



EN

Sensorik für explosionsgefährdete Bereiche

EASY - SAFE – SMART

- ATEX / IECEx certified for Gases and Dusts
- Measurement in Zone 0
- Direct power supply without zener barrier
- Easy plug-in mounting
- Quick and safe installation
- Junction box Ex e integrated
- Enhanced temperature range -40°C ... +70°C
- Degree of protection IP66
- Switching outputs adjustable
- Adjustable hysteresis
- Integrated display
- Onsite parameterization
- LED status indication
- Low power input <3 W
- Cable length from the switch relay to the sensor up to 100 m
- Highly resistant against corrosion



SW.Ex + IR.Ex Manual

BA.Ex-0002.05.EN

*Assembly and Installation Instructions for safe use of
explosion-proof switching relay SW.Ex with two relay outputs SPDT
and sensor IR.Ex for temperature, humidity, differential pressure, air flow*



ATEX Documentation

D Alle Betriebsanleitungen für ATEX Ex bezogene Produkte stehen in den Sprachen Englisch, Deutsch und Französisch zur Verfügung. Sollten Sie die Betriebsanleitungen für Ex-Produkte in Ihrer Landessprache benötigen, setzen Sie sich bitte mit Ihrem örtlichen Vertreter in Verbindung.

GB All instruction manuals for ATEX Ex related products are available in English, German and French. Should you require Ex related instructions in your local language, you are to contact your nearest office or representative.

F Tous les manuels d'instruction des produits ATEX Ex sont disponibles en langue anglaise, allemande et française. Si vous nécessitez des instructions relatives aux produits Ex dans votre langue, veuillez bien contacter votre représentant le plus proche.

P Todos os manuais de instruções referentes aos produtos Ex da ATEX estão disponíveis em Inglês, Alemão e Francês. Se necessitar de instruções na sua língua relacionadas com produtos Ex, deverá entrar em contacto com a delegação mais próxima ou com um representante.

DK Alle brugervejledninger for produkter relateret til ATEX Ex er tilgængelige på engelsk, tysk og fransk. Skulle De ønske yderligere oplysninger om håndtering af Ex produkter på eget sprog, kan De rette henvendelse herom til den nærmeste afdeling eller forhandler.

SF Kaikkien ATEX Ex -tyyppisten tuotteiden käyttöohjeet ovat saatavilla englannin-, saksan- ja ranskankielisinä. Mikäli tarvitsette Ex -tyyppisten tuotteiden ohjeita omalla paikallisella kielellänne, ottakaa yhteyttä lähimpään toimistoon tai edustajaan.

I Tutti i manuali operativi di prodotti ATEX contrassegnati con Ex sono disponibili in inglese, tedesco e francese. Se si desidera ricevere i manuali operativi di prodotti Ex in lingua locale, mettersi in contatto con l'ufficio più vicino o con un rappresentante.

E Todos los manuales de instrucciones para los productos antiexplosivos de ATEX están disponibles en inglés, alemán y francés. Si desea solicitar las instrucciones de estos artículos antiexplosivos en su idioma local, deberá ponerse en contacto con la oficina o el representante de más cercano.

S Alla instruktionsböcker för ATEX Ex (explosionssäkra) produkter är tillgängliga på engelska, tyska och franska. Om Ni behöver instruktioner för dessa explosionssäkra produkter på annat språk, skall Ni kontakta närmaste eller representant.

NL Alle handleidingen voor producten die te maken hebben met ATEX explosiebeveiliging (Ex) zijn verkrijgbaar in het Engels, Duits en Frans. Neem, indien u aanwijzingen op het gebied van explosiebeveiliging nodig hebt in uw eigen taal, contact op met de dichtstbijzijnde vestiging van of met een vertegenwoordiger

GR Όλα τα εγχειρίδια λειτουργίας των προϊόντων με ATEX Ex διατίθενται στα Αγγλικά, Γερμανικά και Γαλλικά. Σε περίπτωση που χρειάζεστε οδηγίες σχετικά με Ex στην τοπική γλώσσα παρακαλούμε επικοινωνήστε με το πλησιέστερο γραφείο της ή αντιπροσωπώ της

PL Wszystkie instrukcje obsługi dla urządzeń w wykonaniu przeciwwybuchowym Ex, zgodnych z wymaganiami ATEX, dostępne są w języku angielskim, niemieckim i francuskim. Jeżeli wymagana jest instrukcja obsługi w Państwa lokalnym języku, prosimy o kontakt z lokalnym przedstawicielem.

SK Všetky návody na obsluhu pre prístroje s ATEX Ex sú k dispozícii v jazyku anglickom, nemeckom a francúzskom. V prípade potreby návodu pre Ex- prístroje vo Vašom národnom jazyku, skontaktujte prosím miestnu kanceláriu firmy.

SLO Vsi predpisi in navodila za ATEX Ex sorodni pridelki so pri roki v angliščini, nemščini ter francoščini. Če so Ex sorodna navodila potrebna v vašem tujejnem jeziku, kontaktirajte vaš najbližji office ili predstavnika.

CZ Všechny uživatelské příručky pro výrobky, na něž se vztahuje nevýbušné schválení ATEX Ex, jsou dostupné v angličtině, němčině a francouzštině. Požadujete-li pokyny týkající se výrobků s nevýbušným schválením ve vašem lokálním jazyku, kontaktujte prosím vaši nejbližší reprezentační kancelář

H Az ATEX Ex műszerek gépkönyveit angol, német és francia nyelven adjuk ki. Amennyiben helyi nyelven kérik az Ex eszközök leírásait, kérjük keressék fel a legközelebbi irodát, vagy képviselőt.

