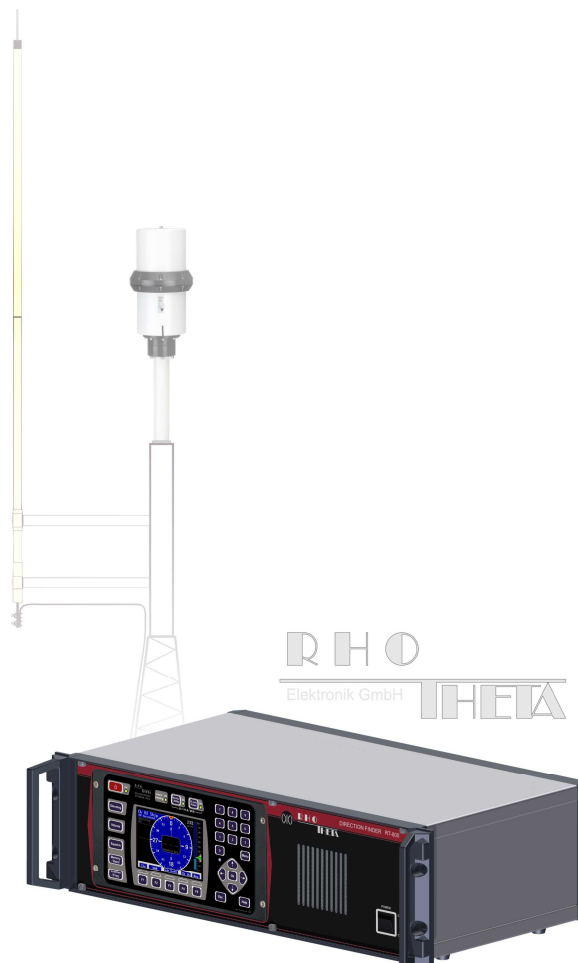


# ***Data Sheet for Equipment***

## ***RT-800***

### ***4-Band Precision Direction Finder***



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**Note**

The manufacturer reserve the right to make modifications at any time and without previous information of the here described product.

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# 1 Technical Data Sheet

## 1.1 Electrical Characteristics

Method of bearing:	Doppler-principle (3 kHz rotational frequency, right / left rotation, CW/CCW)
Bearing indication:	Relative bearing and true bearing related to North (if external heading data available)
Bearing accuracy <sup>1</sup> :	±2° RMS
Internal resolution:	1°
Sensitivity:	HF-voltage at receiver input (50 Ω): VHF, UHF <100 nV; Cospas-Sarsat 406.000 MHz <150 nV
Stability of frequency:	±2.0 ppm ( $\Delta f/f = \pm 2 \times 10^{-6}$ ) [in temperature range -30 °C to +80 °C]
Receiving bands:	4 (VHF-air band; VHF-marine band, UHF-air band; Cospas-Sarsat)
Receiving frequencies (frequency ranges)	VHF air band: 118.000 .. <b>121.500</b> .. 123.975 MHz VHF marine band: 154.000 .. <b>156.800</b> .. 162.995 MHz UHF air band: 240.000 .. <b>243.000</b> .. 245.975 MHz Cospas-Sarsat : 400.000 .. <b>406.022-076</b> .. 409.975 MHz
Marine channels	Channel 0 .. 28 / 60 .. 88 (ship station + coast station in each case)
Channel pattern	25 kHz / 8,33 kHz / 5 kHz (depending on frequency band)
Monitoring / Scanning modes:	<b>Monitoring:</b> Four additional frequencies (emergency frequency 121.500 MHz and three free selectable frequencies) are monitored during normal operation. <b>Standby:</b> The Cospas-Sarsat and 121.500 MHz emergency frequency is monitored at all times in standby mode. <b>Fast Marine Ship Band Scan (within approx. 3 sec):</b> Fast scan (without gap) within the range of ship channels[01..88] = [156,050...157,425 MHz]. Detection of each signal (also between the channel grid). <b>Fast Channel Scan (within max. 2 sec):</b> Fast scan of up to eight freely selectable frequencies/channels.
Signal filtering:	Optional: all emergency frequencies can be filtered for ELT-modulation (false alarms disabled).

