

	User manual & installation for remote control for KRT2 VHF-Communication Transceiver	Doc.-Nr: GT-3000-810100
	KRT2-RT	Revision 1.0


KRT2-RC

Remote control for VHF Communication Transceiver



P/N 110-(0001)-(060)

Instruction and installation

	<p style="text-align: center;">User manual & instruction for installation remote control for VHF-Communication Tranceiver</p>	<p>Doc.-Nr: GT-3000-810100</p>
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Change history

Revision	Date	Description of change
1	June, 6th 2010	First issue


List of Service-Bulletins (SB)

Service Bulletins are to be inserted into this manual and to be enlisted in the following table.

SB Number	Rev. Nr.	Issue-date	Insertio ndate	Name

Survey of Variantes

Article number	description
	Basis variant
	New issue: <ul style="list-style-type: none"> •

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1. GENERAL

This manual contains information about the physical, mechanical and electrical characteristics and about installation and operation of the remote control for VHF communication transceiver KRT2.

This manual is based on the current manual for the KRT2 P/N: 100-(0001)-(060).


1.1. Symbols

	<p>Advices whose non-observance can cause radiation damage to the human body or ignition of combustible materials</p>
	<p>Advices whose non-observance can cause damage to the device or other parts of the equipment.</p>
	<p>Supplementary information</p>

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1.2. Abbreviations


Abk.	name	Definition
KRT-2RC	Remote Control	Remote control for KRT2
KRT-2	transceiver	
PTT	Push to Talk	Transmission button (activates transmitter)
VOX	Voice recognition	Intercom is activated by talking into the microphone
INT	Intercom-level	Level of the on board
SQ	Squelch	Noise reduction
DIM	Dimmung	Background lighting
CON	Contrast	Display contrast
EXT	Audio-entrance	Volume setting of external audio source

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1.3. Customer service


In order to facilitate a rapid handling of return shipments, please follow the instructions of the input guide for reclamations and return shipments provided at the **Service**-Area within the AIRplusWeb-Portal www.airplus24.com.


	<p>Any suggestions for improvement of our manuals are welcome. Contact: www.airplus24.com</p>
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	<p>Informations on software updates are available at AIRplus Avionics .</p>
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1.4. Features