BG Всички упътвания за продукти от серията ATEX Ex се предлагат на английски, немски и френски език. Ако се нуждаете от упътвания за продукти от серията Ex на родния ви език, се свържете с най-близкия офис или представителство на фирма

LT Visos gaminių ATEX Ex kategorijos Eksploatavimo instrukcijos teikiami anglų, vokiečių ir prancūzų kalbomis. Norėdami gauti prietaisų Ex dokumentaciją kitomis kalbomis susisiekite su artimiausiu bendrovės biuru arba atstovu.

RO Toate manualele de instructiuni pentru produsele ATEX Ex sunt in limba engleza, germana si franceza. In cazul in care doriti instructiunile in limba locala, trebuie sa contactati cel mai apropiat birou sau reprezentant

LV Visas ATEX Ex kategorijas izstrādājumu Lietošanas instrukcijas tiek piegādātas angļu, vācu un franču valodās. Ja vēlaties saņemt Ex ierīču dokumentāciju citā valodā, Jums ir jāsazinās ar firmas Jokogava tuvāko ofisu vai pārstāvi

M Il-manwali kollha ta' l-istruzzjonijiet għal prodotti marbuta ma' ATEX Ex huma disponibbli bl-Ingliż, bil-Ġermaniż u bil-Franċiż. Jekk tkun tehtieg struzzjonijiet marbuta ma' Ex fil-lingwa lokali tiegħek, għandek tikkuntattja lill-eqreb rappreżentant jew uffċju ta'

ESTKõik ATEX Ex toodete kasutamishendid on esitatud inglise, saksa ja prantsuse keeles. Ex seadmete muukeelse dokumentatsiooni saamiseks pöörduge lähima lokagava kontori või esindaja poole

EN

SICHERHEITSHINWEISE SAFETY NOTES CONSIGNES DE SÉCURITÉ

Ex-Bereich
Hazardous area
Zone dangereuse
Zone 0,1,2,21,22



Zone 1,2,21,22



Sicherer Bereich
Safe area
Zone de sécurité

Ta (T6) -40...55°C
Ta (T5) -40...70°C
Ta (T4) -40...100°C
Ta (T3-1) -40...125°C

IR.Ex

$U_i = 5,0 \text{ V DC}$
 $I_i = 1055 \text{ mA}$
 $P_i = 492 \text{ mW}$
 $C_i = 440 \text{ nF } \mu\text{F}$
 $L_i = 0 \text{ mH}$

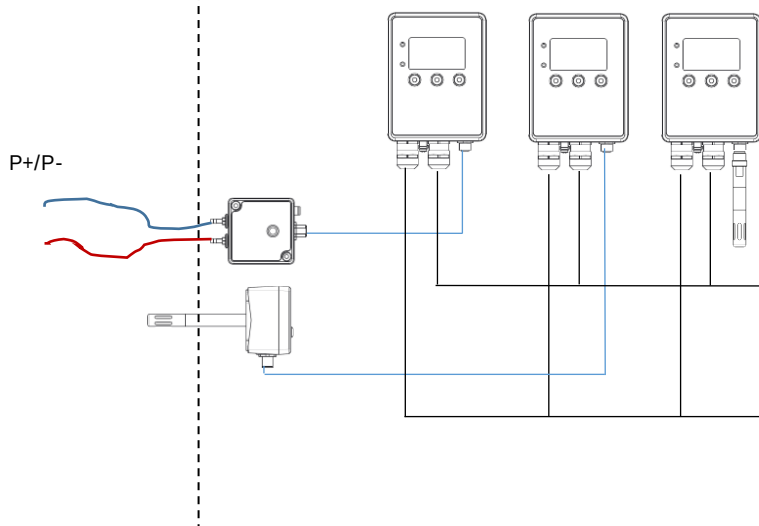
SW.Ex

Ta (T4) : -40 ... +70°C

$U_o \leq 5,0 \text{ DC}$
 $I_o \leq 1055 \text{ mA}$
 $P_o \leq 492 \text{ mW}$
 $C_o = 3,7 \mu\text{F}$
 $L_o = 0,091 \text{ mH}$

Nachweis der Eigensicherheit
Proof of intrinsic safety
Preuve de sécurité intrinsèque

Die Anwendung der 50% Regelung
ist nicht notwendig $L_i = 0!$
It is not necessary to use the 50%
regulation $L_i = 0!$
Il n'est pas nécessaire d'utiliser la
régulation 50% $L_i = 0!$



Ex e Klemmen/terminals 3, 4, 5 / 6, 7, 8

Ausgang 2 Umschaltrelais max. 30 V / 2 A
Output 2 relays SPDT min 5 V / 10 mA
Sortie 2 inverseurs relais

Ex e Klemmen/terminals 1(+), 2(-)

