Mast Microphone

Manual

Version 1.02

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Basics

This user manual belongs to the product Mast Microphone. It contains all instructions for commissioning and handling. Read this guide carefully. Keep the operating instructions for future reference!

The Mast Microphone was designed for the GSM batcorder.
A version for older Batcorder models is not planned.

The same electronic components (microphone capsule, beeper, temperature sensor & connector) are used as in our GSM disc microphone. The recordings of the Mast microphone are therefore comparable with the recordings of the GSM and batcorder disk microphones.

The Mast box

The GSM batcorder and the 6V lead-acid battery are housed in a plastic box from the manufacturer 'Fibox'.

Fig. 4 Mast box overview

External dimensions of the Fibox: 30cm x 20cm x 18cm (H, W, D)
For more information about the box, see attachment.
Model designation of the manufacturer Fibox "CAB PC 302018 T".

The Mast box is delivered with hinges attached on the left. However, the hinges can also be mounted on the right side, so that the Mast box can also be easily accessed from the left side.

The Mast box is attached to an aluminum mounting plate with a handle. This aluminum plate is attached to the inner wall of the wind turbine with two or four 8mm screws or stud bolts.

Attachment of the Mast box

There are two versions to choose from for attaching the box to the tower wall. Before placing your order, please clarify with the system operator/manufacturer which version you require.

Two-hole version:

It is attached directly to the wall. The Mast box is attached directly to the wall using two screws or studs. The retaining plate of the Mast box rests on the wall with four rubber buffers. No additional spacers or constructions are necessary. This version is the standard version.

Fig. 5:
Rear view of the two-hole version.

Fig. 6
Front view of the two-hole version.

Four-hole version:

It is attached to a custom bracket such as distance bolts. There are no rubber buffers mounted on the back.

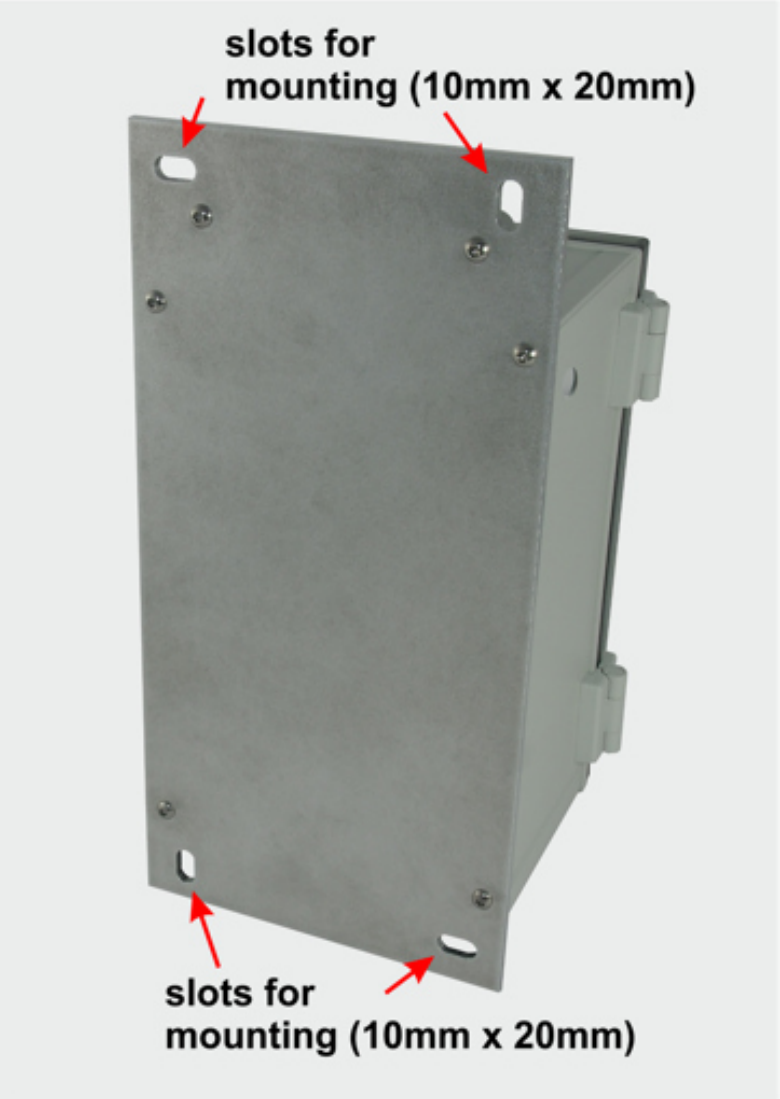
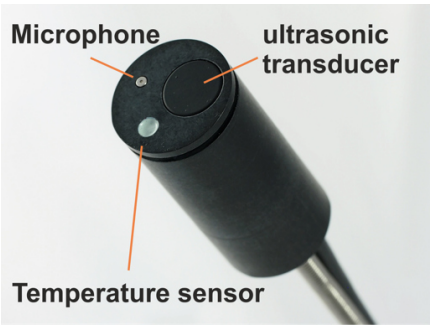