<sup>1</sup>Undisturbed wave field and sufficient field strength supposed. Measuring by changing the angle of incidence, the bearing antenna rotates on a revolving table in order to eliminate influences of environment to the bearing result.

Cospas-Sarsat analysis:	Reception and analysis of Cospas-Sarsat data signal (112 or 144 bit, 400 baud, biphase L-phase modulated, with Bose-Chaudhuri-Hocquenghem error test, specified according Cospas-Sarsat C/S T.001 October 1999) Indication of data content (mode, country, GPS-coordinates)
Bearable modulation:	A3E, F3E, A2X (PLB-modulation); bearing largely independent of modulation.
Polarisation:	Vertical
Polarisation error	$\leq 5^\circ$ at $60^\circ$ field vektor rotation
Garbling cone:	approx. $30^\circ$ to vertical
Response time:	$\leq 50$ ms (with sufficient reception field strength)
Keyboard	Foil on the front with integrated keyboard matrix and EL background illumination
TFT Graphic Display	320 x 240 pixel with max. brightness of approx. $450 \text{ cd/m}^2$ , continuously adjustable or automatic control.
Operating voltage:	85 – 264 Volts // 47 – 63 Hz
Current consumption:	1.3 – 0.4 A
Power consumption	Nominal 30W @ 230V
Audio out:	Internal speaker 4 W Line out (adjustable from 100 mV pp to 2000 mV pp)
Interfaces	Ethernet Interface for NMEA remote control (TCP) Ethernet Interface for IP Audio output (e.g. Internet Radio, RTP, RawUDP, RawTCP, SIP, Icecast, Shoutcast) External GPS (RS422, optional) Headphone (only used for setup of IP Audio) NMEA In/Output (RS232, only for local test purposes) Testport (RS232) optional customer specific Alarm relay output (1.0 A, 30 V DC / 0.3 A, 125 V AC) PTT input for self-bearing suppression Squelch output for external audio control

