100 (platinum thin film resistor), and the special terminals are provided.
Terminal block [TB]	Block type of terminal, and special solderless terminals (blade terminal) are applied.

Handheld type hygrothermo indicator [DFT-600-THP]

■Standard specifications (DFT-600-TH)
＊DFT-600-THP is a set model name for DFT-600-TH with THD-600-P

Model name	DFT-600-TH
Display	Liquid crystal (Figure size: 10×5mm) Temperature and humidity are displayed together.
Unit	Temperature: ℃ or ℉, Humidity: %RH
Rated scale	Temperature: −20.0 to 60.0℃ (−4.0 to 99.9℉), Resolution: 0.1℃ (0.1℉) Humidity : 0.0 to 99.9%RH, Resolution: 0.1%RH
Input	THD-600-P (Exclusive probe)
Indicating accuracy	Within±1.0%±0.1digit (at 25℃±10℃)
Action system	Dual slope (Integral)
Sampling period	0.5s
Function	Data hold, Battery alarm
Supply voltage	6Vdc: (R6P or LR6×4)
Battery life	Approx. 2000 hours when using an Alkaline dry element battery.
Ambient temperature	0 to 50℃
Storage temperature	−20 to 60℃ (non-condensing)
External dimension	70×163×35mm (W×H×D)
Case・Color	Resin Color: Light gray
Weight	Approx. 250g (Including dry element battery)

■External dimension drawing



■Probe specifications (THD-600-P)

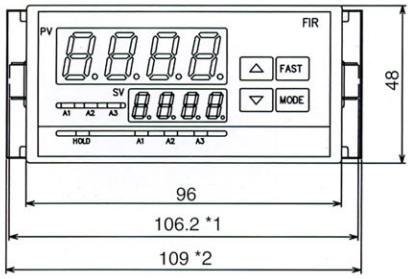
Model name	THD-600-P
Measuring range	Temperature: −20 to 60℃ Humidity : 20 to 90%RH
Type of sensor	Temperature: Platinum thin film RTD Humidity : Resistance change type
Accuracy	Temperature: 0±0.3℃, 60±0.6℃ Humidity : ±5%RH (at 10 to 50℃)
Hysteresis	Humidity : Within Approx. 1%RH
Output	Temperature: Pt100 3-wire system Humidity : 0 to 1Vdc (Correspond 0 to 100%RH)
Response time	Temperature: Approx. 35s (No wind velocity) Humidity : Within 2min (30 ⟷ 80%RH)
Ambient temperature	−20 to 60℃
Ambient humidity	5 to 90%RH (non-condensing)
Material・Color	Grip: Aluminum coating Color: Black Sensor cap: Polyaceta Color: Black
Mounting method	Hand grip, handheld type Heat resistant, cold resistant code: 1m (metal plug socket provided.)
Weight	Approx. 130g

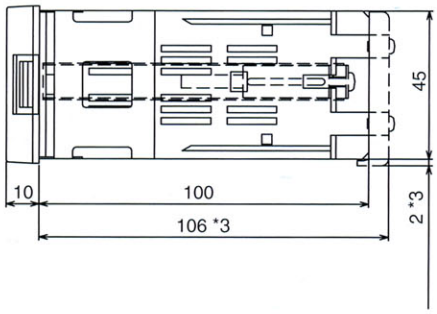
Digital humidity indicator [FIR-201H-H]

