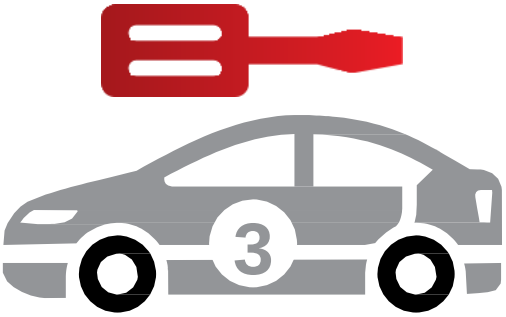
USER MANUAL

Guide – mounting rally units

version 01/2019



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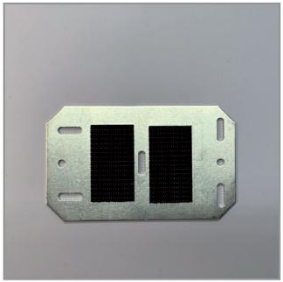
1.Components



2. Mounting rally units

The rally unit is mounted to the safety frame of the vehicle using the ball-jointed holder, ideally above the dashboard, with the unit antenna directed towards the windscreen. Using the connected ball-joint the position of the unit is adjusted so that the display can be clearly seen by both the driver and the navigator.

The power supply cable is connected to the unit so that that **brown** wire is **+** (plus) and the **blue** wire is **–** (minus).

3. Mounting antennas

Antennas are connected to the rear side of the unit according to the labels on the on the unit and on the combined antenna.

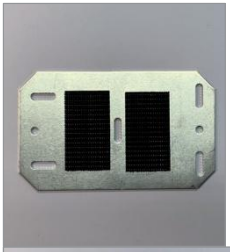
The antenna is extended to the roof of the vehicle and fixed to it using the magnet that is on the bottom of the antenna. If the antenna is not mounted to the roof of the vehicle only the connectors are attached.

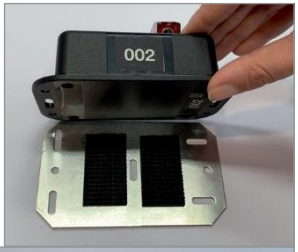
4. Mounting control panels

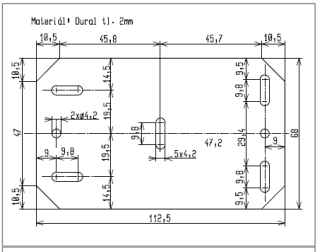
The control panel is mounted onto the metal back-plate which is then positioned so that both the driver and navigator have got easy access to the control panel. The ideal position is between the driver and the navigator.

On the control panel and unit there is a button marked Pressing this button pairs the control panel with the unit.

A break-down in communication between the panel and the unit is shown by on the display.







5. Self-test

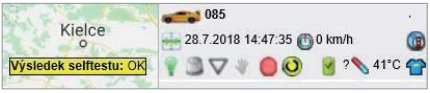
After mounting the unit to the safety frame and connecting the SOS + OK buttons and display, the technician runs the Self-test. The Self-test is carried out by putting the 3,5 mm jack into the unit. This is a special jack with a Dallas reader. The start of the Self-test is registered on the display and is accompanied by a short sounding of the siren.

The display shows the present status of the tested unit

If the Self-test goes well, red dots will gradually turn to green next to those system components that have been evaluated to be functioning correctly in the unit.

- Button – this means the OK button – tested by pressing this on the control panel.
- Switch – this means the SOS switch which is found on the paired control panel – tested by switching to the activated SOS position and then back to the idle position. If the panel has not been paired yet it is possible to connect this on the spot but only in the Self-test mode.
- Accelerometer – tested by banging on the unit.
- GSM – the unit is connected to the server.
- GPS – the unit designates its position.
- Power supply – tests for the presence of an external power supply voltage.
- Back-up battery – tests the voltage level of the back-up battery. If the battery is faulty or flat this is shown on the Self-test display by a red dot next to Power Supply. It is necessary to charge the battery using the main power source of the vehicle and then repeat the Self-test or to change the unit.
- Radio – tests the two-way radio communication of the unit for test preparation

If everything is in order, the Self-test takes 38 seconds. If something is not in order, the Self-test automatically ends after 2 minutes and shows error. The results of the Self-test are sent to the server where records are available for viewing



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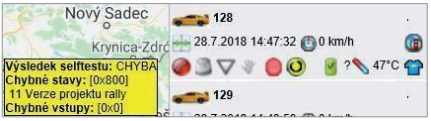

Once the Self-test takes place, the unit switches to Transfer mode.

6. Description of buttons on unit

Choice of language – Press the left-hand button down for around 2 seconds to activate the choose language mode. Each press will then change the language in the following order:

Czech / English / German

Display turning – the language selection and day/night buttons are pressed together. The display is turned by 180°.

DAY/NIGHT mode – This is accessed by pressing the middle button below the display (for around 2 seconds). It is possible to choose between DAY, NIGHT1 and NIGHT2.

Button for pairing the unit with the control panel – only functions when the Self-test is running.

7. Technical parameters for rally unit NCL 20BI Rally

- Communication via GSM over bands 850/900/1800/1900 MHz, compatible with GMS phase 2/2 +.
- Communication between two vehicles via radio network over RF band 868 MHz
- Each car acts as a RF relay/repeater.
- GPS receiver QUECTEL
- Sending data to the server, the primary channel is GSM transmission. In accident, SOS or obstacles on the course situations, messages are always also sent via radio channels to other vehicles that relay the data via GSM.
- GPS/GSM antennas are always attached to the roof of the vehicle.
- RF antenna for radio 868 MHz is always inside the vehicle (attached to unit).
- Detection of impact to the vehicle with immediate sending of information of location, size of impact and sequence of impact. Force of impact sampling for 2 ms period, 250ms force of impact time-chart for 8 seconds (5 seconds before accident and 3 seconds after accident).
- Sending of location data every 6 seconds if in range of GSM network.
- Storage of messages into buffer memory if not in range of GSM network and then delivery of all messages to the Control Centre once within range of GSM network.
- Operation of the display using the back-up battery for a period of 5 minutes after the main supply voltage has been disrupted (i.e. display will remain lit for 5 minutes after accident).
- Operation of the unit using the back-up battery lasts for 1 hour.
- Sending of messages about an accident for a period of 20 minutes after accident occurred.
- The unit also functions as a repeater 868 MHz / GSM
- Colour display.
- The unit is equipped with a button for cancelling alarms, confirming receipt of messages and confirming “red flags”.
- The unit is equipped with a switch (with cover) for transmitting SOS messages.
- Weight of unit including holder: 745 g.
- Weight of SOS panel: 120 g.
- Weight of combined antenna: 190 g.
- Dimensions of unit (including antenna): 115 x 90 x 85 mm
- Dimensions of panel: 113 x 68 x 62 mm
- Power supply: 10–17 V
- Consumption when display is lit: 140 mA/12 V
- Maximum consumption if the battery is being charged:450 mA/12 V
- Charging time of internal battery: 4 hours.
- The unit is resistant to reversal of power supply poles.

Issue: 01/ 2019

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