

Symaro™

Duct Temperature Sensors

QAM1612.020, QAM1630.020



Duct temperature sensor in air ducts

- Passive sensor for acquiring the air temperature in air ducts.

Use

The duct temperature sensors are for use in ventilation and air conditioning plants as:

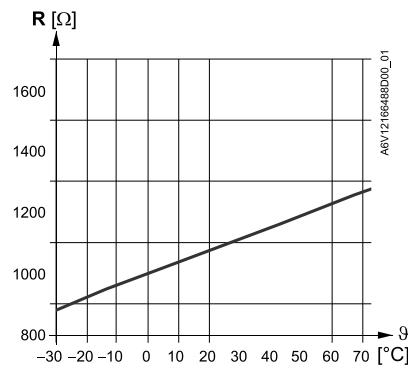
- Supply or extract air temperature sensors
- Limit sensors, e.g. for minimum limitation of the supply air temperature
- Reference sensors, e.g. for shifting the room temperature as a function of the outside temperature
- Measuring sensors, e.g. for measured value indication or for connection to a building automation and control system

Function

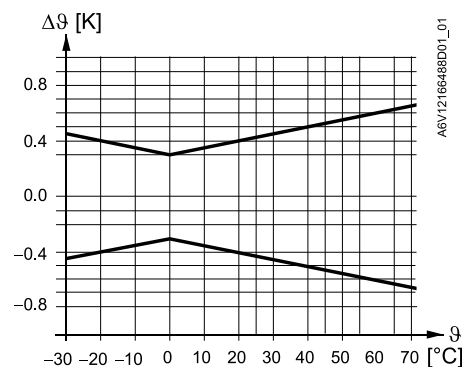
The sensor acquires the air temperature via its sensing element whose resistance changes as a function of the temperature. The signal is delivered to a suitable controller for further handling.

Sensing elements

Pt 1000 (class B) Characteristic

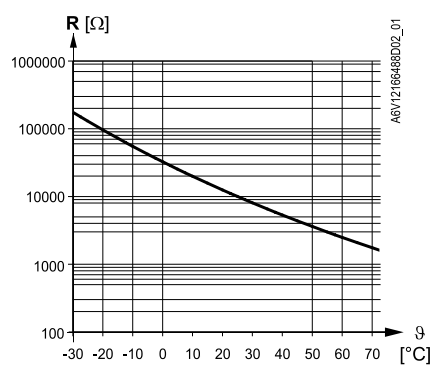


Accuracy

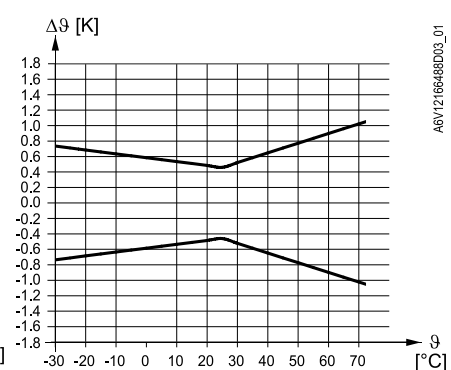


NTC 10k

Characteristic



Accuracy



Legend

R	Resistance value in Ohm
θ	Temperature in degrees Celsius
$\Delta\theta$	Temperature differential in Kelvin

Mechanical design

The duct temperature sensor consists of the following components:

- Two-sectional plastic housing comprised of base with connection terminals and removable cover (snap-on design)
- Immersion rod complete with sensing element

The connection terminals can be accessed after removing the cover.

Type summary

Type reference	Immersion rod length	Sensing element
QAM1612.020	0.2 m	Pt 1000
QAM1630.020	0.2 m	NTC 10k

Ordering

When ordering, please give name and type reference, e.g.: Duct temperature sensor QAM1612.020.

Equipment combinations

All systems or devices capable of acquiring and handling the sensor's passive output signal.

Notes

Mounting

Mounting location

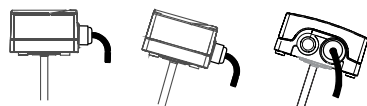
- For supply air temperature control: Downstream from the fan if the fan is located after the last air handling unit. Otherwise, after the last air handling unit with a minimum distance of 0.5 m
- For extract air temperature control: Always upstream of the extract air fan
- As a limit sensor for the supply air temperature: As close as possible to the air outlet into the room
- For dew point control: Immediately after the spray trap of the air washer

The immersion rod must not touch the duct wall.

The sensor is supplied complete with Mounting Instructions.

