

# TAKE THE BEST

Decades of quality from Austria!  
[www.sihga.com](http://www.sihga.com)



## MONITORIX®

### SYSTEM SOLUTION FOR MOISTURE MONITORING



# From specialists for specialists.

The SIHGA® Monitorix® catalogue

Personal catalogue copy for:



## SIHGA® provides innovative construction technology and support for the future

**S** SICHERHEIT

SECURITY

**I** IM

IN

**H** HOLZBAU

WOOD CONSTRUCTION

**G** GARANTIERT

GUARANTEES

**A** AUSSERGEWÖHNLICHES

EXTRAORDINARY RESULTS

# Why moisture monitoring?



# Why moisture monitoring?

## The importance of a digital sensor system for permanent moisture monitoring in timber and mineral construction.

Moisture poses a considerable risk in building structures, both in timber and mineral construction. It can lead to structural damage, health problems and long-term loss of value. A digital sensor system for permanent moisture monitoring offers an innovative solution to minimize these risks and ensure the longevity and safety of buildings.

### 1. importance of moisture control in timber and mineral construction

#### 1.1 Risks due to moisture

Mold formation: Moisture encourages the growth of mold, which weakens the material structure in both timber and mineral construction and is harmful to health.

#### **Material destruction:**

Timber construction: Wood-destroying fungi and insects such as termites and beetles can cause considerable damage to the wood.

Mineral construction: Moisture can lead to efflorescence, cracks and spalling of plaster or concrete.

#### **Risk of warping and deformation:**

Timber construction: Swelling and shrinkage of the wood due to moisture.

Mineral construction: Moisture penetration can lead to cracks and spalling that impair structural integrity.

#### 1.2. Long-term effects

Structural integrity: Permanently high moisture levels can impair the load-bearing capacity and stability of both timber and mineral constructions.

Loss of value: Damage caused by moisture leads to costly repairs and reduces the value of the building.

Health risks: Mold and fungal infestation can cause allergies and respiratory diseases.

### 2. Advantages of a digital sensor system

#### 2.1. Permanent monitoring

Continuous data acquisition: A digital sensor system monitors the humidity around the clock and provides continuous data on the condition of the materials.

Early warning system: Real-time data enables the early detection of problems before significant damage occurs.

#### 2.2. Precision and accuracy

Precise measurements: Digital sensors offer precise measurements of humidity values that go beyond conventional methods.

Data recording: Long-term records allow trends to be analyzed and problematic patterns to be identified.

#### 2.3. Automation and integration

Ease of maintenance: Automated systems reduce the need for manual inspections and maintenance, which saves time and money.

### 3. Implementation of a digital sensor system

#### 3.1. Selection of sensors

Types of sensors: Selection of suitable moisture sensors that are optimized for timber and mineral construction.

Positioning: Strategic placement of sensors at critical points such as foundations, walls and roofs.

#### 3.2. Data management

Data transmission: Use of wireless technologies to transmit measurement data to central monitoring systems (ROOF IOT).

Data analysis: Use of software solutions for the analysis and visualization of humidity data.

#### 3.3. Alarm and intervention systems

Real-time alarms: Setting up alarm systems that automatically trigger warnings if critical humidity values are exceeded.

### 4. Economic aspects

#### 4.1. Cost-benefit analysis

Investment costs: Initial costs for the installation of the sensor system.

Long-term savings: Reduced repair costs, extended service life of the building and increased value retention thanks to early problem detection and rectification.

#### 4.2. Funding opportunities

State subsidies: Opportunities to take advantage of subsidies and tax incentives for sustainable and innovative construction.

Insurance discounts: Potential discounts on insurance premiums due to demonstrably increased safety measures.

### 5. Case studies and success stories

#### 5.1. Example 1: Residential building in northern Germany

Problem definition: Recurring moisture problems in an older wooden house.

Solution: Installation of a digital sensor system for permanent monitoring.

Results: Early detection and elimination of moisture sources, prevention of mold growth and wood damage.

#### 5.2. Example 2: New construction of an office building

Problem definition: High demands on building safety and integrity.

Solution: Integrated moisture sensor system included in construction planning right from the start.

Results: Stable moisture values, prevention of structural damage, positive feedback from users.

#### 5.3. Example 3: Renovation of a historic building

Problem definition: Moisture damage to the fabric of a historic building.

Solution: Use of a digital sensor system to monitor the moisture values during and after the refurbishment.

Results: Successful remediation, long-term monitoring to prevent further damage.

### 6. Conclusion

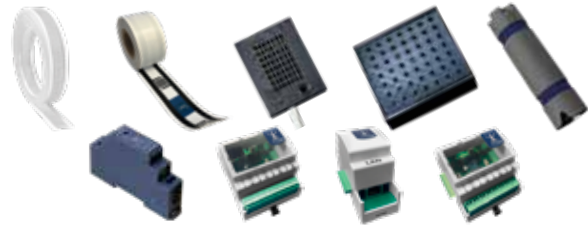
A digital sensor system for permanent moisture monitoring is a sensible investment in both timber and mineral construction. Continuous monitoring enables the early detection of moisture problems, which can prevent significant damage and extend the service life and value of structures. By integrating modern technologies and automating monitoring and control processes, such a system makes a significant contribution to safety and sustainability in the construction industry.

# MONITORIX®

## Digital building protection - the early warning system for moisture ingress

### Advantages

- Innovative early warning system for moisture and water ingress in timber construction/solid building components
- The inconspicuous measuring system can be integrated both in new buildings and subsequently integrated into renovation measures
- Retrofitting is also possible (plaster-over system)
- With Monitorix®, damage can be detected at an early stage, thus preventing cost-intensive renovation measures
- Flexible use in roofs, walls, façades and wet rooms
- Reliable monitoring of all trades
- Tested technology
- Notification with exact location of the damage



**MADE IN AUSTRIA**

### Big plus for you

In a property monitored with Monitorix®, there will hardly be any cases that you will have to rectify under warranty. And for the life of the building!

### The areas of application of the Monitorix®

The Monitorix® can be integrated into the intelligent planning for new buildings or retrofitted for renovations and special projects.

**Flat roofs:** detached houses, halls | **Wet rooms:** bathrooms, kitchens, laundry rooms | **Timber construction/solid construction:** wherever water flows.





**RELIABLE CONTROL**



**LEGAL CERTAINTY**



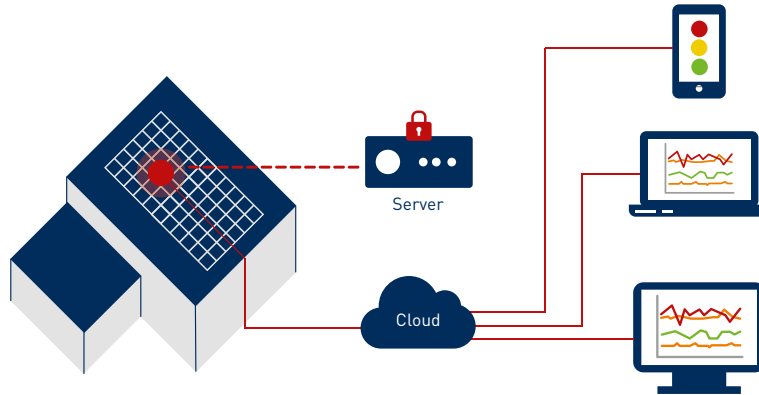
**EARLY DETECTION**



**INSURANCE BENEFIT**

## How the Monitorix® works

The sensors are installed in the desired area of the building by a professional. These transmit their measured values continuously to a terminal, which is located in a protected technical room. The data is evaluated here. The owner can immediately see the current status via a traffic light system - in the event of damage, the exact location and time of occurrence of the damage is reported. Detailed data, including historical data, can be accessed via a cloud server.