Versorgung 20 ... 28,8 VAC/DC
Supply 50/60 Hz
Alimentation

- Installieren Sie gemäß Herstellerangaben und für Sie gültigen Normen und Regeln.
- Das Entriegeln des Gerätes oder öffnen des Klemmkastens ist nur im spannungslosen Zustand gestattet.
- Beim Einbau des Gerätes ist darauf zu achten, dass die Gehäuseschutzart IP66 nach EN 60529 eingehalten wird.
- Dieses Betriebsmittel kann nach Herstellerangaben in der Zone 1, 21 (II 2GD) bzw. Zone 22 (II 3GD) eingesetzt werden.
- Der Sensorstromkreis darf in die Zone 0 (II 1G) eingeführt werden. Entspricht der Bezeichnung II 2(1)G.
- Die Geräte dürfen nur in Messstoffen eingesetzt werden, gegen welche die prozessberührenden Materialien beständig sind.
- Das Gerät ist an den Potenzialausgleich (PA) anzuschließen, dazu steht ein innerer und äußerer Anschluss zu Verfügung.
- Das Gerät ist vor mechanische Belastung und UV Licht zu schützen.
- Install in accordance with manufacturer's instructions and valid standards and rules.
- Unlocking the device or open the terminal box is only permitted with the power off.
- When installing the unit, make sure that the housing IP66 degree of protection is maintained in accordance with EN 60529.
- This equipment can be used according to manufacturers' instructions in Zone 1, 21 (II 2 GD) and 22. (II 3GD).
- The sensor circuit can be introduced into the zone 0 (II 1G). Corresponds to the designation II 2 (1) G.
- The device may only be used in such conditions, against which the process-contacting materials are resistant.
- The unit must be connected to the potential equalization (PA), an internal and external terminal is available.
- The unit must be protected against mechanical impact and UV light.
- Installer conformément aux instructions et aux normes et règles en vigueur du fabricant.
- Libérer l'appareil ou ouvrir la boîte à bornes ne est autorisée qu'avec l'appareil hors tension.
- Lors de l'installation, assurez-vous que le degré de protection IP66 boîtier est maintenu conformément à la norme EN 60529.
- Cet équipement peut être utilisé selon les instructions du fabricant dans la zone 1, 21 (II 2 GD) et 22 (II 3GD).
- Le circuit de capteur peut être introduit dans la zone 0 (II 1G). Correspond à la désignation II 2 (1) G.
- Le dispositif ne peut être utilisé dans de tels liquides, contre lequel les matériaux de traitement contact sont résistants.
- L'appareil est connecté à la liaison équipotentielle (PA) pour rejoindre, ceci est une borne interne et externe à votre disposition.
- L'appareil doit être protégé contre les chocs mécaniques et la lumière UV.

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1. General

The manual is included in the delivery and serves to ensure proper handling and optimum functioning of the device. The manufacturer is not responsible for this publication nor guarantee and improper handling of the products described any liability. For this reason, read the manual before operation. In addition, the manual is for all personnel who are involved in the transport, setup, operation, maintenance and repair to bring in knowledge. This manual may not, without the prior written consent of the manufacturer used for competition purposes and will not be passed on to third parties. Copies for personal use are permitted. This documentation may contain technical inaccuracies or typographical errors. The information contained is regularly revised, inform yourself about updates via our contact address. The manufacturer reserves the right to modify or alter the product described at any time.

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SYMBOLS



**This sign shows
Safety notes.**

Safety notes must be followed. Failure to observe personal injury or property damage may result. The manufacturer assumes no liability.

SAFTEY NOTES



Installation, electrical connection, maintenance and commissioning may only be performed by trained specialist.



Avoid excessive mechanical stress and improper use.



Switch off power when mounting and dismantling



The display loses contrast and brightness in the cold conditions. Regenerates when the temperature rises to its original state.



The IP66 rating is valid in mounted condition.
The single parts fulfils IP54

2. Product description

A basic unit SW.Ex and various sensors of the series IR.Ex solve a variety of measurement tasks. The sensors are available for multi-functionality, high accuracy and simple assembly.

The following sensors are available:

- Temperature
- Temperature and humidity, dew point
- Differential pressure
- Special sensors on request

In addition, allow the button a suburb commissioning and the LCD display is used as a suburb of measured values. The integrated terminal box of protection Ex e guarantees a direct electrical connection in the hazardous area.

Due to the modular concept of separation of electronics and mounting plate a simple, easy installation and commissioning is guaranteed.

Options such as different sensor cable for difficult installation conditions supplement the product portfolio. Calibration of the measuring chain are made possible by the design of the device in the easiest way.

MEASUREMENT PRINCIPLE

The physical unit is detected in the series sensors IR.Ex. The measured value is digitally processed. The transfer to the switching relay SW.Ex done by an intelligent protocol that enables easy-to-change sensors and is open for future sensors.

The robust, interference-free signal from the sensor to transmitter allows even in harsh industrial environments to transfer up to 100 m.

In the SW.Ex module, the sensor signal is converted into freely scalable switching outputs. You can choose upper, lower limit and hysteresis which can be set by software menu.

INTENDED USE

The device is used in the HVAC industry for technical ventilation. The device is approved according to the explosion protection device group and category and in compliance with all manufacturer information that is necessary for the safe operation of the devices, protective systems and devices. Please note the legal requirements of engineering or professional practice. If instructions are not followed, the operating license will expire.

FORESEEABLE MISAPPLICATION

The manufacturer has integrated a maximum of safety to prevent property damage and personal injury. The limits and threats are mentioned. Use outside of the technical data formulated in the user manual is not permitted.

3. Technical Data

SW.Ex SWITCHING RELAY

SUPPLY		
Voltage	20 – 28,8	V AC/DC
Frequency	50 – 60	Hz
Power consumption	3 / 5	W / VA
Protection class / over voltage category / pollution degree	III / 2 / III	insulated
OUTPUTS		
2 Relays with changeover contact (SPDT)	Potential free	
Relay max	30 / 2	V / A
Relay min.	5 / 0,01	V / A
Hysteresis adjustable	0,5-100	% FS
DISPLAY / BUTTON / LED		
LCD, backlight	128 x 64	pixel
LED red / green	Status indication	
HOUSING		
Corrosion resistance	On- and Offshore	With high salinity
IP protection	IP66	
GENERAL		
Terminal square	0,08 – 2,5	mm without end sleeve
ATEX/IECEx Ex e	0,25 – 1,5	mm with end sleeve
Cable glands M20x1,5 ATEX/IECEx Ex e	6 - 13	Ø mm
Dimensions H x B x T	175 x 110 x 56	mm
Weight	800	g
MATERIALS		
Housing	PC / High Tech Polymer	electrostatically conductive
Front plate	PE	
Screws	Stainless steel	
Seals	EPDM	
Cable glands / Sensor connection M12	brass plated	
APPLICATION		
Ambient- and storage temperature	-40 ... +70	°C
Humidity, without condensation	0 ... 95	%rH
Mounting position, altitude	Any, recommended vertical, < 2000 m	
Delivery	Switch relay, screws	

