





User's Manual



Safety Precautions

Be sure to read cautions before use for correct use.

X The specifications and exterior sizes described in this manual may be subject to change for improving product capacity.

▲ Safety Precautions

- 1. This product was not manufactured as a safety device. Therefore, in case of using it as a controller such as for a device that may cause casualty, serious damage to peripheral devices, and tremendous loss of property, be sure to attach double safety devices.
- 2 Do not wire or inspect or repair while power is on
- 3.In case of supplying power, be sure to check a terminal number for connection.
- 4. This device should not be dissembled, processed, improved, or repaired.

/ Caution

- Before the installation of this device, understand fully how to use, safety regulations or warnings, and be sure to use within specified related specifications or related capacities.
- Do not wire or install it for a motor or solenoid with great inductive load.
- During the extension of a sensor, use a shielding wire, and do not make it unnecessarily longer.
- Do not use the same power supply or any part that generates arc during closing or opening directly near the power supply.
- A power line should be far apart from a high-tension wire, and the device should not be installed in a place containing much water, oil, or dust.
- Do not install it in a place under direct light or exposed to rain.
- Do not install it in a place with strong magnetism or noise or vibration or impact.
- Put it far apart from a place that may release strongly alkaline or strongly acidic substance, and use an independent pipe.
- Do not spray water directly on it for cleaning in case of installing it in the kitchen.
- Do not install it in a place where temperature/humidity exceeds rating.
- Take caution not to break a sensor wire or make any scratch.
- A sensor wire should be away from a signal line, power, and load line, and use an independent pipe.
- In case of dissembling or modifying this product voluntarily, it may not be applied with warranty service.
- A / mark on the terminal circuit diagram is a safety mark as warning or caution. • Do not use it near any device (harmonics welder, harmonics, harmonics radio, and
- large capacity SCR controller) that generates strong harmonics noise. • In case of using it with any other method than one designated by a manufacturer,
- injury or loss of properties may occur.
- As it is not a toy, keep out of the reach of children.
- Installation must be done by a relevant professional or a qualified person.
- Our company shall not be responsible for any damage caused by failing to observe the contents specified in the above warnings or cautions or by the fault of a consumer.

▲ Danger

- Caution, risk of electric shock
- Electric Shock Do not contact with AC terminal during current carrying. This may cause electric shock.
- Input power must be blocked when checking input power.



Model	Sensor	Range	Dimension	Function		
FOX-300JSHR	SHT11	-29 ~ 99.9℃ 0.0 ~ 99.9%	W194 x H241mm	Temp./Humi.		
FOX-300-2S	SH-104	-29.9 ~ 99.9℃ 0 ~ 100%	W72 x H72mm	nm RS485		
FOX-300A-1			W72 x H72mm	Temp./Humi. control		
FOX-300AR1		-40.0 ~ 65.0℃		T		
FOX-300JR1	101 220011	10 ~ 95%	W194 x H241mm	control RS485		
FOX-8300R1	X-8300R1		W94 x H150mm			

* FOX-300 series model



Name of each parts





Wiring terminal





► FOX-300AR1, FOX-300-2S



3 T/H sensor HCPV-220NH $\mathbf{\Phi}$ 13 14 15 16 17 18 19 ► FOX-300JSHR 3 5 T/H sensor В **DS-SH** series + SCK - DATA 13 14 15 16 4 6 18 19 * Standard type * Customized (Integral unit) (Extended sensor) ► FOX-8300R1 4 5 6 7 8 yellîþw, gifeen θ TEMP OUT T.sensor RS485 250VAC 2A T./H.sensor Power HCPV-220NH HUMI OUT H.sensor 240VAC 50/60Hz 250VAC 2A гΘл IN 🖨 (14) (15) (16 Product exterior dimension FOX-300AR1, FOX-300-2S(72x72x110mm)

► FOX-300JR1



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► FOX-8300R1(94x150x39mm)



Setting for temperature



Setting for temperature programs

press for more than 5 sec.





 $\ensuremath{\overset{\,\,}{_{\!\!\!\!\!\!\!}}}$ Pressing SET key for 5 sec. in the state of current temperature display, can be entered the program setting mode.

* All programs are returned automatically in 30 sec. to the present temperature after displaying - by pressing SET key once after set value changing.