**1** Permanent, comprehensive data collection

**2** Data transmission in to server in real time

**3** Automatic data preparation



**STAINLESS STEEL**



**NOT AN ACCELERANT**



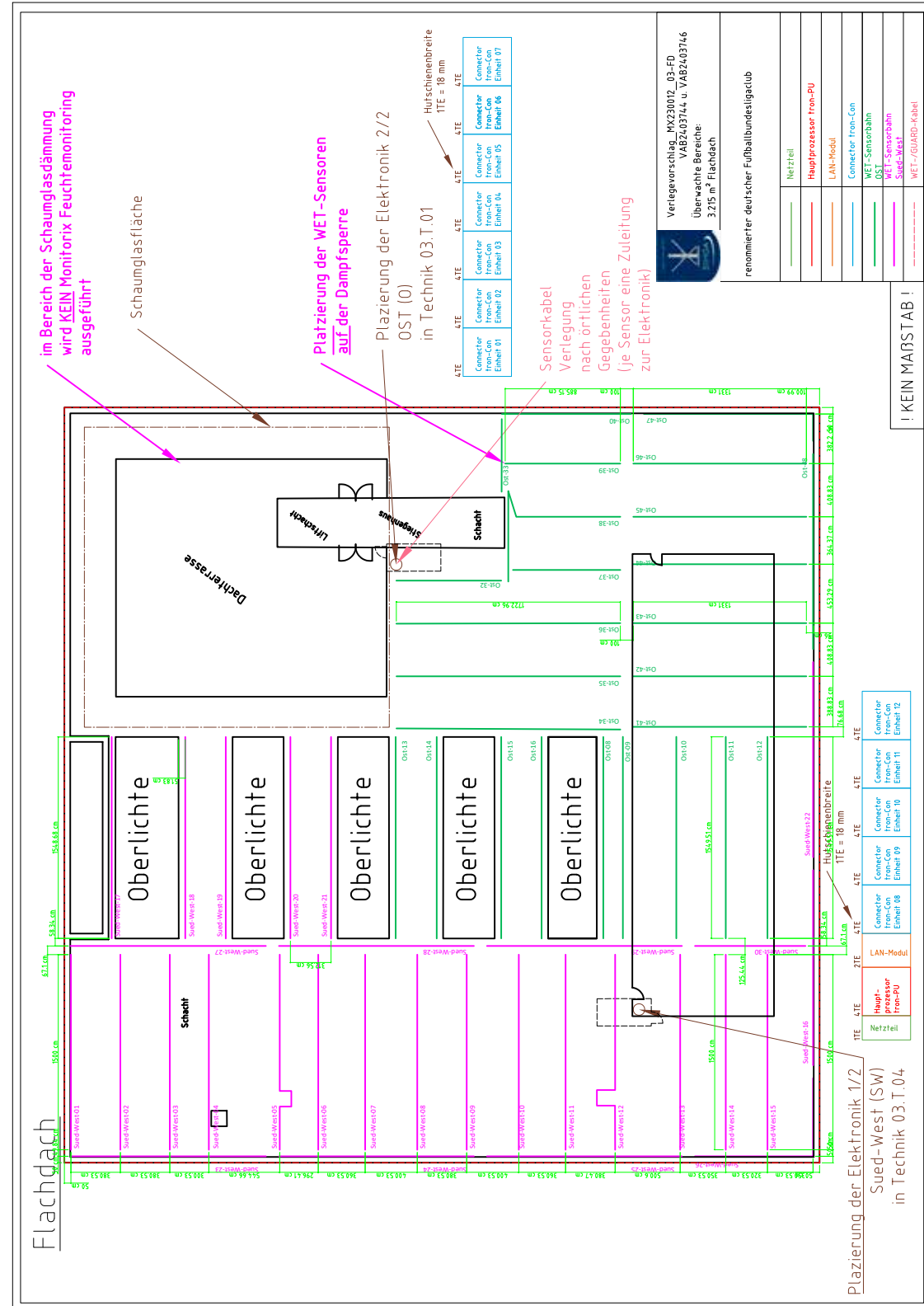
**WATER RESISTANT**

From the field

## Renowned German soccer club in Leipzig (approx. 3,200 m<sup>2</sup> flat roof)







4TE	4TE	4TE	4TE	4TE	4TE	4TE
Connector Fron-Con Einheit 01	Connector Fron-Con Einheit 02	Connector Fron-Con Einheit 03	Connector Fron-Con Einheit 04	Connector Fron-Con Einheit 05	Connector Fron-Con Einheit 06	Connector Fron-Con Einheit 07

4TE	4TE	4TE	4TE	4TE	4TE	4TE
Connector Fron-Con Einheit 08	Connector Fron-Con Einheit 09	Connector Fron-Con Einheit 10	Connector Fron-Con Einheit 11	Connector Fron-Con Einheit 12	LAN-Modul	Head-processor Fron-PU

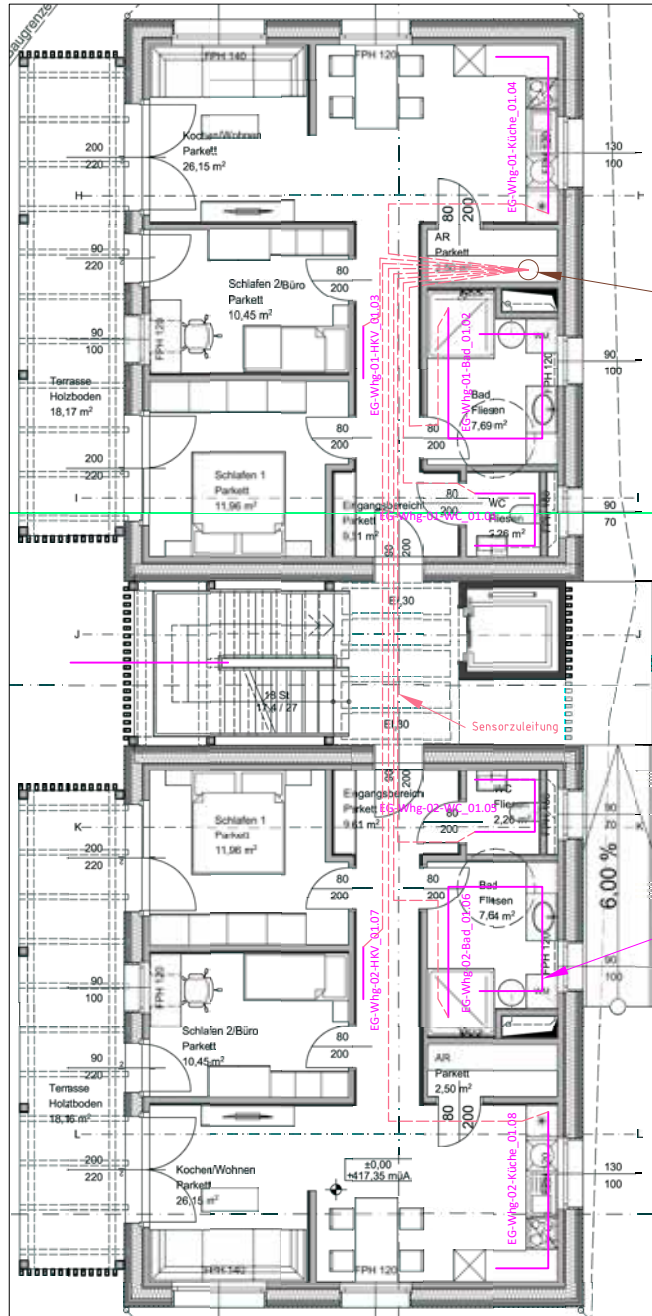
Netzteil
Head-processor Fron-PU
LAN-Modul
Connector Fron-Con
WET-Sensorbahn
WET-Sensorbahn
Sued-Mast
WET-/GUARD-Kabel

From the field

**Multi-storey, hybrid residential building  
(wet rooms, WC, kitchenette and heating circuit distributor)**

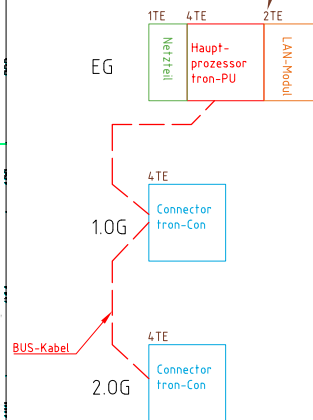


# Erdgeschoss



Annahme Platzierung der Elektronik (Iron-PU, Iron-CON...) in E-Unterverteiler je Geschöß u. per BUS-Kabel verbunden.

Hutschienenbreite 1TE = 18 mm



Platzierung der Sensoren auf der Abdichtung bzw. unter wasserführenden Leitungen Eckausbildung und Kreuzungen des Sensors müssen von der Leitfähigkeit mechanisch entkoppelt werden (bspw. mit Klebeband)

! KEIN MAßSTAB !

Verlegevorschlagn\_MX24.0044\_01-01  
VAB24.0373T  
Überwachte Bereiche: EG, 1.OG u. 2.OG  
Bad, WC, HKV u. Küchenzeile

Mehrgeschöfiger, hybrider Wohnbau

	Netzteil
	Hauptprozessor Iron-PU
	LAN-Modul
	Connector Iron-Con
	WET-Sensorbahn
	WET-/GUARD-Kabel

From the field

## **HTK-Cube - Holz Technikum Kuchl (89 wet rooms in modular construction)**

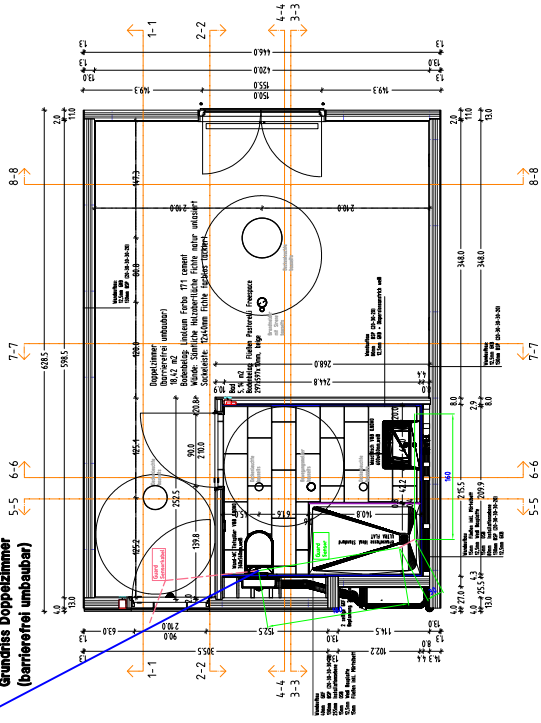


Materialsumme:  
 -42,2m Guard  
 -72 Stk Guard-Klemmen  
 -inkl. Kabel und Befestigungsmaterial

Anschluss des Sensorkabels am 180cm langen Guard-Sensor, danach Weiterleitung zu Verteiler-Box

160cm Guard; 30cm Verbinder; 180cm Guard; 7m Sensorkabel

Grundriss Doppelzimmer (barrierefrei umbaubar)



