UNICONT

UNIVERSAL DIGITAL REPEATER UDR–6

OPERATION MANUAL

CONTENTS

1. Application

Universal Digital Repeater UDR–6(x) is designed to displaying the information received from marine equipment in the NMEA format (IEC 61162–1 Ed.2 Mar. equip. Part 1 – Digital interfaces, in the following IEC 61162). UDR–6(x) supplies in different Types and Versions. The Type of repeater means functionality. The Version depends on method of mounting.

2. Options

Different types of repeater are able to display the different information from various marine devices, such as:

- gyro compass (types UDR–6G and UDR–6U);
- speed log (types UDR–6L, UDR–6U);
- dual–axis speed log (types UDR–6L, UDR–6U);
- wind sensor (types UDR–6W, UDR–6U);
- echo–sounder (types UDR–6E, UDR–6U);
- master clock system (types UDR–6C, UDR–6U).

Unified version of repeater UDR–6U can indicate the data from any device pointed above.

NOTE:

There are two different versions of mounting the unit. If the unit supplied with special bulkhead–mounted metal case, then that is marked as UDR–6(x)–blk. The flat–mounted version is marked as UDR–6(x)–fl. The one should point that, when make up the query. In the following text blk and fl index neglected, except the special tasks.

3. Equipment supplied

Item	Quantity
1. Digital repeater UDR–6(x)	1
2. Case latches*	2
3. Technical documentation	1
4. Fuse 3A	1

Here and below, (x) – means the Type of repeater:

U – UNIFIED,

G – GYRO,

L – LOG and DUAL AXIS LOG,

W – WIND SENSOR,

E – ECHO–SOUNDER,

C – MASTER CLOCK SYSTEM.

* – The type of latches depends on the way of installation (see the NOTE above).

4. Specifications

Power voltage	24 VDC ±10%
Power consumption	3 W
Galvanic isolation	Yes
Operating temperature	–15.. +40°C
Storage temperature	–20.. +45°C
Dimension [WxHxD]	144x144x120 mm (158x186x109,5 mm)*
Panel cut–out	135,8x135,8 mm
Moisture protection	IP 54
Weight	0.5 kg
Safe distance to magnetic compass	1 m
Software version	2.5

*– for UDR–6(x)–blk

5. Operation and functions

5.1. Gyro compass operation mode (GYRO).

For UDR–6G and UDR–6U types only.

The GYRO operation mode is intended for displaying actual vessel heading (HDT), heading deviation and variation (HDG), heading obtained by the own ship data (OSD) signal, rate of turn and direction of turn (ROT). In parenthesis the NMEA sentences are specified corresponding with index, displaying in the alphabetic fields of repeater.

5.1.1. **HDT** function ($--HDT, fieldO, T*cs<CR><LF>). Actual vessel heading, produced by any device or system producing true heading.

5.1.1.1. In the upper numerical field, the actual heading is displayed (HDT in the upper alphabetic field) in degrees (°)

5.1.1.2. The rate of turn is displayed (ROT) in the lower numerical field. The units are degrees per minute (°/min). Additionally, leftward or rightward arrows are highlighted, depending on direction of turn indication.

Field	Indication	Units	Additional indication	Notes
Upper alphabetic	HDT			
Upper numerical	Actual heading	°		
Lower alphabetic	ROT			
Lower numerical	Rate of turn	°/min	Direction of turn arrow indicator	

5.1.2. **HDG** function ($--HDG, field0, field1, field2, field3, field4*hh<CR><LF>). Heading, deviation and variation. Heading (magnetic sensor reading), which if corrected for deviation will produce magnetic heading, which if offset by variation will provide true heading.

5.1.2.1. By default, in the upper numerical field the magnetic heading in degrees (°) is displayed (HDM in the upper alphabetic field). By pressing F1 key, the actual heading is switched to (HDT in the upper alphabetic field). The magnetic heading indication is returned to by again pressing F1 key.

5.1.2.2. The rate of turn is displayed (ROT) in the lower numerical field. The units are degrees per minute (°/min). Additionally, leftward or rightward arrows are highlighted, depending on direction of turn indication.

Field	Indication	Units	Additional indi–cation	Notes
Upper alphabetic	HDM , (HDT)			Switchable with F1 key
Upper numerical	Magnetic heading (actual heading)	°		
Lower alphabetic	ROT			
Lower numerical	Rate of turn	°/ min	Direction of turn arrow indicator	

5.1.3. **OSD** function ($––OSD, field0, field1, field2, field3, field4, field5, field6, field7, field8*hh<CR><LF>). Own ship data (OSD) gives the movement vector of the ship based on the sensors and parameters in use. Heading, course, speed, set and drift summary. Useful for, but not limited to radar/ARPA applications.

5.1.3.1. The actual heading given by OSD–command displayed in the upper numerical field. The units are degrees (°).

5.1.3.2. In the lower numerical field, rate of turn is displayed (ROT). The units are degrees per minute (°/min). Additionally, leftward or rightward arrows are highlighted, depending on direction of turn indication.

Field	Indication	Units	Additional	Notes
Upper alphabetic	OSD			
Upper numerical	Actual heading	°		
Lower alphabetic	ROT			
Lower numerical	Rate of turn	°/min.	Direction of turn arrow indicator	

5.2. Log operation mode (LOG).

For UDR–6L and UDR–6U types only.

The LOG operation mode is speed tracking mode, that intended for displaying of the water–referenced speed (VHW), course over ground and ground–referenced speed (VTG), distance travelled through the water (VLW), speed obtained by the own ship data (OSD) signal. In parenthesis the NMEA sentences are specified corresponding with index, displaying in the alphabetic fields of repeater.

5.2.1. **VHW** function ($––VHW, field0, field1, field2, field3, field4, field5, field6, field7*cs<CR><LF>). The compass heading to which the vessel points and the speed of the vessel relative to the water.

