HTY70, TY70, HY70

Room Temperature/Humidity Sensors

The HTY70 is a room temperature/humidity sensor that uses a Pt100 resistance thermometer sensor (JIS C1604 Class A) as a temperature-sensing element and a polymer capacitive humidity sensor (FP3™, specially developed by Yamatake Corporation) as a humidity-sensing element, enhancing accuracy and reliability of temperature/humidity sensing. It is suitable for commercial buildings and various other uses. The TY70 temperature-only sensor and the HY70 humidity-only sensor are also available.

Neosensor/
High Sensitivity
Neosensor

Neomini Sensor

Specifications

Measuring range	Temperature	0 to 60°C (HTY7043D, TY7043D: 0 to 50°C)			
	Humidity	0 to 100% RH (15 to 35°C)			
Output signal	Temperature	100Ω/0°C (HTY, TY7043D: 4–20mA, 2-wire type)			
	Humidity	1–5Vdc (linear to 0 to 50°C), (50kΩ or higher input impedance of the controller connected) (HTY, TY7043D: 4–20mA, 2-wire type)			
Sensing accuracy	Temperature	±0.3°C (in 0 to 60°C)			
	Humidity	±3% RH (30 to 70% RH at 25°C) ±5% RH (20 to 80% RH in 15 to 35°C)			
Time constant (at a wind velocity of 0.15m/s)	Temperature	Neosensor		4.5 min max.	
		High Sensitivity Neosensor		2.5 min max.	
		Neomini Sensor		5 min max.	
	Humidity	Neosensor		40s max.	
		Neomini Sensor		40s max.	
Operating conditions (Neosensor, Neomini Sensor)	Temperature	Rated	0 to 60°C	0 to 100% RH	No condensation allowed
		Extreme	-10 to +60°C		
		Transport/storage	-20 to +70°C	5 to 95% RH	
	Humidity	Rated	15 to 35°C	20 to 80% RH	
		Extreme	-10 to +60°C	0 to 100% RH	
		Transport/storage	20 to +70°C	5 to 95% RH	
Power		24Vac +10/-15% 50/60Hz, 24Vdc ±10% (HTY and HY series only)			
Power consumption		0.15VA for 24Vac (HTY and HY series , 1–5V output model) 100mA for 24Vdc (HTY and HY series , 1–5V output model) 500mW for 24Vdc (HTY and HY7043D series, for one point of 4-20mA output model)			
Dielectric strength		500Vac for 1 min, 1mA or less leakage current			
Insulation resistance		500Vdc, 20MΩmin.			
Installation		Wall mounted (with a baseplate or a thermoplate)			
Connection		• Lead wire (Neosensor: 300mm long, Neomini Sensor: 200mm long, 0.75mm² cross section) • Modular jack connector (only for TY7023Z0P01 and TY7043Z0P01)			
Materials		Neosensor, High Sensitivity Neosensor	Cover: PC resin, pale gray Base: modified PPE resin, pale gray		
		Neomini Sensor	Cover: ABS resin, pale beige Base: ABS resin, dark gray		
Mass		Neosensor: approx. 80 to 110g. Neomini Sensor: approx. 60g			
Accessories	Mounting screw	Neosensor: 4 screws (M3, 16mm) Neomini Sensor: 2 screws (M4, 8mm)			

Selection Guide

I II III IV V VI VII VIII Example: **TY7043Z0P00**

Segment	Model No. selection										Description
I	Basic model No.	HTY70	–	–	–	–	↓	↓	–	–	–	Room temperature/humidity sensor
		TY70	↓	↓	–	–	–	–	↓	↓	–	Room temperature sensor
		HY70	–	–	↓	↓	–	–	–	–	↓	Room humidity sensor
II	Shape	2	–	–	–	–	○	–	○	○	○	Neomini Sensor
		4	○	○	○	○	○	○	–	–	–	Neosensor
		5	–	–	–	–	–	–	○	–	–	High sensitivity sensor
III	Type	3	○	○	○	○	○	○	○	○	○	–
IV	Power	T	–	–	○	–	○	–	–	–	○	24Vdc / 24Vac
		Z	○	–	–	–	–	–	○	○	–	None
		D	–	○	–	○	–	○	–	–	–	24Vdc
V	Humidity output	0	○	○	–	–	–	–	○	○	–	No humidity sensor
		1	–	–	○	–	○	–	–	–	○	Humidity output 1–5Vdc
		4	–	–	–	○	–	○	–	–	–	Humidity output 4–20mAac (2-wire type)
VI	Temperature output	0	○	–	○	○	–	–	–	–	○	Without temperature sensor
		4	–	○	–	–	–	○	–	–	–	Temperature output 4–20mAdc (2-wire type)
		P	○	–	–	–	○	–	○	○	–	Temperature Pt100
VII	(Fixed)	0	○	○	○	○	○	○	○	○	○	–
VIII	Output line	0	○	○	○	○	○	○	○	–	○	Lead wire output
		1	○	–	–	–	–	–	–	○	–	Modular jack output