■Standard specifications

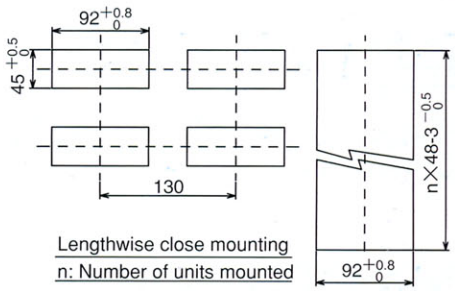
Input	Voltage ····· 0 to 1Vdc Input impedance: 1MΩ or greater Humidity sensor (HD-500 series, THD-500series) Rated scale ····· 0 to 100%RH or 0.0 to 100.0%RH Resolution ····· 1 or 0.1		
Alarm 1 (A1)	Output action selectable by key operation ・No alarm ・Process high alarm Setting rang: 0～100 or 0.0～100.0 ・Process low alarm Setting rang: 0～100 or 0.0～100.0 Standby function: Selectable by internal switches Setting accuracy: Within±0.2%FS±1digit Control action : ON／OFF action Hysteresis : 1 to 1000 or 0.1 to 100.0 (Decimal point place follows the place where the value was set.) Control output : Relay contact 1a1b, 250Vac 3A (resistive load) , 250Vac 1A (inductive load cos ϕ =0.4)		
Hold function	Hold function selectable by internal switches (When using the Hold function, connect the terminal between ⑮ and ⑯.) ・Hold : PV display is held at that time. ・Peak hold : PV display is held at the maximum value it has ever reached. ・Bottom hold: PV display is held at the minimum value it has ever reached.		
Indicating accuracy	Within±0.2%FS±1digit	Sampling period	0.125s
Supply voltage	100 to 240Vac, 50／60Hz or 24Vac／dc, 50／60Hz	Sensor power supply	5±0.25Vdc 10mA
		Burnout	Upscale or Downscale
Allowable voltage fluctuation	In case of 100 to 240Vac, 85 to 264Vac In case of 24Vac／dc, 20 to 28Vac／dc	External dimension	96×48×100mm (W×H×D)
		Mounting method	Flush
Power consumption	Approx. 15VA	Case, Base	Flame resisting resin Color: Light gray
Ambient temperature	0 to 50℃	Panel	Membrane sheet
Ambient humidity	35 to 85%RH (non-condensing)	Weight	Approx. 350g
Attached functions	Setting value lock, Sensor correction, Multi-function, Power failure compensation, Self-diagnosis, Warm-up display		
Options	Alarm 2 (A2) [A2] , Alarm 3 (A3) , Transmission output [TA, TV] , Serial communication [C, C5] , Color black [BK] , Dust-proof・Drip-proof [IP] , Terminal cover [TC] , Screw type mounting bracket [BL]		

■External dimension drawing



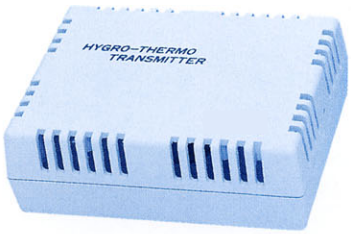


Panel cutout drawing



Lengthwise close mounting
n: Number of units mounted

*1: When the option [BL] is applied.
*2: When standard mounting bracket is applied.
*3: When the option [TC] is applied.



THD-500-W



DFT-600-THP



FIR-201H-H



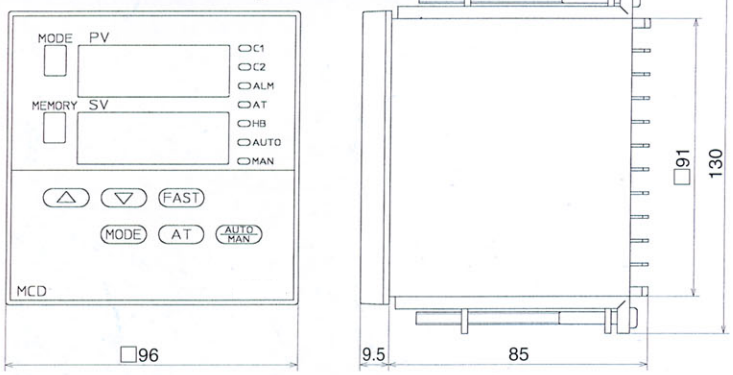
R-101-H
(R-101-H, R-101-P : The same external dimension.)

Humidity indicating controller [MCD-1□0H-R/H] (For HD-500, THD-500)