IR.Ex -P... DIFFERENTIAL PRESSURE

TYPES	MEASURE. RANGE	MIN. RANGE	MAX. PRESSURE	ACCURACY MAX / TYP.	
IR.Ex-P-0060	-60 ... +60	18	7000 (1 psi)	<2,5 % <0,5 %	Pa
IR.Ex-P-0100	-100 ... +100	30	7000 (1 psi)	<2,5 % <0,8 %	Pa
IR.Ex-P-0250	-250 ... +250	75	7000 (1 psi)	<1,25 % <0,5 %	Pa
IR.Ex-P-0600	-600 ... +600	180	7000 (1 psi)	<1 % <0,5 %	Pa
IR.Ex-P-1000	-1.000 ... +1.000	300	7000 (1 psi)	<1 % <0,5 %	Pa
IR.Ex-P-2500	-2.500 ... +2.500	750	35.000 (5 psi)	<1 % <0,5 %	Pa
IR.Ex-P-4000	4.000 ... +4.000	1.200	35.000 (5 psi)	<1 % <0,5 %	Pa
IR.Ex-P-10000	10.000 ... +10.000	3.000	35.000 (5 psi)	<1 % <0,5 %	Pa
ACCURACY					
Long term stability 1.000 h / 25 °C			0,5		%
HOUSING					
Corrosion resistance		On- and Offshore		With high salinity	
Weight		450			g
MATERIALS					
Housing		PC / High Tech Polymer		electrostatically conductive	
Front plate		PE			
Screws		Stainless Steel			
Seals		EPDM			
tube connection		brass plated			
APPLICATION					
Ambient- and storage temperature		-40 ... +70			°C
Humidity, without condensation		0 ... 95			%rH
Mounting position, altitude		Any, recommended vertical, < 2000 m			
Delivery		Sensor with 1 m M12 m/f cable, screws			

IR.Ex -RT / RH-...TEMPERATURE / HUMIDITY (ROOM)

TYPES AND MEASUREMENT RANGE			
IR.Ex-RT	Room Temperature Probe	-40 ... +125	°C
IR.Ex-RH	Room Humidity Probe	0 ... 100	°C / %rF
ACCURACY			
Accuracy temperature @ 0 ... 60 °C		< 0,5	°C
Accuracy temperature @ -40 ... 0, @ 60 ... 125 °C		< 0,5 °C + 0,03°C/K	°C/K
Accuracy humidity		2,0	% FS
Hysteresis humidity		1,0	%
Long term stability 1.000 h / 25 °C		0,5	%
MATERIALS			
Thermowell, end cap		Stainless Steel	
Seals		EPDM	
Sensor connection M12		brass plated	
APPLICATION			
Ambient-, storage temperature		-40 ... +125	°C
Humidity, without condensation		0 ... 100	%rH
Mounting position, altitude		Any, recommended vertical, < 2000 m	
Delivery		Sensor	

IR.Ex -DT / DH-...TEMPERATURE / HUMIDITY (DUCT)

TYPES AND MEASUREMENT RANGE			
IR.Ex-DT-50	Duct Temperature Probe 50 mm	-40 ... + 125	°C
IR.Ex-DT-100	Duct Temperature Probe 100 mm	-40 ... + 125	°C
IR.Ex-DT-200	Duct Temperature Probe 200 mm	-40 ... + 125	°C
IR.Ex-DH-50	Duct Humidity Probe 50 mm	0 ... 100	%rH
IR.Ex-DH-100	Duct Humidity Probe 100 mm	0 ... 100	%rH
IR.Ex-DH-200	Duct Humidity Probe 200 mm	0 ... 100	%rH
other thermowell length on request			
ACCURACY			
Accuracy temperature @ 0 ... 60 °C		< 0,5	°C
Accuracy temperature @ -40 ... 0, @ 60 ... 125 °C		< 0,5°C + 0,03°C/K	°C/K
Accuracy humidity		2,0	% FS
Hysteresis		1,0	%
Long term stability 1.000 h / 25°C		0,5	%
HOUSING			
Corrosion resistance		On- and Offshore	With high salinity
Weight (50 mm / 100 mm / 200 mm)		450 / 500 / 550	g
MATERIALS			
Housing		High Tech Polymer	electrostatically conductive
Front plate		PE	
Screws		Stainless Steel	
Seals		EPDM	
Sensor connection M12		brass plated	
APPLICATION			
Ambient-, storage temperature		-40 ... +125	°C
Humidity, without condensation		0 ... 100	%rH
Mounting position, altitute		Any, recommended vertical, < 2000 m	
Delivery		Sensor with 1 m M12 m/f cable, screws	

