Duct humidity and temperature transmitter with remote probe

KTP

Description

The KTP series temperature and humidity transmitter with cable measures temperature and humidity in air ducts and provides a linear output signal of 0…10 V DC, 4…20 mA or RS485 (Modbus).

Technical specifications

Measurement range RH	0...100 % RH
Accuracy RH	±2% RH
Measurement range °C	-40…+100°C, to be determined upon order
Accuracy °C	±0,5°C
Power supply	24 VAC (±5%) 50-60 Hz / 14...35 VDC
Power consumption	< 1,5 W
Working resistance at 0...10 VDC	min. 1 kOhm
Working resistance at 4...20 mA	max 500 Ohm
Electrical connection	pre-wired cable, 4 x 0,34 mm^2 or 6 x 0,25 mm^2 length approx. 0,90 m
Housing	ABS
Dimensions	See drawing
Protection type	IP65
Working range RH	0...100% RH in contaminant-free, non-condensing air
Working temperature °C	-25…+70°C
Standards	CE conformity, RoHS, EMC: EN 61326-1

Order matrix

Model	Accuracy	Output 1 Humidity		Output 2 Temperature		Option	
KTP	**2** %RH			**0**	no	**M**	Modbus
		1	0...10 V	**1**	0...10 V		
		2	2...10 V	**2**	2...10 V		
		3	0...5 V	**3**	0...5 V		
		4	1...5 V	**4**	1...5 V		
		5	4...20 mA	**5**	4...20 mA		

Output 1 is reserved for humidity, output 2 for either humidity or temperature. Specify the temperature range when ordering.

Installation notes

• Observe maximum permissible cable lengths.
• Use shielded cables when routed parallel to power lines.
• Cable entry must face downward.
• Technical data apply to vertical installation only.
• For duct installation, keep a minimum distance of 2 m from humidifiers.

Electrical wirings

Cable Color	KTP.351	KTP.311 KTP.355	KTP.311.M KTP.355.M	KTP.300.M
Brown	Power	Power	Power	Power
White	GND	GND	GND	GND
Green	HUM. out	HUM. out	HUM. out	Modbus A
Yellow	HUM. out	TEMP. out	TEMP. out	Modbus B
Pink	n/a	n/a	Modbus A	n/a
Gray	n/a	n/a	Modbus B	n/a

Modbus RS485 protocol

Default settings: Modbus ID 1, baud rate 9600, 8 bit, no parity, 1 stop bit (8N1). The register table starts from base 1. ID 254 is a general call. Function 03 is used for reading holding registers and Function 06 for writing holding registers. Whenever a Modbus parameter is written, the new value is activated immediately and the master device must be configured according to the updated parameters. Unlisted registers are reserved for system parameters and must not be modified.

Register	R/W	Range	Description
1	R & W	1…254	Modbus Address
2	R & W	0…1	Baudrate, 0: 9.600, 1: 19.200
3	R & W	0…3	Bit_Parity_Stop, 0: 8bit_None_1, 1: 8bit_None_2, 2: 8bit_Even_1, 3: 8bit_Odd_1
4	R		Humidity as %rH x10, divide by 10 for exact value
5	R		Temperature as °C x10, divide by 10 for exact value
33	R		Temperature as °F x10, divide by 10 for exact value
39	R & W	1…30	Response, 1: 1sec … 30: 30 sec
40	R & W	1…4	Range for Temp. out, 1: 0…50°C, 2: 0…100°C, 3: -30…+70°C, 4: -40…+60°C

Dimensions (mm)