5.2.1.1. In the upper numerical field the water–referenced speed given by VHW–command is displayed. If the speed is positive,

upward arrow is highlighted, otherwise the downward arrow is. The units are knots (kn). By pressing F1 key, km/h (km per hour) units are selected. The knot units are returned to by again pressing F1 key.

5.2.1.1. In the lower numerical field cumulative distance, given by VLW–command is displayed. The units are nautical miles (nm). With this function, in the lower alphabetic field TOTL is displayed. Pressing F2 key will switch this function to display the mileage of the current trip (distance since reset in nautical miles). In this case, in the lower alphabetical field TRIP is displayed. Total cumulative distance is returned to by again pressing F2 key.

Field	**Indication**	**Units**	**Additional indi–cation**	**Notes**
Upper al–phabetic	VHW			
Upper nu–merical	Speed	kn or km/h	Direction of speed arrow indicator	Switchable with F1 key
Lower al–phabetic	TOTL/TRIP			Switchable with F2 key
Lower nu–merical	Distance travelled through the water	nm		

5.2.2. **VTG** function ($--VTG, field0, field1, field2, field3, field4, field5, field6, field7, field8*hh<CR><LF>). The actual speed relative to the ground.

5.2.2.1. In the upper numerical field, the actual speed relative speed given by VTG command is displayed (VTG in the upper alphabetic field). The units are knots (kn). If the speed is positive, upward arrow is highlighted, otherwise the downward arrow is. By pressing F1 key, km/h (km per hour) units are selected. The knot units are returned to by again pressing F1 key.

5.2.2.2. In the lower numerical field cumulative distance, given by VLW–command is displayed. The units are nautical miles (nm). With this function, in the lower alphabetic field TOTL is displayed. Pressing F2 key will switch this function to display the mileage of the current trip (distance since reset in nautical miles). In this case, in the lower alphabetical field TRIP is displayed. Total cumulative distance is returned to by again pressing F2 key.

Field	Indication	Units	Additional indication	Notes
Upper alphabetic	VTG			
Upper numerical	Actual speed	kn or km/h	Direction of speed arrow indicator	Switchable with F1 key
Lower alphabetic	TOTL / TRIP			Switchable with F2 key
Lower numerical	Distance travelled through the water	nm		

5.2.3. **OSD** function ($--OSD, field0, field1 , field2, field3, field4, field5, field6, field7, field8*hh<CR><LF>). As pointed in Error! Reference source not found., own ship data (OSD) signal is able to provide the actual speed ship's data.

5.2.3.1. In the upper numerical field the actual speed given by OSD–command is displayed. The units are knots (kn). Select the other units by pressing F1 key: kmh (km per hour), mlh (miles per hour). If the speed is positive, upward arrow is highlighted, otherwise the downward arrow is.

5.2.3.2. In the lower numerical field cumulative distance, given by VLW– command is displayed. The units are nautical miles (nm). With this function, in the lower alphabetic field TOTL is displayed. Pressing F2 key will switch this function to display the mileage of the current trip (distance since reset in nautical miles). In this case, in the lower alphabetical field TRIP is displayed. Total cumulative distance is returned to by again pressing F2 key.

Field	**Indication**	**Units**	**Additional in–dication**	**Notes**
Upper alphabetic	OSD			
Upper numerical	Actual speed	kn, kmh, mlh	Direction of speed arrow indicator	Switchable with F1 key
Lower alphabetic	TOTL / TRIP			Switchable with F2 key
Lower numerical	Distance trav–elled through the water	nm		

5.3. Dual–axis log operation mode (LOG2).

The LOG2 operation mode is dual–axis speed tracking mode (VBW). In parenthesis the NMEA sentence is specified corresponding with index, displaying in the alphabetic fields of repeater.

For UDR–6L and UDR–6U types only.

5.3.1. **VBW** function ($––VBW, field0, field1, field2, field3, field4, field5, field6, field7, field8, field9*hh<CR><LF>). Water–referenced and ground–referenced speed data.

5.3.1.1. In the upper numerical field, the longitudinal water–referenced speed (WTL) is displayed. The units are knots (kn). Additionally, upward arrow is highlighted if the speed is positive and downward arrow if it is negative.

5.3.1.2. In the lower numerical field, the transversal water–referenced speed (WTT) is displayed. The units are knots (kn). Additionally, leftward or rightward arrows are displayed depending on ship drift direction. If data in the upper and lower numerical fields are non–reliable, dots (.....) are displayed, and direction arrows are dim.

5.3.1.3. By pressing F1 key, the longitudinal ground–referenced speed (BTL) is switched to. In the upper numerical field, the bottom speed longitudinal component is displayed. The units

are knots (kn). Additionally, upward arrow is highlighted if the speed is positive and downward arrow if it is negative.

5.3.1.4. In the lower numerical field, the transversal ground–referenced speed component (BTT) is displayed. The units are knots (kn). Additionally, leftward or rightward arrows are displayed depending on ship drift direction. If data in the upper and lower numerical fields are non–reliable, dots (.....) are displayed, and direction arrows are dim. The water–referenced speed mode is returned to by again pressing F1 key.

Field	**Indication**	**Units**	**Additional indication**	**Notes**
Upper alpha–betic	WTL (BTL)			The water/ground–referenced speed mode switching by pressing F1 key
Upper numerical	Longitudinal speed	Kn	Direction of speed ar–row indicator	
Lower alpha–betic	WTT (BTT)			
Lower numerical	Transversal speed	Kn	Direction of speed ar–row indicator	

5.4. Wind sensor operation mode (WIND).

The WIND operation mode is the wind tracking mode, which intended for displaying of the wind direction and speed (MHW) or wind speed and angle (VTG). In parenthesis the NMEA sentences are specified.

For UDR–6W and UDR–6U types only.

5.4.1. **MWD** function ($––MWD, field0, field1, field2, field3, field4, field5, field6, field7 *hh<CR><LF>). The direction from which the wind blows across the earth's surface, with respect to north, and the speed of the wind.

5.4.1.1. In the upper numerical field, the true wind direction is displayed. The units are degrees (°).With this function, in the upper alphabetic field DIR is displayed.