CERTIFICATES

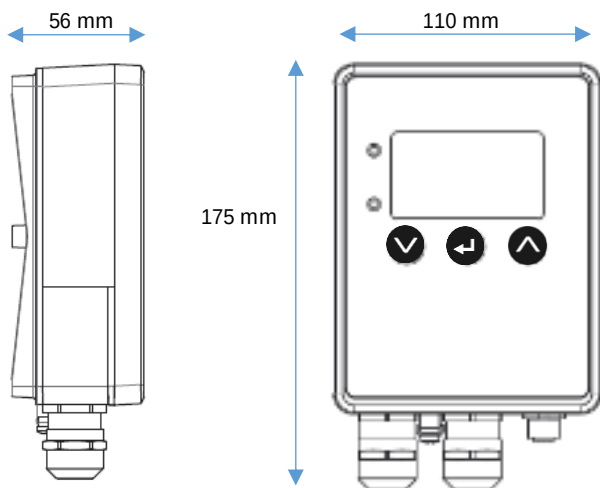


SW.Ex	ATEX IECEX	EPS 15 ATEX 1 107 X IECEX EPS 15.0083X	II2(1)G Ex eb mb ib [ia Ga] IIC T4 II2(1)D Ex tb [ia Da] IIIC T130 °C	Gb Db
IR.Ex	ATEX IECEX	EPS 15 ATEX 1 107 X IECEX EPS 15.0083X	II1/2G Ex ia IIC T6...T1 II2D Ex ia IIIC T75...T145°C	Ga/Gb Db
SW.Ex	KTL	19-KA4BO-0530X	Ex eb mb ib [ia] IIC T4	
IR.Ex-R	KTL	19-KA4BO-0531X	Ex ia IIC T6/T5/T4	
IR.Ex-P	KTL	19-KA4BO-0532X	Ex ia IIC T6/T5/T4	
IR.Ex-D	KTL	19-KA4BO-0533X	Ex ia IIC T6/T5/T4	

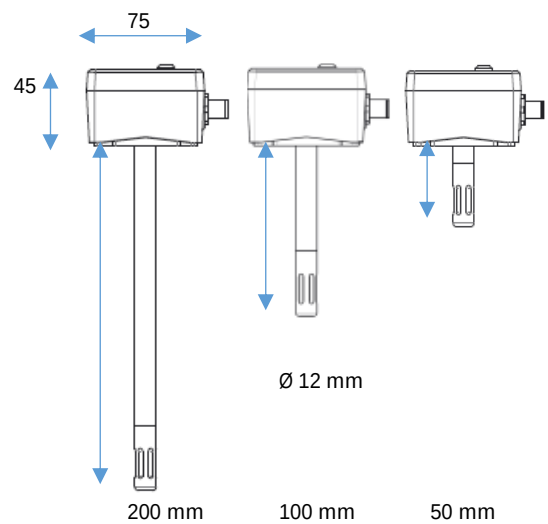
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4. Dimension

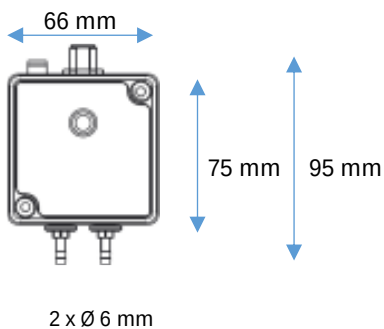
SW.Ex



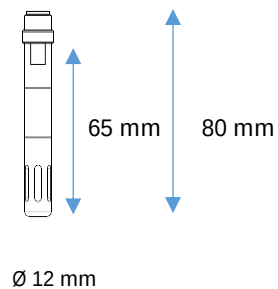
IR.Ex-D....(DUCT/KANAL)



IR.Ex-P....(PRESSURE/DRUCK)



IR.Ex-R....(ROOM/RAUM)



EN

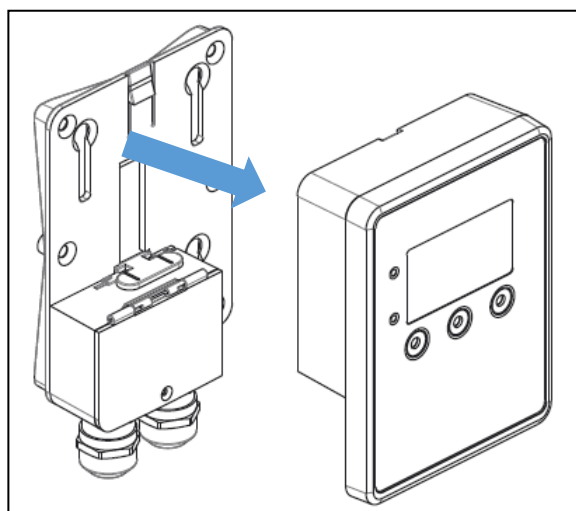
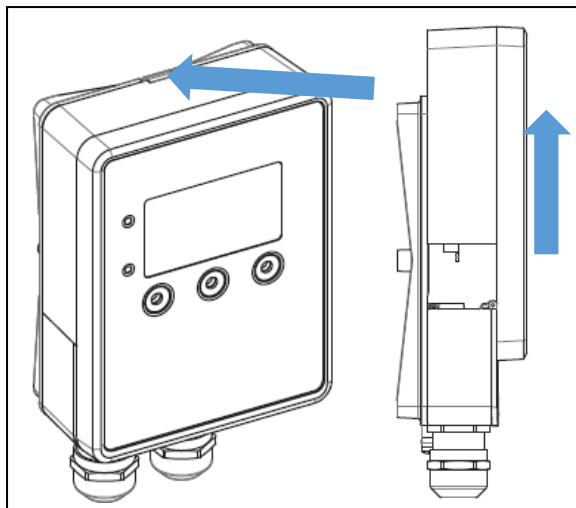
5. Assembly / Installation

UNLOCK ELECTRONIC



Switch off power and check

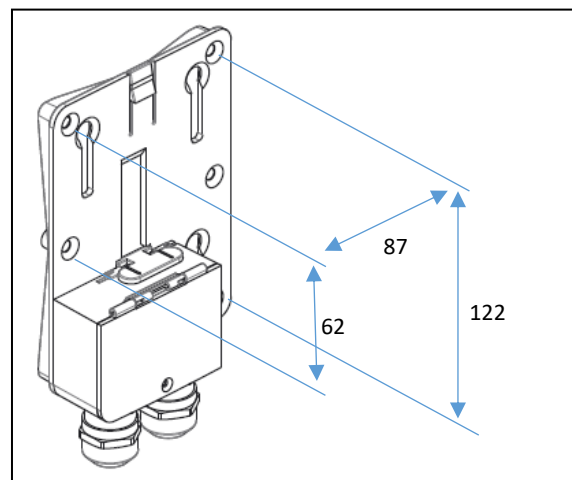
- Press down release tab carefully
- Slide electronic module up and
- Remove forward