Fig. 7 Rear view of the four-hole version.

Construction of the microphone

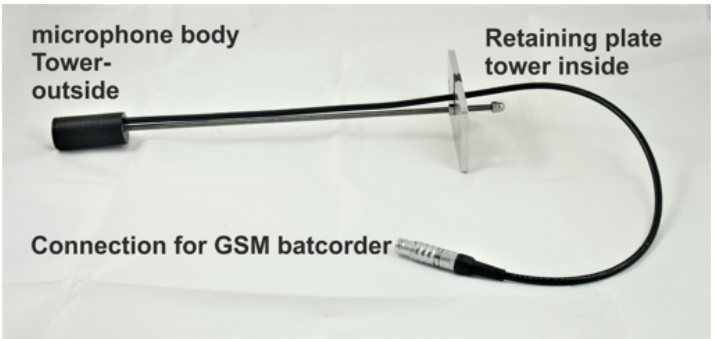
The body of the Mast microphone consists of a plastic cylinder (Dimensions: 28mm x 80mm). It houses the microphone capsule, the precision preamplifier, the ultrasonic signal transducer (beeper) for the reference signal and the temperature sensor. This body is connected to the mounting plate (6mm aluminum) via a 40cm long threaded rod (M6 stainless). With the help of this mounting plate, the microphone is attached to the wall inside the tower.

Image 1: Front view with microphone capsule, ultrasonic transducer (beeper) & temperature sensor
Image 2: Rear view with threaded rod and cable
Image 3: Mast microphone with mounting plate, threaded rod and connector



Img. 1

Img. 2



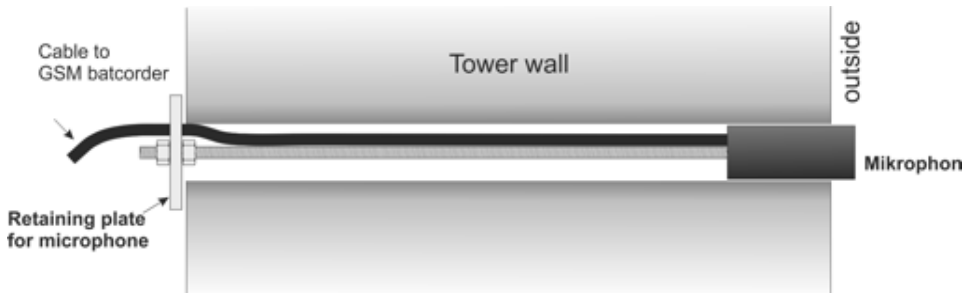
Img.3

Attachment of the microphone

A 30 mm hole is required for the Mast microphone to pass through the tower wall. The hole can be drilled with an incline of up to 10° to avoid water intrusion. The microphone mounting plate is attached with two M8 threaded bolts or screws (not included).

The distance between the microphone and the aluminum mounting plate is set using a threaded rod. The maximum distance between the outside of the microphone (slightly overhanging the tower wall) and the inside wall of the tower is approx. 34 cm. A larger distance can be achieved with a longer threaded rod.

Fig 8: Installation of the Mast microphone in the tower wall.



Allow the microphone to protrude a few inches from the wall. This prevents rainwater running down the tower wall from flowing over the microphone.

For mounting in a steel wall, the threaded rod can be removed and the microphone can be attached directly to the microphone mounting plate with an M6 screw.

