9/2012

Technical Manual

MDT Rain sensor

SCN-RS1R1.01

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DIN EN ISO 9001
TAW Cert
Zert.Nr.19050608

1.1. Settings at the ETS-Software

Selection at the product database:

Manufacturer: MDT Technologies
Product family: Weather sensors
Product type: Rain sensor
Medium Type: Twisted Pair (TP)
Product name: SCN-RS1R1.01 Rain sensor
Order number: SCN-RS1R1.01

1.2 Starting Up

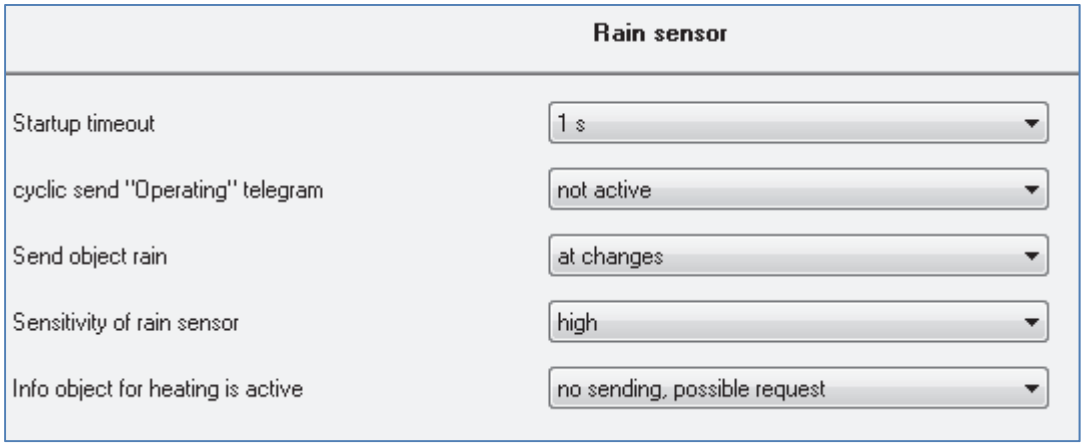
After wiring the allocation of the physical address and the parameterization of every channel follow:

(1) Connect the interface with the bus, e.g. MDT USB interface
(2) Set bus power up
(3) Activate the programming mode by closing the reed contact with the provided magnet → red programming LED lights
(4) Loading of the physical address (red LED goes out, as soon as this process was completed successfully)
(5) Loading of the application
(6) Switch the power supply on
(7) If the device is enabled you can test the requested functions(also possible by using the ETS-Software)

2 Parameterization

The Rain Sensor SCN-RS1R1.01 is used for the detection of rain and send messages if rain was detected. For faster drying after rain and at low temperatures, a heating is integrated below the sensor area. This enables also the detection of two contiguous rain periods.

The following illustration shows the available settings of the rain sensor:



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The following chart shows the dynamic range for all parameters:

ETS-Text	Dynamic range **[default value]**	Comment
Startup timeout	1-60s **[1s]**	Time between programming and functional start of the device
cyclic send "Operating" telegram	**not active**, 10min, 30min, 1h, 3h, 6h, 12h, 24h	cyclic sending behavior, if sensor answers at the bus
Send object rain	• only request • **at change** • cyclic • at change and cyclic	Sending behavior for the object rain
sensitivity of rain sensors	• low • **high**	defines the sensitivity of the detection threshold
Info object for heating is active	• **no sending, only request** • send at changes	sending behavior for the state object, if heating is active at the moment

The rain sensor contains of 5 adjustable parameters:

- **Startup timeout**
  The startup timeout defines the time between an application download and the functional start of the.
- **cyclic send „Operating" telegram**
  Via this parameter can be adjusted if an "Operating" telegram shall be sent and the time steps can be defined. The "Operating" telegram indicates at the adjusted cyclic distance if the sensor still answers at the bus. By activation and connecting this telegram, the error detection becomes much easier and helps finding broken devices instantly.
  The chart shows the relevant communication object:

Number	Name	Function	Length	Usage
1	Operating	Info	1 Bit	Notification, if sensor answers at the bus

- **Send object rain**
  The sending behavior of the object "0 – Rain" can be defined via this parameter. The communication sends a logical "1" as soon as rain was measured and a logical "0" if no rain was measured.
  The chart shows the relevant communication object:

Number	Name	Function	Length	Usage
0	Rain	Message Rain Yes/No	1 Bit	Output for detected rain