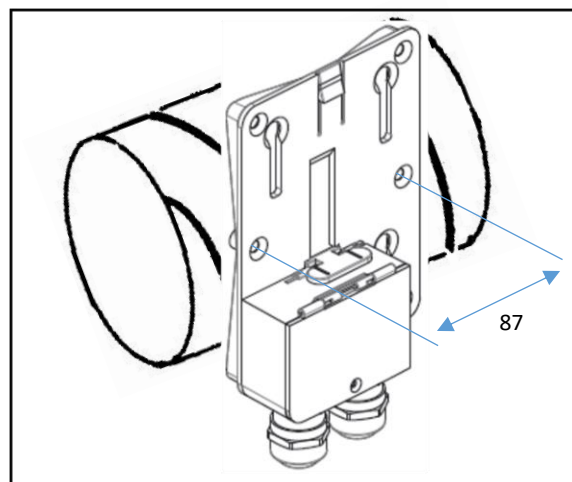
MOUNTING FRAME

- Drill holes according to the drilling plan (see illustration)
- Mount base frame with delivered screws.
- Make sure when mounting that the Mounting frame is not under strain or sags
- For outdoor use make sure that no water accumulates or can form frost.

WALL MOUNTING



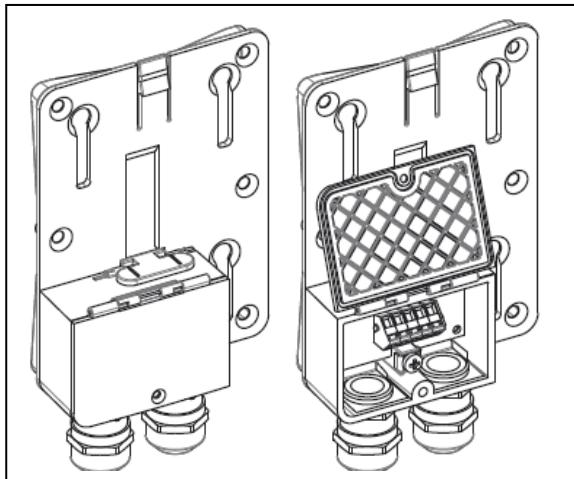
DUCT MOUNTING



ELECTRICAL CONNECTION

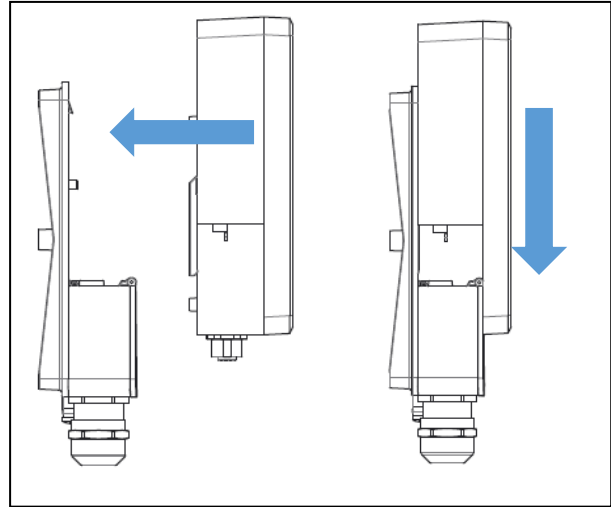
The integrated electrical connection compartment in type of protection Ex e enables direct contacting of the supply and the analog outputs. According to IEC 61010-1, in the event of a fault before an impermissibly high current consumption, the device is e.g. secure with a fuse. Protect all lines against overload, short-circuit or fault currents in order to achieve maximum safety. The device must be connected to the equipotential bonding (PA), an external connection is available for this.

- Switch off power and check
- Unhook electronic module (see cap. 5)
- Open M3 screw from the terminal cover
- Open terminal cover
- Removed dust cover in cable gland
- Open M3 screw from cover
- Open cover
- Insert cable
- Strip cable (6 mm)
- Open clamp by pressing gently with a screwdriver
- Slide wire/s in
- Remove screwdriver
- Close cover
- Tighten cable glands
- Close unused opening with blind plugs