5.4.1.2. By pressing F1 key, the wind magnetic direction is switched to. The units are degrees (°).With this function, in the upper alphabetic field MDIR is displayed.

5.4.1.3. In the lower numerical field, the wind speed is displayed. The units are knots (kn) or meter per second (m/s). The units are switched by pressing F2 key. With this function, in the lower alphabetic field, SPED is displayed.

Field	Indication	Units	Additional indication	Notes
Upper alphabetic	DIR, MDIR			DIR and MDIR are selected by pressing F1 key.
Upper numerical	Direction	°		
Lower alphabetic	SPED			
Lower numerical	Wind speed	Kn, m/s		The units are switched by pressing F2 key.

5.4.2. **MWV** function ($--MWV, field0, field1, field2, field3, field4*hh<CR><LF>). Wind speed and angle. When the reference field is set to R (Relative), data is provided giving the wind angle in relation to the vessel's bow/centreline and the wind speed, both relative to the (moving) vessel. Also called apparent wind, this is the wind speed as felt when standing on the (moving) ship. When the reference field is set to T (Theoretical, calculated actual wind), data is provided giving the wind angle in relation to the vessel's bow/centreline and the wind speed as if the vessel was stationary. On a moving ship these data can be calculated by combining the measured relative wind with the vessel's own speed.

5.4.2.1. In the upper numerical field, wind angle is displayed. The units are degrees (°).With this function, in the lower alphabetic field, DIR is displayed. If data from the wind sensor are considered unreliable, in the numerical field the dots (“.....”) are displayed.

5.4.2.2. In the lower numerical field, the wind speed value is displayed, while in the lower alphabetic filed SPED is displayed.
Three kinds of units are possible: knots (kn), meter per second (m/s), km per hour (kmh). The units are selected automatically according to information received from the wind sensor. If the data look unreliable, in the numerical field the dots (“.....”) are displayed.

Field	**Indication**	**Units**	**Additional indication**	**Notes**
Upper alphabetic	DIR			
Upper numerical	Angle	°		
Lower alphabetic	SPED			
Lower numerical	Wind speed	Kn, m/s, kmh		

5.5. Echo sounder operation mode (DEPT).

The DEPT operation mode is the depth tracking mode, which intended for displaying of the depth below transducer (DBT) or simple depth (DPT). In parenthesis the NMEA sentences are specified corresponding with index, displaying in the alphabetic fields of repeater.

For UDR–6E and UDR–6U types only.

5.5.1. **DBT** function ($––DBT, field0, field1, field2, field3, field4, field5*hh<CR><LF>). Water depth referenced to the transducer.

5.5.1.1. In the upper numerical field, the depth is displayed (DBT in the upper alphabetic field). Three kinds of the units are possible: feet (ft), meters (m), fathoms (fm). The units are switched by sequential pressing F1 key.

Field	**Indica–tion**	**Units**	**Additional indication**	**Notes**
Upper alphabetic	DBT			
Upper numerical	Depth	ft, m, fm		The units are switched by pressing F1 key.
Lower alphabetic				
Lower numerical				

5.5.2. **DPT** function ($––DPT, field0, field1, field2*hh<CR><LF>). Water depth relative to the transducer and offset of the measuring transducer. Positive offset numbers provide the distance from the transducer to the waterline. Negative offset numbers provide the distance from the transducer to the part of the keel of interest.

5.5.2.1. In the upper numerical field, the depth is displayed, DPT in the upper alphabetic field. The units are meters (m).

Field	**Indication**	**Units**	**Additional indication**	**Notes**
Upper alphabetic	DPT			
Upper numerical	Depth	m		
Lower alphabetic				
Lower numerical				

5.6. Master clock system operation mode (TIME).

The **TIME** operation mode is intended for displaying of the UTC, day, month, year and local time zone (ZDA). In parenthesis the NMEA sentences are specified.

Local time zone is the magnitude of hours plus the magnitude of minutes added, with the sign of local zone hours, to local time to obtain UTC. Local zone is generally negative for East longitudes with local exceptions near the International Date Line.

For UDR–6C and UDR–6U types only.

Time and date protocol:

HH:MM:SS SP DD/MN/YY SP NNN SP W

HH = hours, 0...23

MM = minutes, 00...59

SS = seconds, always 00

DD = day, 01...31

MM = month, 01...12

YY = year 00...99

NNN = day number, 001...366

W = day of week, 1...7

5.6.1. In the upper numerical field, the time (hours and minutes) is displayed, TIME in the upper alphabetic field.

5.6.1.1. In the lower numerical field, the date (day/month/year) is displayed, and DATE in the lower alphabetic field.

Field	**Indication**	**Unit**	**Additional indication**	**Notes**
Upper alphabetic	TIME			
Upper numerical	Time (hours and minutes)			
Lower alphabetic	DATE			
Lower numerical	Date: dd/mm/yy			

6. Preparation to use

6.1. Unit installation

Select location for display. A location out of direct sunlight provides best visibility. The unit may be mounted from a bulkhead or installed in a flush panel. Panel cutout dimensions are given in the specifications.

Overall and installation dimensions of flat–mounted and bulkhead–mounted versions are given in Fig 4 and Fig 5 respectively.

6.2. Power connection

WARNING:
All electric connections with external units must be hooked–up strictly via the existing cable entries; that must be further sealed by tightening the elements of the cable glands.

Connect the power voltage 24 VDC to the terminal J1 (fig.3). Check the polarity when wiring load supply leads to terminal. The power consumption is no more than 3 W

6.3. Connection to data inputs/outputs

6.3.1. Connection to data inputs

There are several data inputs in repeater. The data might be received through the serial interface RS–232: terminal J2 (RXD, common GND wire, jumper JP5 in the upper position) or through the RS–422 interface: terminal J3 (differential inputs Rx– and Rx+, common GND wire, jumper JP5 in the lower position). Once the power is supplied, adjust repeater to receive appropriate sentence format. The procedure is described in 6.4. If the data source device operates normally, repeater shall display the data received according to.