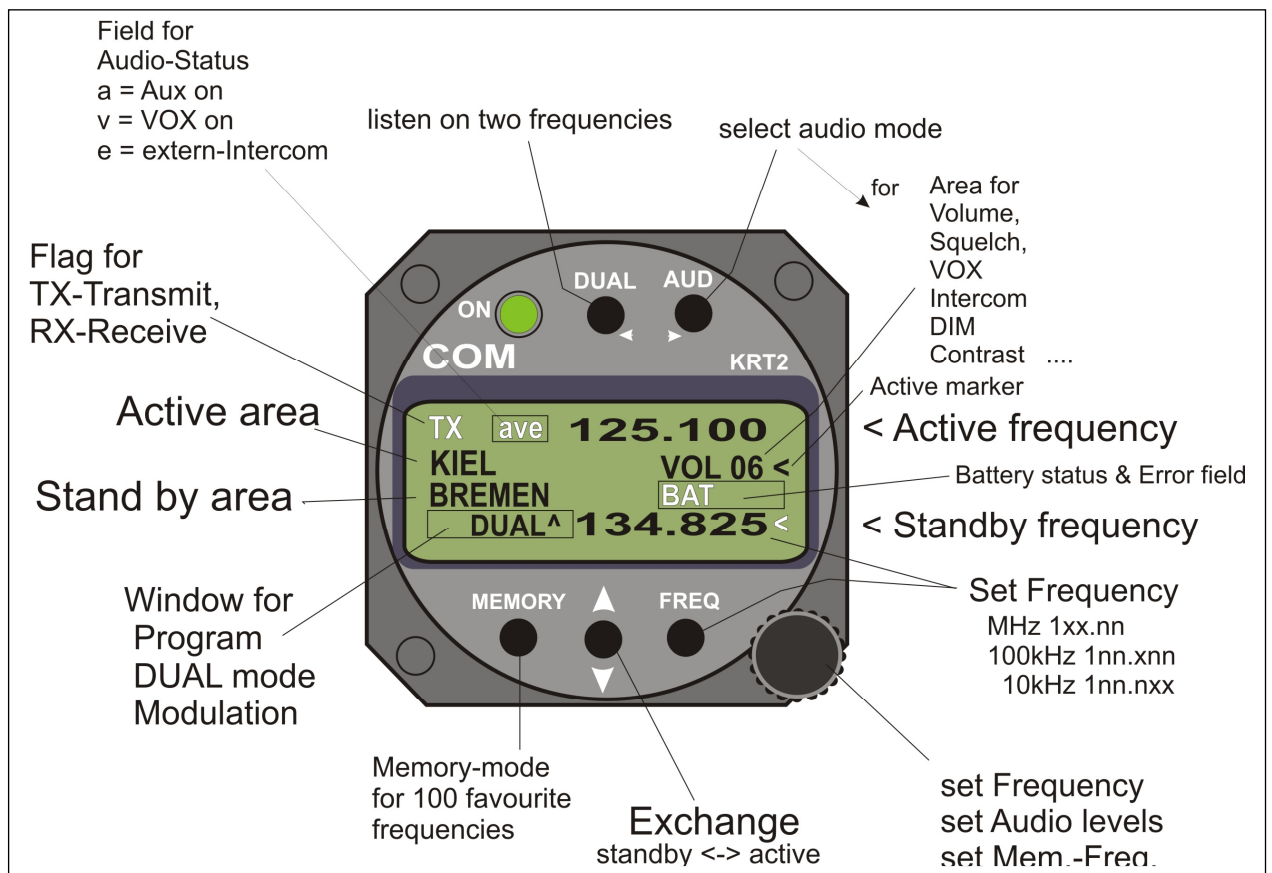
- Remote control for VHF-Communication Tranceiver KRT2
All characteristics of the KRT2 are based on the manual of the KRT2 P/N: 100-(0001)-(060)
- Installation: avionic standard cut out (57 mm).
- Regardless of the memory of the KRT2 additionally in KRT2-RC 100 free defined frequencies, (where a name of up to 8 characters can be assigned) are available

	<p>To avoid unintentional transmissions the transceiver switches off automatically after 2 minutes.</p>
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2. Operation in general

2.1. Controls - overview




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	<p>EIN/AUS</p>	<p>switch</p>
	<p>DUAL WATCH</p>	<ol style="list-style-type: none"> 1. Activates Mode for mutual monitoring of two frequencies. 2. Left cursor for name programming
	<p>AUDIO selection</p>	<ol style="list-style-type: none"> 1. Navigation through the various basic settings for VOL, SQ, VOX, DIM etc. press shortly 2. right cursor for name programming
	<p>Favorites</p>	<p>Selection of favorite frequencies, Programming of favorite frequencies</p>
	<p>CHANGE</p>	<p>Change active and Standby-Frequency</p>
	<p>Frequency</p>	<p>Selection for setting of frequency and change of areas MHz, 100kHz, 10kHz</p>
	<p>Turn knob</p>	<p>Turn knob for setting of all variable values :</p> <ol style="list-style-type: none"> 1. volume control (Headphone, speaker) 2. change MHz / kHz in 3 areas of the Standby-Frequency 3. enter letters into the mode Memory 4. change of basic settings of the microphone

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Display	Meaning	remark
DUAL	DUAL Watch is active	Can be deactivated with DUAL or change of frequency
[03] (MEMORY)	Favorite list index(0-99)	[] selected memory in Favorite- frequency list (0-99)
125.100 oben	Active - Frequency	
134.825 unten	Standby - Frequency	
<	The pointer indicates what the turning knob will change VOL SQ VOX.....etc Standby frequency	Arrow is positioned in correspondence to the button pressed (AUD or FREQ)
BAT	Battery low <10,5V	Battery low or battery/Generator defect
Er_PLL	Internal error, no transmission	Return the transceiver for maintenance
Er_ADC	Internal error	Return the transceiver for maintenance
Er_FPA	Internal error, unit not usable	Return the transceiver for maintenance
a v e	Status of certain audio menu functions	a = aux. Input active v = VOX active e = external Intercom switch active

