Ⓓ Ⓖⓑ Ⓕ Ⓡⓤ 6000-2640-0000-1XX **26400-2018 V102** 02/2018

HYGRASREG® KW
HYGRASREG® KW-SD

S+S REGELTECHNIK

Ⓓ Bedienungs- und Montageanleitung

Kondensationswächter,
incl. Spannband / mit abgesetztem Fühlerkopf,
mit schaltendem Ausgang

Ⓖⓑ Operating Instructions, Mounting & Installation

Condensation control switches
including strap / with detached sensor head,
with switching output

Ⓕ Notice d'instruction

Contrôleur de condensation,
y compris collier de serrage ou avec sonde déportée,
avec sortie en tout ou rien

Ⓡⓤ Руководство по монтажу и обслуживанию

Реле контроля конденсации,
вкл. хомут / с вынесенной чувствительной головкой,
с релейным выходом

KW
(IP65)

KW-extern
KW-external
KW-externe
KW-наружный
(IP65)

KW-SD
(IP43)

KW-SD-extern
KW-SD-external
KW-SD-externe
KW-SD-наружный
(IP43)

S+S REGELTECHNIK

S+S REGELTECHNIK GMBH
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MADE IN GERMANY

Herzlichen Glückwunsch!
Sie haben ein deutsches Qualitätsprodukt erworben.

Congratulations!
You have bought a German quality product.

Félicitations!
Vous avez fait l'acquisition d'un produit allemand de qualité.

Примите наши поздравления!
Вы приобрели качественный продукт, изготовленный в Германии.

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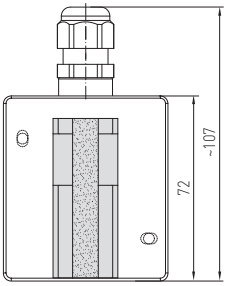
HYGRASREG® KW
HYGRASREG® KW-SD

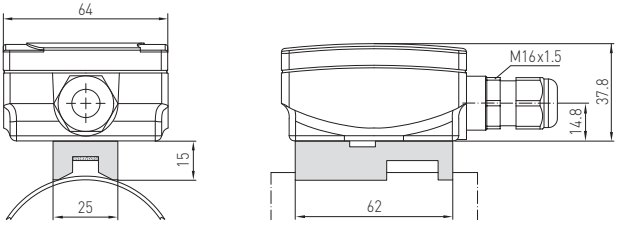
S+S REGELTECHNIK

Maßzeichnung
Dimensional drawing
Plan coté
Габаритный чертеж

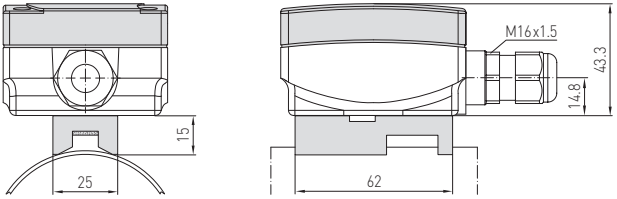
KW / KW-SD



(IP43)
mit Schnappdeckel
with snap-on lid
avec couvercle emboîté
с защелкивающейся крышкой



(IP65)
mit Schnellverschlussschrauben
with quick-locking screws
avec vis de fermeture rapide
с быстрозаворачиваемыми винтами



KW / KW-SD
mit Spannband zur direkten Rohrmontage
including strap for installation directly on pipes
y compris collier de serrage pour montage direct sur tube
с хомутом непосредственный монтаж на трубах

KW / KW-SD
prodynamische Querkonvektion
pro-dynamic cross convection
convection transversale prodynamique
Высокоэффективная поперечная конвекция

KW-SD
(IP43)

KW
(IP65)

PATENTED

Patented quality product (pro-dynamic cross convection patent no. DE 10 2012 015 726.6)

The condensation control switch **HYGR**ASREG® **KW** with terminal box enclosure made of impact-resistant plastic and with an enclosure cover with quick-locking screws or the cost-effective **HYGR**ASREG® **KW-SD** with snap-on lid is installed on cooling ceilings, on cooling/cold-water piping or on cooled surfaces and is designed to prevent the formation of condensation.

