nVent RAYCHEM RayStat-M2-G Sensor Temperature and Moisture Instruction Manual

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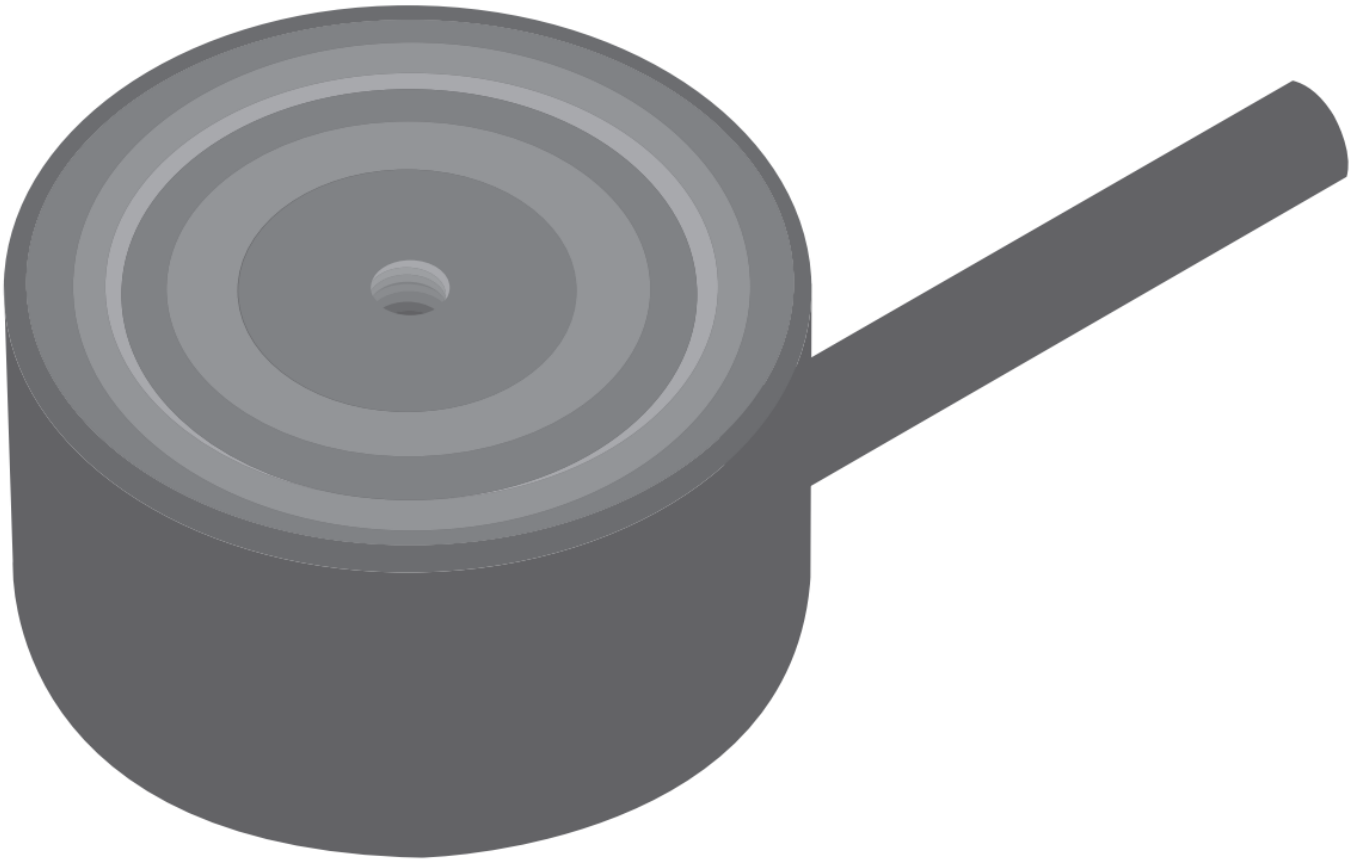


Contents

List of figures

The following figures are located at the back of the instructions:

Ground sensor type RayStat-M2-G-Sensor

Designed for embedding into the surface of the outdoor area.
Detects both temperature and moisture.