Check the polarity when connecting the data cable, otherwise there are no–data or data–lose situation may take a place.

6.3.2. Connection to data outputs

Information received by the repeater passes the amplifier and supplied to two serial interface RS–422 sockets J4 and J5 (differential outputs Tx– and Tx+, common GND wire). Thus, several repeaters can be connected in series and provided with data from the same device w/o amplifying.

6.4. Repeater adjustment

6.4.1. General settings

General setting menu is entered by pressing F2 key and holding it for at least 1 sec. To change the mode press «+» or «–» keys. Selected mode is confirmed by pressing F1 key. Press F2 key to exit the menu or for to make the one step back. The structure of repeater's general settings is shown in Fig 1.

COM RATE = speed (b/s): 1200, 2400, 9600, 14400, 19200, 28800, 38400, 57600, 76800, 115200, 230400;

COM PRTY = parity bit: NONE, EVEN, ODD;

COM STOP = the number of stop bits: 1 bit, 2 bit;

KEYB CLCK = key pressing sound: YES, NO;

UNUS TOUT = operator inactivity time after which the option menu is automatically left: 5 sec, 10 sec, 15 sec, 20 sec, 25 sec, OFF;

SOFT VER# = software version.

CSUM MODE checksum test of the data received: ON, OFF.

DISP TOUT = max time to wait for incoming signal: 1 sec, 2 sec, 5 sec, 10 sec, 15 sec, 20 sec, 25 sec, OFF.

WARNING:

Message MISS DATA will be displayed, if:

- **settings of the repeater and transmitting device (signal source) are inconsistent;**
- **signal (from a device connected) update time threshold as set in the repeater (DISP TOUT) is exceeded;**
- **the data line is interrupted.**

6.4.2. Main settings

The main setting menu is entered by holding F1 key for at least 1 sec. To change the function press «+» or «–» keys. Selected function is confirmed by pressing F1 key. Press F2 key to exit the menu or for to make the one step back. The structure of the repeater's main menu is shown in Fig 2.

WARNING:

If selected repeater's function is inconsistent with the signal source, message MISS DATA will appear.