• A circle (o) denotes availability.

Accessories (sold separately)

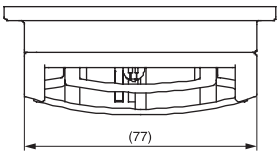
Model No.	Description	
83103629-001	Flat cover	For Neomini Sensor
83103630-001	Cover with painting clearance	
83104507-010	Protective cover (10 per pack)	
83165803-001	Baseplate (including mounting plate)	For Neosensor
83104506-020	Protective cover (10 per pack)	
83165803-001	Wall direct-mounting kit	For Neosensor
83165803-011	Thermoplate mounting kit	
83165803-021	Multi-Thermocase mounting kit	
QY1100C, D	Thermoplate for individual room control	
DY2000A1022	Thermoplate (1-unit lengthwise mounting)	
DY2000A1023	Thermoplate (1-unit crosswise mounting)	
DY2000A2023	Thermoplate (2-unit crosswise mounting with outlet box)	
DY2000A2024	Thermoplate (2-unit crosswise mounting with switch box)	
DY2000A3022	Thermoplate (3-unit crosswise mounting)	
DY2000A1021	Conduit connection Thermoplate (1-unit square mounting)*	
DY2000A2021	Conduit connection Thermoplate (2-unit crosswise mounting)*	
DY2000A3021	Conduit connection Thermoplate (3-unit crosswise mounting)*	
TY1100Z1000	Multi-Thermocase (only for HTY7043T, HY7043T and TY70X3Z series)	

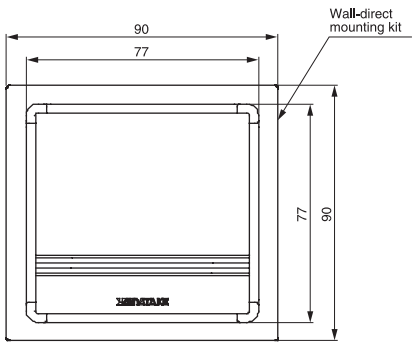
* Used only for open wiring.

Dimensions

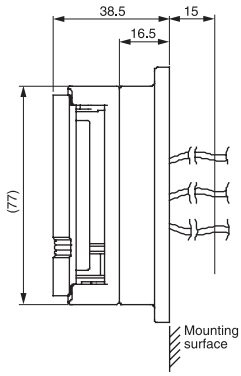
(Unit:mm)

• Neosensor main umit with wall direct-mounting kit

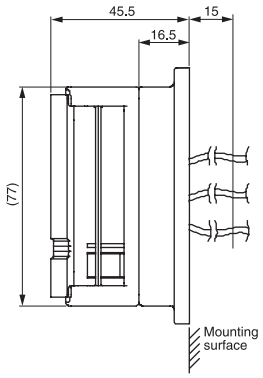




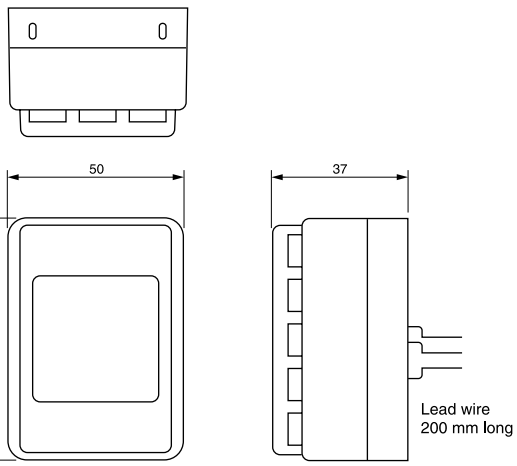
Neosensor



High sensitivity Neosensor



• Neomini Sensor



SENSORS