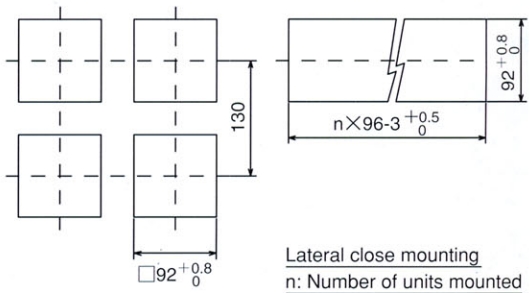
■Standard specifications

Model name	MCD-110H-R／H (ON／OFF action) , or MCD-130H-R／H (PID action)		
Input	HD-500series, THD-500series 0 to 1Vdc (Correspond 0 to 100%RH)		
Rated scale	0.0 to 100.0%RH (Resolution: 0.1%RH)		
Accuracy	Within±0.3%FS±1digit (Indication and Setting)		
Control action	・PID (with auto-tuning function) : MCD-130H-R/H Proportional band (P) : 0.0 to 200.0% (ON／OFF action when set to 0.0) Integral time (I) : 0 to 3600s (Off when set to 0) Derivative time (D) : 0 to 1800s (Off when set to 0) A R W : 0 to 100% Proportional cycle : 1 to 120s	・ON／OFF : MCD-110H-R/H Hysteresis: 0.0 to 100.0%	
Control output	Relay contact: 1c 220Vac 3A (resistive load) , 220Vac 1A (inductive load cos ϕ =0.4)		
Sensor power supply	5Vdc (Supplied by terminals ⑲, ⑳)	External dimension	96×96×85mm (W×H×D)
Supply voltage	110／220Vac 50／60Hz	Mounting method	Flush
Allowable voltage fluctuation	Within±10% of rated value	Case・Base	Flame resisting resin Color: light gray
		Panel	Membrane sheet
Power consumption	Approx. 5VA	Weight	Approx. 500g
Ambient temperature	0 to 50℃	Attached functions	Setting value lock, Sensor correction, Power failure compensation, Self-diagnosis
Ambient humidity	35 to 85%RH (non-condensing)		

■External dimension drawing



Panel cutout drawing



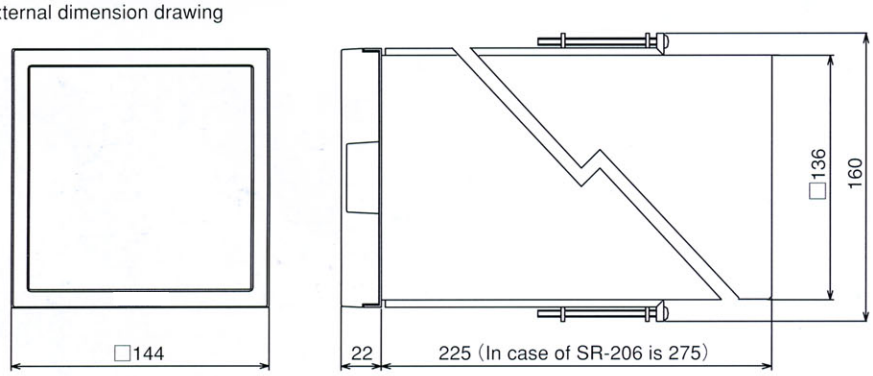
Lateral close mounting
n: Number of units mounted

Self-balancing humidity recorder [SR-201H-H, SR-206H-V]

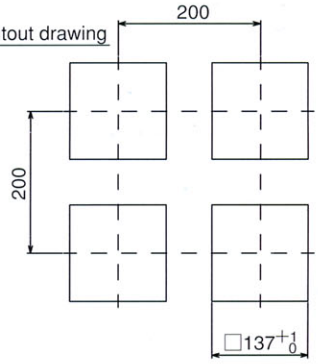
■Standard specifications

Rated scale	0 to 100%RH Scale division: 100 linear 1 division: 1%RH		
Input	SR-201H-H: HD-500 series 0 to 1Vdc (Correspond 0 to 100%RH) SR-206H-V: HT-400 series 0 to 1Vdc (Correspond 0 to 100%RH)		
Sensor power supply	5Vdc (Supplied by terminals ⑪, ⑬) (For SR-201H-H)		
Indicating accuracy	Within±0.5%FS		
Dead band	0.1%FS		
Balancing time	Within 1.6s	Allowable voltage fluctuation	Within±10% of rated value
Scale length	100mm		
Chart	Self-folding strip type, Effective width: 100mm Full width: 113mm, Full length: 10m	Line frequency	50 or 60Hz (by gear change)
		Power consumption	SR-201H-H: Approx. 8VA, SR-206H-V: Approx. 11VA
Chart speed	25, 50, 100mm／h (gear changing method)	Ambient temperature	0 to 50℃
Recording method	SR-201H-H: Pen-writing (Red) SR-206H-V: Dot-printing	Ambient humidity	35 to 85%RH (non-condensing)
		External dimension	SR-201H-H: 144×144×225mm (W×H×D) SR-206H-V: 144×144×275mm (W×H×D)
Dot-printing color (For SR-206H-V)	1: Purple, 2: Red, 3: Green, 4: Dark blue, 5: Brown, 6: Black	Mounting methods	Flush or Portable type
Supply voltage	110／220Vac	Weight	SR-201H-H: Approx. 3.6kg, SR-206H-V: Approx. 4.5kg