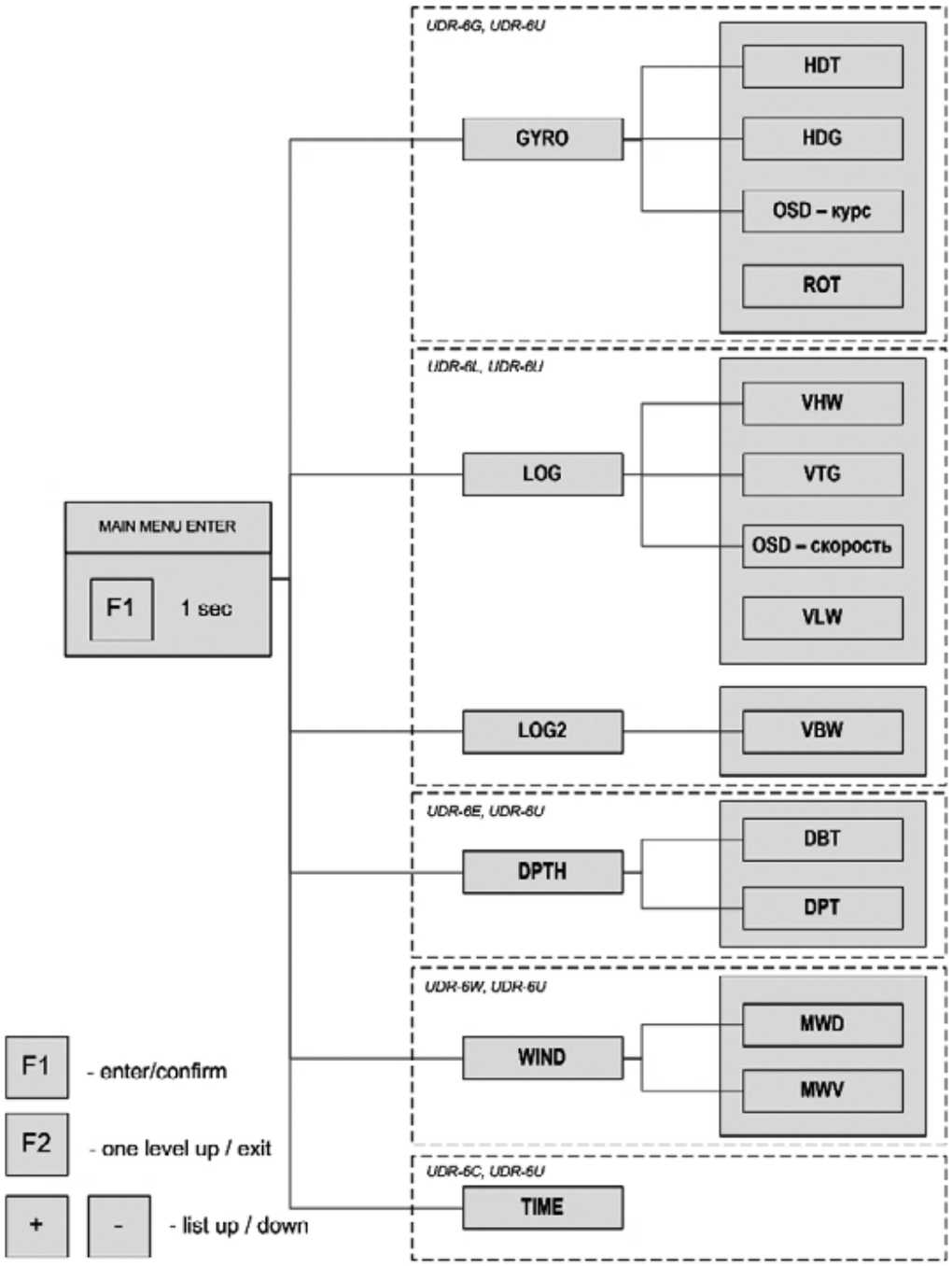

Fig 1. General settings menu

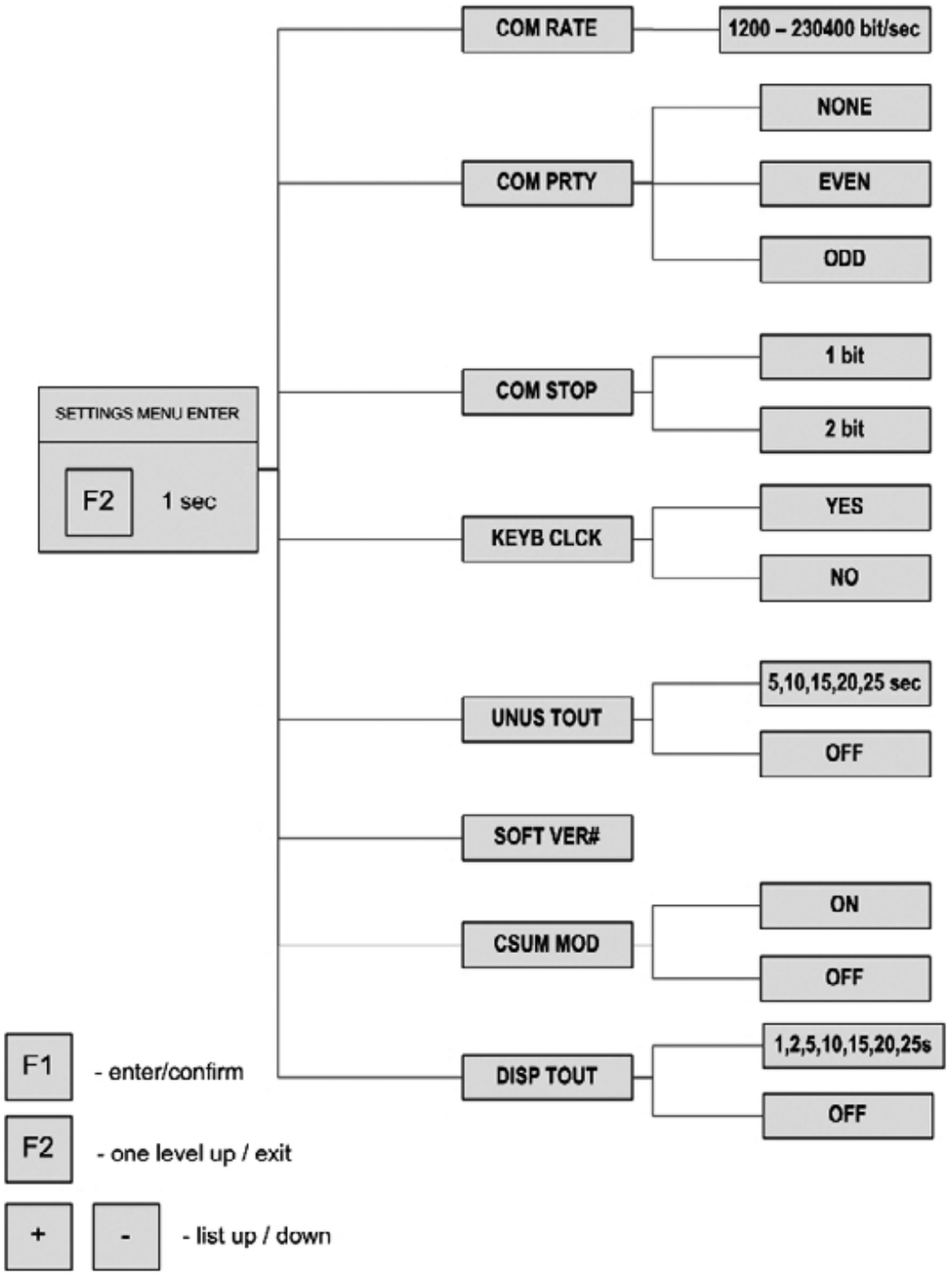