Verlegevorschlag\_MXZ30003\_01-01  
 Überwachte Bereiche:  
 89 Nasszellen

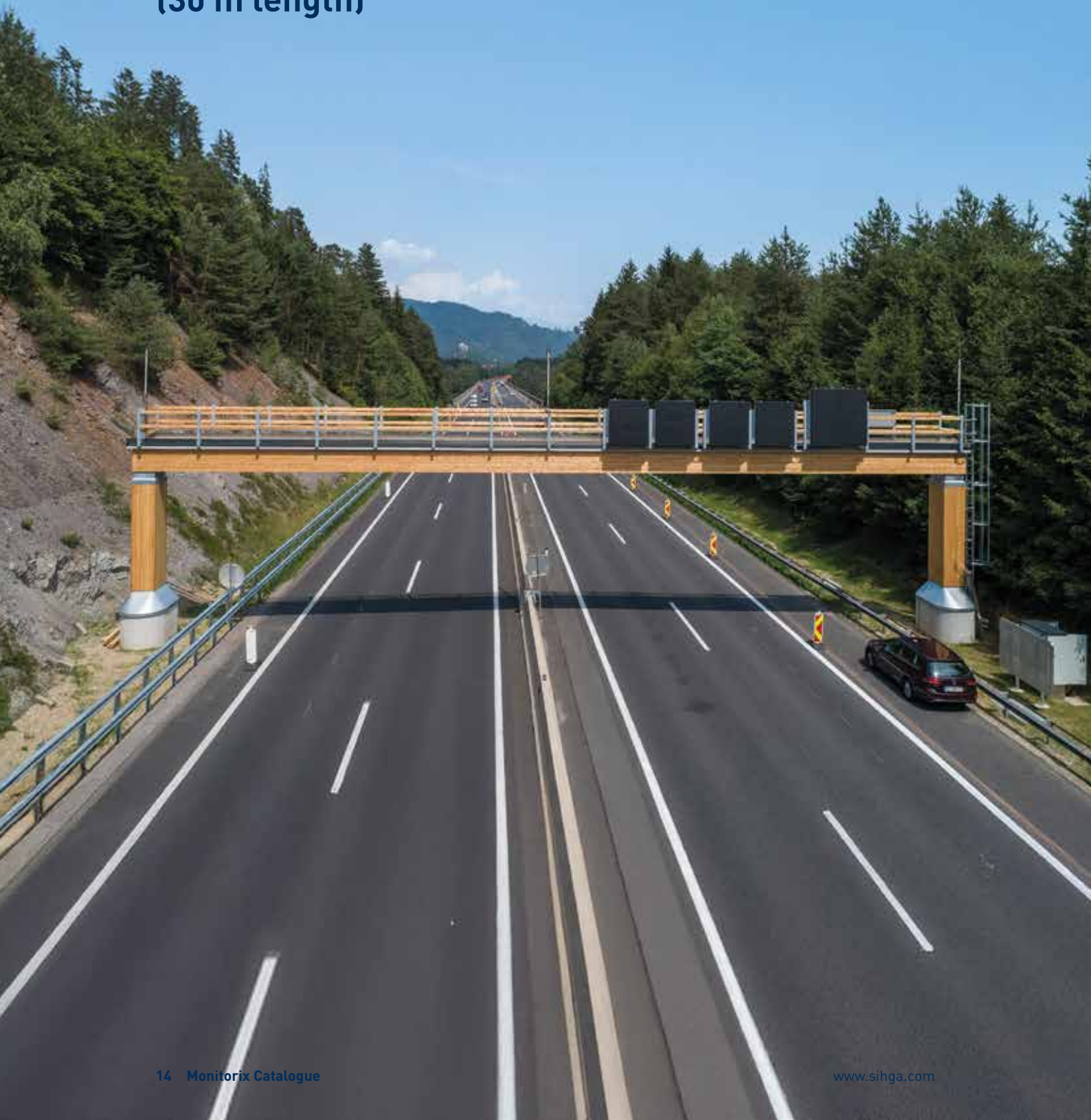
	Netzteil
	Hauptprozessor Iron-PU
	LAN-Modul
	Connector Iron-Cm
	NET-Sensoreinheit
	NET-/GUARD-Kabel
	CORE-Halbkernfeuchtsensor
	DIGITAL-Sensor Feuchte- u. Tempensor
	CORE-/DIGITAL-Kabel

Maß: Technikum Kuchel  
 BYH RT-CBE Internat

! KEIN MAßSTAB !

From the field

## Wooden traffic sign bridge (30 m length)




- **Monitoring of wood core moisture at all neuralgic points**
- **Integration of sensor strips in the glued laminated timber**



# SIHGA<sup>®</sup> Monitorix<sup>®</sup> Partner system

Become part of the success story!

Further information at: [monitoring@sihga.com](mailto:monitoring@sihga.com)



Only those who are courageous and  
break new ground will succeed  
in changing the world!



# SIHGA® Monitorix® Calculation

INNOVATIVE BAUTECHNOLOGIE MIT SUPPORT FÜR DIE ZUKUNFT

Berechnungsgrundlage  
für Monitorix® Feuchteüberwachungssystem

mit \* gekennzeichnete Angaben sind zwingend erforderlich, ebenso sind vorhandene Pläne als PDF- oder DWG-Datei anzuhängen

**Allgemeine Angaben**

Kunde/Firma*			
Ansprechpartner*	Deb. Nr. SIHGA*	PLZ/Ort*	
Straße, Haus-Nr.*		UID-Nr.*	
Telefon*			
E-Mail*			
Bauvorhaben*	<input type="checkbox"/> Neubau <input type="checkbox"/> Sanierung		

**Angaben zum Projekt**

Land\*  Adresse\*  EG  DG  Sonstiges: \_\_\_\_\_  
(z.B. Untergeschoss/ter in abhängiger Deckel)

Platzierung der Elektronik\*  Keller  EG  DG  Sonstiges: \_\_\_\_\_  
(z.B. Untergeschoss/ter in abhängiger Deckel)

**zu überwachender Innenbereich (Wohrraum):**

Bad \_\_\_\_\_ Stk. Heizkreisverteiler \_\_\_\_\_ Stk. Sonstiges: \_\_\_\_\_ Stk.  
 WC \_\_\_\_\_ Stk. Technikraum \_\_\_\_\_ Stk.  
 Küche \_\_\_\_\_ Stk. Hauswirtschaftsraum \_\_\_\_\_ Stk.

**zu überwachender Außenbereich:**

Terrasse/Balkon \_\_\_\_\_ Stk. Flachdach \_\_\_\_\_ m²  
 Fensterbank \_\_\_\_\_ Stk.  flächendeckend  Raster (Neubau) [a]  Punktmessung (Konstruktions) (Bestand o. Neubau) [b]

Wohlers möchte ich meine Konstruktion monitorieren mittels:  
 opt. Luftfeuchte- und Temperatursensor  Punktmessung (Konstruktions) (Bestand o. Neubau) [a]  
 Holzfeuchtefühler  Verlegung durch einen zertifizierten SIHGA®-Partner ermöglicht (sonst nur in AT möglich)

**Zeitpunkt der Kundenanfrage\***  Ausführungsphase  Angebotsphase

**Ansprechpartner/Projektbeteiligte** (Angaben in Abhängigkeit von Angebots-/Ausführungsphase)

	Name	Telefonnummer	E-Mail
Planer			
Ausführer			
Endkunde (falls vorh.)			

**Geplanter Ausführungszeitraum\*** (Möglichkeit der Ausführung in Abhängigkeit der Vorlauf- und Lieferzeiten)

frühestens (mm.jjj) \_\_\_\_\_ bis spätestens (mm.jjj) \_\_\_\_\_

TAKE THE BEST

For a qualified offer, we request detailed information on your project by means of a completed calculation basis.

You can find a form and tender documents on our website.



## 1 - Send floor plan



You send us the floor plan of your project, ideally as a DWG file and the desired installation location (flat roof, wet room, ...).

## 2 - Intelligent planning



We plan your project and determine the ideal laying grid.

## 3 - Offer



You will receive your all-inclusive offer.

## 4 - Assembly



Our "Technician on Tour" team provides support with professional installation.

## 5 - Moisture monitoring



Your SIHGA® Monitorix® is ready for real-time moisture measurement.



## Sensor types

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WET	20
GUARD	24
DIGITAL	28
CORE	32



## Evaluation electronics

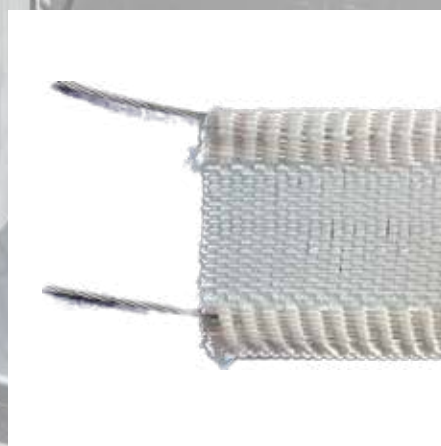
Processor unit	36
Connector	40



# WET-Sensor strip



Monitorix® WET-Sensor strip



## SIHGA® Feature

## YOUR Benefit

Two sensor wires embedded in plastic fabric

The robust processing makes the sensor strip particularly suitable for practical use on the construction site

Insert length from 0.5 - 20 m

Enables a high degree of flexibility and makes work easier

Tool-free mounting on sensor terminal

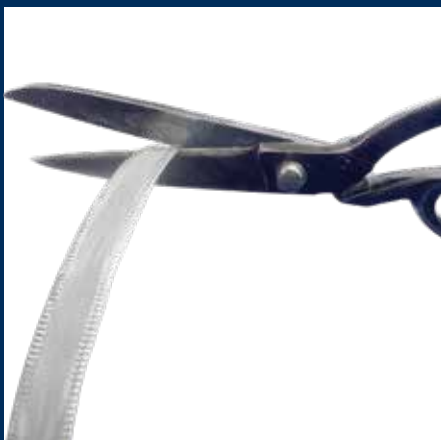
By sliding the sensor wires, a connection to the sensor terminal can be established without additional tools