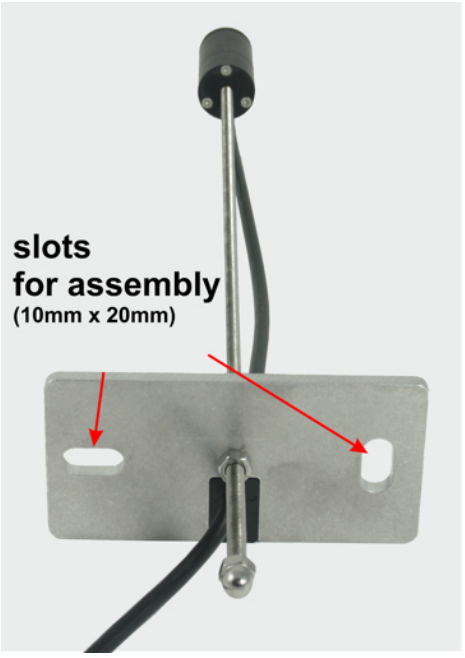


Fig. 9 Microphone holding plate

Mounting location

- In order to minimize the number of interferences from electromagnetic fields, the Mast box has to be mounted in close proximity to the microphone.
- The installation has to be as far away as possible from power and control lines and possible sources of noise.
- Both the Mast box and the microphone should be easily accessible.

The GSM batcorder requires a 230V/10A socket for the power supply (external 12V power pack with Euro plug). The cable length of the power pack is about 50cm.

The box has a hole for cable entry on the left and on the right. Either the power supply cable or the microphone cable can be fed through these holes. Microphone & power supply **must not** go through the same hole. This is by design and is intended to minimize the risk of noise being transmitted from the power supply cable to the microphone cable.

The microphone is usually mounted in the middle above the box. You can then lead the power supply cable out of the box on the left or on the right, depending on the local conditions.

The maximum distance of the microphone for side mounting can be found in the drawings "Drilling plan Mast microphone....".

What you need for Mast monitoring:

GSM Mast set, with or without GSM batcorder (available as a two-hole and four-hole variant):

This complete package includes everything you need to operate the Mast microphone. The GSM batcorder, the Mast microphone with mounting plate, the box with mounting plate (two-hole or four-hole variant), the 230/12V power pack and the 6V/12Ah lead-gel battery with connection cable. If you already have a GSM batcorder, you can also order the set without it.

Please note:
The requirements for the fastening material depend on the type of wind turbine, the installation site and the specifications of the system manufacturer. Therefore, this set does **not** contain any fastening material such as screws, dowels, etc.!

Support

If you have any questions or problems using the Mast microphone that you cannot solve, please contact support with a precise description of the error. In most cases, many questions can be answered quickly and reliably over the phone.

Please never send the device in unsolicited.

If you are asked to submit, please describe the problem or defect in a way that we can reproduce. Notes such as "as already discussed on the phone" or "device sometimes does not work" are not effective.

Don't forget to provide a return address.

If possible, please use our return form on our homepage in the Downloads area.

ecoObs GmbH can be reached at:
by mail: info@ecoobs.de
by phone: +49 (0) 911 - 376 80 53
by letter:
ecoObs GmbH,
Hermann-Kolb-Str.35b,
90475 Nürnberg,
Deutschland

