



PERIPHERAL DEVICES for MARINE NAVIGATION SYSTEMS



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UNITERRUPTED POWER SUPPLY UNIT
BBP2



The Uninterrupted Power Supply Unit is designed for:
- generation of 24 V DC voltage from the ship's mains 220 V AC, 50 Hz;
- automatic change over from the Main Distribution Panel to the Emergency Distribution Panel;
- automatic switch-over to the emergency supply unit 24V DC when the mains is off.

Technical Data	
Input supply voltage (from MAIN and EMERG Panels)	90–264 VAC, 47–63 Hz
Output voltage when fed from onboard mains	(24.0±0.5) VDC
Output voltage when fed from a battery	from 19.2 to 29.0 VDC
Output current	8.0 A
Integrated He accumulator battery, non-serviceable, 2 pc.	12.0 V DC 5.0 A·h
Dimensions	345 x 240 x 130 mm
Weight, maximum	9 kg
Protection	IP21

Operating Conditions	
Temperature range	from –15°C to +55°C
Relative humidity at t=40°C	98%

DIGITAL HEADING TRANSLATOR
TKTs4



The unit transmits heading data to analog receivers (synchro heading receivers of different types). Parameters of output are set by software.

Technical Data	
Input voltage	180-264 VAC, 47-63 Hz
Full-load power consumption, maximum	500 W
Maximum heading translation error	0.2°
Follow-up rate	10 °/s
Load capacity:	
- Synchros EC1404	6 units
- Synchros CC150	8 units
Input	RS232/RS422
Dimensions	345 x 240 x 130 mm
Weight, maximum	5 kg
Protection level	IP21

Operating Conditions	
Temperature range	from –15°C to +55°C
Relative humidity at t=40°C	98%

DISTRIBUTION BOX RK2



The Distribution Box RK2 performs transmission of heading data from the gyrocompass to repeaters and other digital receivers of heading.

Technical Data	
Maximum number of receivers	13
Interface	RS232/RS422, step (6 step/degree)
Supply voltage to heading receivers	from 19.2 to 31.2 VDC
Dimensions	345 x 240 x 130 mm
Weight, maximum	4 kg
Protection level	IP22

Operating Conditions	
Temperature range	from –15°C to +55°C
Relative humidity at t=40°C	98%

SELECTOR SWITCH PKTs1



The digital Selector Switch is designed to switch over the periphery to different heading sources.

Technical Data	
Input voltage	from 9 to 36 VDC
Power consumption, maximum	5 W
Number of heading inputs	4
Outputs	- 2 step (6 step/deg) update rate 6°/s, 12°/s, w/o limitation - serial data, 4 channels (A,B,C,D). The message transmission speed and frequency, resolution (0.1 or 0.01 degree), checksum and the set of sentences are tuned for every channel.
Dimensions	345 x 240 x 130 mm
Weight, maximum	4 kg
Protection level	IP22

Operating Conditions	
Temperature range	from –15°C to +55°C
Relative humidity at t=40°C	98%

SELECTOR SWITCH PK2



The Selector Switch PK2 is designed for switching over the control signals (4 lines) from the gyrocompass 1 and the gyrocompass 2 to the Heading Translator.

Technical Data	
Commulating voltage	from 10 ⁻² to 100 VDC
Commulating current	from 10 ⁻⁶ to 1.0 A
Dimensions	185 x 125 x 80 mm
Weight, maximum	1 kg
Protection level	IP22

Operating Conditions	
Temperature range	from –15°C to +55°C
Relative humidity at t=40°C	98%

DIGITAL COURSE RECORDER
CR 23Ts1



The digital Course Recorder is designed for continuous automatic record and indication of the vessel heading. The display backlighting brightness can be adjusted.

Technical Data	
Input voltage	from 9 to 36 VDC
Power consumption, maximum	5 W
Input	RS232/RS422
Resolution	0.1°
Colour display	7 "
Record interval	2 s
Data storage time	2 years
Output	RS232 (printer) and USB
Dimensions	295 x 90 x 175 mm
Weight, maximum	4 kg
Protection level	IP22

Operating Conditions	
Temperature range	from –15°C to +55°C
Relative humidity at t=40°C	98%

BEARING REPEATER 19-RShM3



The two-scale Bearing Repeater can be used as a gyrocompass heading display and together with a direction finder PM provides a compass bearing of observed terrestrial or celestial objects. The unit is mounted on a pelorus and is installed on open deck.

Technical Data	
Resolution	0.1°
Interface	RS232/RS422
Follow-up speed	6 °/s
Supply voltage	from 19.2 to 31.2 VDC
Power consumption	24 W
Dimensions	Ø 286 x 213 mm
Weight, maximum	12 kg
Protection level	IP56

Operating Conditions	
Temperature range	from –40°C to +55°C
Relative humidity at t=40°C	98%

ANALOG REPEATER 19-RShM4



The one-scale Bearing Repeater can be used as a gyrocompass heading display and together with a direction finder PM1 provides a compass bearing of observed terrestrial or celestial objects. The unit has a digital heading display. The unit is mounted on a pelorus and is installed on open deck or in conning bridge.

Technical Data	
Resolution	0.5°
Interface	RS232/RS422
Follow-up speed	6 °/s
Supply voltage	from 19.2 to 31.2 VDC
Power consumption	6 W
Dimensions	Ø 254 x 170 mm
Weight, maximum	12 kg
Protection level	IP56

Operating Conditions	
Temperature range	from –25°C to +70°C
Relative humidity at t=40°C	98%

ANALOG REPEATER 38-RShM3



The two-scale Analog Repeater is used for a gyrocompass heading display. The LED backlighting brightness can be adjusted.

Technical Data	
Input voltage	from 9 to 36 VDC
Power consumption, maximum	5 W
Input	RS232/RS422
Resolution	0.1°
Follow-up speed	10°/s
Dimensions	265 x 122 x 225 mm
Weight, maximum	4 kg
Protection level	IP22

Operating Conditions	
Temperature range	from –15°C to +55°C
Relative humidity at t=40°C	98%

DIGITAL REPEATER 38 RTsM4



The Digital Repeater is designed for display of a gyrocompass heading. In addition the unit displays direction and vessel ROT.

Technical Data	
Input voltage	from 9 to 36 VDC
Power consumption, maximum	4 W
Input	RS232/RS422
Resolution	0.1°
Height of digits	38 mm
Dimensions	235 x 136 x 95 mm
Weight, maximum	2.5 kg
Protection level	IP22

Operating Conditions	
Temperature range	from –15°C to +55°C
Relative humidity at t=40°C	98%

MECHANICAL DIRECTION FINDERS
PM, PM1



Direction finders are designed for taking bearings of onshore objects and celestial bodies as well as for measurement of a relative azimuth using the repeater azimuth ring.

Technical Data	
Dimensions of PM	293 x 92 x 116 mm
Dimensions of PM1	320 x 109 x 150 mm
Weight of PM, maximum	0.7 kg
Weight of PM1, maximum	0.8 kg

Operating Conditions	
Temperature range	from –15°C to +55°C
Relative humidity at t=40°C	98%

PELORUSES 20-RSh1, 21-RSh1, 22-RSh1



Peloruses are used for installation and fixing of repeaters 19-RShM3 and 19-RShM4.

Dimensions:	
- 20-RSh1	Ø 460 x 1303 mm
- 21-RSh1	Ø 440 x 415 mm
- 22-RSh1	Ø 350 x 232 mm

Weight:	
- 20-RSh1	25 kg
- 21-RSh1	15 kg
- 22-RSh1	8 kg

Protection	IP56
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