Mounting of sensor

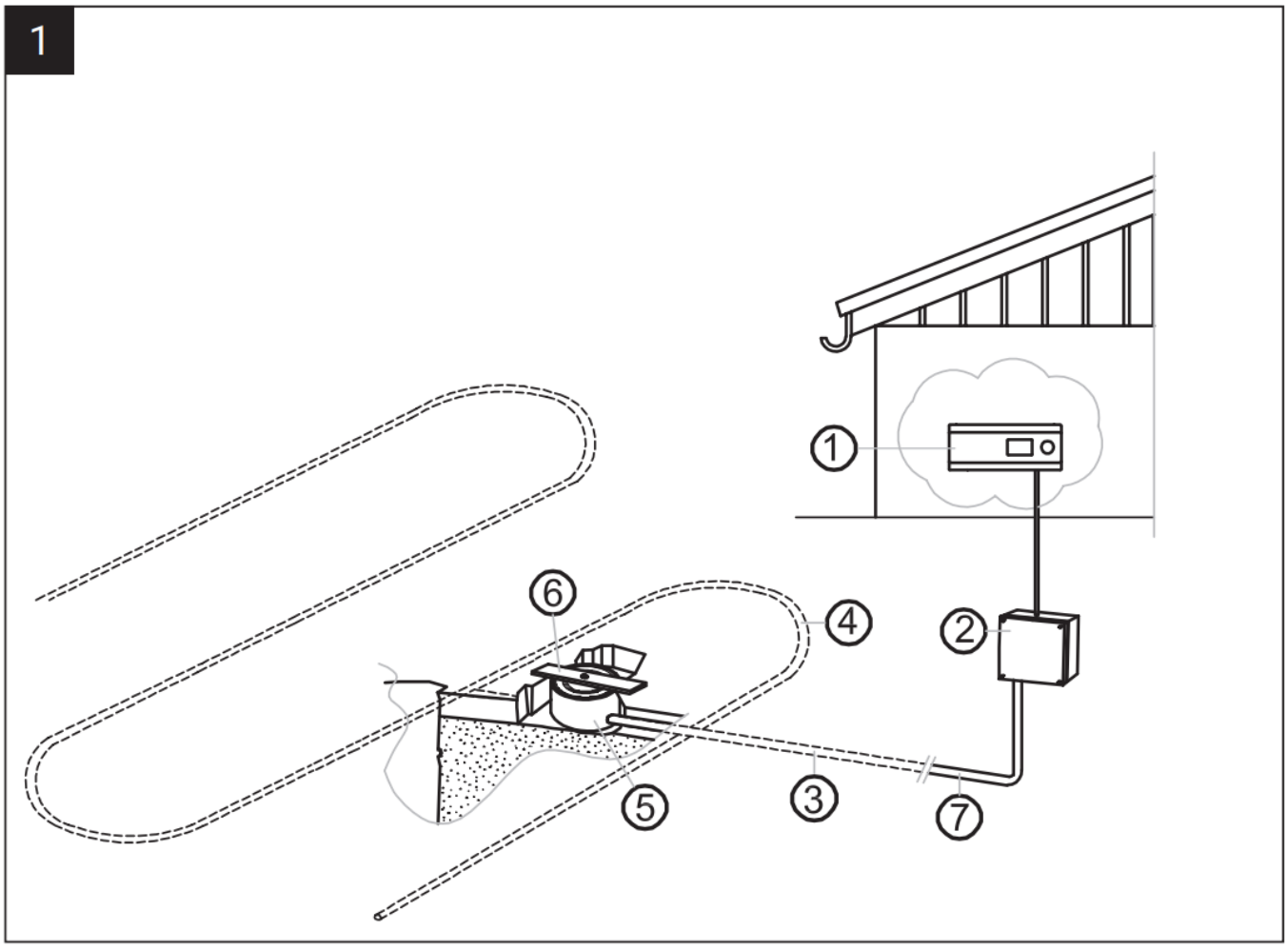
To be mounted where snow and ice problems normally occur.
The sensor must be embedded horizontally with its top flush with the surroundings with the help of the accompanying installation plate.
To be mounted on a hard foundation, e.g. in a concrete base or asphalt.

Mounting of sensor cable

The cable must be mounted in accordance with applicable local regulations.
The cable must never be installed parallel to power cables as electrical interference may distort the sensor signal.
The sensor is supplied with 10 m cable which can be extended up to 200 m using standard installation cable: 6×1,5 mm². The total resistance of the cable must be less than 10 Ω.

