

## Displays for the photovoltaics



Standard units	
Series XC410	04
Series XC420	08
Series XC440/XC450 Linea   Galeria   Quadro	12
Series XC460/XC470	18
Series XC480	22
Series XC490	26
Backlit graphics	
Series XC445/XC455	30
Labeling	
Labeling of the display	34
Customized systems	
XC-Boards <sup>®</sup>	36

**Siebert Group** 

#### Solar energy made visible

With future-orientated technology you invest in renewable energies. But how does the public becomes aware of your commitment to the environment if the photovoltaic system is not visible on the roof?

With Siebert digital displays you make your solar system and its performance visible – in the foyer, in the entrance hall or public appeal outdoors, and you have the efficiency of your solar system at a glance.

For photovoltaic systems in public buildings or solar systems for commercial use, the visualization of the performance makes sense anyway: purpose and ecological benefits of the investment become transparent and the information about the avoided carbon dioxide levels (CO<sub>2</sub>) provides valuable educational work.

#### For each photovoltaic system

Siebert digital displays are suitable for any photovoltaic system and can also be connected subsequently to existing systems.

The following connections are available as standard:

- Impulses of an electric meter (S0 Interface)
- Serial interface of the inverter or data logger (RS232 or RS485)
- Ethernet interface
- WLAN

#### **LED technology**

The latest LED technology is used in Siebert digital displays. LED displays distinguish themselves through their high luminous power and durability. Their big viewing angle allows convenient and reliable reading even when looked at from the side.

The LED digits light actively and draw spontaneously – differently acting to passive LCD displays – the attention of the viewer.

#### **Easy parameterization**

An intuitively software allows easy and fast parameterization of the displays. Furthermore the series XC440/XC450, XC460/XC470, XC480 and XC445/XC455 can be parameterized via Bluetooth.

#### **Innovative technology**

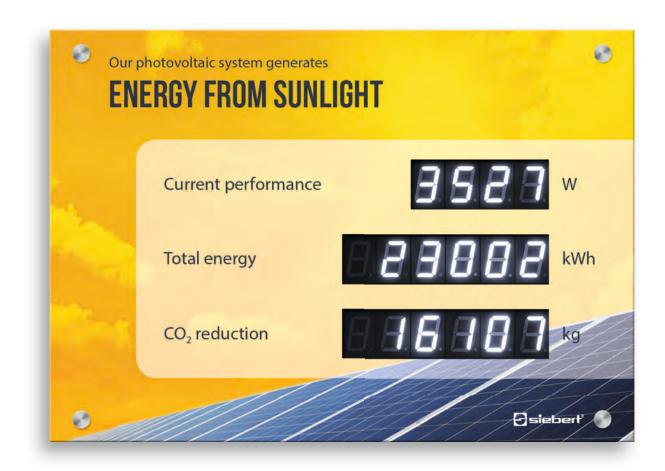
Siebert digital displays are based on decades of experience in the development and manufacturing of digital information systems. The systems are continuously developed further, new technical standards are implemented as close as possible to the products. Downward compatibility is always a target.

#### Series

## XC410

## Elegance in glass and stainless steel

The displays of the XC410 series are representative objects with a clear design language. Glass and stainless steel emphasize the high standard. The frameless and flat design, together with white LEDs, gives off a special elegance.



#### Series XC410

#### Standard designs







#### Different graphic designs

The illustrated graphic designs of the XC410 series are offered as standard designs.

It's also possible to integrate a logo of the investor, the planner, the sponsors or a photo of the building into the graphics.

Individually designed graphics are also possible. For this, our own design studio is your competent partner.

#### **Labeling variants**

You can choose between five labeling variants — page 34.