About Detailed Function

- 1.
 L SP : Temperature : Select Cooling(C) or Heating(H)

 Humidity
 : Select Dehumidity(d) or Humidity(H)
- 2. dl F : Deviation temperature setting
 - A regular interval is required between ON and OFF in the ON/OFF control (set up ON/OFF width)

- Frequent ON and OFF will shorten the lifespan of the relay or the output contact or cause hunting (generation, chattering) by noise from outside. The temperature deviation function is used to setup temperature deviation to protect the equipment contact, etc. ☐ Method of temperature deviation when ON/OFF control



Setting range and default set

	8						
	Function	Display	Range	Default	Remarks		
Set humidity	Humidity setting (HCPV-220H)		0~100%	30	SHT11 : 0.0 ~ 99.9		
Program Settings	Selection of function	ĿУP	d / H	d	d: For dehumidifying H: For humidifying		
	Humidity deviation (HCPV-220H, SH-104)	ďГ	1 ~ 29	1	SHT11 : 0.1 ~ 29.9		
	Output delay time	dLE	0~10	0	Minute		
	Correction of the humidity (HCPV-220H, SH-104)	Cor	-10 ~ 10	0	correct discrepancy between the value in displayed and actual value SHT11: -9.9 ~ 9.9		



Interface

Specification	In confirmity EIA RS485				
Maximum connection lines	32 units (However, Address setting is available from 01 to 99)				
Method	2-wire half-duplex				
Synchronous system	Asynchronous				
Distance	Within 1.2Km				
Speed	1200/2400/4800/9600/19200bps (selectable)				
Start bit	1 Bit fixed				
Stop bit	1 Bit fixed				
Parity bit	None				
Data bit	8 Bit Fixed				
Protocol	BCC				

System Configuration



Definition of Communication Command and Block

 Show the Format of the Command

 STX
 10ⁱ
 10^{ce}
 R/W
 X/D
 T/H
 P
 0

 Start
 Address
 Header
 Code
 Code
 Code

		caici	Jiation	range	or the	BCC									
Show th	e Form	nat of t	he Res	onse											
STX	10'	10 ^{ci}	R/W	X/D	T/H	Ρ	0				Decimal point	Error	Output	ETX	FSC
Start Code	Add Co	ress de			Header Code			Ten	mp./Humi	Data				END Code	BCC Code

END BCC Code Code

calculation range of the BCC

1) Start Code

Displays the head of BLOCK.

 $\text{STX} \rightarrow$ [02H], ACK will be added in case of RESPONSE Address Code

A code of which the host system identifies FOX-300 series, and can be set from 01 to 99 (BCD ASCII).

③ Header Code

- The name of command is shown in text.
- $RX(Read demand) \rightarrow R[52H], X[58H]$

RD(**Read response**) \rightarrow R[52H], D[44H]

WX(Write demand) \rightarrow W[57H], X[58H]

$WD(Write response) \rightarrow W$	V[57H], D[44H]
TPO(Temp.measured value)	→ W[54H], P[50H], O[30H]
HPO(Humi.measured value)	→ H[48H], P[50H], O[30H]
Data is expressed in Hex	vadecimal
(5) Decimal point \rightarrow 0[30H 1[31H] There is a decim] No decimal point
(6) Error → 0[30H] No erro	r.
1[31H] Sensor open error 2[32] Sensor short error	or
(7) Output \rightarrow 1[31H] T/H OUT	ON
3[33H] T/H OUT	OFF
⑧ END Code	
Displays termination of E	Block. ETX → [03H]
Block Check Character. value from the beginning	It shows the XOR operation (STX) protocol to ETX
Others : If there is no AC	K response
①If code numbers are inc	onsistent after receiving STX
② If Receive Buffer Over	flow occurred
(3) If borate or other comm	unication SV is inconsistent
Handling when there is r ① Chook the status of line	no ACK response
	condition (SV)
③ In the case of commu	nication abnormality
caused by noise, perfe	orm communication for
3 times for recovery.	ation speed if
communication abnorr	nality is too frequent.
12 Simple troubleshooti	ng tip
If orrer is displayed while	using the product.
 Er I is displayed when the damaged inside the produc powerful noise from outside contact our company for cu While the controller is equip measures for outside nose, noise 	DATA memory element is t as it is affected by while in use. In this case, ustomer service. oped with supplementary it cannot endure infinite
•The interior of the product (2KV) is introduced.	may be damaged if noise
 The sensor has defect whe (Short Error) is displayed. P 	n • -E (Open Error) or5 -E Please check the sensor.
The above specification may be change improvement in performance. Please read and observe precautionar Product.	ged without prior notice for further y instructions during handling of the
Regarding the English-language many web-site.	ual,please download it at our
 Installation Precautions: WARNING: To avoid the risk of electric shock connected to protective grounding and to a su Do not block the vents. Handling Precautions This instrument is suitable for the follow Ambient temp.: 0°C~60°C Ambient temp.: 10°C~60°C Anbient temp.: 10°C~60°C Altitude : less than 2000m Installatio Avoid placing equipment that is difficult Use of the equipment in a manner not s manufacturer may impair the protection Rated power :100~240Vac 50/60Hz 	this equipment must be pply voltage. umi. : Less than 80% RH Degree 2 n Category II to operate power coding. specified by the equipment provided by the equipment. 9VA
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 FAX : +82-51-819-4562 e-mail : conotec@conotec.co.kr URL : www.conotec.co.kr 	 Major products and development Digital temperature, humidity controller Digital timer, current/voltage meter Other product development