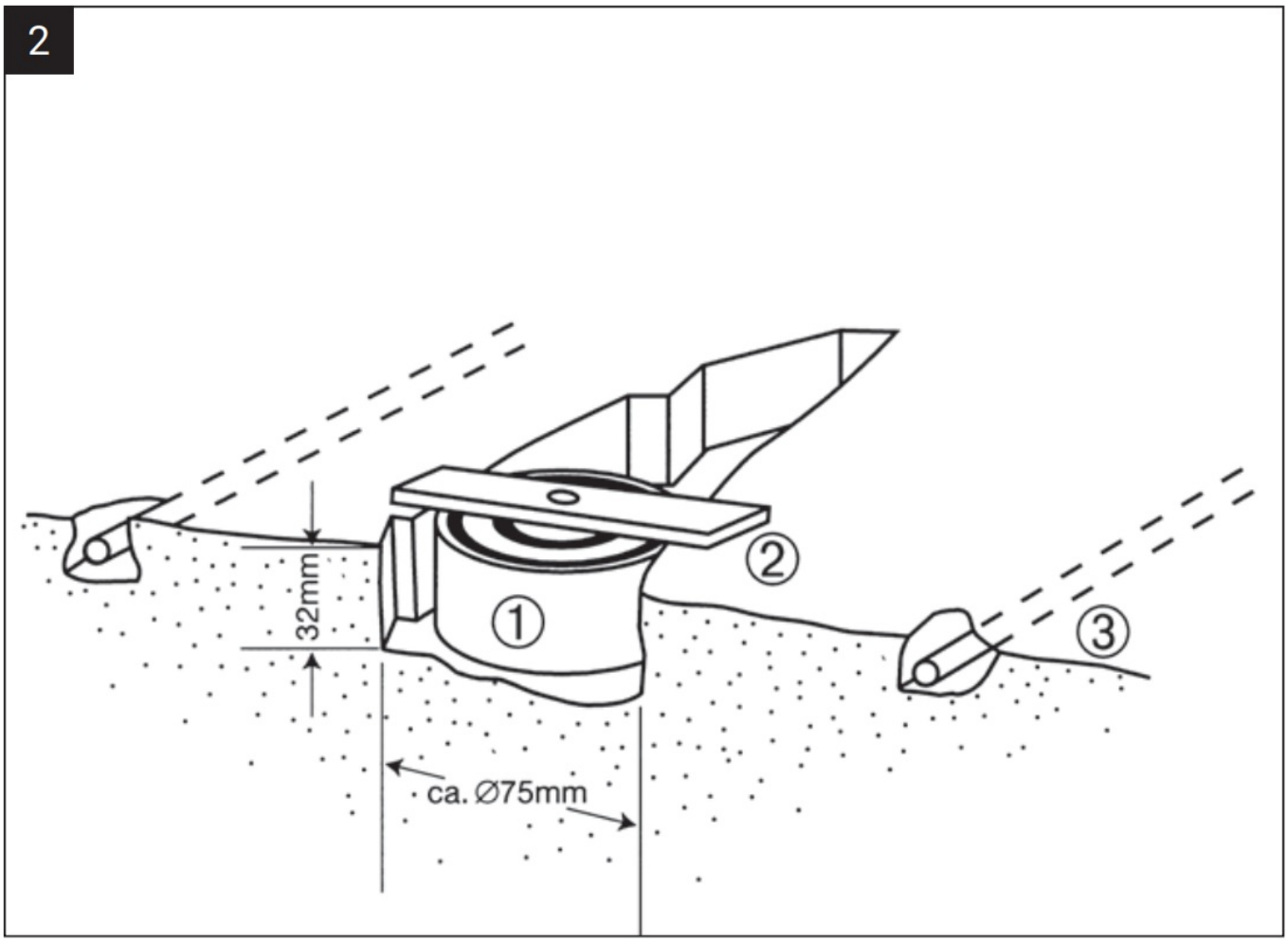
Product overview

1 = Snow melting thermostat RayStat-M2
2 = Junction box (Only if sensor cable is too short)
3 = Conduit for sensor cable
4 = Heating cable
5 = RayStat-M2-G-Sensor
6 = Metal bracket plate for alignment purposes
7 = Sensor cable



1 = RayStat-M2-G-Sensor
2 = Metal bracket plate for alignment purposes
3 = Heating cable