Type code XC410-SAW-N-01

LED display character height 25 mm
LED color white
Upper LED display 4 digits
Middle LED display 6 digits
Lower LED display 6 digits

Measures W x H x D 420 x 297 x 33 (41) mm

Material glass/stainless steel, basic body steel sheet varnished

Power supply 100...240 V AC, 50...60 Hz

Protection type IP40

Weight approx. 4 kg

Values in ( ) are valid for devices with Ethernet or WLAN interface  $\,$ 

#### **Options**

Ethernet interface XC410-xxx-x-05
WLAN XC410-xxx-x-07
1 customer logo on standard design
2 or 3 customer logos on standard design ✓

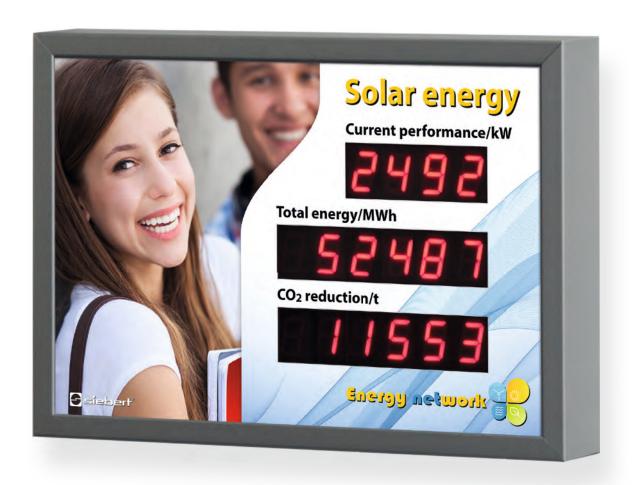
Individual graphic design



## Series

Compact digital displays with innovative technology

A special feature of the XC420 series is the compact design: with a housing, even smaller than the size of a sheet A3 format, it finds the right place everywhere.



#### Series XC420

## Concept Photovoltaic systems Current performance IkWI Total energy IMWhI CO2 reduction ItI Sichert\*

#### Standard designs







#### Innovative technology

Control is possible via the digital interface of the inverter or a data logger, as well as with the pulses of an electric meter.

Despite the power supply unit integrated in the display the dimensions of the display are very compact.

#### Suitable for outdoor use

Devices which are used outdoors have screwed housing frames and offer protection against vandalism.

#### Different graphic designs

The illustrated graphic designs of the XC420 series are offered as standard designs.

It's also possible to integrate a logo of the investor, the planner, the sponsors or a photo of the building into the graphics.

Individually designed graphics are also possible. For this, our own design studio is your competent partner.

#### **Labeling variants**

You can choose between five labeling variants — page 34.

Type code XC420-SAR-N-01

LED display character height 25 mm
LED color red
Upper LED display 4 digits
Middle LED display 6 digits
Lower LED display 6 digits

Measures W x H x D 400 x 280 x 62 mm

Material aluminum, front acrylic glass Power supply 100...240 V AC, 50...60 Hz

Protection type IP40 (IP54)
Weight approx. 3 kg
Values in ( ) are valid for devices with the option requipment package for outdoor user

#### **Options**

Ethernet interface XC420-xxx-x-05
WLAN XC420-xxx-x-07
LED color white XC420-SAW-N-01
Equipment package for outdoor use XC420-xxx-A-xx

1 customer logo on standard design
2 or 3 customer logos on standard design
Individual graphic design
✓

#### Series

## XC440 XC450

## Representative digital displays with a clear design language

With their exclusive design Siebert digital displays of the XC440/XC450 series awake the interest of the public to communicate the commitment of the investor. Together with the slim aluminum housings the graphically sophisticated designs form an object which adapts itself harmoniously in the respective ambience.

An innovative feature is the LED display in modern SMD technology. With white luminous digits, an elegant typeface and extremely high brightness, it defines a new standard. The super bright digits are very well readable in the sunlight. An automatic brightness control adjusts the brightness to the ambient light.



## Series XC440 Linea | Galeria | Quadro

The displays of the XC440 series are offered in 3 different designs — either designed as Linea with its classical horizontal format, Galeria with its dynamic vertical format or Quadro with its square design which offers a wide scope for individual design.