Delivery in handy cardboard boxes

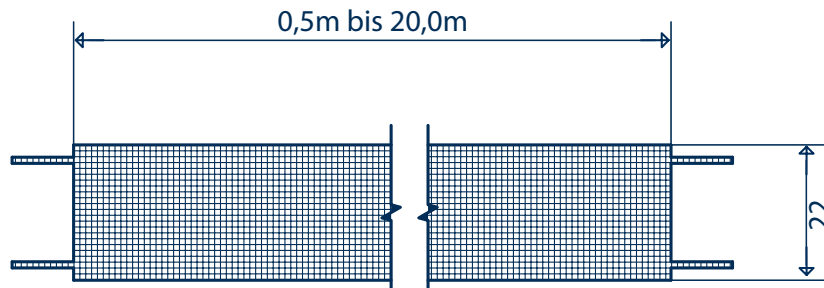
Easy installation of the sensor strips using system packaging

Resistances from wet to dry

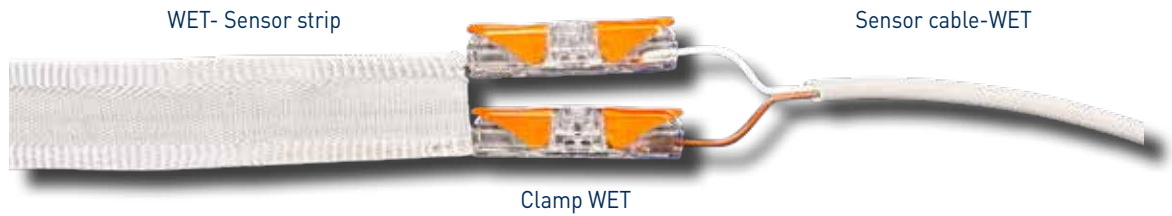
Due to the fixed spacing of the wires, an exact diagram can be displayed in the cockpit using logic



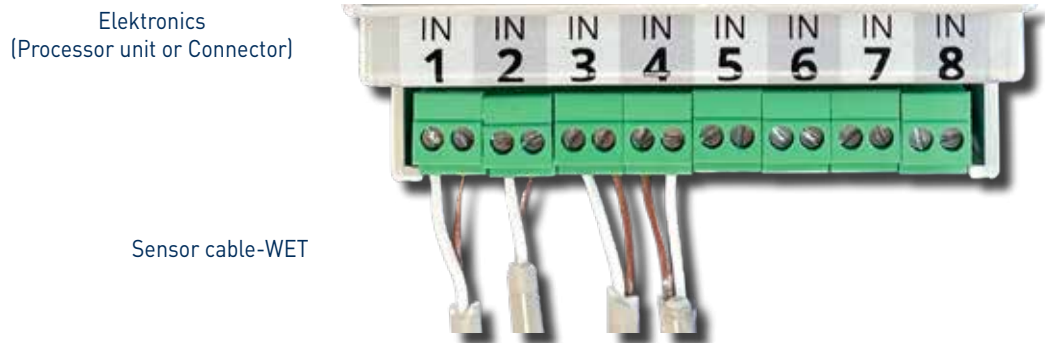
SIHGA®		Dimension		Effective length	Connections		Measurement type
montagepack		Width	Length	per slot	Sensor cable	Clamp WET	Resistance
Art. No.	PU	[mm]	[m]	min - max [m]	2 x 0,25 mm <sup>2</sup>	Through connector	kOhm
60286	1	22	25	0,5 - 20	2-pole	2 Pcs.	0 - 300
60289	1	22	100	0,5 - 20	2-pole	2 Pcs.	0 - 300



### Sensor strip connection



### Electronics connection



#### SIHGA® TIP:

Sensor strips can also be divided at one and the same slot and the transitions connected with sensor cable WET.

# Necessary accessories (Except for expansion)

## SIHGA® Feature

## YOUR Benefit



### Monitorix® Processor unit (Art. No.: 60001)

Evaluation electronics

Is connected to the power supply using the Power supply and connected to the Internet / Monitorix® Cockpit via the LAN-module



### Monitorix® LAN-module (Art. No.: 60011)

Connection to the Internet via RJ45 network cable from Cat6

The Processor unit is connected to the Internet via LAN cable; Cable not included in the scope of delivery



### Monitorix® Power supply (Art. No.: 60041)

230 V alternating current to 12 V low voltage

The Processor unit and the entire project are supplied with power via the Power supply



### Monitorix® Sensor cable (Art. No.: 60066 or 60069)

Connecting cable between electronics and WET/GUARD sensor strip

The pulse from the electronics is transferred to the sensor strip and the resistance measurement is transmitted to the cockpit



### Monitorix® Clamp WET (Art. No.: 60122 or 60123)

Connection terminal between WET sensor track and WET/-GUARD sensor cable

Tool-free connection of WET sensor strip and WET/-GUARD sensor cable



### Monitorix® Gel box (Art. No.: 60332 od. 60336)

Moisture protection for terminal connection WET

Immediately ready for use and accessible again without special tools



## SIHGA® TIP:

Secure the position using adhesive tape (see installation instructions or installation video).

# GUARD-Sensor strip



Monitorix® GUARD-Sensor strip





## SIHGA® Feature

The impedance in components is transmitted to the electronics by transmitting pulses

Self-adhesive, water-repellent cellulose strip with printed graphite sensors

Slim material thickness with high efficiency

Measuring the impedance of structurally demanding superstructures

Rust-resistant Clamp as a connecting element

## YOUR Benefit

A wide range of units is covered to illustrate the explanation of vapor diffusion in building structures

Quick installation and processing thanks to factory-applied adhesive

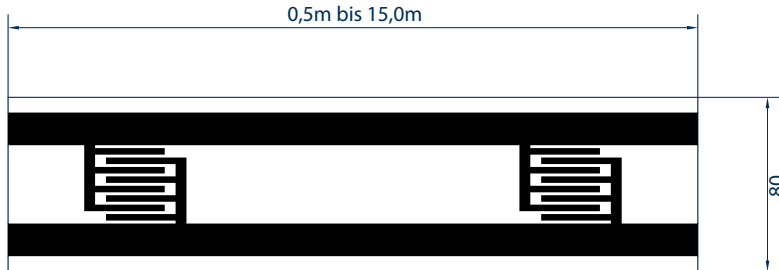
Sensor membranes can be embedded in laminated wood

Possibility of moisture monitoring on constructions with challenging features

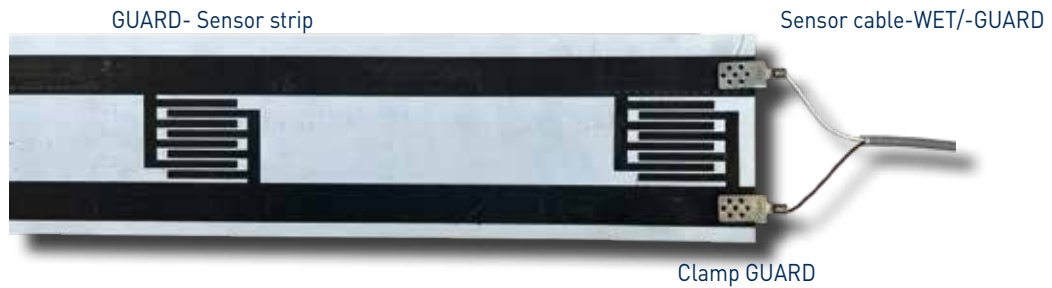
Clamping the toothing to the sensor strip ensures a static connection to the sensor cable



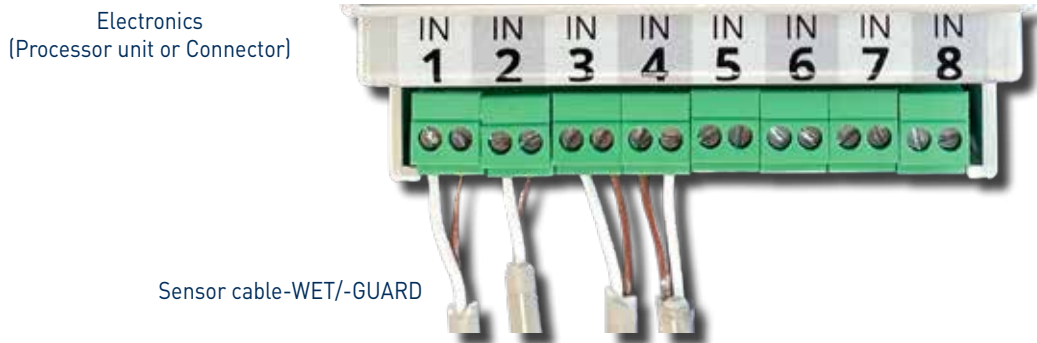
SIHGA®		Dimension		Effective length	Connections		Measurement type
montagepack	PU	Width [mm]	Length [m]	per slot min - max [m]	Sensor cable 2 x 0,25 mm <sup>2</sup>	Sensor clamp Clamp GUARD	Impedance Units
60056	1	80	25	0,5 - 15	2-pole	2 Pcs.	0 - 65.000
60059	1	80	250	0,5 - 15	2-pole	2 Pcs.	0 - 65.000



### Sensor strip connection



### Electronics connection



#### SIHGA® TIP:

It is recommended that the GUARD sensor membrane is not used in combination with wet fills during installation. In this case, however, the WET sensor track can be used.