2

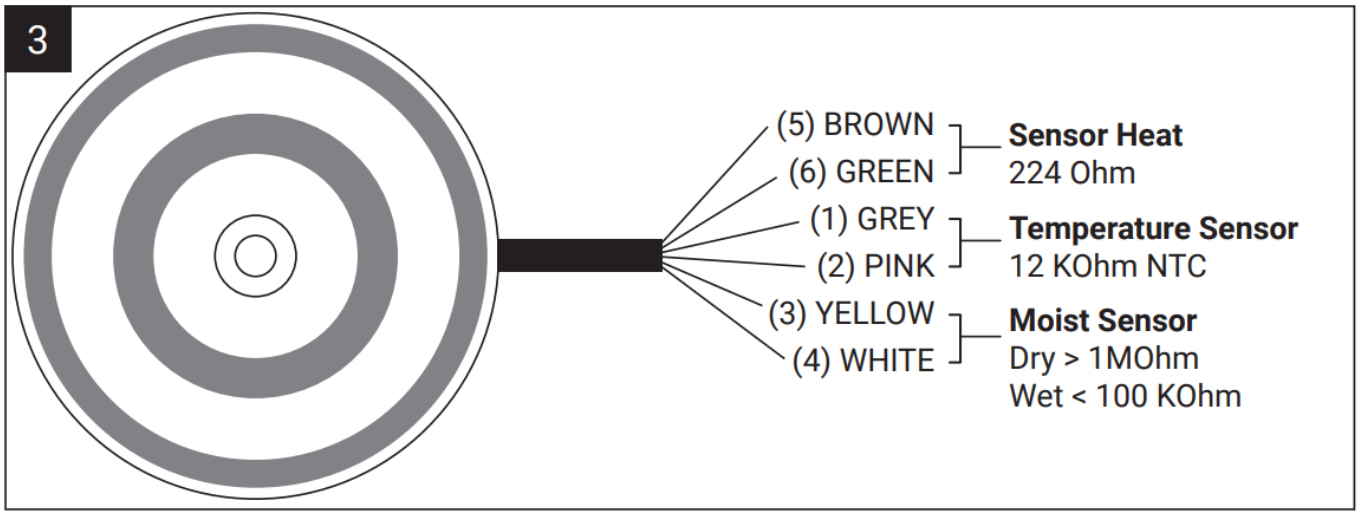


TROUBLESHOOTING

RAYSTAT-M2-G-Sensor

VIA-DU-S20 Temp.: (1) GREY & (2) PINK / VIA-DU-A10

NTC 12 kΩ @ 25°C – RAYSTAT-M2-G-Sensor / RAYSTAT-M2-A-Sensor						
–20ºC = 112246Ω	11ºC = 22300 Ω	16ºC = 17750 Ω	21ºC = 14238 Ω	26ºC = 11506 Ω	35ºC = 7978Ω	60ºC = 3201Ω
–10ºC = 63929Ω	12ºC = 21292 Ω	17ºC = 16974 Ω	22ºC = 13636 Ω	27ºC = 11035 Ω	40ºC = 6569Ω	70ºC = 2306Ω
0ºC = 37942Ω	13ºC = 20335 Ω	18ºC = 16237 Ω	23ºC = 13064 Ω	28ºC = 10587 Ω	45ºC = 5442Ω	80ºC = 1692Ω
5ºC = 29645Ω	14ºC = 19428 Ω	19ºC = 15537 Ω	24ºC = 12519 Ω	29ºC = 10159 Ω	50ºC = 4535Ω	90ºC = 1263Ω
10ºC = 23364 Ω	15ºC = 18567 Ω	20ºC = 14871 Ω	25ºC = 12000 Ω	30ºC = 9752Ω	55ºC = 3800Ω	100ºC = 958 Ω