■External dimension drawing



Panel cutout drawing



Digital hygrothermo indicating controller [THC-135 series]

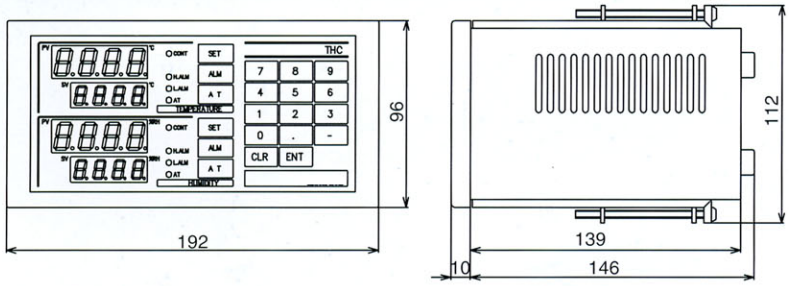
■Model name

THC−135−2□／□□			Series name: T H C 1 3 5 (W192×H96×D146mm)
Control output	R		Relay contact: 1c×2
	S		Non-contact voltage (For SSR drive) : 15±3Vdc (Load resistance: 1.5kΩ)
Input		R R	Dry and wet bulb input type Dry bulb side input : Pt100 3-wire system Wet bulb side input: Pt100 3-wire system
		R V	Humidity converter input type Temperature side input: Pt100 3-wire Humidity side input : Voltage 0 to 1Vdc * (* :Various humidity transmitters are provided.)

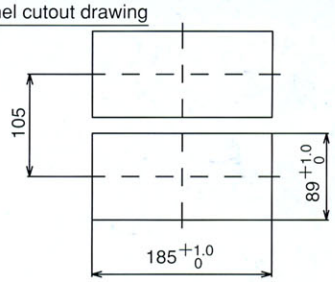
■Standard specifications

Input	Dry and wet bulb input type Dry bulb side input : Pt100 3-wire system Wet bulb side input: Pt100 3-wire system Humidity converter input type Temperature side input: Pt100 3-wire system Humidity side input : Voltage 0 to 1Vdc		
Rated scale	Temperature: −30.0 to 200.0℃ Humidity: 0.0 to 100.0%RH		
Accuracy	Temperature: Within±0.3%FS±1digit Humidity: Within±3%FS±1digit		
Control action	・PID (with auto-tuning function) Proportional band (P) : 0.0 to 200.0% (ON／OFF action when set to 0.0) Integral time (I) : 0 to 3600s (Off when set to 0) Derivative time (D) : 0 to 1800s (Off when set to 0) A R W : 0 to 100% Proportional cycle : 1 to 120s ・ON／OFF Hysteresis : 0.1 to 10.0℃ (Humidity side: 0.1 to 10.0%RH)		
Control output	Relay contact : 1c×2 220Vac 3A (resistive load) , 220Vac 1A (inductive load cos ϕ =0.4) Non-contact voltage: 15±3Vdc (Load resistance: 1.5kΩ) 20mA (short circuit protected)		
Alarm action	High limit alarm (Deviation setting) : −100.0 to 100.0℃ (Humidity side: −100.0 to 100.0%RH) Low limit alarm (Deviation setting) : −100.0 to 100.0℃ (Humidity side: −100.0 to 100.0%RH) Setting accuracy: Within±0.5%FS±1digit Control action : ON／OFF action Hysteresis : 0.1 to 10.0℃ (Humidity side: 0.1 to 10.0%RH) Control output : 1a×2 220Vac 0.5A (resistive load) , 220Vac 0.2A (inductive load cos ϕ =0.4)		
Supply voltage	110／220Vac 50／60Hz		
Allowable voltage fluctuation	Within±10% of rated value	Instantaneous power failure	Within 30ms
Power consumption	Approx. 5VA	Case	Steel sheet Color: Light gray
Ambient temperature	0 to 50℃	Panel	Membrane sheet
Ambient humidity	35 to 85%RH (non-condensing)	Weight	Approx. 900g
External dimension	192×96×146mm (W×H×D)	Attached functions	Setting value lock, Sensor correction, Power failure compensation, Self-diagnosis
Mounting method	Flush		