# Necessary accessories (Except for expansion)

## SIHGA® Feature

## YOUR Benefit



### Monitorix® Processor unit (Art. No.: 60001)

Evaluation electronics

Is connected to the power supply using the Power supply and connected to the Internet / Monitorix® Cockpit via the LAN-module



### Monitorix® LAN-module (Art. No.: 60011)

Connection to the Internet via RJ45 network cable from Cat6

The Processor unit is connected to the Internet via LAN cable; Cable not included in the scope of delivery



### Monitorix® Power supply (Art. No.: 60041)

230 V alternating current to 12 V low voltage

The Processor unit and the entire project are supplied with power via the Power supply



### Monitorix® Sensor cable (Art. No.: 60066 or 60069)

The Processor unit and the entire project are supplied with power via the Power supply

The pulses from the electronics are transferred to the sensor track and the impedance is transmitted to the cockpit



### Monitorix® Clamp GUARD (Art. No.: 60022 or 60023)

Connection terminal between GUARD sensor track and WET/-GUARD sensor cable

Sensor clamp connects GUARD sensor track and sensor cable-WET/-GUARD



## SIHGA® TIP:

The total length of the sensor cables must not exceed 100 meters per slot.

# DIGITAL-Sensor



Monitorix® DIGITAL-Sensor



## SIHGA® Feature

## YOUR Benefit

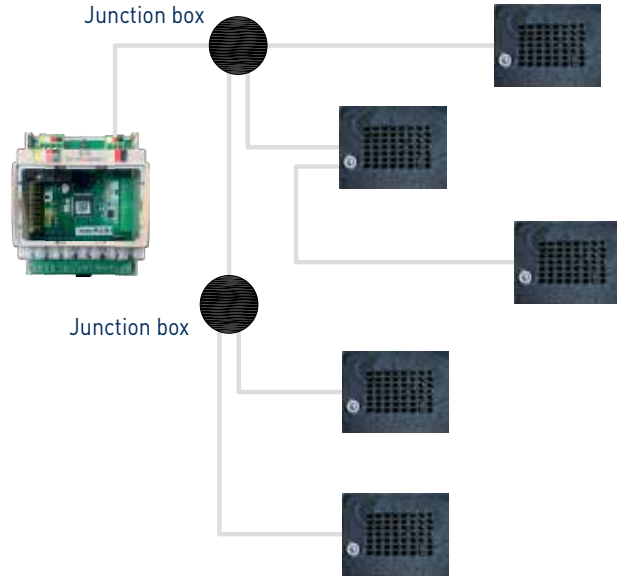
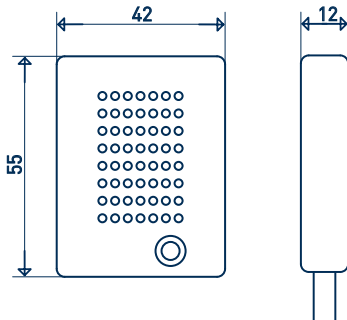
Compact design in plastic	Very flexible installation due to small size
Pre-contacted screw terminal	The sensor cables can be mounted on the terminal so that it is not necessary to open the housing
Measures relative humidity and room temperature	In combination with GUARD or WET, you have more informative power when analyzing the object data
Can be installed in a star-shaped arrangement	The LIN bus cable allows you to cover up to 8 sensors with one electronic connection



SIHGA®		Dimension	Assembly	Connections		
montagepack		L x W x H	Drill hole	Processor unit / Connector	Sensor cable	Connection cable
Art. No.	PU	[mm]	[mm]	LIN-Bus	2 x 2 x 0,8 mm <sup>2</sup>	Assembly
60031	1	42 x 55 x 12	∅ 5	1	4-pole	Screw terminal

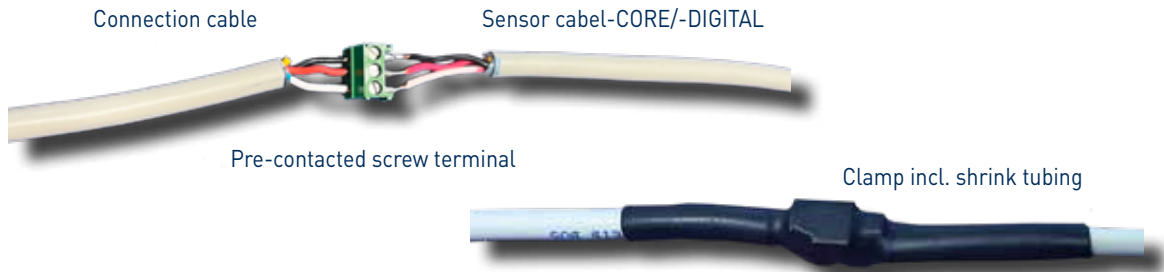
**Measurement type**  
Measuring range

rel. humidity	Temperature
0 - 100%	-40 to 100°C



Star-shaped arrangement

### Sensor connection



### Electronics connection

Electronics  
(Processor unit or Connector)

Sensor cable-CORE/-DIGITAL



### SIHGA® TIP:

To prevent possible corrosion of the screw terminal and strands, a shrink sleeve is included in the scope of delivery.

# Necessary accessories (Except for expansion)

## SIHGA® Feature

## YOUR Benefit



### Monitorix® Processor unit (Art. No.: 60001)

Evaluation electronics

Is connected to the power supply using the Power supply and connected to the Internet / Monitorix® Cockpit via the LAN-module



### Monitorix® LAN-module (Art. No.: 60011)

Connection to the Internet via RJ45 network cable from Cat6

The Processor unit is connected to the Internet via LAN cable; Cable not included in the scope of delivery



### Monitorix® Power supply (Art. No.: 60041)

230 V alternating current to 12 V low voltage

The Processor unit and the entire project are supplied with power via the Power supply



### Monitorix® Sensor cable (Art. No.: 60216)

4-pole connection cable between electronics, CORE and DIGITAL sensors

Up to 8 sensors per Processor unit or connector can be installed in a star-shaped arrangement using the LIN bus line

## Optional accessories



### Monitorix® Connector (Art. No.: 60081)

Always expands the sensor slots of the Processor unit many times over

A Processor unit can be expanded by up to 13 connectors via a plug connection or bus line (with local disconnection)



### Monitorix® Bus cable (Art. No.: 60076)

4-pole CAN bus cable

Locally separated electronics can be connected in series via CAN bus cable



## SIHGA® TIP:

The sum of the sensor cables arranged in a star configuration must not exceed a total length of 100 meters per Processor unit or connector.

# CORE-Sensor



Monitorix® CORE-Sensor

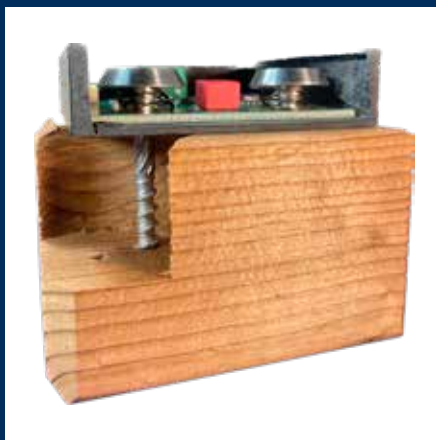
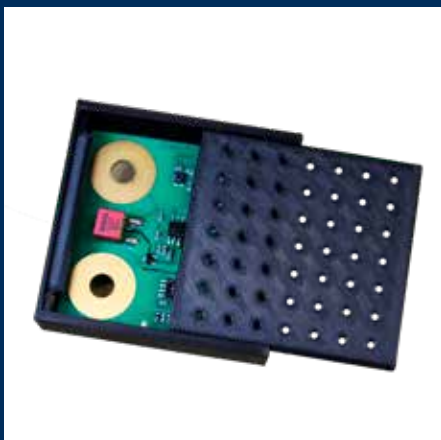




## SIHGA® Feature

## YOUR Benefit

Plastic housing with integrated electronics	Very easy to install due to its small size
Connection via screw terminal in the housing	The CORE sensor cables can be clamped directly to the device and connected in a star configuration
Measures relative humidity and room temperature	In combination with GUARD or WET, you have more informative power when analyzing the object data
Can be installed in a star-shaped arrangement	The LIN bus cable allows you to cover up to 8 sensors with one electronic connection
Measurement of wood core moisture	The screws supplied are both the measuring wires and also serve as fasteners
Spring for tension-free mounting	The spring to be installed prevents screw breakage and damage to the board due to shrinkage and swelling of the wood

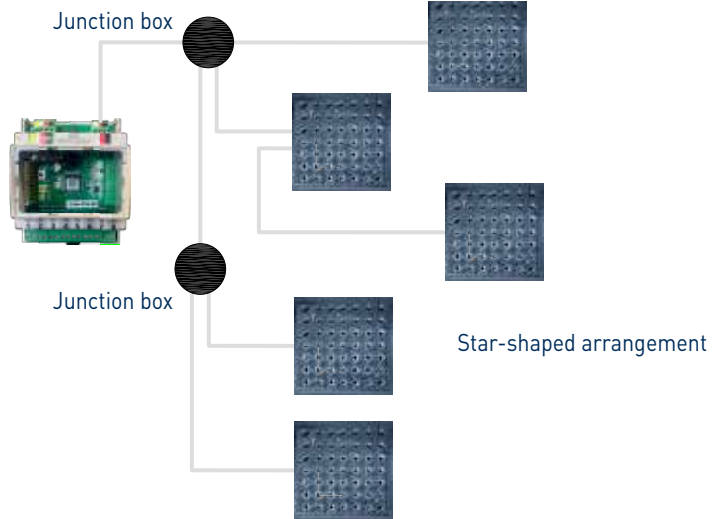
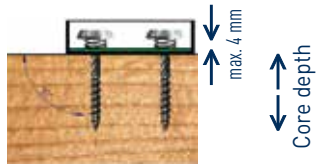
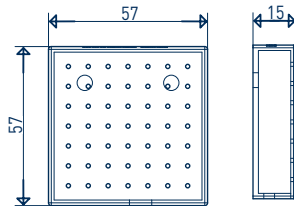