The XC440 series uses 25 mm high LED digits and allows reading distances up to 10 m.

#### Standard designs Galeria



#### Standard designs Linea







#### **Automatic brightness control**

An automatic brightness control adjusts the brightness to the ambient light.

#### Standard designs Quadro







#### Different graphic designs

Housings for outdoor use

Devices which are used outdoors,

have screwed housing frames and

offer protection against vandalism.

The illustrated graphic designs of the XC440 series are offered as standard designs.

It's also possible to integrate a logo of the investor, the planner, the sponsors or a photo of the building into the graphics.

Individually designed graphics are also possible. For this, our own design studio is your competent partner.



#### **Labeling variants**

You can choose between five labeling variants — page 34.



Type code - Linea XC440-LCW-N-01
Type code - Galeria XC440-GCW-N-01
Type code - Quadro XC440-QFW-N-01

LED display character height 25 mm
LED color withe
LED display 3 x 6 digits

 Measures W x H x D - Linea
 800 x 450 x 62 mm

 Measures W x H x D - Galeria
 450 x 800 x 62 mm

 Measures W x H x D - Quadro
 800 x 800 x 62 mm

Material aluminum, front acrylic glass Power supply 100...240 V AC, 50...60 Hz

Protection type IP40 (IP54)
Weight - Linea / Galeria approx. 7 kg
Weight - Quadro approx. 11 kg

Values in ( ) are valid for devices with the option 'equipment package for outdoor use'

#### **Options**

Ethernet interface XC440-xxx-x-05
WLAN XC440-xxx-x-07
LED color red XC440-xxR-x-xx
Equipment package for outdoor use XC440-xxx-A-xx

1 customer logo on standard design

2 or 3 customer logos on standard design

Individual graphic design

### Series XC450 Linea | Galeria | Quadro

The XC450 series uses 55 mm high LED digits. They are readable up to a distance of 20 m, but achieve even with a smaller viewing distance and in the outdoor application a higher grade of attention.

#### Standard designs Galeria



Standard designs Linea







#### Housings for outdoor use

Devices which are used outdoors, have screwed housing frames and offer protection against vandalism.

#### Standard designs Quadro







#### Different graphic designs

The illustrated graphic designs of the XC450 series are offered as standard designs.

It's also possible to integrate a logo of the investor, the planner, the sponsors or a photo of the building into the graphics.

Individually designed graphics are also possible. For this, our own design studio is your competent partner.

#### **Automatic brightness control**

An automatic brightness control optimally adjusts the brightness to the ambient light .

#### **Labeling variants**

You can choose between five labeling variants — page 34.





Type code - Linea XC450-LCW-N-01
Type code - Galeria XC450-GCW-N-01
Type v - Quadro XC450-QFW-N-01

LED display character height 55 mm
LED color withe
LED display 3 x 6 digits

 Measures W x H x D - Linea
 1000 x 560 x 62 mm

 Measures W x H x D - Galeria
 560 x 1000 x 62 mm

 Measures W x H x D - Quadro
 1000 x 1000 x 62 mm

Material aluminum, front acrylic glass Power supply 100...240 V AC, 50...60 Hz

Protection type IP40 (IP54)
Weight - Linea / Galeria approx. 11 kg
Weight - Quadro approx. 16 kg

#### **Options**

Ethernet interface XC450-xxx-x-05
WLAN XC450-xxx-x-07
LED color red XC450-xxR-x-xx
Equipment package for outdoor use XC450-xxx-A-xx

