HUMITRON® HTX23C

Communication type temperature and humidity sensor

User Manual

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Cautions

1. This product may cause an electric shock in handling. Please do not attempt to open it with power turned on.
2. This product should be installed in a place fixed secured by a rack or panel.
3. This product can be used under the following environmental condition. ① Indoor ②Pollution Degree 2 ③At an altitude of 2000m or below
4. Power input must be within the designated ranges.
5. To turn on or turn off power supply for this product, please the circuit breaker or switch of a standard product of IEC 60947-1 or IEC 60947-3 product and install it within a close distance allowing convenient operation by user.
6. Please be understood that if this product is dismantled or modified discretionary, after sales service will not be able to be provided.
7. An output wire to be used for this product should be inflammable grade FV1 (V-1 grade or above), the thickness of the wire should be AWG No. 20 or above(0.50mm2).
8. In order to prevent it from an inductive noise, please maintain the high-voltage wire and power wire separated.
9. Please avoid installing the product in a place where a strong magnetism, noise, severe vibration and impact exist.
10. When extending the sensor wire, use a shield wire and do not extend it unnecessary long.
11. The sensor wire and signal wire should be away from the power and load wires using conduits separately installed.
12. Please avoid using the product near a device generating strong high frequency noise (high-frequency welding machine, high-frequency sewing machine, high-frequency radiotelegraph, high capacity SCR controller)
13. Product's damages other than those decribed in the guarantee conditions provided by the manufacturer shall not be respoinsible by us.
14. If this unit is used to control machineries (Medical equipment, vehicle, train, airplane, combustion apparatus, entertainment, processing and transportation equipment, elevator and various safety device etc.) enabling to effect on human or property, it is required to install fail-safe device.

※ The Aforementioned precautions must be observed, and if you fail to do so, it may cause a product's breakdown.
※ The specifications, dimensions, and etc. are subject to change for enhancement without a prior notice.

- *Integrated module with temperature, humidity sensor*
- *Up to 100 nodes can be connected (RS485 models)*
- *Compact design, slim size*
- *Easy installation, Offer 3m cable*
- *Support the various types of communications protocol*

Clean rooms / Incubators / Glove boxes / Greenhouses / Various chambers / Data loggers / Built into various manufacturing equipments

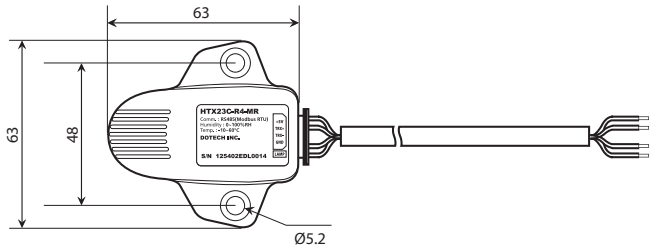
: Common Specifications

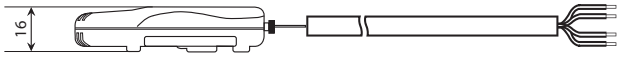
		HTX23C-ST-MR	HTX23C-ST-DT	HTX23C-R2-MR	HTX23C-ST-DT	HTX23C-R4-MR	HTX23C-S4-DT
Humidity	Measuring range	0 ~ 100 %RH (non dew condensation)					
	Accuracy	±3.0 %RH (20 ~ 80 %RH)					
	Repeatability	±0.2 %RH					
	Responsiveness	Max 7 seconds					
Temperature	Measuring range	-10 ~ 60 °C					
	Accuracy	±0.3 °C (20 ~ 40°C)					
	Repeatability	±0.1 °C					
	Responsiveness	5 seconds					
Communication type / Protocol		TTL / Modbus RTU	TTL / Dtbus	RS232 / Modbus RTU	RS232 / Dtbus	RS485 / Modbus RTU	RS485 / Dtbus
Power Supply		5 Vdc , ±5%					
Rated Power		MAX 50 mW					
Connector		4 Pin connectors					
Dimensions		63(W)mm X 63(H)mm X 16(D)mm					
Storage		Temperature -20 ~ 70 °C / Humidity less than 95%RH (non dew condensation)					
Material		PC-ABS					
Weight		16g					

Offer communication cable (3m)

R20240510

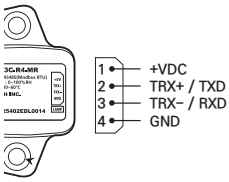
: Dimensions





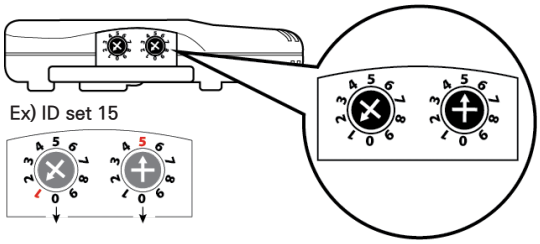
Wire Specifications : UL2547 4C 3meter

: Wiring



No	Type		Description
	RS485	RS232, TTL	
1	Vdc+		Power input 5 Vdc
2	TRX +	TXD	Communication signal
3	TRX –	RXD	
4	GND		GND

: Method RS485 Communication ID Settings



: Communication Specifications

Item	Description
Transmission line connection	Multiple line
Communications method	TTL, RS232, RS485
Baud-rate	BPS default 9600 BPS
Parity, Data, Stop bit	None, 8 Data, 1 Stop
Protocol Type	Modbus RTU Mode or Dtbus Mode
Maximum Read Word	Modbus RTU Mode : 32Word
Poll interval	100msec

Recommendations for communication line
Use of industrial communication cables is recommended and wire communication line with equivalent in LG LIREV-AMESB AWG22, BELDEN 9841(2), FTP, UTP (in case of installing a number of channels at the same time).

: Communication Parameters

1. Modbus Model (-MR)

Address	Title	Unit	Type	Size (Word)	Real Data	MMI	Scale
4 0001	Humidity correction value	%	Analog	INT16	100.0	1000	X10
4 0005	Temperature correction value	℃	Analog	INT16	60.0	600	X10
4 0022	Current humidity (PV)	%	Analog	INT16	0.0 ~ 100.0	0 ~ 1000	X10
4 0023	Current Temperature (PV)	℃	Analog	INT16	-10.0 ~ 60.0	-100 ~ 600	X10
4 0025	Sensor Alarm	–	Analog	INT16	0 = Normal 1 = Fault		-

※ Address Value = Real Data * Scale

2. Dtbus Model (-DT)

Protocol

ID			Command	Data			End
'0'	'1'	'2'	'?'				<cr>
'0'	'1'	'2'	'V'				<cr>

Data Read Command

ID			Command	Address		SIZE			
'0'	'1'	'2'	'R'	0	1	0	0	0	2

※ SIZE : 0 ~ 32 byte Setting enabled
EX) SIZE = 0 0 0 2, SIZE = 2byte

Data Write Command

ID			Command	Address		SIZE				End
'0'	'1'	'2'	'W'	0	1	0	0	0	6	<cr>

Command Type

Command	Description	End
'?'	Model	"002?<cr>"
'V'	Version Information	"002V<cr>"
'H'	Humidity values	"002H<cr>"
'C'	Celsius temperature value	"002C<cr>"
'F'	Fahrenheit temperature value	"002F<cr>"
'R'	Data Read	"002R010002<cr>"
'W'	Data Write	"002W010006<cr>"

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