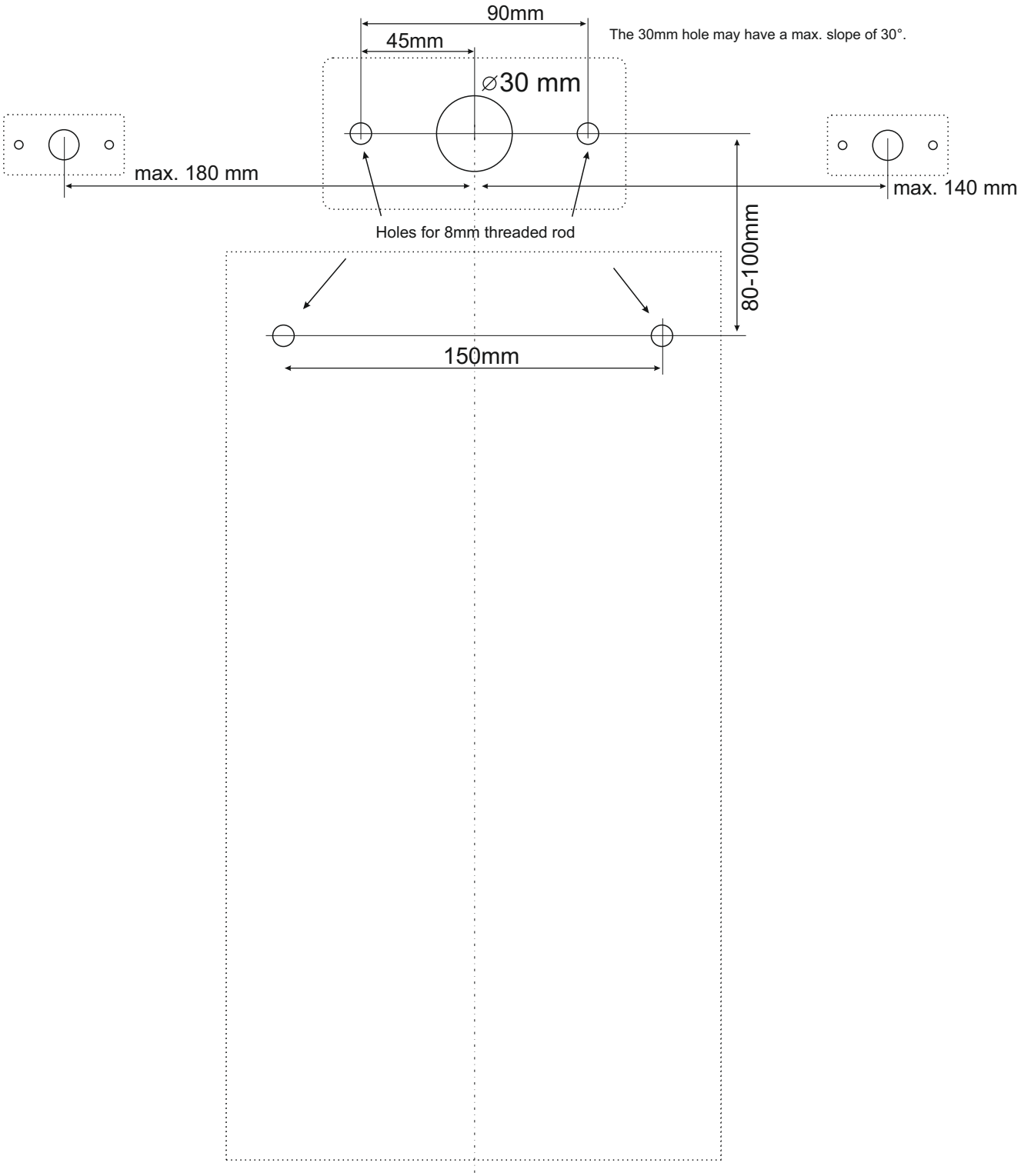
Attachments

Drilling plan two-hole variant
Light room two-hole variant
Drilling plan four-hole variant
Light room four-hole variant
Fibox description of the manufacturer