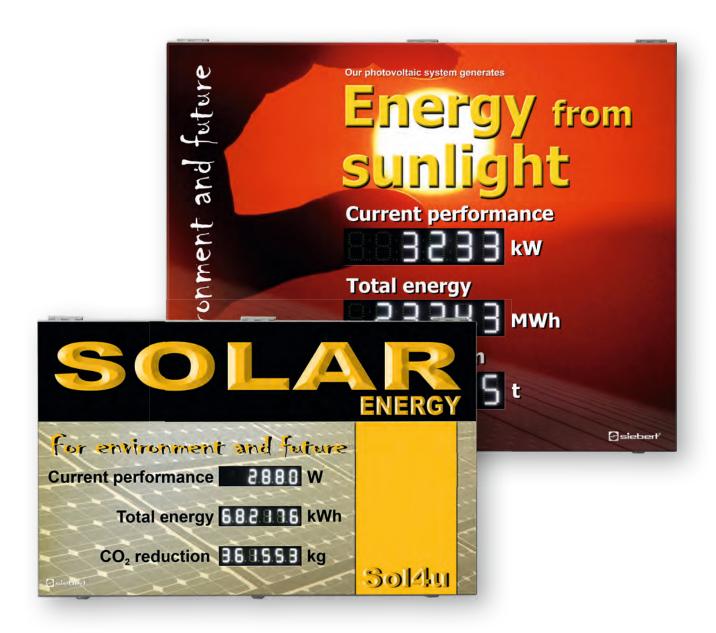
1 customer logo on standard design
2 or 3 customer logos on standard design
Individual graphic design

#### Series

## XC460 XC470

## Robust displays for public areas

The digital displays of the XC460/XC470 series are especially suitable for sites in public areas or in harsh environments. Their robust steel sheet housings offer a wide protection against external influences on the display.



## Series XC460 XC470

The XC460 series uses 25 mm high LED digits and allows reading distances up to 10 m. The XC470 series uses 55 mm high digits. They are readable up to a distance of 20 m but achieve, even with a smaller viewing distance and in the outdoor application, a higher grade of attention.

#### Super bright LED display

An innovative feature is the LED display in modern SMD technology. With white luminous digits, an elegant typeface and extremely high brightness, they define a new standard.

The super bright digits are very well readable in the sunlight.

An automatic brightness control optimally adjusts the brightness to the ambient light.



Type code	XC460-SBW-N-01	XC470-SBW-N-01		
LED display character height	25 mm	55 mm		
LED colour	white	white		
LED display	3 x 6 digits	3 x 6 digits		
Measures B x H x T	800 x 500 x 70 mm	1000 x 800 x 70 mm		
Material	steel sheet varnished, front foil coated			
Power supply	100240 V AC, 5060 Hz	100240 V AC, 5060 Hz		
Protection type	IP54 (IP65)	IP54 (IP65)		
Weight	approx. 18 kg	approx. 32 kg		

Values in ( ) are valid for devices with the option 'equipment package for outdoor use'

#### **Options**

Ethernet interface	XC460-xxx-x-05	XC470-xxx-x-05
WLAN	XC460-xxx-x-07	XC470-xxx-x-07
LED colour red	XC460-xxR-x-xx	XC470-xxR-x-xx
Equipment package for outdoor use	XC460-xxx-A-xx	XC470-xxx-A-xx
1 customer logo on standard design	✓	<b>✓</b>
2 or 3 customer logos on standard design	✓	<b>✓</b>
Individual graphic design	✓	<b>✓</b>

#### Different graphic designs

The illustrated graphic designs of the XC460/XC470 series are offered as standard designs. It's also possible to integrate a logo of the investor, the planner, the sponsors or a photo of the building into the graphics. Individually designed graphics are also possible. For this, our own design studio is your competent partner.

You can choose between five labeling variants — page 34.