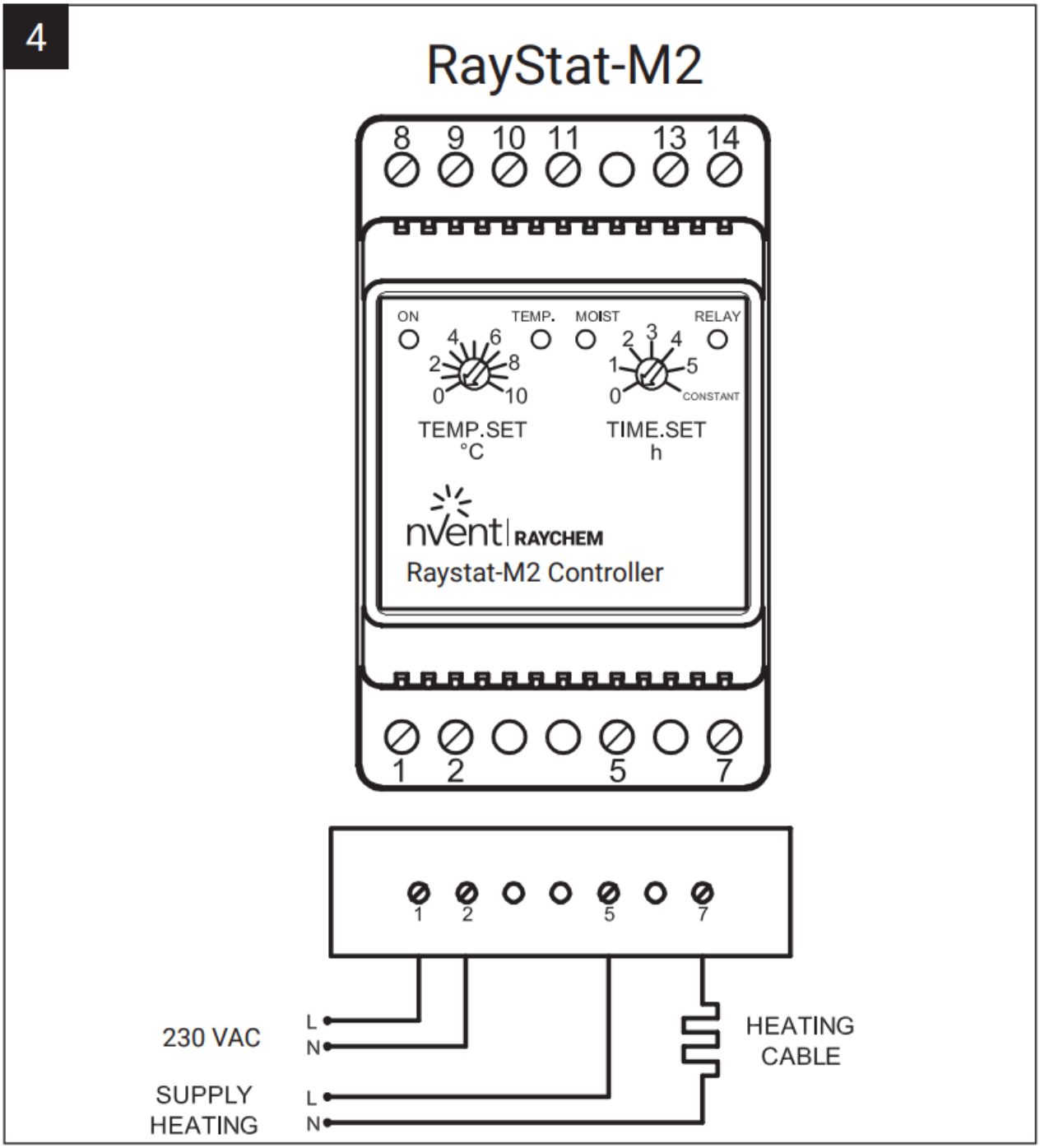
- VIA-DU-S20 Heat.: (5) BROWN & (6) GREEN: +/- 224 Ohm
- VIA-DU-S20 Moist.: (3) YELLOW & (4) WHITE: Dry > 1MOhm / Wet: < 100kOhm

RAYSTAT-M2-A-Sensor: -> NTC 12 kΩ @ 25°C

RAYSTAT-M2 controller

The RAYSTAT-M2 controller relay: terminals 5 & 7.
Relay 5 – 7: NO (Open Loop / > 10MOhm)
Relay 5 – 7: Closed: 0 Ohm
To obtain 230 Vac output on terminal 7, one has to supply 230 Vac on terminal 5 in addition to the 230 Vac supply to the controller itself (L on terminal 1 & N on terminal 2).
In order to obtain Line voltage on terminal 7 when the relay is closed, one must supply terminal 5 with Line voltage:

4



CUSTOMER SUPPORT

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RAYCHEM-IM-H82006-RayStatM2GSensor-ML-2303

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Documents / Resources

	nVent RAYCHEM RayStat-M2-G Sensor Temperature and Moisture [pdf] Instruction Manual RayStat-M2-G Sensor Temperature and Moisture, RayStat-M2-G, Sensor Temperature and Moisture, Temperature and Moisture

References

- Building a more Sustainable and Electrified World | nVent
- Electrical Heat Tracing | Heat Tracing | nVent RAYCHEM
- User Manual