SIHGA®		Dimension	Assembly	Connections		
montagepack		L x W x H	2 holes	Processor unit / Connector	Sensor cable	Connection cable
Art. No.	PU	[mm]	[mm]	LIN-Bus	2 x 2 x 0,8 mm <sup>2</sup>	Assembly
60201	1	57 x 57 x 15	ø 6	1	4-pole	Screw terminal

### Measurement type

Measuring range

rel. humidity	Temperature
0 - 100%	-40 to 100°C

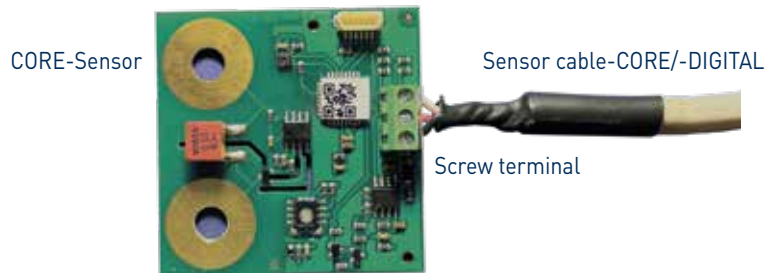


### Wood core moisture

Measuring range

Core moisture	Core depth	Scope of delivery
6% - 30%	0 - 40 mm	Standard
6% - 30%	70 - 90 mm	on request

## Sensor connection



## Electronics connection

Electronics  
(Processor unit or Connector)



Sensor cable-CORE/-DIGITAL



### SIHGA® TIP:

Compress the spring to a maximum of 4 mm to avoid damage to screws and electronics due to shrinkage and swelling of the wood.

# Necessary accessories (Except for expansion)

## SIHGA® Feature

## YOUR Benefit



### Monitorix® Processor unit (Art. No.: 60001)

Evaluation electronics

Is connected to the power supply using the Power supply and connected to the Internet / Monitorix® Cockpit via the LAN-module



### Monitorix® LAN-module (Art. No.: 60011)

Connection to the Internet via RJ45 network cable from Cat6

The Processor unit is connected to the Internet via LAN cable; Cable not included in the scope of delivery



### Monitorix® Power supply (Art. No.: 60041)

230 V alternating current to 12 V low voltage

The Processor unit and the entire project are supplied with power via the Power supply



### Monitorix® Sensor cable (Art. No.: 60216)

4-pole connection cable between electronics, CORE and DIGITAL sensors

Up to 8 sensors per Processor unit or connector can be installed in a star-shaped arrangement using the LIN bus line

## Optional accessories



### Monitorix® Connector (Art. No.: 60081)

Always expands the sensor slots of the Processor unit many times over

A Processor unit can be expanded by up to 13 connectors via a plug connection or bus line (with local disconnection)



### Monitorix® Bus cable (Art. No.: 60076)

4-pole CAN bus cable

Locally separated electronics can be connected in series via CAN bus cable



## SIHGA® TIP:

The sum of the CORE or DIGITAL sensors per Processor unit or connector must not exceed 8, but it is possible to mix them.

# Processor unit



**Monitorix® Processor unit**



## SIHGA® Feature

## YOUR Benefit

Evaluation electronics

Is connected to the power supply using the Power supply and connected to the Internet / Monitorix® cockpit via the LAN-module

Slot for up to 8 sensor strips (Monitorix® WET or GUARD)

Each electronic can mount up to 8 risk areas or problem areas on moisture

Space for up to 8 wood core moisture, relative humidity and temperature sensors in star connection

Ideal reference sensors for tuning the sensor paths and extended analysis in the event of moisture ingress; the core moisture of load-bearing timber components can also be monitored

Top-hat rail mounting possible

Can be mounted in a switch cabinet, flush-mounted or surface-mounted distribution board without tools

Browser-based recording in the cockpit

The cockpit can be accessed via any end device, no app or updates required

Jumper for opening or closing

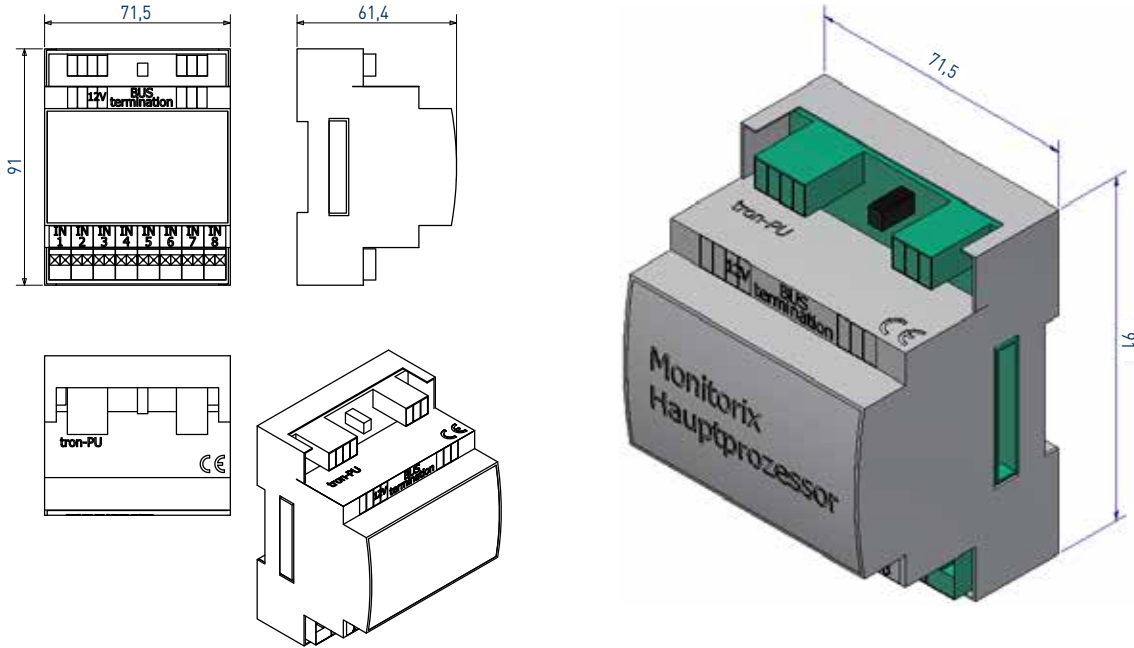
Enables locally separated placement of the electronics (Processor unit and Connector)

CE-compliant

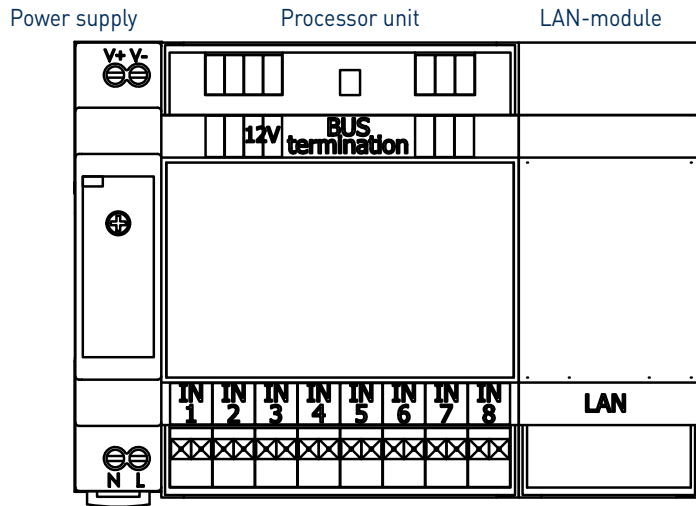
Tested quality



SIHGA®		Dimension	Dividing unit	Connections			
montagepack		L x B x H	Top hat rail	Connector	CORE-DIGITAL-Sensor	Sensor strip	Extension
Art. No.	PU	[mm]	1DU = 18 mm	CAN-Bus	LIN-Bus	WET	Coupling Connector
60001	1	74 x 91 x 61,4	4DU	1	8	8	1



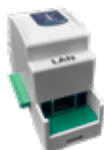
### Assembly sequence



### SIHGA® TIP:

The hardware is only fully functional in combination with an annual software license.

# Necessary accessories (Except for expansion)



## SIHGA® Feature

### Monitorix® LAN-module (Art. No.: 60011)

Connection to the Internet via RJ45 network cable from Cat6

## YOUR Benefit

The Processor unit is connected to the Internet via LAN cable;  
Cable not included in the scope of delivery



### Monitorix® Power supply (Art. No.: 60041)

230 V alternating current to 12 V low voltage

The Processor unit and the entire project are supplied with power via the Power supply

## Optional accessories



### Monitorix® Connector (Art. No.: 60081)

Always expands the sensor slots of the Processor unit many times over

A Processor unit can be expanded by up to 13 connectors via a plug connection or bus line (with local disconnection)



### Monitorix® Bus cable (Art. No.: 60076)

4-pole CAN bus cable

Locally separated electronics can be connected in series via CAN bus cable



## SIHGA® TIP:

Up to 13 connectors can be connected to a main processor via the LAN module, either by plug connection or CAN bus line.