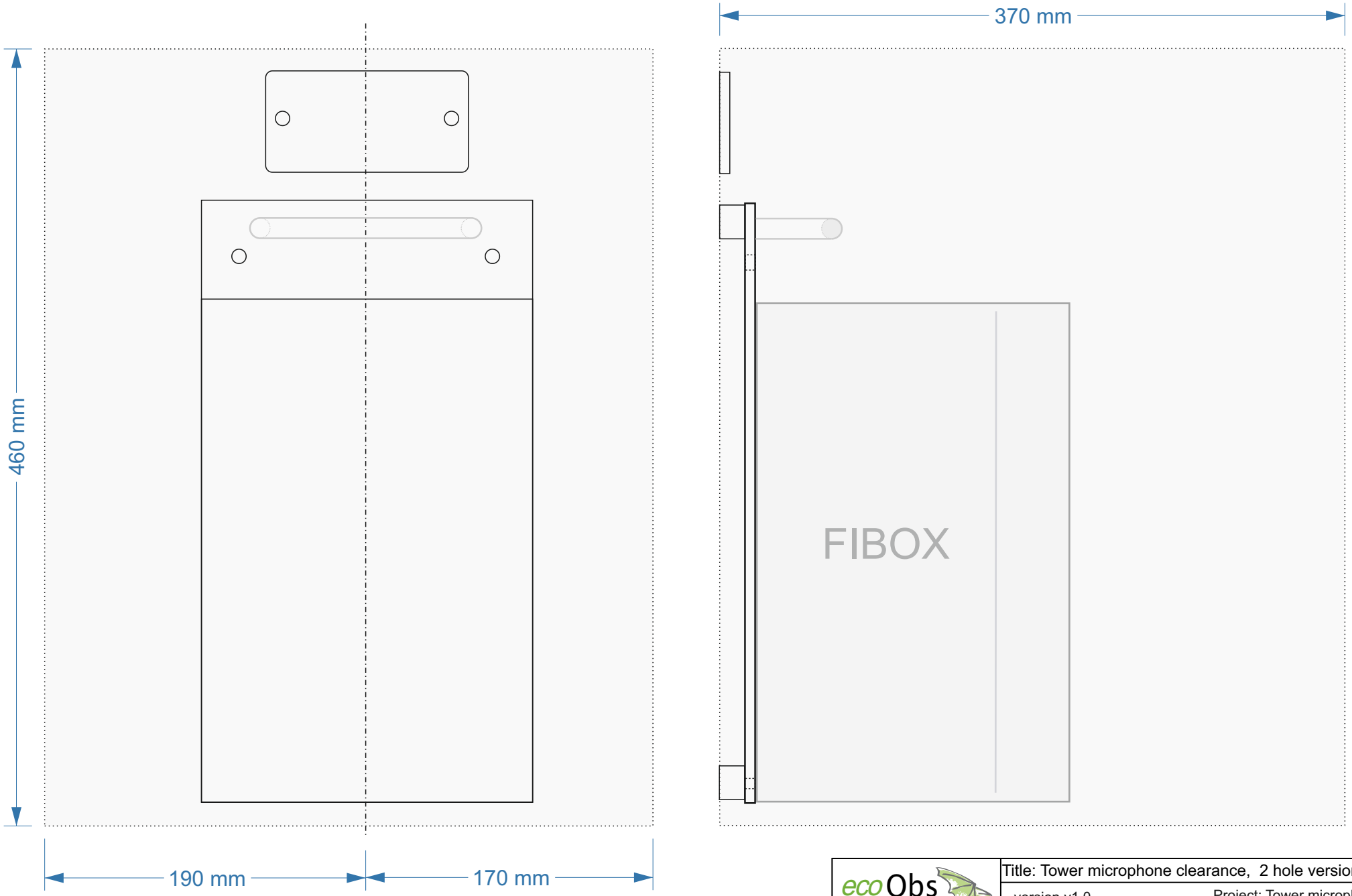
Drill-Template 2-hole version

The prefered position for the microphone is close to the centerline on top of the box.
The max. distance to the left is 180mm and 140mm to the right.

Due to possible EM-interferences do not feed the mic- and the powerline cable through the some case-entry!



ecoObs GmbH Hermann-Kolb-Str. 35b 90475 Nürnberg	Title: **Drill-Template 2-hole version**
version v1.0 created: last modified:	Project: Tower microphone 31.03.23 Claus Schuster 31.03.23 Claus Schuster



Hinges on the left.