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3. Operation

3.1. General

The KRT2-RC and the KRT2-transceiver will be synchronized by a serial RS232-interface after any change at either side of the two devices. Approx. every 30 seconds the connection is checked and will be confirmed by showing „r“ in the upper right corner of the display. With exception of the microphone steering menu and the transmission monitor all functions of the transceiver are accessible.

3.2. Switching ON/OFF

ON / OFF switching is by the self-locking push switch. After power up the following display will be displayed:



Device name
KRT2-Remote
Software-
Version z.B. V2.0

(example)

The order of switching on(RC oder KRT-2) does not matter. Provided there is a cable connection next to the active frequency the "r" must appear after at least 1 minute on both devices on the top right

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After the first connection confirmation on the part of KRT2 all settings are transferred from the KRT2 to KRT2-RC.

4. Monitoring of errors

In case of possible transmission errors corresponding messages are displayed in the error window (third row right)

- R_Time = Time-out-transmission error
- R_ChkS = faulty transmissin (checksum error)
- R_Cmd = unknown command
- R_Char = data error
- R_Freq = wrong frequency

The error message will disappear once a correct command or a new frequency is entered or after 5 seconds.

The operation of the KRT2 is not disturbed by the malfunction of the remote control

The connection between the remote control and the KRT2 is checked once per minute and of the contact is confirmed with a "r" in the upper right corner of the display.

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5. Installation

5.1. Notice

The following hints should be considered for installation.
A certified maintenance shop should perform the wiring
For the wiring diagram refer to chapter 5.6.3


5.2. Content of delivery

Article number	description
KRT2-RC	KRT2 – Remote for communication tranceiver
ZUB2 (3 Stück)	Mounting screw KRT2 - for Panels up to 3mm
SSKRT2	connector (only when no cable set was ordered)
P/N 120-(0001)-(060)	manual „use and installation“
	EASA Form 1

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5.3. Unpacking and controlling of device

Carefully unpack the equipment. Damages due to transportation must immediately be reported to the shipping company. Save the shipping container and all packing material to substantiate your claim.

	<p>For storage or reshipment the original packing material should be used.</p>
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5.4. Installation

- In cooperation with the maintenance shop, mounting details are specified. The maintenance shop can manufacture and install all cables that may be required.
- Avoid installing the unit in the vicinity of heat sources. Sufficient air-circulation is required.
- There must be sufficient space for cables and connectors.
- Avoid sharp bends and wiring close to control cables.
- Cable length must be such that connectors are accessible for repair.
- The wiring to the transceiver must be installed such that water droplets formed by condensation will not run into the connector.
- Remove the turning knob in order to install the transceiver:
 - Remove the turning knob cap with an appropriate tool.
 - Loosen the screw and remove the turning knob.
 - Install cap correctly oriented!
- Installation is from the front side of the instrument panel with three 4mm screws in a 57mm panel cut-out.
- For installation details and drawings refer to chapter 5.1

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5.5. Connection of device

The 9-pin D-Sub connector contains all electrical connections (9...33V) as well as the 3-wire RS232-connection to the KRT2-transceiver.