#### Standard designs XC460









Standard designs XC470





ENERGY FROM SUNLIGHT



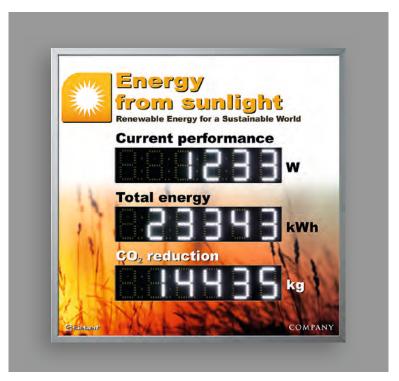


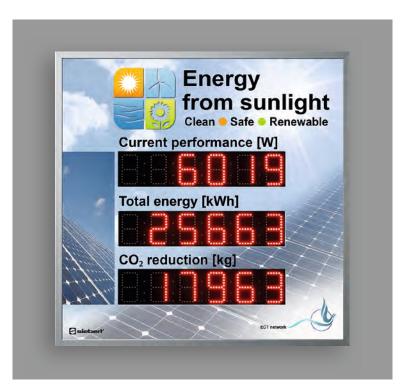
## Series XC480 Design in large format

The XC480 series combines a representative large size and individual design. The 100 mm high digits are especially suitable for long reading distances up to 40 meters.



#### Series XC480





#### Super bright LED display

The 100 mm high digits are especially suitable for long reading distances up to 40 meters. The super bright digits are very well readable in the sunlight.

Thus the devices also arouse the interest of the passers-by at longer reading distances.

#### **Automatic brightness control**

An automatic brightness control optimally adjusts the brightness to the ambient light.

#### Housings for outdoor use

Devices which are used outdoors have screwed housing frames and offer protection against vandalism.

#### Different graphic designs

The illustrated graphic designs, shown on the right, of the XC480 series are offered as standard designs.

It's also possible to integrate a logo of the investor, the planner, the sponsors or a photo of the building into the graphics. Individually designed graphics are also possible. For this, our own design studio is your competent partner.

Type code XC480-SAW-N-01

LED display character height 100 mm
LED color white
LED display 3 x 6 digits

Measures W x H x D 1100 x 800 x 70 mm

Material aluminum, front acrylic glass Power supply 100...240 V AC, 50...60 Hz

Protection type IP40 (IP54)
Weight approx. 18 kg

Values in ( ) are valid for devices with the option 'equipment package for outdoor use'

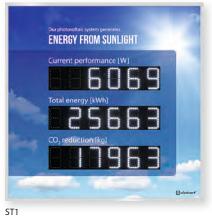
#### **Options**

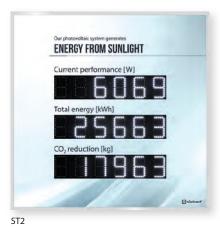
Ethernet interface XC480-xxx-x-05
WLAN XC480-xxx-x-07
LED color red XC480-xxR-x-xx
Equipment package for outdoor use XC480-xxx-A-xx

1 customer logo on standard design
2 or 3 customer logos on standard design

Individual graphic design

#### Standard designs







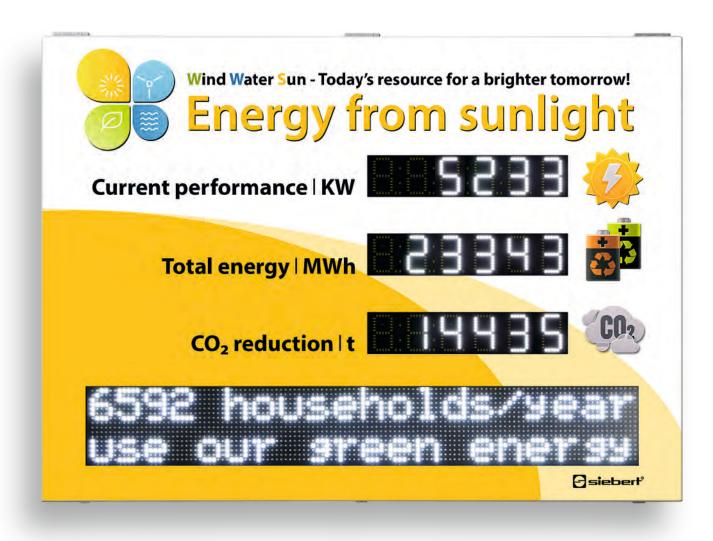
You can choose between five labeling variants – page 34.