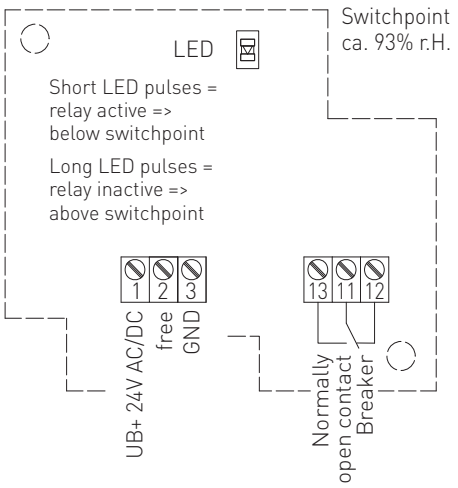
It reliably detects formation of dew by means of its humidity and temperature sensor (no conductivity measurement) and, thanks to its measuring method, **pro-dynamic cross convection**, yields an exact measurement result (with LED status indicator).

Dew point temperature is that temperature at which air reaches the state of saturation and water vapour starts to condensate. The KW condensation control switch can be operated as a monitor on cooling ceilings or pipes so that the switching output is activated when dew builds up on the cooling ceilings of the property to be monitored and e.g. a heating system is started, or other actuators are initiated.

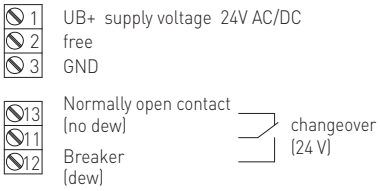
TECHNICAL DATA

Power supply:	24 V AC (± 20 %) 15...36 V DC
Switchpoint:	approx. 93 % r.H. (permanently set)
Power consumption:	< 1.1 VA / 24 V DC < 2.2 VA / 24 V AC
Output signal:	potential-free changeover contact (24 V), 1 A ohmic load
Process connection:	endless metal strap with metal tightener, 300 mm, for pipes up to 3" diameter (included in the scope of delivery)
Electrical connection:	0.14 - 1.5 mm², via terminal screws
Enclosure:	plastic, UV-stabilised, material polyamide, 30 % glass-globe reinforced, colour traffic white (similar to RAL 9016), **KW-xx-SD with snap-on lid,** **KW-xx with quick-locking screws,** (slotted / Phillips head combination) enclosure cover is transparent!
Enclosure dimensions:	**KW-xx-SD** 72 x 64 x **37.8 mm** (Tyr 01) **KW-xx** 72 x 64 x **43.3 mm** (Tyr 1)
Cable gland:	M 16 x 1.5; including strain relief, exchangeable, max. inner diameter 10.4 mm
Mounting:	The mounting position should be selected so that no condensate can enter the sensor system in the event that condensation forms! **KW / KW-SD** with strap for direct mounting on pipes or for direct mounting on flat surfaces (e.g. walls, ceilings) **KW-external / KW-SD-external** with detached sensor head (cable length KL = 1.5 m) for mounting on pipes
Protection class:	III (according to EN 60730)
Protection type:	**KW-xx-SD IP 43** (according to EN 60529) **KW-xx IP 65** (according to EN 60529)
Standards:	CE-conformity, electromagnetic compatibility according to EN 61326, EMC Directive 2014 / 30 / EU
FUNCTION	The relay output is triggered (contact 13-11 closed) if the **switchpoint (93 % r.H.)** is not reached and opens (contact 12-11 closed) in the event of a fault (power failure, condensation).
	**LED short pulses =** relay active → switchpoint not reached ACTUAL humidity **< 93 % r.H. (no condensation)**
	**LED long pulses =** relay inactive → switchpoint exceeded ACTUAL humidity **> 93 % r.H. (condensation)**