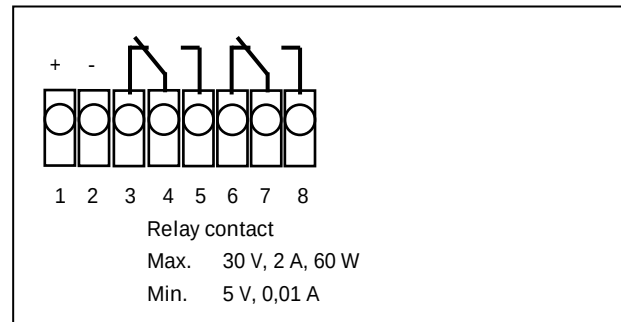
LOCK ELECTRONIC

- Attach electronic part
- Lock by sliding together

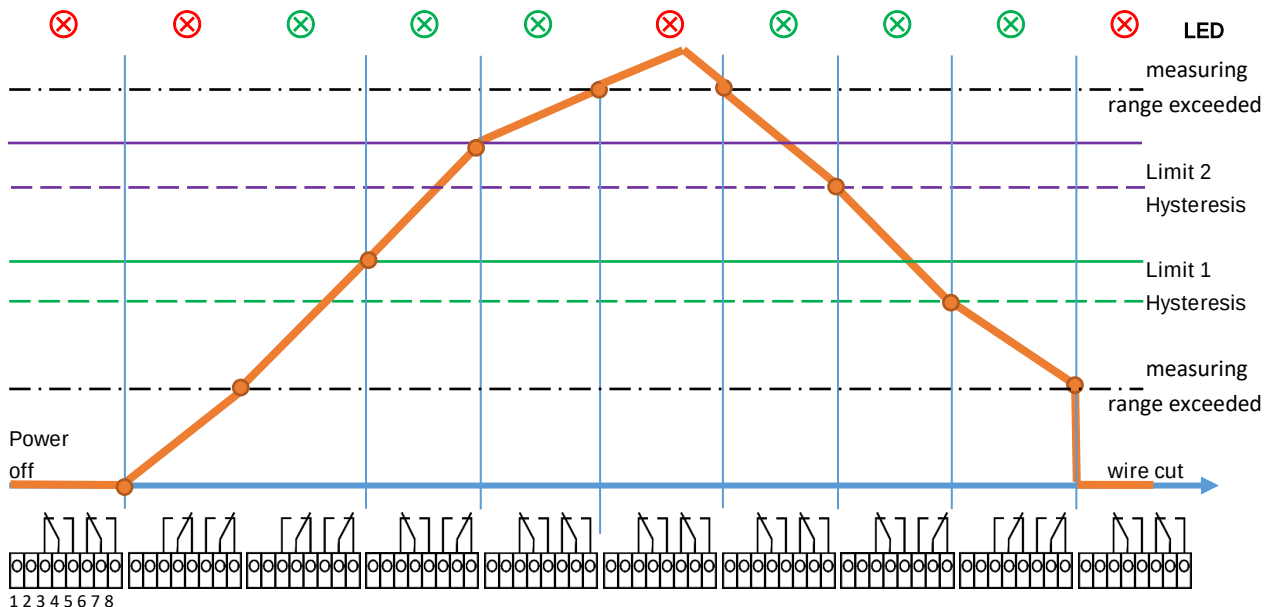


WIRING DIAGRAM

- Terminal 1(+), 2(-) Supply
- Terminal 3, 4, 5 lower limit relay SPDT
- Terminal 6, 7, 8 upper limit relay SPDT

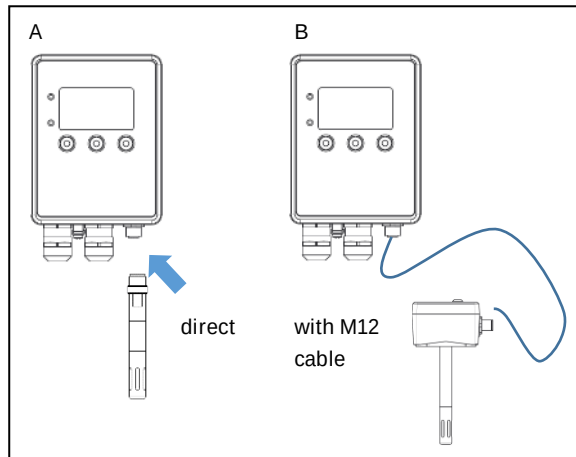


EXAMPLE SWITCHPOSITION

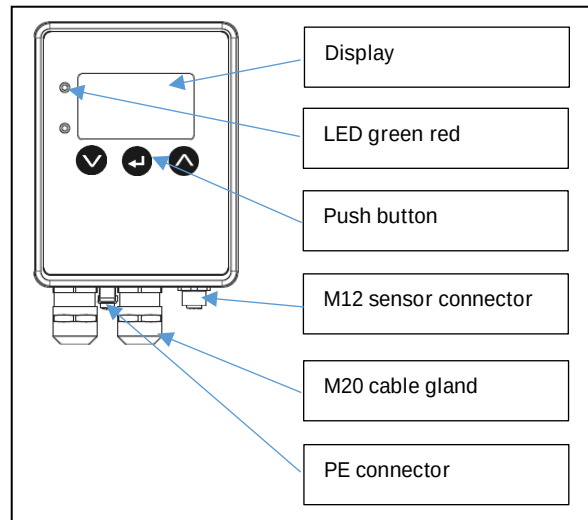


MOUNTING PROBE

- A. Installation of a fixed probe:
- The transmitter must be installed so that the sensor is facing down!
- B. Mounting a remote probe:
- Using a pluggable connection cable, the sensor can be located up to 100 m.
 - The sensor must be mounted so that no moisture enters. If possible, a drip should be fitted for each assembly
 - The connection cable must be shielded



7. Operation



8. Dismantling

- Disconnect power and check
- press release tab carefully down
- electronics module push out
- Opening the terminal box
- Remove Cable

6. Commissioning

Make sure that the device is properly installed in accordance with the preceding chapters and has been connected and the power supply with the specifications on the nameplate.

Turn on the power supply.

- Display to normal
- Sensor data loads
- LED lights green when connected sensors and within the set measuring range.