#### Series

XC490

## Digital displays with additional text display

Besides the visualization of yield data the XC490 series offers to illustrate individual information and texts. Whether marquee, blinking, two-lined with a character height of 50 mm or single-lined with a character height of 100 resp. 120 mm any desired text can be illustrated in different formatting.







#### Series XC490

#### Integrated text display

The additional text display allows the presentation of individual information and draws the attention to the display.

#### **Robust housings**

The digital displays of the XC490 series are especially suitable for sites in public areas or in harsh environments. The robust steel sheet housings offer a wide protection against external influences on the display.

#### Different graphic designs

The illustrated graphic designs, shown on the right, of the XC490 series are offered as standard designs.

It's also possible to integrate a logo of the investor, the planner, the sponsors or a photo of the building into the graphics.

Individually designed graphics are also possible. For this, our own design studio is your competent partner.

Type code XC490-SCR-N-01 LED display 3 x 6 digits Character height - LED digits 55 mm

LED – text display 2 x 20 digits - applies to character set Acala 7

LED text display - character height 50/100/120 mm switchable

LED color white

Measures W x H x D 1100 x 800 x 70 mm

steel sheet, varnished, front film coated Material

Power supply 100...240 V AC, 50...60 Hz

Protection type IP40 (IP54) Weight approx. 36 kg

 $\label{thm:continuous} \mbox{Values in () are valid for devices with the option 'equipment package for outdoor use'}$ 

#### **Options**

Ethernet interface XC490-xxx-x-05 WLAN XC490-xxx-x-07 LED color red XC490-xxR-x-xx Equipment package for outdoor use XC490-xxx-A-xx 1 customer logo on standard design

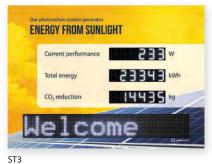
2 or 3 customer logos on standard design

Individual graphic design

#### Standard designs







You can choose between five labeling variants — page 34.

# Series XC445 XC45 Display systems with backlit graphics

The devices with backlit graphics awake special attention. A homogeneous backlighting sets your graphics perfectly in scene, even in poor lighting conditions.



## Series XC445 XC455

#### **Backlit graphics**

With exclusive design, bright shining LED digits in modern SMD technology and effectively backlit graphic design the devices of the XC445/XC455 series awake the interest of the audience. A homogeneous backlighting sets your graphics perfectly in scene, even in poor lighting conditions.

#### **Reading distances**

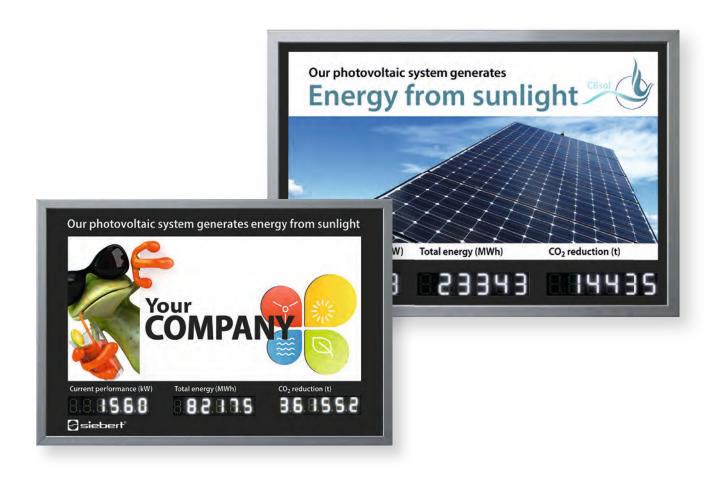
The XC445 series has 25 mm high LED digits and allows reading distances up to 10 m. The XC455 series has 55 mm high digits; they are still readable from a distance of 20 m, but achieve even with a smaller viewing distance and in the outdoor application, a higher grade of attention.