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90475 Nürnberg

Title: Tower microphone clearance, 2 hole version

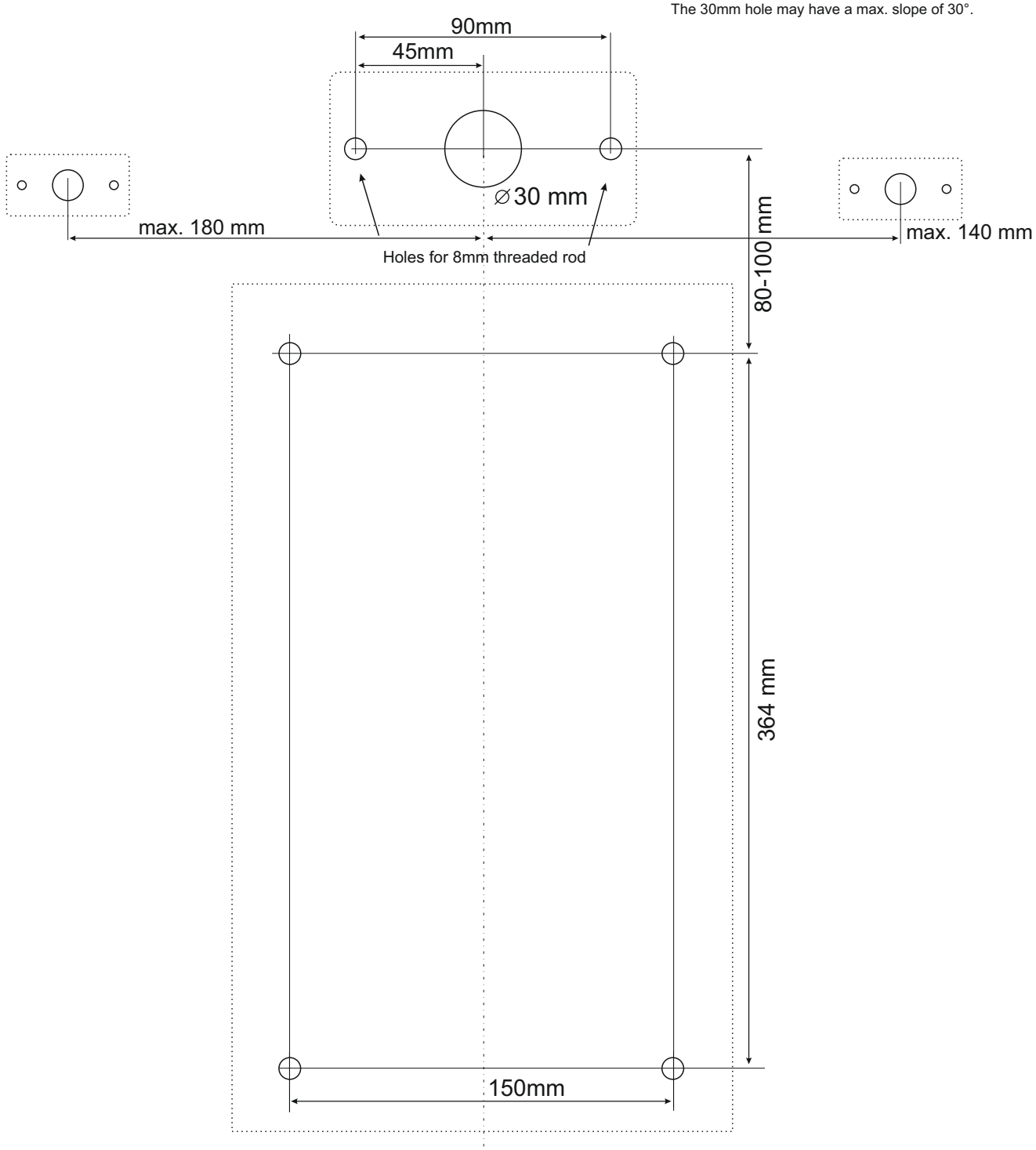
version v1.0	Project: Tower microphone
created:	31.03.23 Claus Schuster
last modified:	31.03.23 Claus Schuster

Drill-Template 4-hole version

The prefered position for the microphone is close to the centerline on top of the box.
The max. distance to the left is 180mm and 140mm to the right.

Due to possible EM-interferences do not feed the mic- and the powerline cable through the some case-entry!

The 30mm hole may have a max. slope of 30°.