Fig 2. Main menu, depending on type of repeater

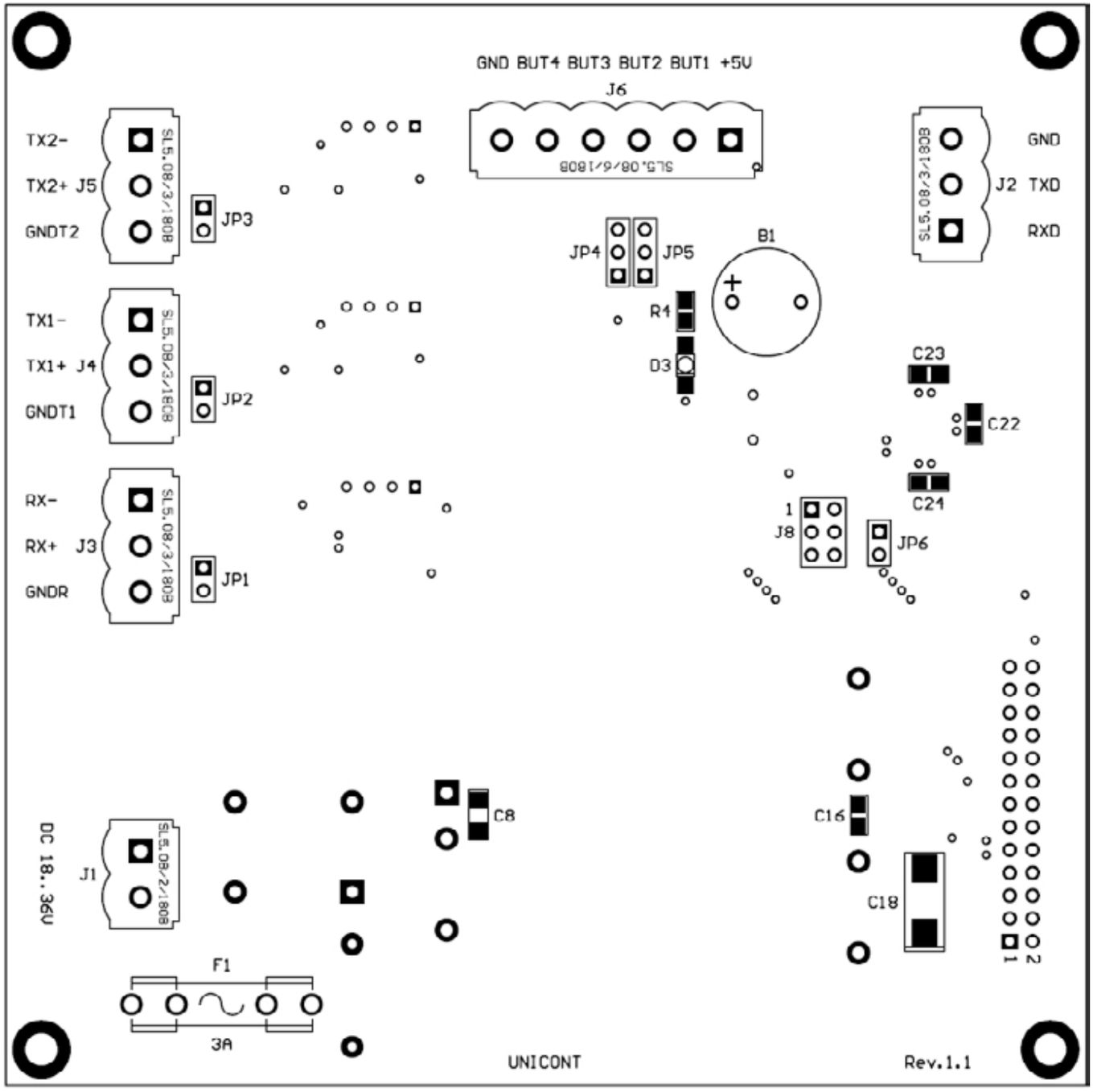

Fig 3. Arrangement of terminals on printed circuit board.