#### Individuality as standard

Our own design studio designs the graphics individually in direct consultation with the customer. The large surface provides plenty of scope for design. It's also possible to integrate a logo of the investor, the planner, the sponsors or a photo of the building into the graphics

#### **Labeling variants**

You can choose between five labeling variants — page 34.





XC445

### Energy from sunlight 1233 **1**23343 **1**14439

#### **Technical data**

**Series** Type code LED display character height

LED colour

Measures W x H x D

Material

Protection type

Weight

Individual foil design

Values in ( ) are valid for devices with the option 'equipment package for outdoor use'

XC445-SAW-N-01

25 mm white

650 x 450 x 88 mm

aluminium, front acrylic glass

IP40 (IP54) approx. 10 kg

#### XC455

XC455-SAW-N-01

55 mm white

1150 x 800 x 88 mm

aluminium, front acrylic glass

IP40 (IP54) approx. 27 kg

#### **Options**

XC445-xxx-x-05 Ethernet interface XC455-xxx-x-05 WLAN XC445-xxx-x-07 XC455-xxx-x-07 LED colour red XC445-xxR-x-xx XC455-xxR-x-xx Equipment package for outdoor use XC445-xxx-A-xx XC455-xxx-A-xx



## Labeling of the photovoltaic display

The devices are available with various labeling variants — depending on the plant performance and the information to be shown.

XC4XX			
Graphic design (see respective series) X X X	-		
Lettering German	<u></u>	 	
Lettering English	F	N	
Lettering Spanish	E	S	
Lettering French	F	R	
Lettering Italien	Π	Т	
Lettering Dutch	N	L	
Current performance in W   Total energy in kWh   CO₂ reduction in kg			1
Current performance in kW   Total energy in MWh   CO <sub>2</sub> reduction in in t			2
Current performance in W   Daily energy in kWh   Total energy in kWh			3
Current performance in kW   Daily energy in kWh   Total energy in MWh			4
Current performance in kW   Total energy in kWh   CO <sub>2</sub> reduction in kg			5

## XC-Boards®

## Individual solutions for demanding applications

XC-Boards® are customized display systems - from compact systems up to large-sized displays with reading distances up to 300 m.

Our photovoltaic system generate

## ENERG' from sunli

Current performance / kW



Total energy / MWh

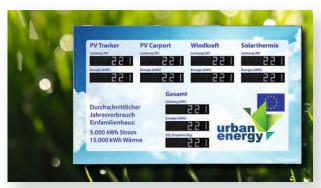


CO<sub>2</sub> reduction / t



# Siebe

















#### **Displaying information**

- for the photovoltaic
- for wind energy
- for thermal energy
- for energy generation from biogas plants
- for building technology

XC-Boards® are based on proven components of the serial devices. They are designed in close consultation with the customer and tailored to individual needs. Our extensive experience in the development and the realization of digital displays results in professional solutions which have been proving themselves in worldwide use even under rough and difficult conditions.

#### Design

Customized readable one- or double-sided

LED character height 25, 55, 100, 160, 250, 350 and 700 mm

Character display numeric or alphanumeric

Housings aluminum, steel sheet varnished or stainless steel

Protection type IP65, IP54, IP40 depending on housing type

Mounting wall mounting, pendant mounting and free-standing

Interface serial, Ethernet, WLAN, Bluetooth, ...

Power supply 230 V AC, 115 V AC







## Siebert Group

Founded in 1972 as an engineering office today Siebert Group is a leading and global provider for digital information systems.

The products are sold worldwide to demanding and market leading customers.



#### **Research and development**

All products are the result of our own research and development. Our engineers continuously create new innovations and with most modern facilities the products are manufactured in the factory in Eppelborn-Wiesbach.

#### Innovation

Market research and constant investments in research and development consequently leads to new products. With innovative solutions many products have set standards in specific market segments. Our customers can choose from a broad range of products which, in its consistency, is trend-setting.

#### International presence

Customer orientation also means presence in international markets. With own companies and agencies Siebert Group is represented in many countries worldwide.



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