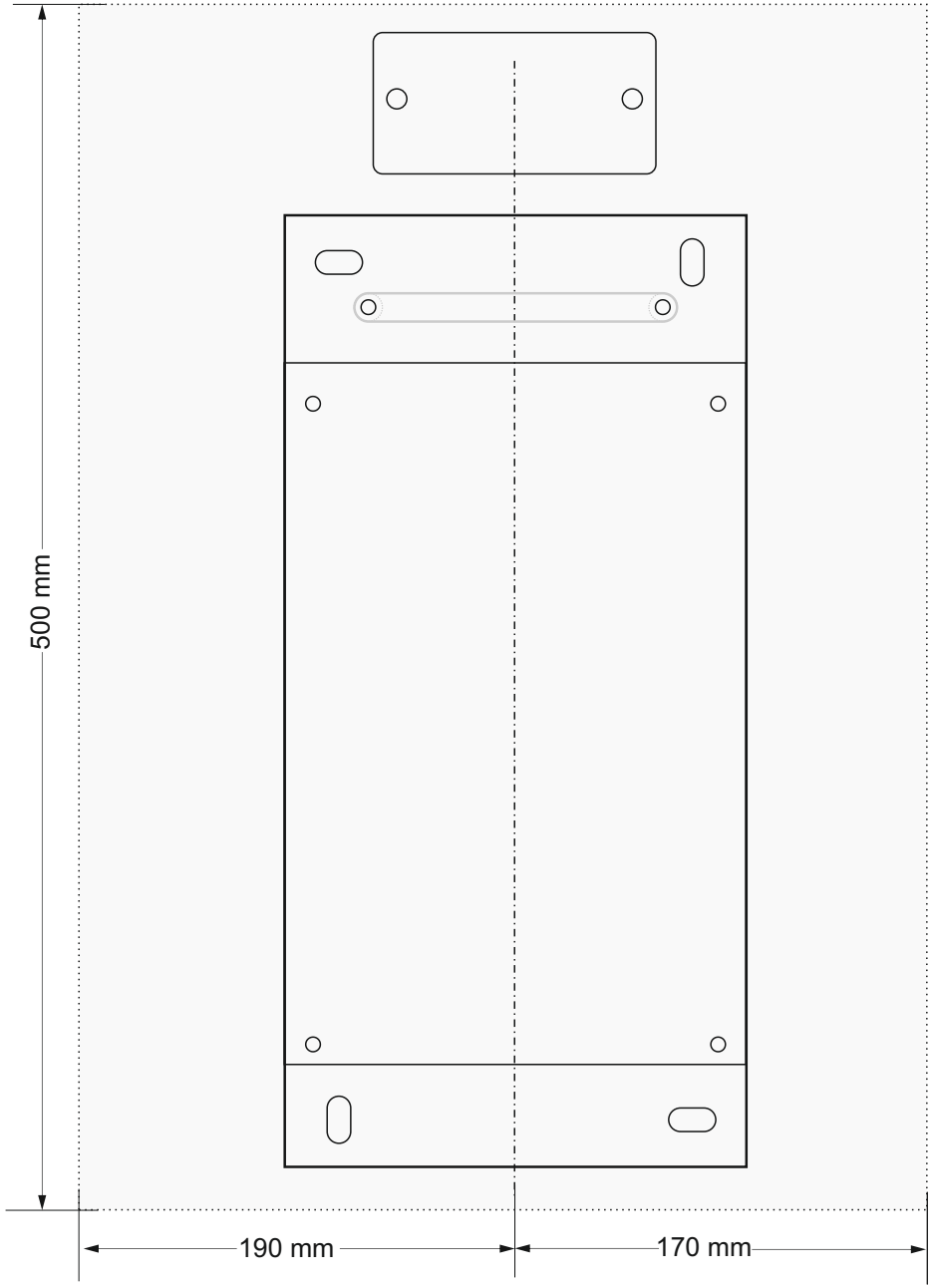


ecoObs GmbH
Hermann-Kolb-Str. 35b
90475 Nürnberg

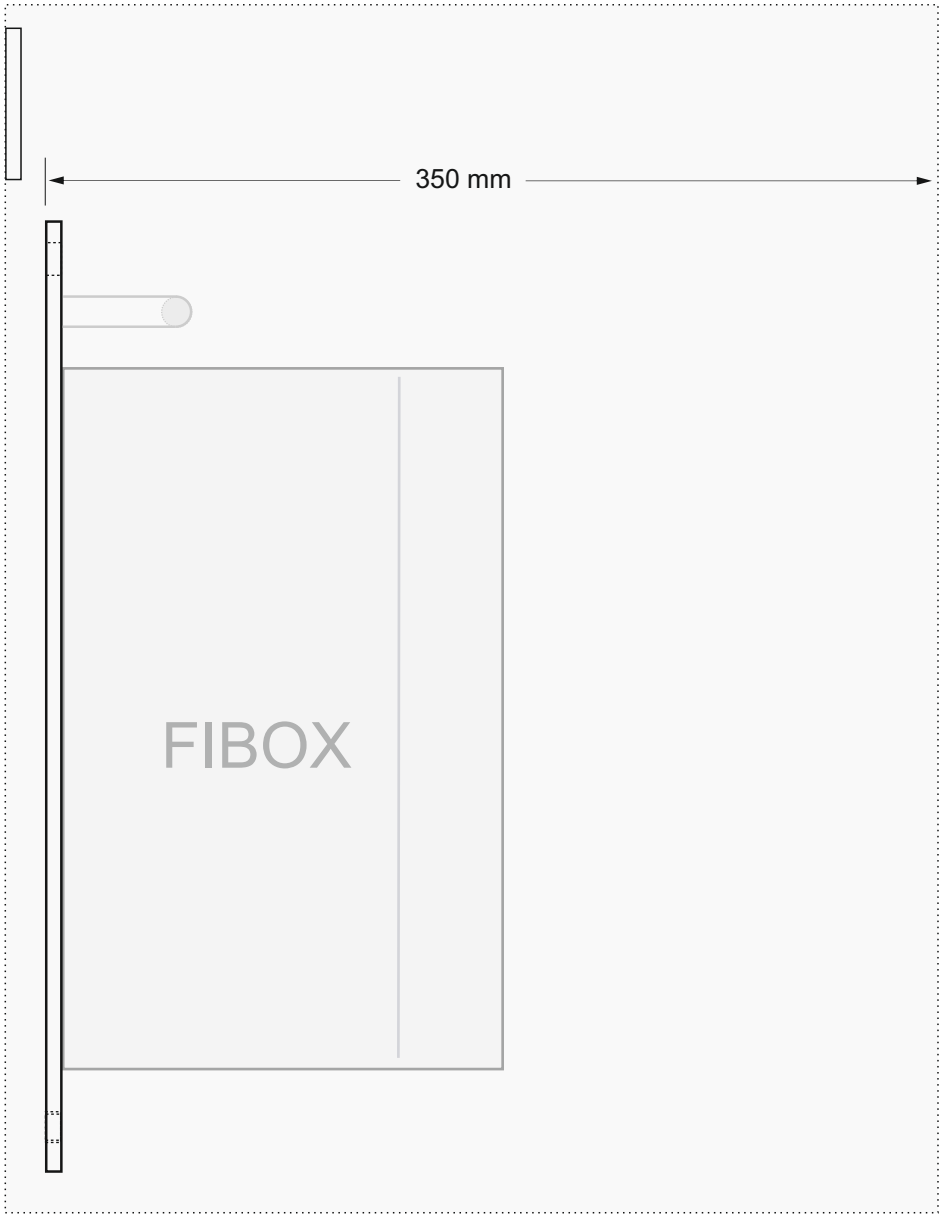
Title: **Drill-Template 4-hole version**