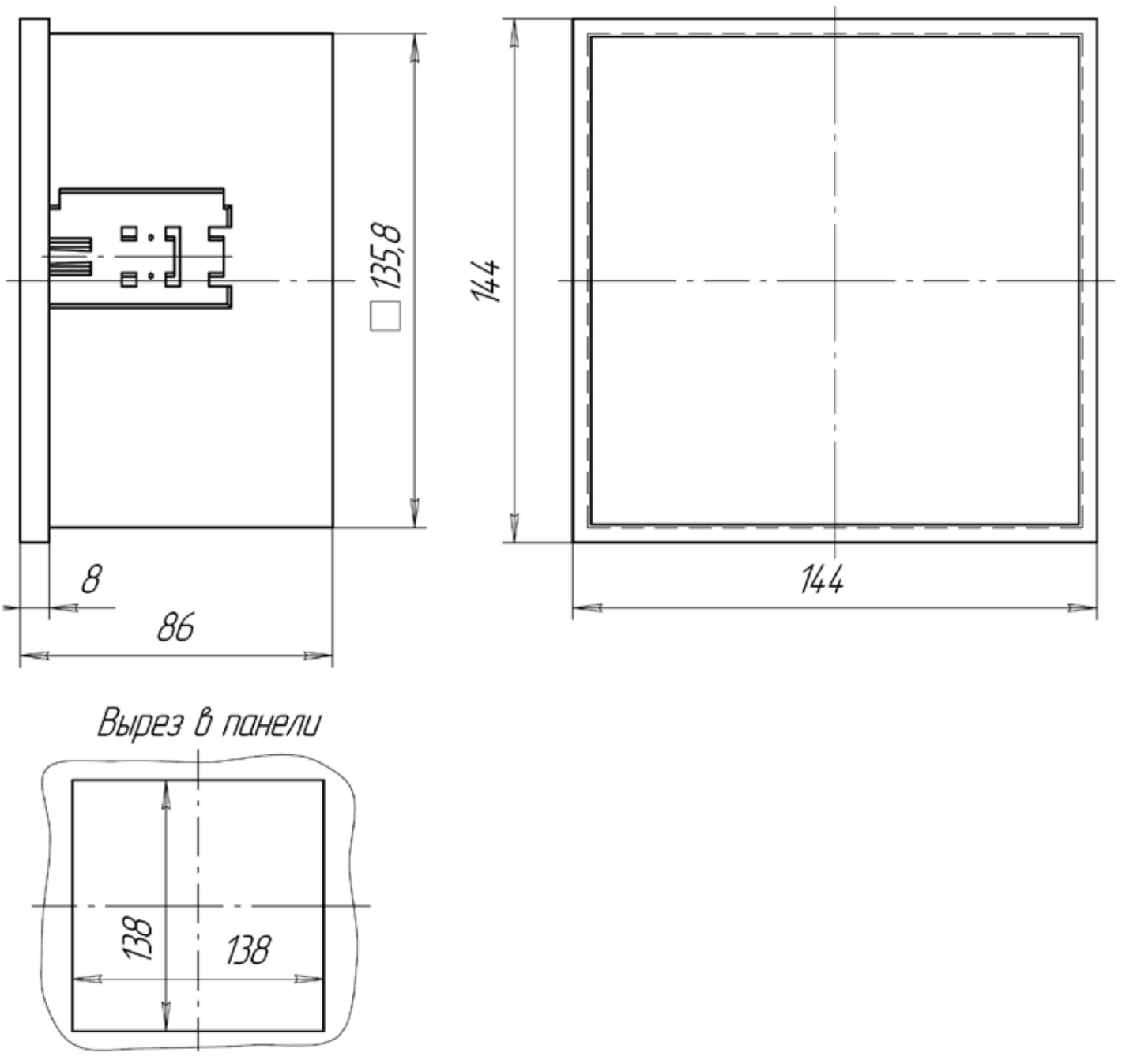

Fig 4. Repeater UDR–6(x)–fl installation dimensions

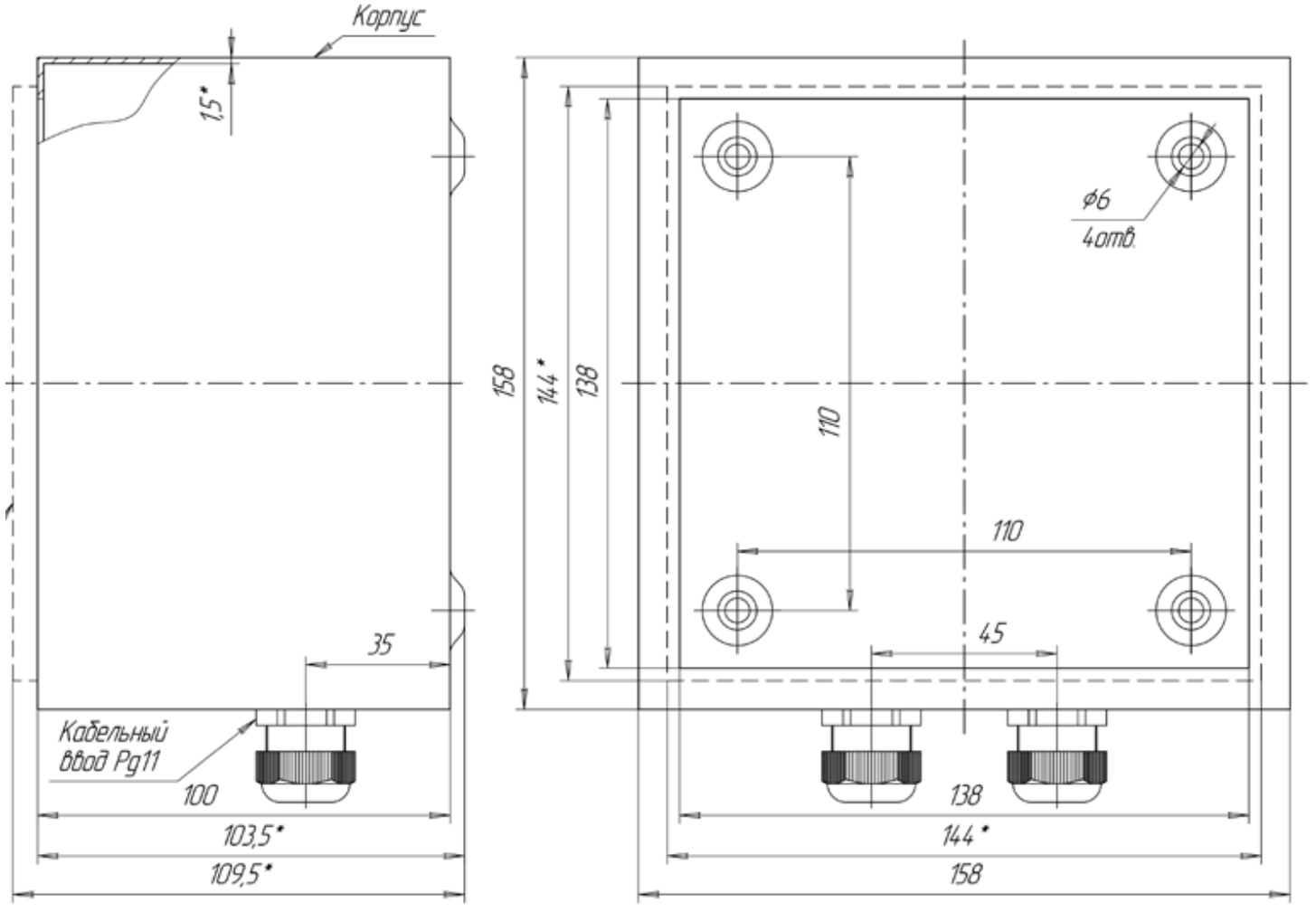

Fig 5. Repeater UDR–6(x)–blk installation dimensions

7. Safety precautions

WARNING:

Mounting, demounting and repairs of the UDR–6(x) must be performed when the power 24VDC is OFF.

It is prohibited to:

- install the fuses with ratings inconsistent with this Manual;
- expose the unit to impacts and to stretch the connected cables;
- connect the repeater to networks different from mentioned in the present Manual;
- operate the unit when it is out of order;
- mount the unit closer than 1 meters from the magnetic compass;
- locate the repeater less than 1 m away from the magnetic compass;
- supply the unit with voltage different from 24 VDC ±10%

Don't place the Unit into the water.

Don't use organic solvents to avoid inflicting damage to the applied images when cleaning the surface of the Unit.

8. Maintenance

In order to keep UDR–6(x) properly functioning during operational period, routing maintenance should be performed.

First routing maintenance includes periodical (no less than once per half–year) visual inspection with dust removal using soft tissue and a brush and performance monitoring on the visual basis: LEDs glowing, voltage at load, switching to the backup mode.

Second routing maintenance should be performed when faults of UDR–6(x) are detected and includes performance check of the Unit in compliance with corresponding sections of the present Manual.

If it's impossible to fix the faults of UDR–6(x) on the spot, it should be forwarded to repairs.

9. Transportation and storage

Transportation is performed using the cardboard wrapper at any enclosed transport facility.

UDR–6(x) must be stored in enclosed space at –20...+45°C.

10. Warranty

The manufacturer guarantees normal operation of the Universal Digital Repeater UDR–6(x) in case of compliance with transportation, storage, mounting and operation rules and regulations.

Warranty period of the Unit shelf life is 18 months from the date of selling.

Warranty period of operation is 12 months from the date of commissioning of the Unit. During warranty period the owner can claim a free repair or separate block replacement, if the defect is due to manufacturer's fault.

Warranty repairs are performed if the following documents are present:

- given Operations Manual;
- Approval certificate;
- Commissioning report.