■External dimension drawing

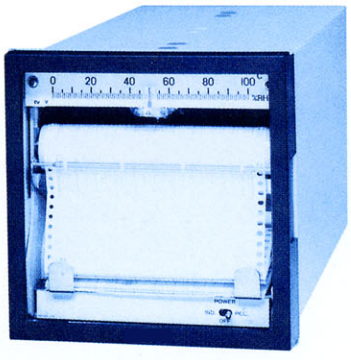


Panel cutout drawing





MCD-1D□OH-R/H



SR-201H-H



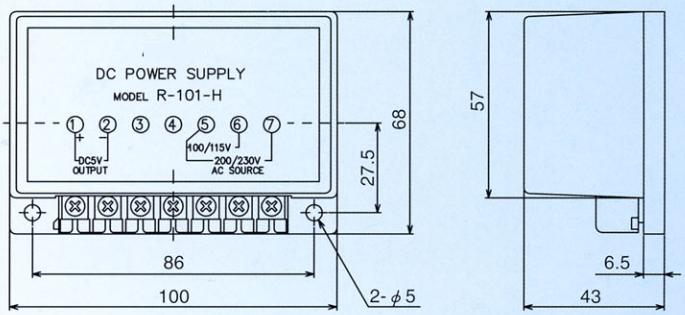
THC-135 series

Power supply rectifier [R-101-H]

■Standard specifications

Output voltage	5Vdc Maximum 20mA Usable up to 10 units of HD-500 (THD-500).
Output voltage range	4.8 to 5.2Vdc
Output voltage regulation	Within±2%
Supply voltage	100・115／200・230Vac 50／60Hz
Allowable voltage fluctuation	90 to 130／180 to 260Vac
Power consumption	Approx. 1VA
Ambient temperature	0 to 55℃
External dimension	100×68×43mm (W×H×D)
Mounting method	Wall surface
Case	Resin Color: Dark gray
Weight	Approx. 300g

■External dimension drawing

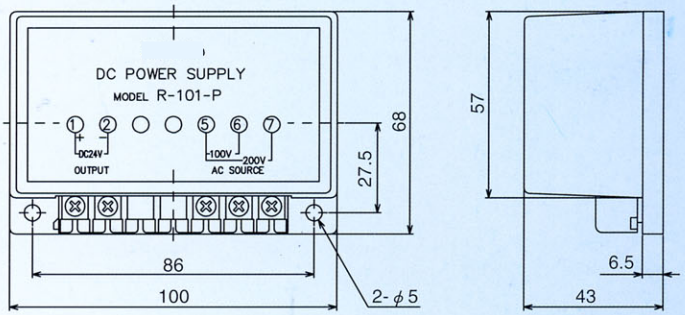


Power supply rectifier [R-101-P] (For THD-500-W, RA)

■Standard specifications

Output voltage	5Vdc Maximum 30mA
Output voltage regulation	Within±0.1%
Supply voltage	100・115／200・230Vac 50／60Hz
Allowable voltage fluctuation	90 to 130／180 to 260Vac
Power consumption	Approx. 1.5VA
Ambient temperature	0 to 55℃
External dimension	100×68×43mm (W×H×D)
Mounting method	Wall surface
Case	Resin Color: Dark gray
Weight	Approx. 300g

■External dimension drawing

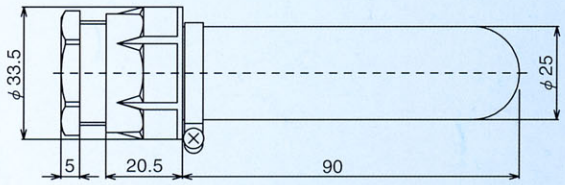


Water-proof filter [THF-500] (For HD-500, THD-500)

■Standard specifications

General structure	Cylindrical filter and a bush for fixing the filter.
Working temperature	−20 to 100℃
Environment condition	Material of the filter may be degraded in alkaline surroundings.
Mounting method	Fixing to the pipe by the bush.
Weight	Approx. 35g

■External dimension drawing



・This catalog is as of December 1999, specifications subject to change without notice.
・When inquiring, please contact your shop where purchased or our agency.