	<p>The battery plus connection must be protected with at least 1-amp slow blow fuse !</p>
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5.6. Cabling

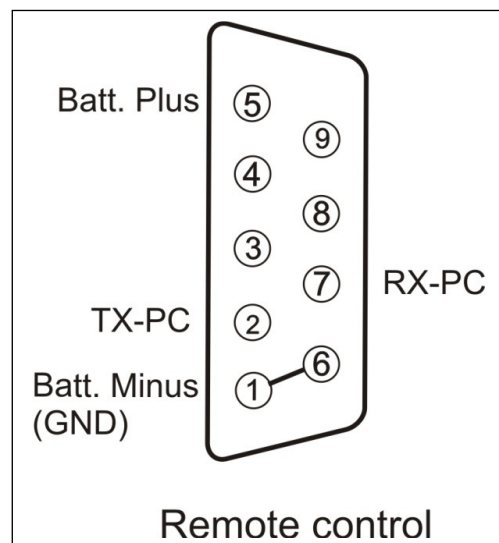
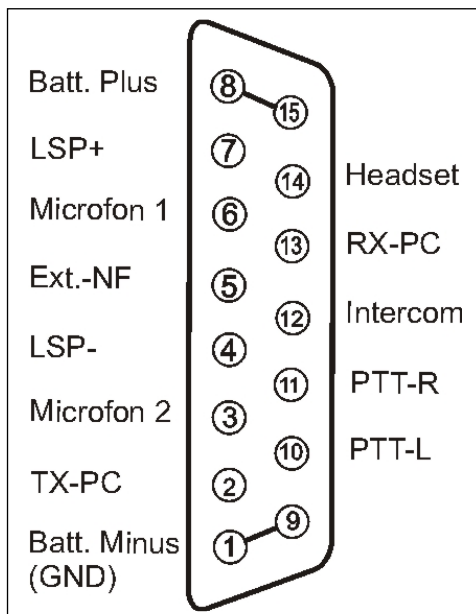
5.6.1. Wire Gauges

Supply lines (Power, GND): AWG18 (0,96 mm²)

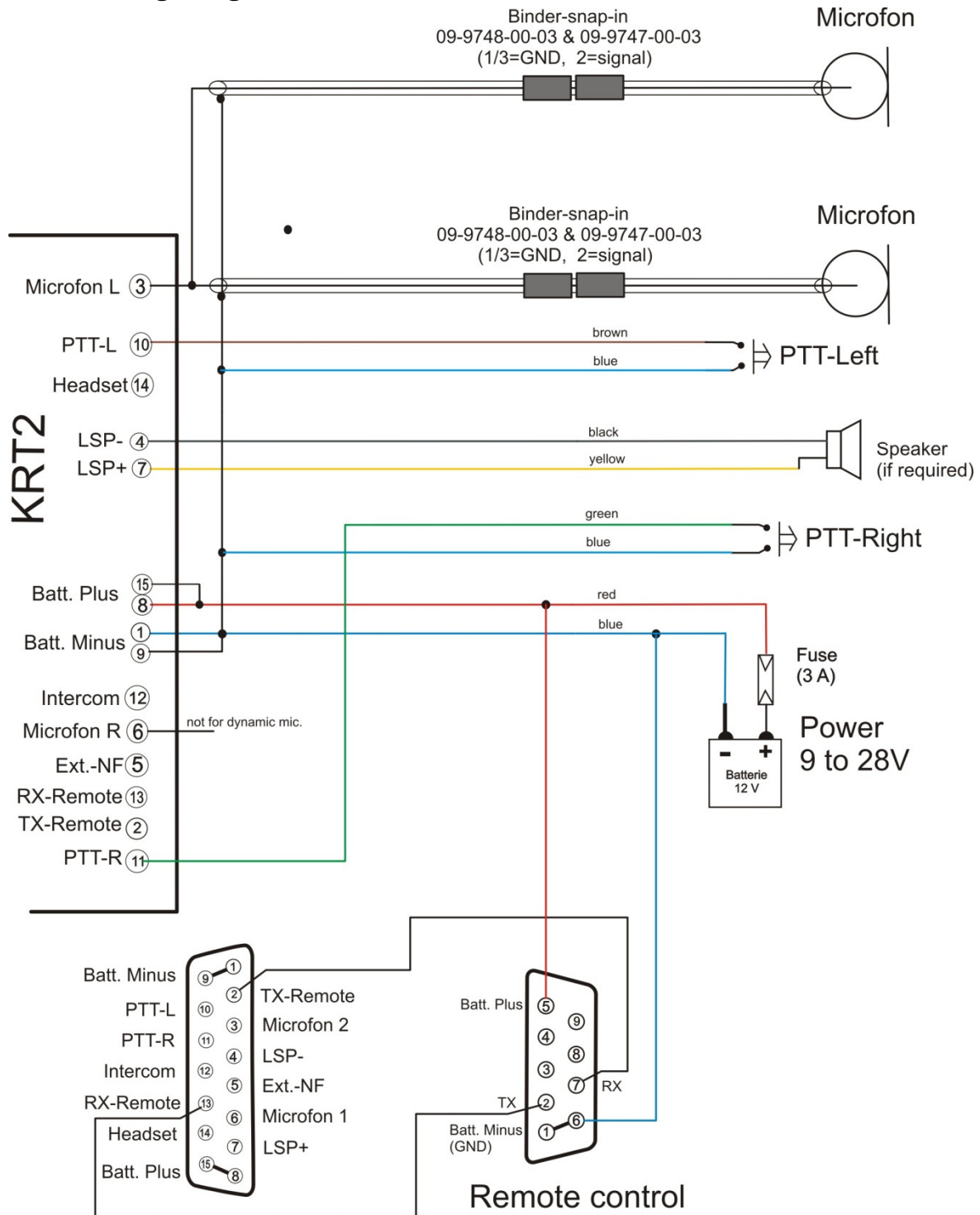
Control lines: AWG22 (0,38 mm²)