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- **Sensitivity of rain sensor**
  If the rain sensor detects rain too early at the default value for the sensitivity (high), this can be adapted via this parameter.
- **Info object for heating is active**
  The info object for the heating indicates when the heating is active. Via this parameter can be adjusted, if the object for the heating shall report an active heating or send its state only on request.
  The heating is switched on at rain, so if the object “0 – rain” sends a logical “1”, to speed up the drying process. Additional the heating will be switched on, if the temperature falls below 3°C. The temperature related cutoff is at 7°C. So, there is a hysteresis of 4°C.
  The chart shows the relevant communication object:

Number	Name	Function	Length	Usage
2	Heating	Message Heating On/Off	1 Bit	Notification, if the heating is active

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MDT Brightness/Weather

MDT Brightness-/Weather devices

Version		
SCN-WS3HW.01	Weather Station Home	Outdoor installation on wall or pole, flush mounted control unit
SCN-SS1H.01	Sun Sensor	Indoor installation with vacuum cup, flush mounted control unit
SCN-RS1R.01	Rain Sensor	Outdoor installation, Surface mounted

MDT technologies offers three Brightness / Weather devices:

Wetter Station Home:

- 3 channels for sun protection to control blind/shutter
- Sun protection up to 3 facades
- Offers wide functions to control facades (2 switching treshold, teach in function)
- Central shutter control for Up/Down via brightness value (with time delay)
- Brightness value for east, south, west, twilight
- Wind speed value, alarm if wind speed exceeds limit, temperature value
- Suited to control facades at home
- Installation on wall or pole, 5m connection cable
- No additional power supply required
- Integrated bus coupling unit
- 3 years warranty

Sun Sensor:

- Brightness sensor with vacuum for window installation
- 2 inputs to connect push button for blind control
- Hysteresis and time delay programmable
- 2m connection cable
- Flush mounted control unit
- Operation mode 1: Installation on window without blinds
- Operation mode 2: Installation on window with blinds
- No additional power supply required
- Integrated bus coupling unit in control unit
- 3 years warranty

Rain Sensor:

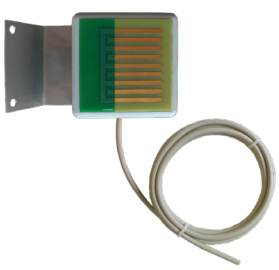
- Integrated, automatically heating
- Heating operation by choke free output STV-640 or external 24VDC power supply
- Current consumption of heating is <100mA
- 5m bus connection cable
- Stainless fastening angle included in delivery
- Dimensions (W x H x D): 67mm x 67mm x 29mm
- Integrated bus coupling unit
- 3 years warranty

For project design and commissioning of the Brightness/Weather devices it is recommended to use the ETS3f/ETS4 or later. Please download the application software at www.mdt.de/Downloads.html

SCN-SS1H.01

SCN-WS3HW.01

SCN-RS1R.01



- Production in Germany, certified according to ISO 9001
- Modern design
- Fully compatible to all KNX/EIB devices
- Integrated bus coupling unit
- 3 years warranty

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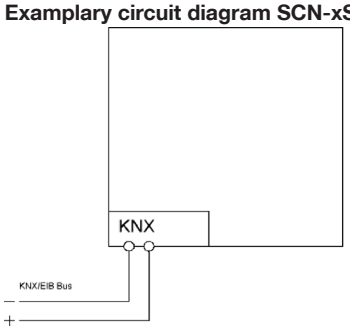
Stand: 1012

MDT Brightness/Weather

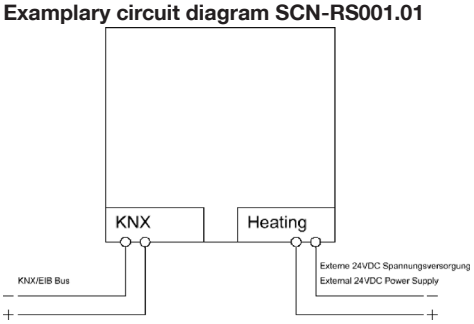
Technical Data	SCN-SS1H.01	SCN-WS3HW.01	SCN-RS1R.01
Measured data	Brightness	Brightness, Wind, Twilight, Temperature	Rain
Permitted wire gauge			
KNX busconnection	0,8mm Ø, solid core	0,8mm Ø, solid core	0,8mm Ø, solid core
Power supply	KNX Bus	KNX Bus	KNX Bus
Power consumption via KNX bus typ.	< 0,3W	< 0,3W	< 0,3W*
Operation temperature range	0 to + 45°C	-20 to + 70°C	0 to + 45°C
Enclosure	IP 20	IP 44	IP 45
Dimensions control unit (W x H x D)	41mm x 41mm x 12mm	--	67mm x 67mm x 29mm

* Without heating. Heating operation by choke free output STV 640 or external 24VDC power supply. Current consumption of heating is <100mA

Examplary circuit diagram SCN-xSxxx.01



Examplary circuit diagram SCN-RS001.01



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