## 1.2 Mechanical Characteristics

### 1.2.1 DCU front view



Fig. 1 front view

### 1.2.2 DCU Dimensions (built-in version)

Measuring units: [mm] millimeters

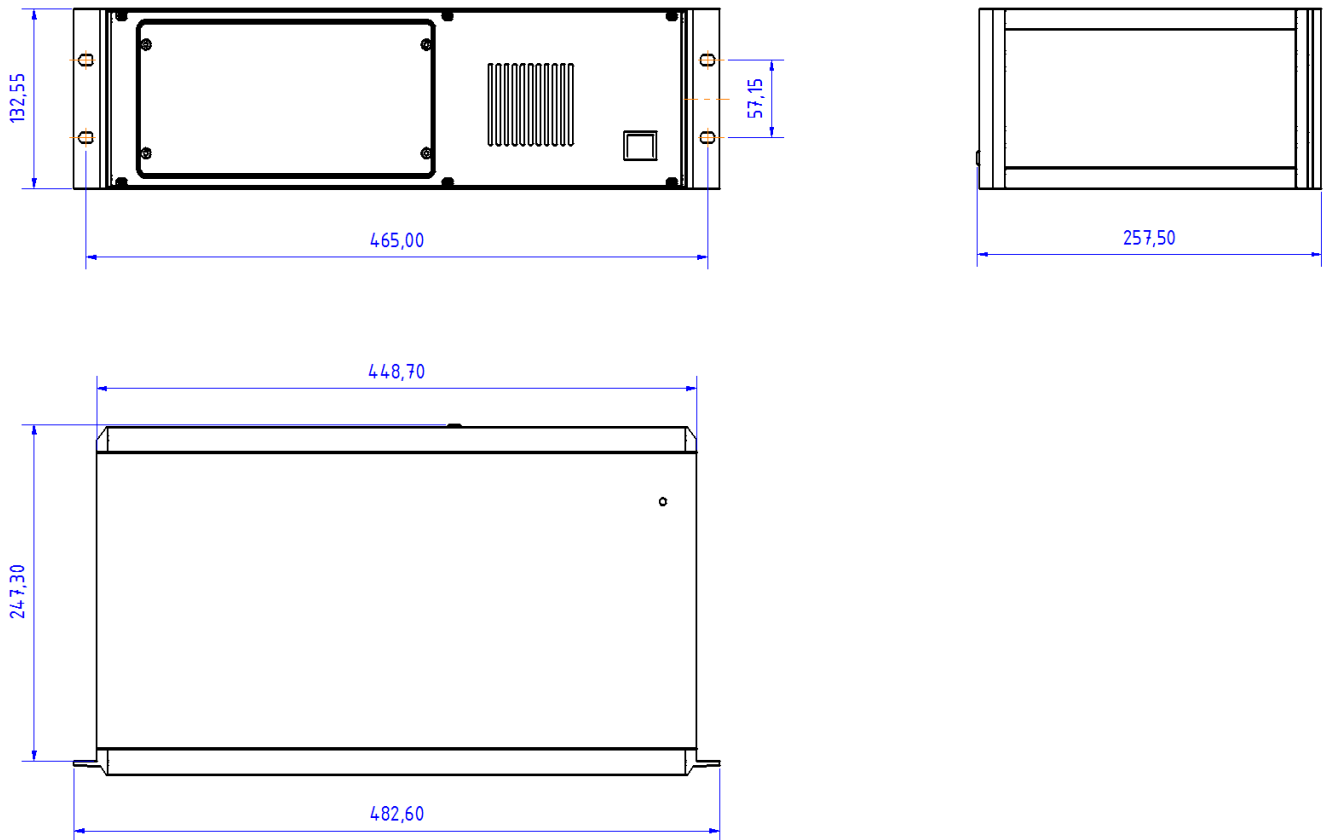


Fig. 2 RT-800, mechanical dimensions (built-in version)