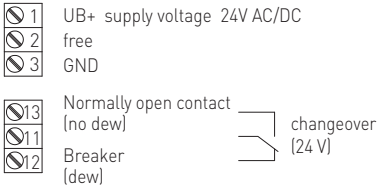
Schematic diagram **KW-W-xx**



Connecting diagram **KW-W-xx**
(no condensation)
r.H. < 93%



Connecting diagram **KW-W-xx**
(condensation)
r.H. > 93%



HYGRASREG® **KW-SD** – Condensation control switches including strap,, *Standard*
HYGRASREG® **KW-SD-external** – Condensation control switches with detached sensor head, *Standard*

Type / WG01	**Switchpoint** Humidity	**Output** Humidity	**Mounting**	**Item No.**
KW-SD			**Sensor internal**	**IP43**
KW-W-SD	ca. 93% r.H.	Changeover contact	for direct mounting on pipes, for direct mounting on flat surfaces	1202-1075-0001-020
KW-SD-external			**Sensor external**	**IP43**
KW-W-SD EXTERN	ca. 93% r.H.	Changeover contact	for mounting on pipes	1202-1075-0001-040

HYGRASREG® **KW** – Condensation control switches including strap, *Premium*
HYGRASREG® **KW-external** – Condensation control switches with detached sensor head, *Premium*

Type / WG01	**Switchpoint** Humidity	**Output** Humidity	**Mounting**	**Item No.**
KW			**Sensor internal**	**IP65**
KW-W	ca. 93% r.H.	Changeover contact	for direct mounting on pipes, for direct mounting on flat surfaces	1202-1025-0001-020
KW-external			**Sensor external**	**IP65**
KW-W EXTERN	ca. 93% r.H.	Changeover contact	for mounting on pipes	1202-1025-0001-040

(GB) General notes

- This device must only be used in non-precipitating air without above-atmospheric or below-atmospheric pressure at the sensor element.
- On outdoor and duct sensors, the sinter filter of the senor element protects the humidity sensor against potential dust exposure. In case of pollution / contamination, this filter should be cleaned on a regular basis.
- Dust and pollution falsify measurement results and are to be avoided. Slight pollution and dust sediments can be removed by using compressed air.
- Touching the humidity element is under any circumstances to be avoided, as that would result in considerable mismeasurements.
- In case of pollution, we recommend cleaning and recalibration in the factory.
- In any case, the sensor must not get in contact with chemicals or other cleaning agents.
- The relative humidity of 0...100 % is indicated by an output signal of 0-10 V or 4 ... 20 mA.
- The device operating range covers 10.0 ... 99.9 % r. H. Beyond that range, mismeasurements or increased deviations may occur.
- When several sensors (0-10 V) are connected to one voltage supply of 24 V AC, correct polarity must be regarded as otherwise the alternating voltage source may be short-circuited.
- The voltage outputs are short-circuit proof. Applying overvoltage or voltage supply to the voltage output will destroy the device.
- If this device is operated beyond the specified range, all warranty claims are forfeited.

Our "General Terms and Conditions for Business" together with the "General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry" (ZVEI conditions) including supplementary clause "Extended Retention of Title" apply as the exclusive terms and conditions.

In additionIn addition, the following points are to be observed:

- These instructions must be read before installation and putting in operation and all notes provided therein are to be regarded!
- Devices must only be connected to safety extra-low voltage and under dead-voltage condition. To avoid damages and errors the device (e.g. by voltage induction) shielded cables are to be used, laying parallel with current-carrying lines is to be avoided, and EMC directives are to be observed.
- This device shall only be used for its intended purpose. Respective safety regulations issued by the VDE, the states, their control authorities, the TÜV and the local energy supply company must be observed. The purchaser has to adhere to the building and safety regulations and has to prevent perils of any kind.
- No warranties or liabilities will be assumed for defects and damages arising from improper use of this device.
- Consequential damages caused by a fault in this device are excluded from warranty or liability.
- These devices must be installed by authorised specialists only.
- The technical data and connecting conditions of the mounting and operating instructions delivered together with the device are exclusively valid. Deviations from the catalogue representation are not explicitly mentioned and are possible in terms of technical progress and continuous improvement of our products.
- In case of any modifications made by the user, all warranty claims are forfeited.
- This device must not be installed close to heat sources (e.g. radiators) or be exposed to their heat flow. Direct sun irradiation or heat irradiation by similar sources (powerful lamps, halogen spotlights) must absolutely be avoided.
- Operating this device close to other devices that do not comply with EMC directives may influence functionality.
- This device must not be used for monitoring applications, which serve the purpose of protecting persons against hazards or injury, or as an EMERGENCY STOP switch for systems or machinery, or for any other similar safety-relevant purposes.
- Dimensions of enclosures or enclosure accessories may show slight tolerances on the specifications provided in these instructions.
- Modifications of these records are not permitted.
- In case of a complaint, only complete devices returned in original packing will be accepted.

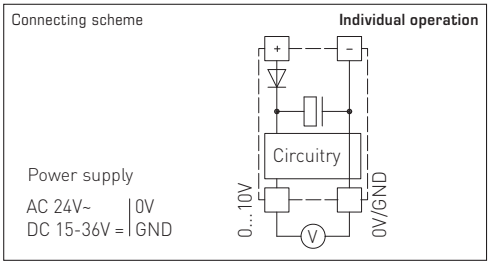
These instructions must be read before installation and putting in operation and all notes provided therein are to be regarded!

SUPPLY VOLTAGE:

For operating voltage reverse polarity protection, a one-way rectifier or reverse polarity protection diode is integrated in this device variant. This internal one-way rectifier also allows operating 0-10 V devices on AC supply voltage.

The output signal is to be tapped by a measuring instrument. Output voltage is measured against zero potential (0 V) of the input voltage!

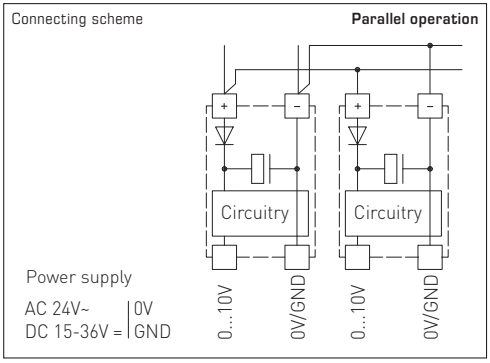
When this device is operated on **DC supply voltage**, the operating voltage input UB+ is to be used for 15...36 V DC supply and UB– or GND for ground wire!



When several devices are supplied by one 24 V **AC voltage supply**, it is to be ensured that all "positive" operating voltage input terminals (+) of the field devices are connected with each other and all "negative" operating voltage input terminals (–) (= reference potential) are connected together (in-phase connection of field devices). All outputs of field devices must be referenced to the same potential!

In case of reversed polarity at one field device, a supply voltage short-circuit would be caused by that device. The consequential short-circuit current flowing through this field device may cause damage to it.

Therefore, pay attention to correct wiring!



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HYGRASREG® KW
HYGRASREG® KW-SD

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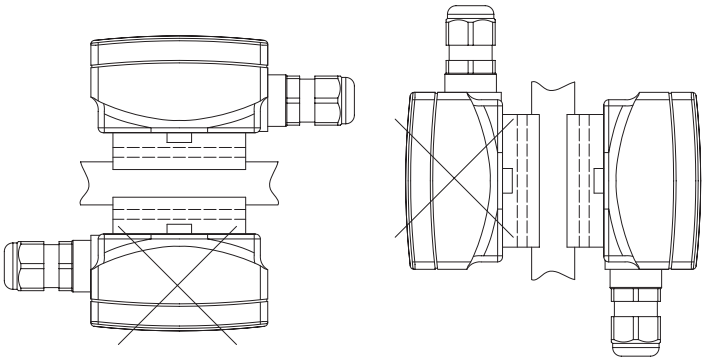
Montageschema
Mounting diagram
Schéma de montage
Схема монтажа