All wires must be aviation certified.

5.6.2. Occupancy of plug pin



5.6.3. wiring diagram



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5.7. check after installation


	<p>A certified maintenance shop must verify the proper operation of the VHF transceiver.</p>
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A complete check of all airplane systems is required to certify that the new wiring is not causing any malfunction.

A test flight is recommended to verify proper transceiver operation.

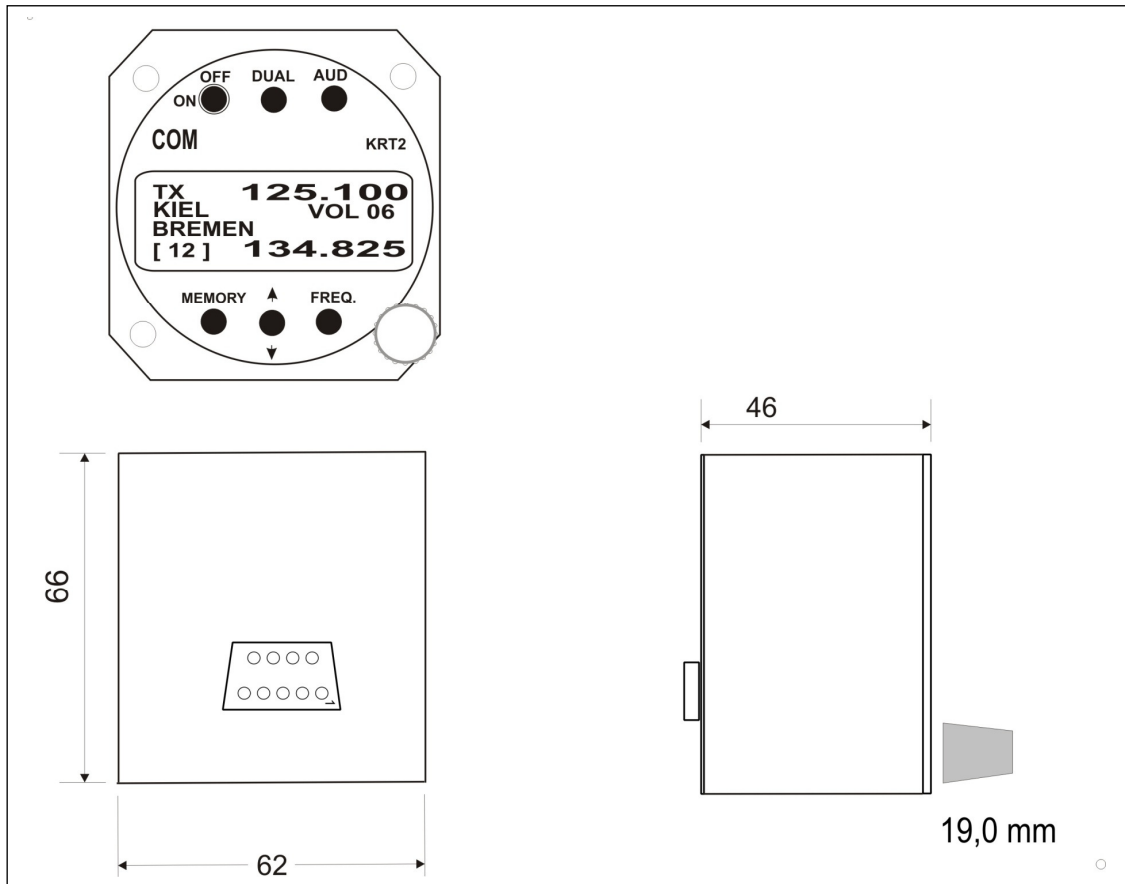
5.8. Accessories


Suitable accessories such as wire harnesses, cable sets, and switches can be purchased at our online shop on www.AIRplus-avionics.com or from other avionics suppliers.

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5.9. Drawings

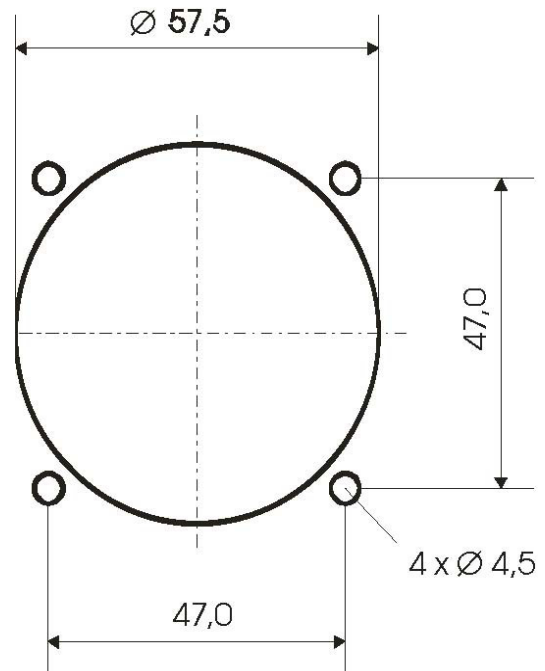
5.9.1. Dimensions of the device




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5.9.2. Hints for the installation

Panel cutting



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6. Appendix

6.1. Technical Data

GENERAL	
Admission	ETSO-2C169a, ED-23B Class 4 ED-23B Class C TSO-C169a, Class 6 TSO-C169a, Class H1 & H2
Used standards	EUROCAE ED-23B RTCA DO-160E RTCA DO-178B Software Level D
dimensions	Height: 66mm Width: 62mm Depth: 46mm plus rear panel plugs 60mm
weight	0.14 kg
installation	panel mounting, cut-out Ø 57 mm
Temperature range	
Operation	-20 °C to +55 °C
Storage	-55 °C to +85 °C
MAX. working height	35000 ft
Vibration	DO-160E, Cat. S, Vibration Curve M
Humidity	RTCA DO-160E, Cat. A
Shock	6 G operation 20 G crash safety
RTCA DO-160F ENV. CAT.	[C1Z]CAA[SM]XXXXXXZBAAA[YY]M[B3F3]XXA
Power supply	9 VDC to 33VDC test @ 12VDC
input	<ul style="list-style-type: none"> • No backlight: 0.012 A • Backlight on: 0.025A Emergency operation: 9 VDC
fuse	external fuse required: 0.1A, slow-blow
Safety distance to compass	30 cm

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