9. Parameterization

	ACTION	DISPLAY	ACTION	DISPLAY	ACTION	DESCRIPTION	ACTION
PARAMETER MODE							
	⬆					Push 3 Seconds	
LANGUAGE SETTING							
	⬆ ⬆ ⬆	D Deutsch GB English F Francais E Espanol I Italiano	⬆			Select using keys desired language press Enter	
SENSOR ADJUSTMENT							
⬆	⬆	Select unit	⬆	°C, °F, %rF, %rH, Pa	⬆ ⬆	define unit	⬆
	⬆	Measurement range	⬆	0,00 100	⬆ ⬆	Measuring range lower - upper limit	⬆
	⬆	Offset	⬆	0,000	⬆ ⬆	Set Offset	⬆
	⬆	Lower limit	⬆	Contact 1	⬆ ⬆	Relay 1	⬆
	⬆	Upper limit	⬆	Contact 2	⬆ ⬆	Relay 2	⬆
	⬆	Hysteresis	⬆	0,5 100	⬆ ⬆	From measure end value (full scale)	⬆
	⬆	Attenuation	⬆	1 50	⬆ ⬆	1 = no damping 50 = 5 Seconds	⬆
	⬆	Zero compensation	⬆		⬆ ⬆		⬆
	⬆	Switch-on delay	⬆	0 240	⬆ ⬆	s	⬆
				Back to main menu			
FACTORY SETTING							
⬆	⬆	Factory setting		Load factory settings Back to menu	⬆ ⬆		⬆
OUTPUT CALIBRATION							
⬆	⬆	output		mA Volt	⬆ ⬆	Set values are to be measured on channel 1 and 2	⬆
		value		0,0 20,0			
PASSWORD							
⬆	⬆	Password	⬆	0 0 0 0	⬆ ⬆		⬆
		Save password		yes / no			
DISPLAY SETTING							
⬆	⬆	Display	⬆	Backlight on Backlight off	⬆ ⬆		⬆
SAVE SETTINGS							
⬆	⬆	save	⬆	Save settings Discard settings Back to main menu	⬆ ⬆		⬆

10. Error Message

NO DISPLAY / LED

- Check power supply
- Check connection of mounting frame and electronic

NO OUTPUT SIGNAL

- Check power supply (LED red/green)
- Check wiring
- Check parameterizing

RED LED

- Reading out of range
- Line break sensor

11. Maintenance

The device is maintenance free annual function testing and regular cleaning of dust and dirt with a damp cloth is recommended.

12. Repair

A returned device for Obtaining Service. The installation and operation of the SW.Ex in accordance with this manual are very unproblematic. Should it happen that a device for repair or testing must be returned to our service, please note under the item service address on the last page of a return form must be provided.

13. Disposal

Every year, thousands of tons of polluting land Electronic components on landfills in the world. To ensure the best possible disposal or recovery of electronic components, the European Union has adopted the WEEE Directive. (Waste Electrical and Electronic Equipment) Please send us these products at the end of your life back directly so that we can control its proper disposal. The WEEE is an important contribution to the environment and we are happy to help to relieve the environment with this disposal concept.

14. Accessories Spare Parts

TITLE

MA.Pa-06	connection tube and 2 m PVC hose
FM.Pa	filter to reduce humidity in pressure tubes
FK.Va-10	filter cap humidity pore size 10 µm
SC.Pu-01	1 m M12 cable for remote measurement
SC.Pu-05	5 m M12 cable for remote measurement
SC.Pu-10	10 m M12 cable for remote measurement
CS.Ms-M12FM	M12 shielded connector for cable confection
	Male and female connector
KL.Ms-20	Cable glands M20x1,5 Ms/Ni
KL.Va-20	Cable glands M20x1,5 A4, SS316
GW.Va-M5-G1/8	M5 thread enlargement to G1/8"
GW.Va-M5-G1/4	M5 thread enlargement to G1/4"
CR.Va-1/8-6	1/8" clamp fitting to 6 mm tube V4A
CR.Va-1/8-8	1/8" clamp fitting to 8 mm tube V4A
SR.Va-200	Pitot tube length 200 mm incl. adapter for pressure gauging for volume air flow measurement

Others on request

Revision Status

VERSION	DATE	SUPPLEMENT / CHANGE / NOTE
01	2016-02-01	First Edition
02	2016-04-20	Adapt new ATEX guideline
03	2019-12-12	Company name
04	2022-06-21	Standard update
05	2023-09-12	Name pi safety, Ex i parameter , Standard update

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EU Konformitätserklärung

EU Declaration of Conformity

Déclaration de Conformité UE

pi safety components GmbH & Co. KG ▪ Mühlenweg 2 ▪ 96358 Teuschnitz / Haßlach ▪ Germany

erklärt als Hersteller in alleiniger Verantwortung, dass das Produkt
declares as manufacturer under sole responsibility, that the product
déclare sous sa seule responsabilité en qualité de fabricant que le produit

SW.Ex
IR.Ex

den Vorschriften folgender Europäischer Richtlinien durch Anwendung harmonisierter Normen entspricht:
conforms with the provisions of the following European Directives by applying the harmonised standards:
est conforme aux prescriptions des Directives Européennes suivantes par l'application des normes harmonisées :

Richtlinien/Directives/Directives	Normen/Standards/Normes	Ex-Normen/Ex-Standards/Normes Ex
2014/35/EU (LVD)	EN 61010-1:2010+A1:2019	EN IEC 60079-0:2018
2014/30/EU (EMC)	EN 60529:1991+A1:2000 + A2:2013	EN IEC 60079-7:2015+A1:2018
2014/34/EU (ATEX)	EN 61326-1:2013	EN 60079-11:2012
2012/19/EU (WEEE)	EN 61326-2-3 :2013	IEC EN 60079-18:2015+A1:2017
2011/65/EU (RoHS)		EN 60079-26:2021
		EN 60079-31:2014
EU-Baumusterprüfbescheinigung Nr:	Schaltrelais	EPS 15 ATEX 1 107 X
EU-Type Examination Certificate No:		II 2(1)G Ex eb mb ib [ia Ga] IIC T4 (Gb)
Numéro de l'attestation d'examen CE de type:		II 2(1)D Ex tb [iaD] IIIC 130 °C (Db)
	Sensor	II 1/2G Ex ia IIC T6 ... T1 (Ga/Gb)
		II 2D Ex ia IIIC T75 ... 145°C (Db)

Benannte Stelle Qualitätssicherung
Notified Body Quality assurance
Organisme Notifié Système d'assurance qualité

Bureau Veritas / 2004

Nürnberg, 12. Sep. 2023



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