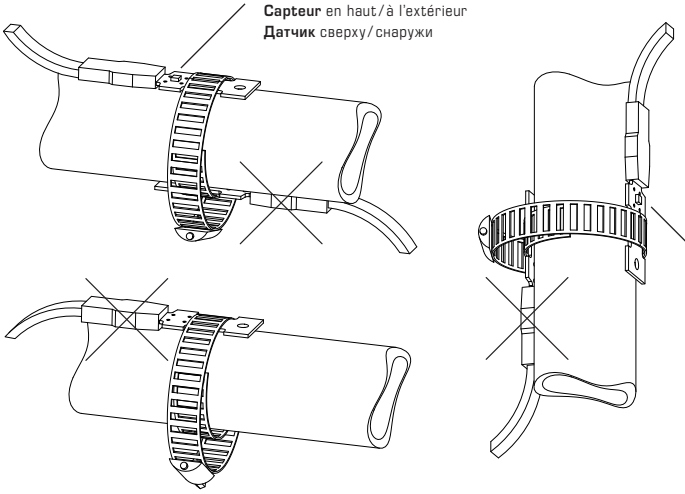
KW/KW-SD



Montageschema
Mounting diagram
Schéma de montage
Схема монтажа

KWxx-extern
KWxx-external
KWxx-externe
KWxx-наружный

Sensor oben/außen
Sensor on top/outside
Capteur en haut/à l'extérieur
Датчик сверху/снаружи



Sensor außen/seitlich
Sensor outside/at the side
Capteur à l'extérieur/sur le côté
Датчик снаружи/сбоку

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HYGRASREG® KW
HYGRASREG® KW-SD

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Maßzeichnung
Dimensional drawing
Plan coté
Габаритный чертеж

KWxx-extern
KWxx- external
KWxx-externe
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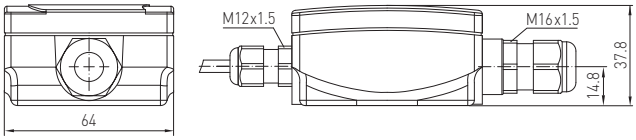
(IP43)
mit Schnappdeckel
with snap-on lid
avec couvercle emboîté
с защелкивающейся крышкой



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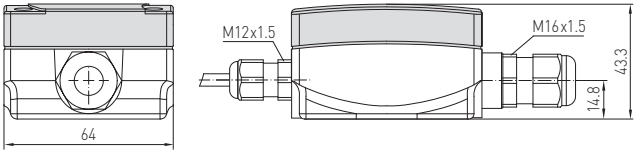

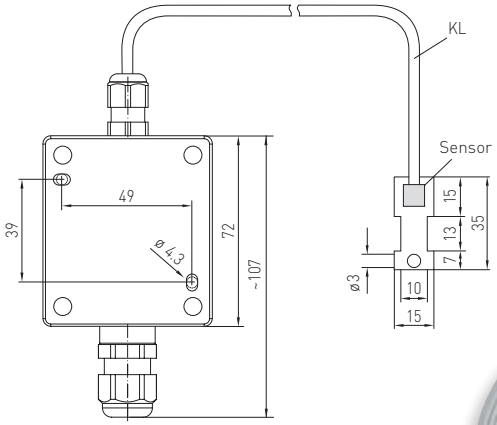

KWxx-extern
mit abgesetzten Fühlerkopf
zur Rohrmontage

KWxx-external
with detached sensor head
for mounting on pipes

KWxx-externe
avec sonde déportée
pour montage sur tube

KWxx-наружный
с вынесенной чувствительной
головкой монтаж на трубах