### 1.2.3 DCU Dimensions (tabletop version)

Measuring units: [mm] millimeters

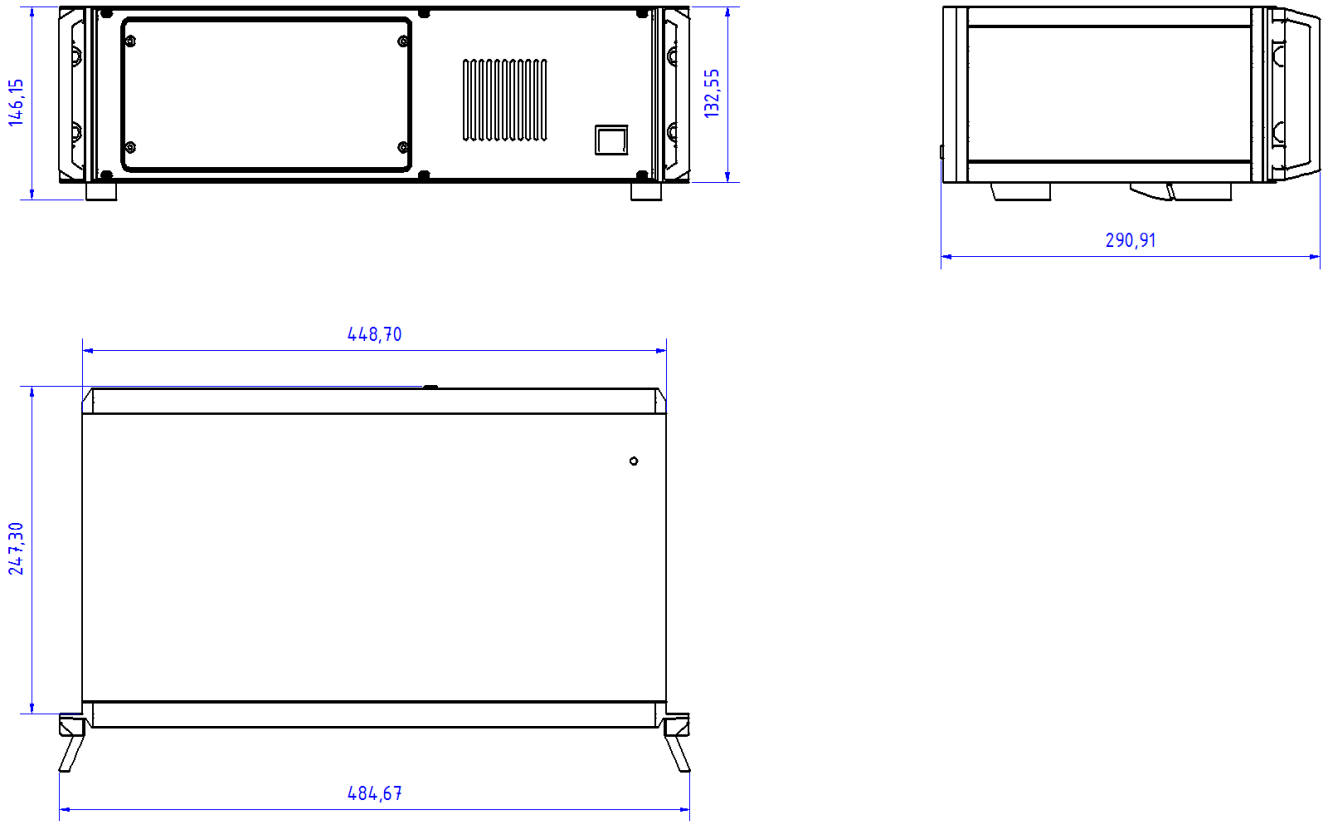


Fig. 3 RT-800, mechanical dimensions (tabletop version)

### 1.2.4 DCU Data

Weight	Approx. 5900 g
Permitted operating temperature	-20 °C to +60 °C
Permitted storage temperature	-30 °C to +80 °C