version v1.0
created:
last modified:

Project: Tower microphone
31.03.23 Claus Schuster
31.03.23 Claus Schuster



Hinges on the left.



ecoObs GmbH
Hermann-Kolb-Str. 35b
90475 Nürnberg

Title: Tower microphone clearance, 4 hole version

version v1.0	Project: Tower microphone
created:	31.03.23 Claus Schuster
last modified:	31.03.23 Claus Schuster

FIBOX
Enclosing innovations

CAB CAB PC 302018 T

Beispiel

Bestellzeichen:	CAB PC 302018 T	**EAN Code**:	6418074020017
Artikelnummer:	8113030	**E-Nummer**:	
Beschreibung:	Schrank PC, transparente Tür	Finland:	3424151
Anmerkungen:	Scharniere auf der langen Seite	Elektrische Nummer Dänemark:	8212020210
		Elektrische Nummer Italien:	7822015
		Elektrische Nummer Schweden:	2539935

Besteht aus: Kabinett-Unterteil, Tür mit PUR Dichtung, Laschen, Schrauben für die Montagplatte/DIN-Schiene und Schutzkappen.

Abmessungen:	**Länge**	**Breite**	**Höhe**
mm:	300	200	180
inch:	11.8	7.9	7.1

Materials:

Material:	Polycarbonat
Unterteilfarbe:	RAL 7035
Deckelfarbe:	Rauchgrau
Dichtungsmaterial:	Polyurethan

Temperatur Bereich:

Temperatur °C (Kurzzeit):	-40 … 120 °C
Temperatur °C (Dauergebrauch):	-40 … 80 °C
Temperatur °F (Kurzzeit):	-40 … 250 °F
Temperatur °F (Dauergebrauch):	-40 … 175 °F

Zubehör:

EKIV 23	Montageplatte

Zubehör:

EKIV 17	Tragschiene TS 35
DS35170E1	
EKIV 27	Tragschiene TS 35
DS35270E1	
FP A 23	Frontplatte, Aluminimum
MB 12225 AL	Befestigungs-Satz
FP 23	Frontplatte
FP 12-23	Frontplatte
DRF 23	Rahmensatz für DIN-Schienen

Auswertung:

Schutzart (EN 60529): IP65
Schlagfestigkeit (EN 62262): IK08
Elektrische Isolierung: Voll isoliert
Halogen frei (DIN/VDE 0472, Part 815): 1
UV Resistenz: UL 508
Brandklassifikation: UL 746C 5"
Glühdrahttest (IEC 695-2-1) °C: 960

Zertfikate:

Germanischer Lloyd (GL)
SGS Fimko
Lloyds Register of shipping (LR)
Gost R