# Connector



**Monitorix® Connector**





## SIHGA® Feature

Extends the sensor slots of the Processor unit many times over

Slot for up to 8 sensor strips (Monitorix® WET or GUARD)

Space for up to 8 wood core moisture, relative humidity and temperature sensors in star connection

Top-hat rail mounting possible

Browser-based recording in the cockpit

Jumper for opening and closing

CE-compliant

## YOUR Benefit

A Processor unit can be extended by up to 13 connectors via plug connection or CAN bus line (with local disconnection)

Each electronic unit can monitor up to 8 risk areas or problem areas for moisture

Ideal reference sensors for tuning the sensor paths and extended analysis in the event of moisture ingress; the core moisture of load-bearing timber components can also be monitored

Can be mounted in a switch cabinet, flush-mounted or surface-mounted distribution board without tools

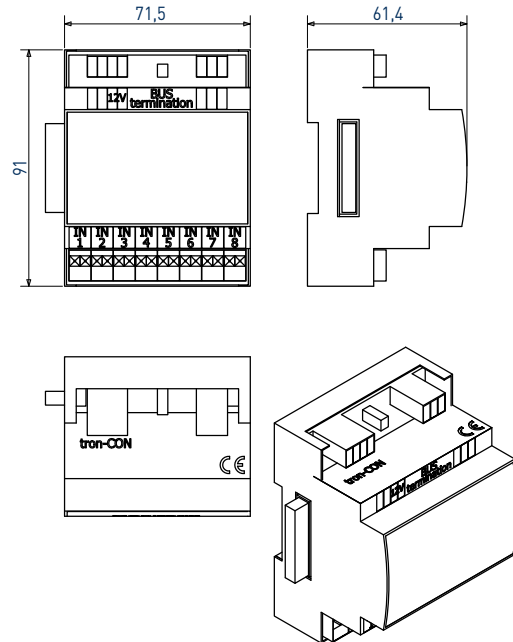
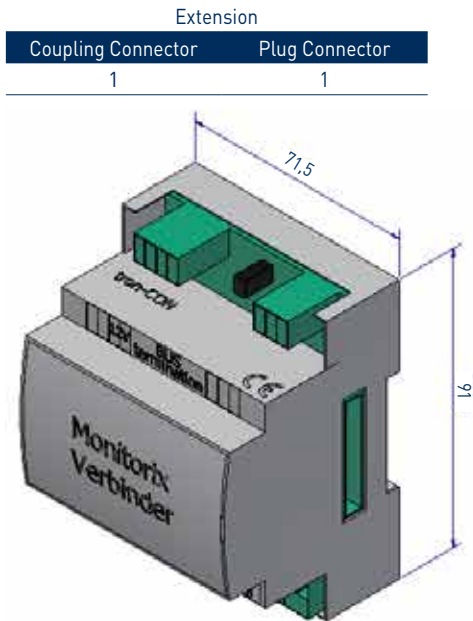
The cockpit can be accessed via any end device, no app or updates required

Enables locally separated placement of the electronics (Processor unit and connector)

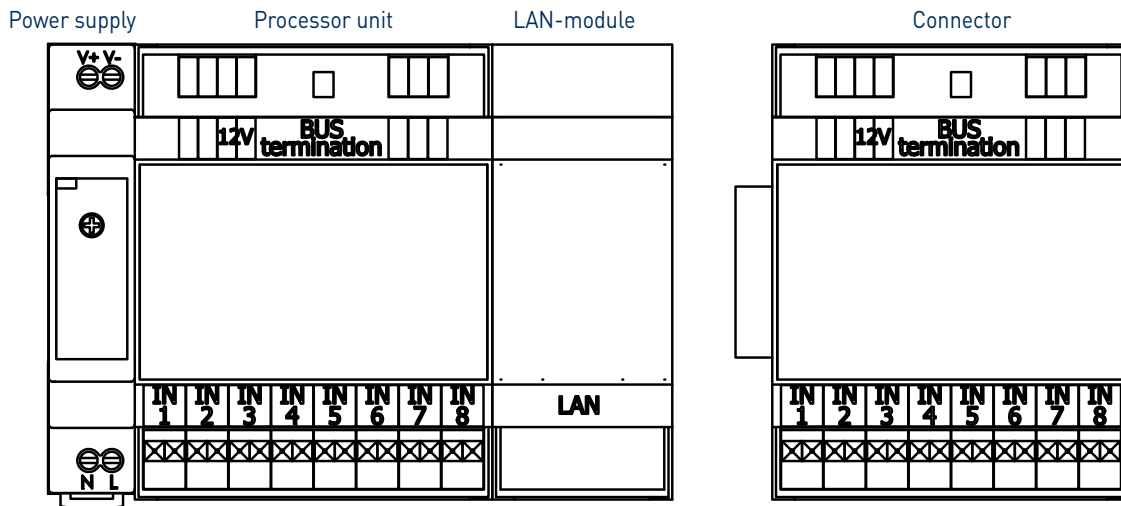
Tested quality



SIHGA®		Dimension	Dividing unit	Connections			
montagepack		L x W x H	Top hat rail	Main processor	CORE-DIGITAL-Sensor	Sensor strip	Extension
Art. No.	PU	[mm]	1DU = 18 mm	CAN-Bus	LIN-Bus	WET	Coupling Connector
60081	1	74 x 91 x 61,4	4DU	1	8	8	1



## Assembly sequence



### SIHGA® TIP:

When expanding the system, the connector can be plugged directly into the LAN-module or connected via the CAN bus line in the event of local disconnection.

# Necessary accessories (Except for expansion)



## SIHGA® Feature

### Monitorix® Processor unit (Art. No.: 60001)

Evaluation electronics

## YOUR Benefit

Is connected to the power supply using the Power supply and connected to the Internet / Monitorix® Cockpit via the LAN-module



### Monitorix® LAN-module (Art. No.: 60011)

Connection to the Internet via RJ45 network cable from Cat6

The Processor unit is connected to the Internet via LAN cable; Cable not included in the scope of delivery



### Monitorix® Power supply (Art. No.: 60041)

230 V alternating current to 12 V low voltage

The Processor unit and the entire project are supplied with power via the Power supply

## Optional accessories



### Monitorix® Bus cable (Art. No.: 60076)

4-pole CAN bus cable

Locally separated electronics can be connected in series via CAN bus cable



## SIHGA® TIP:

The network requirements can be found in the installation instructions at [www.sihga.com/service/download](http://www.sihga.com/service/download).

# ROOF-IOT



Monitorix® ROOF-IOT



## SIHGA® Feature

EPS cylinder placed in inspection port

Measurement of 4 parameters

Existing roofs or new construction

No cabling necessary

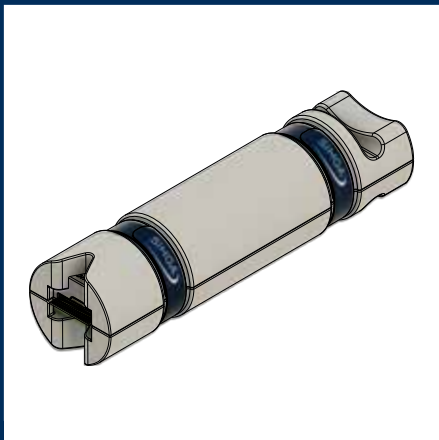
## YOUR Benefit

The ROOF-IOT can be inserted and put into operation without tools

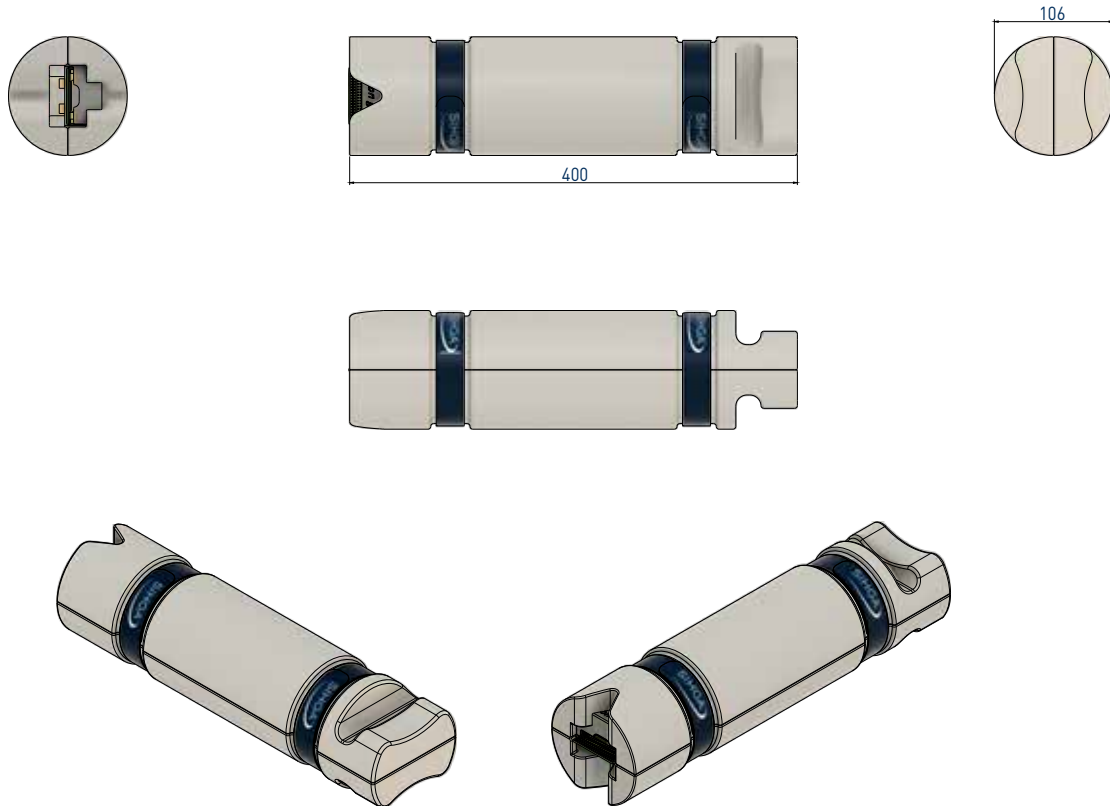
By measuring the temperature, relative humidity, water level in mm and moisture content of the EPS housing, these measured values can be used to detect damage