### 1.2.5 Antenna Unit Dimensions

Measuring units: [mm] millimeters

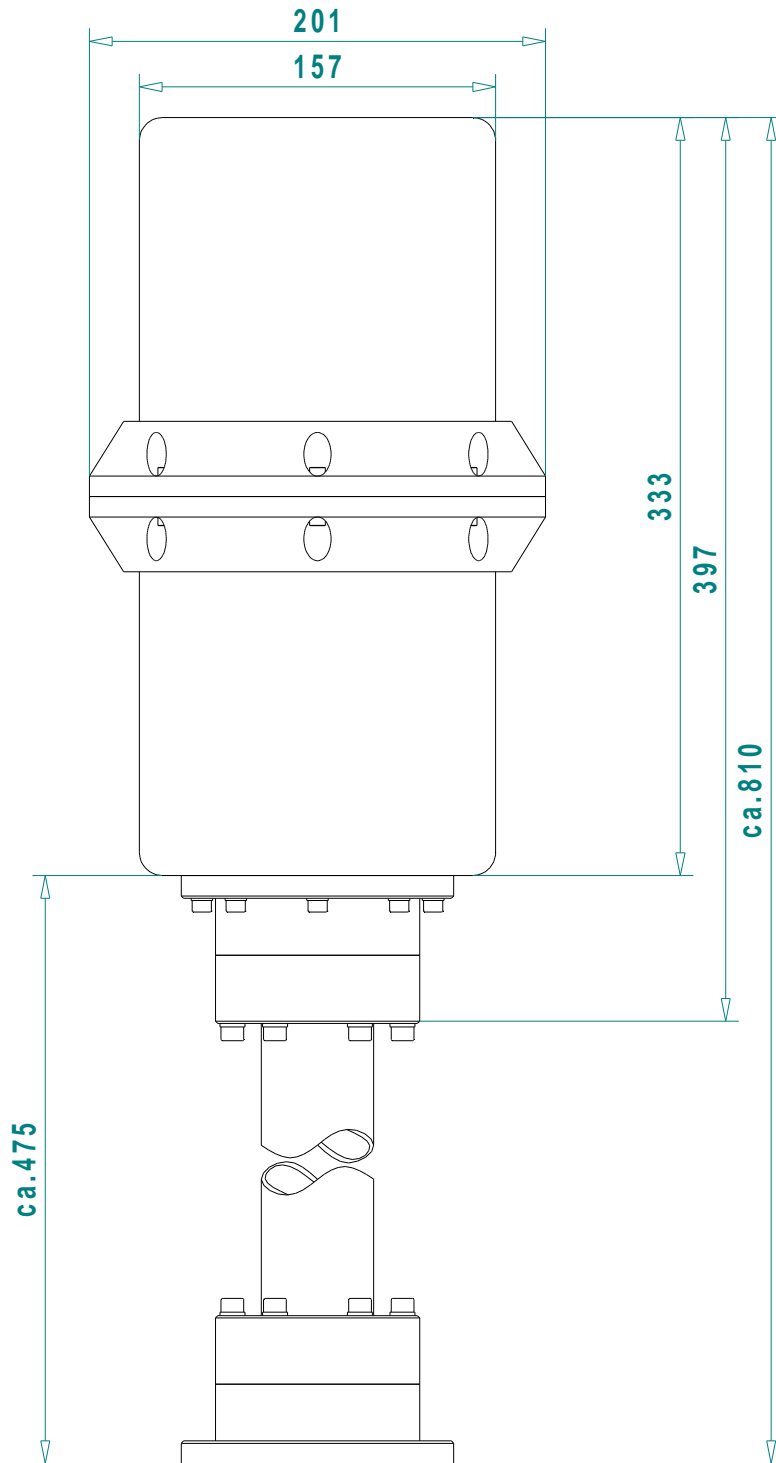


Fig. 4 Antenna Unit, mechanical dimensions

### 1.2.6 Antenna Unit Mast Flange

Measuring units: [mm] millimeters

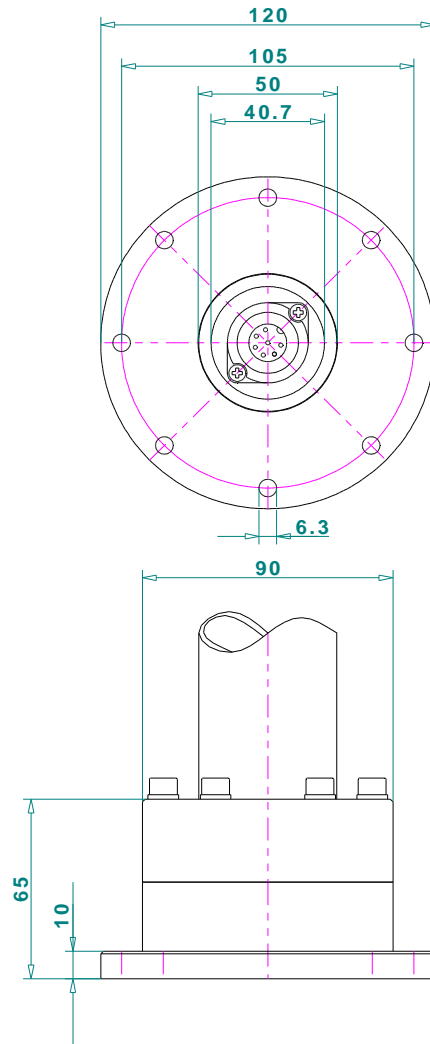


Fig. 5 Antenna Unit, mast flange (mechanical dimensions)

### 1.2.7 Technical Data Antenna Unit

Weight	Approx. 5200 g
Permitted operating temperature	-40 °C <sup>2</sup> to +60 °C
Permitted storing temperature	-55 °C to +80 °C
Ingress protection	IP 67

<sup>2</sup> Temperatures below -10°C resp. 14°F may require a w arming up time of up to 15 minutes!