Manufacturer can not be held liable for Unit malfunctioning and suspends any warranty liabilities in the following cases:

- noncompliance with rules of mounting, operation and transportation;
- applying of the non–standard electric apparatus;

- an attempt to perform repair by any person who is not an authorized representative of the Manufacturer;
- loss of marketability, and case integrity and for reasons beyond the control of the manufacturer.

If the commissioning mark is absent, period of warranty repairs is reckoned from the date of selling of the Unit.

Should the present Operations Manual be lost, duplicates of acceptance report and commissioning report are not issued, and the Owner forfeits his right for free repair during the warranty period.

11. Purchase information

Serial number _____

Packing date _____

Supplier: **UNICONT Ltd. Co.**

Stamp here

12. Approval certificate

Universal Digital Repeater UDR–6(x) is in accordance with documentation and is considered in working order.

Serial number _____

Delivered by:

Company name _____

Full name _____ signature _____

Accepted by:

Company name _____

Full name _____ signature _____

Acceptance date _____

13. Commissioning report

Universal Digital Repeater UDR–6(x)

Serial number _____

The Unit has been commissioned.

Date _____

Place of installation:

_____

_____

Installed by_____

(full name, signature)

РОССИЙСКИЙ МОРСКОЙ РЕГИСТР СУДОХОДСТВА
RUSSIAN MARITIME REGISTER OF SHIPPING

6.8.3

СВИДЕТЕЛЬСТВО О ТИПОВОМ ОДОБРЕНИИ
TYPE APPROVAL CERTIFICATE

Изготовитель
Manufacturer

ООО "Юниконт" / UNICONT Ltd. Co

Адрес
Address

Россия, 199026, Санкт-Петербург, 20-я линия В.О., д. 5-7, офис 55
Office 55, bld. 5 - 7, 20-th line, V.O., 199026, St. Petersburg, Russia

Изделие*
Product*

Универсальный цифровой репитер типа UDR – 6G/ 6L/ 6W/ 6E/ 6C/ 6U
Universal Digital Repiter of type UDR – 6G/ 6L/ 6W/ 6E/ 6C/ 6U

Код номенклатуры
Code of nomenclature *05300000*

На основании освидетельствования и проведенных испытаний удостоверяется, что вышеупомянутое(ые) изделие(я) удовлетворяет(ют) требованиям Российского морского регистра судоходства.
This is to certify that on the basis of the survey and tests carried out the above mentioned item(s) complies(ly) with the requirements of Russian Maritime Register of Shipping.

Изделие соответствует требованиям Резолюции ИМО А.694(17).
Equipment meets the requirements of the IMO Resolution A.694(17).

Настоящее Свидетельство о типовом одобрении действительно до ***06.09.2011***
This Type Approval Certificate is valid until

Настоящее Свидетельство о типовом одобрении теряет силу в случаях, установленных в Правилах технического наблюдения за постройкой судов и изготовлением материалов и изделий для судов.
This Type Approval Certificate becomes invalid in cases stipulated in Rules for the Technical Supervision during Construction of Ships and Manufacture of Shipboard Materials and Products.

Дата выдачи *06.09.2006* № *06.01696.011*
Date of issue

Российский морской регистр судоходства
Russian Maritime Register of Shipping

V. Evenko
(фамилия, инициалы / name)

*Дополнительную информацию смотри на обороте.
Additional information see overleaf.

Технические данные
Technical data

Репитер предназначен для отображения информации, принимаемой от нижеперечисленного навигационного оборудования в форматах, соответствующих требованиям международного стандарта IEC 61162 (HDT, HDG, OSD, VHW, VTG, OSD, VBW, MWD, MWV, DBT, DPT, TIME/DATE):/
The repeater is intended for displaying information received from below listed navigation equipment in the formats complying with the requirements of the IEC 61162: IEC 61162 (HDT, HDG, OSD, VHW, VTG, OSD, VBW, MWD, MWV, DBT, DPT, TIME/DATE):
UDR-6G, UDR-6U - от гирокомпаса/ from gyrocompass;
UDR-6L, UDR-6U - от лага/ from log;
UDR-6W, UDR-6U - от датчика ветра/ from wind direction and speed sensor;
UDR-6E, UDR-6U - от эхолота/ from echo sounder;
UDR-6W, UDR-6U - от судовой системы единого времени/ from unified timing system.

Технические данные/
Technical Data:
Версия программного обеспечения: 2.5/
Software version: 2.5;
Напряжение питания: 24 В пост. тока/
Voltage: 24 V DC;
Рабочая температура: -15°С до + 55°С/
Operational temperature: - 15°C to + 55°C;
Температура хранения: - 60°С до + 70°С/
Operational temperature: - 60°C to + 70°C;
Степень защиты: IP 54/
Degree of protection: IP 54;
Безопасное расстояние до магнитного компаса: 1 м/
Compass Safety Distance: 1 m.

Техническая документация и дата ее одобрения Российским морским регистром судоходства
Technical documentation and the date of its approval by Russian Maritime Register of Shipping

Техническая документация одобрена Главным управлением Российского морского регистра судоходства (письмо No. No. 011-6.4МК3-26074 от 06.09.2006)

The technical documentation is approved by the Head Office of the Russian Maritime Register of Shipping (letter No. No. 011-6.4МК3-26074 of 06.09.2006)

Образец изделия испытан под техническим наблюдением Российского морского регистра судоходства.
Product's specimen has been tested under the technical supervision of Russian Maritime Register of Shipping.

Акт № ***06.01695.011*** от ***06.09.2006***
Report No. of

Область применения и ограничения
Application and limitations

Ограничений по использованию нет.
No limitations on use.

Вид документа, выдаваемого на изделие
Type of document issued for product

Серийные образцы изделия должны поставляться с копией настоящего Свидетельства о типовом одобрении.
Serial articles of Equipment should be delivered with a copy of this Type Approval Certificate.

06/2004

www.unicont.ru

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