The ROOF-IOT can be used both on existing flat roofs by retrofitting an inspection spigot and on new flat roofs via the inspection spigot

The ROOF-IOT is battery-operated and sends the data to the software via an integrated SIM card; an automatic alarm is triggered when the battery is low



SIHGA®		Dimension	Assembly	Operating mode	Battery	
montagepack		ø x L	Control nozzle inside	Battery	Service life	Operating temperature
Art. No.	PU	[mm]	min. 110 mm	1,5 V AA	years	°C
60291	1	<b>106 x 400</b>	No scope of delivery	6	> 3	-20 to 60



#### Data transmission

Transmission	Measuring interval	Transmission interval	Goal
Free network	Hours	Hours	Web application
NBLoT	6	24*	<a href="https://tagtron.sihga.com">https://tagtron.sihga.com</a>

\* every 24 hours and when threshold values are exceeded

#### Measurement type

Measuring range	Water level	relative humidity		Temperature		Moisture measurement of the EPS housing	
[mm]	Res. [mm]	Range [%]	Res. [%]	Range [°C]	Res. [°C]	Measuring principle	Range [%]
0 - 12	0 / 4 / 7 / 12	0 - 100	0,1	-40 to 100	0,1	Resistance	6 - 100

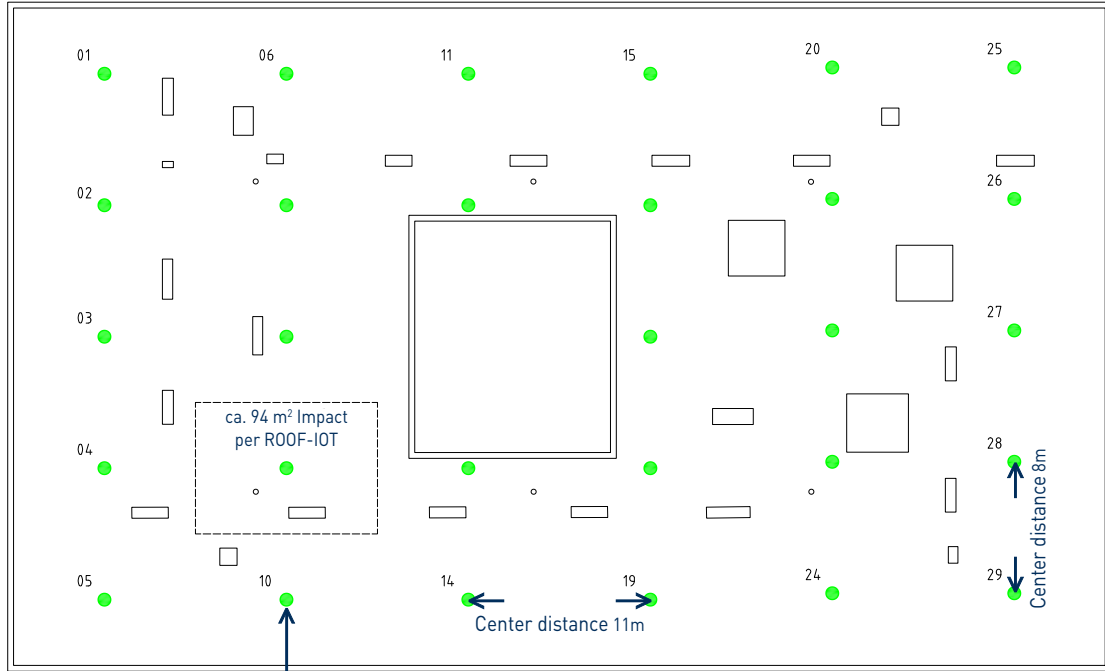


#### SIHGA® TIP:

When purchasing the control connection pieces, ensure that they have an internal diameter of at least 110 mm.

### Application example

Flat roof (Warm roof)	Equipment	Impact	Center distances
Roof area [m <sup>2</sup> ]	ROOF-IOT (Stk.)	per sensor [m <sup>2</sup> ]	per sensor [m]
ca. 2.700	29	ca. 94	ca. 11 x 8



#### ROOF-IOT

Point measurement of the:

- relative humidity
- Temperature
- Water level on vapor barrier
- Moisture content of the EPS housing



#### SIHGA® TIP:

The inspection nozzle is not included in the scope of delivery. This must be provided and pre-assembled.

# Ideal for your first project:

The Monitorix®

StarterKit



## Possibilities with a Monitorix® StarterKit:

- a detached house can be completely monolithized indoors
- up to 8 problem areas can be monitored
- Leaks on smaller flat roofs can be localized down to the square metre
- only power and internet connection must be available
- An existing system can be easily expanded
- a SIHGA® Swedish meter is supplied to make measuring easier

### SIHGA®

### Monitorix® starter kit contains

montagepack	Power supply	Main processor	LAN module	Sensor track- WET	Sensor clamp- WET/-GUARD	Clamp WET	Gel box	Adhesive tape
Art. No.	PU	Quantity (pcs.)	Quantity (pcs.)	Quantity (m)	Quantity (m)	Quantity (pcs.)	Quantity (pcs.)	Quantity (m)
60326	1	1	1	25	100	20	10	15

\* Adhesive tape is only available in combination with StarterKit or project handling



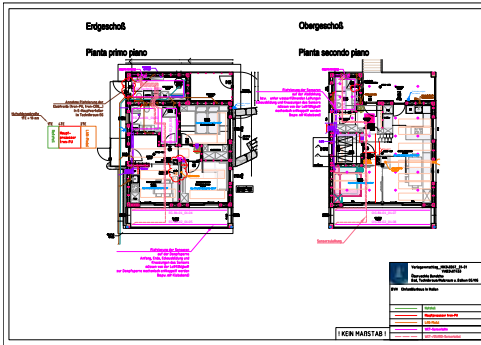
### SIHGA® TIP:

The mains connection must be established by a qualified electrician.



# From the offer to activation:

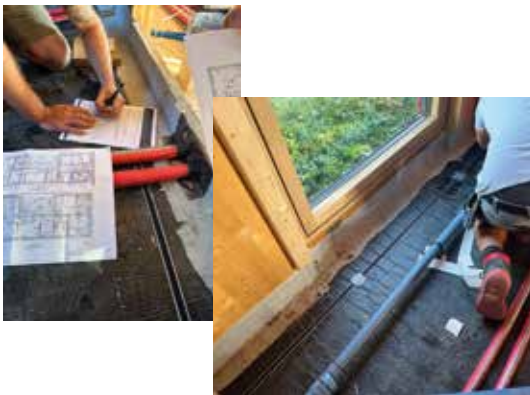
## Planning



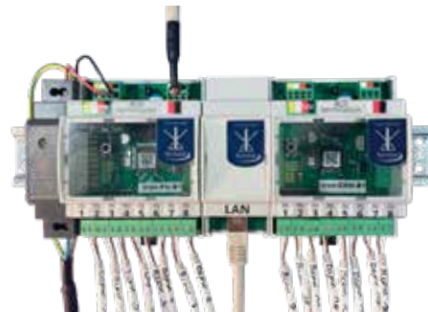
## Calculation

Serialnummer Elektronik Steckplatz	Position/Beschreibung	Sensor	Sensor-Länge/Steckplatz (Gehäuse max. 1,5,0 / 2,0 lfm; WET max. 20,0 / 2,0 lfm)	Sensor-Kabel Zuleitung (max. 100 m)	Sensor-Verbinder Anzahl (elek. Klemmen/Verbindet)	Sensor-Klemmen
1	_EG-Technik	WET	2,0 lfm	5,0 lfm	-	2 Stk
2	_EG-Bad-01	WET	3,0 lfm	5,0 lfm	-	2 Stk
3	_EG-Bad-02	WET	2,0 lfm	5,0 lfm	-	2 Stk
4	_EG-Bk-01	WET	4,0 lfm	15,0 lfm	-	2 Stk
5	_EG-Bk-02	WET	4,0 lfm	15,0 lfm	-	2 Stk
6	_OG-Bad	WET	2,0 lfm	10,0 lfm	-	2 Stk
7	_OG-Bk-01	WET	4,0 lfm	20,0 lfm	-	2 Stk
8	_OG-Bk-02	WET	4,0 lfm	25,0 lfm	-	2 Stk

## Installation



## Connection



## Automatic recording in the online portal



### SIHGA® TIP:

Full functionality is only guaranteed if the software offer is accepted.

# Monitorix<sup>®</sup> Awards:



## **Young Entrepreneur award 2024**

Awarded by: Wirtschaftskammer Österreich (WKO), Junge Wirtschaft



## **State prize for digitalization 2023**

Digital transformation & innovation

Awarded by: Republik Österreich (Bundeskanzleramt Digital Austria)



## **HolzLand award 2024**

Top supplier & innovative product

Awarded by: [www.holzland.com](http://www.holzland.com)



## **Woody award 2023**

1<sup>st</sup> place innovative produkt

Awarded by: Gesamtverband Deutscher Holzhandel e. V. (GD Holz)



## **Craftsmanship award 2022**

1<sup>st</sup> Place innovation & digitalization

Awarded by: Wirtschaftskammer Österreich (WKO),  
Raiffeisen Bankengruppe



## **Digitalos award 2022**

1<sup>st</sup> Place digital transformation

Awarded by: OÖNachrichten, Tabakfabrik Linz, KPMG, Sparkasse,  
Vienna Insurance Group



## **JULIUS award 2022**

Quality operation

Awarded by: Wirtschaftsbund Österreich (ÖÖ)



## **Austrian model company 2022**

Quality mark certified quality

Awarded by: Austria Gütezeichen



# TAKE THE BEST



Leitbetrieb Österreich



Leitbetrieb Deutschland

**SIHGA® GmbH** | Austria

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