Mounting positions

Permitted

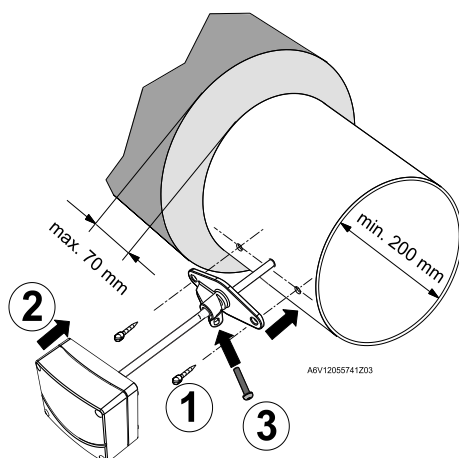


Not permitted



A6V12055741Z00

Mounting examples



Disposal



The device is considered an electronic device for disposal in accordance with the European Guidelines and may not be disposed of as domestic garbage.

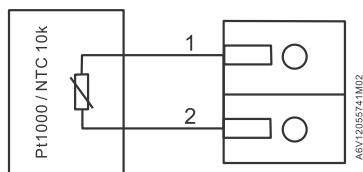
- Dispose of the device through channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

Functional data	
Operating range	–30...70 °C
Sensing element	Refer to Type summary [→ 3]
Immersion rod length	Refer to Type summary [→ 3]
Time constant	30 s at 2 m/s
Dead time	<1 s
Measuring accuracy	Refer to Function [→ 2]
Ambient conditions and protection classification	
Protection degree of housing	IP42 according to EN 60529
Protection class	III according to EN 60730-1
Environmental conditions	
Transport	
• Climatic conditions	
– Temperature	–20...60 °C
– Humidity	5...95 % r.h.
Operation	
• Climatic conditions	
– Temperature (housing)	0...50 °C
– Humidity (housing)	10...90 % r.h.
Standards, directives and approvals	
Product standard	EN 60730-1 Automatic electrical controls for household and similar use
EU conformity (CE)	A5W00040629 *)
Environmental compatibility	The product environmental declaration (A5W00146316A *) contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).
General	
Perm. cable lengths	Refer to Data Sheet of the relevant controller
Electrical connections screw terminals for	1 × 2.5 mm ² or 2 × 1.5 mm ²
Cable entry	Sealing ring
Materials and colors	
Immersion rod	Stainless steel
Base	PC (light-grey)
Cover	PC (light-grey)
Mounting flange	PC+GF10 (light grey)
Packaging	Corrugated cardboard
Weight including package	
QAM1612.020	Approx. 0.154 kg
QAM1630.020	Approx. 0.154 kg

*) The documents can be downloaded from <http://siemens.com/bt/download>.

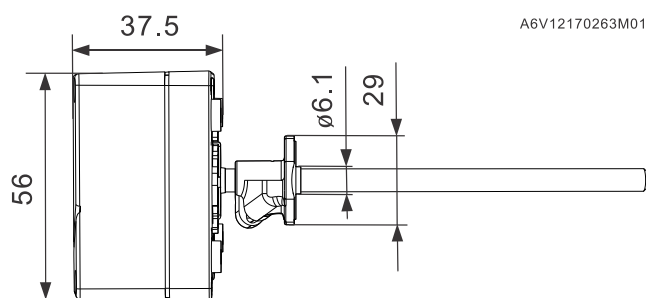
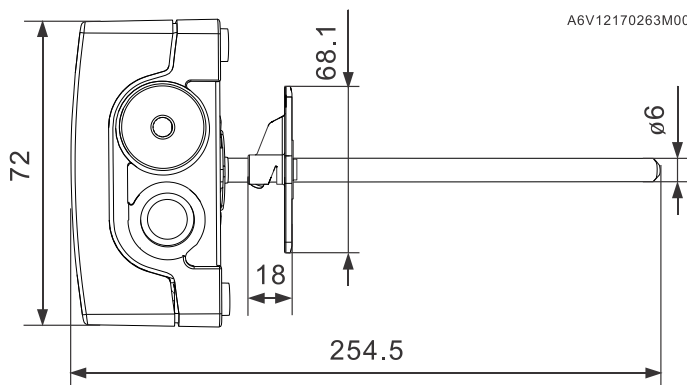
Diagrams

Connection terminals

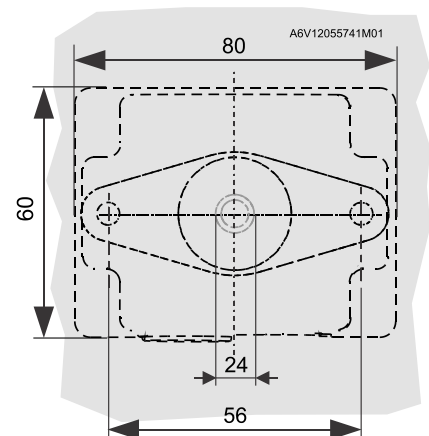


The output mode is passive, which means the sensing element is provided to customer directly with two-position connector.

Dimensions



Dimensions in mm



Drilling plan