Multifunction

TL25

and its remote control

Product reference : 90-60-244 white / 90-60-256 black

USER GUIDE

and

INSTALLATION GUIDE

REV : 1

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1 USING

1.1 Presentation

The ***Multifunction TL25*** is a display from the ***TOPLINE*** range. Its three screens, with high definition LCD technology, offer excellent readability and a wide angle of view of the data displayed, whether by daylight or at night. It is connected to the ***TOPLINE bus*** of your

Chanel name

Data value

Alarm signal

Unit

installation and displays all the channels available on the bus.

The ***TL25*** is controlled using either a cable remote control or a radio remote control (not included with the product).

Architecture of the installation

The presence of the equipment in the following diagram is for information only, and does not represent the equipment of your installation.

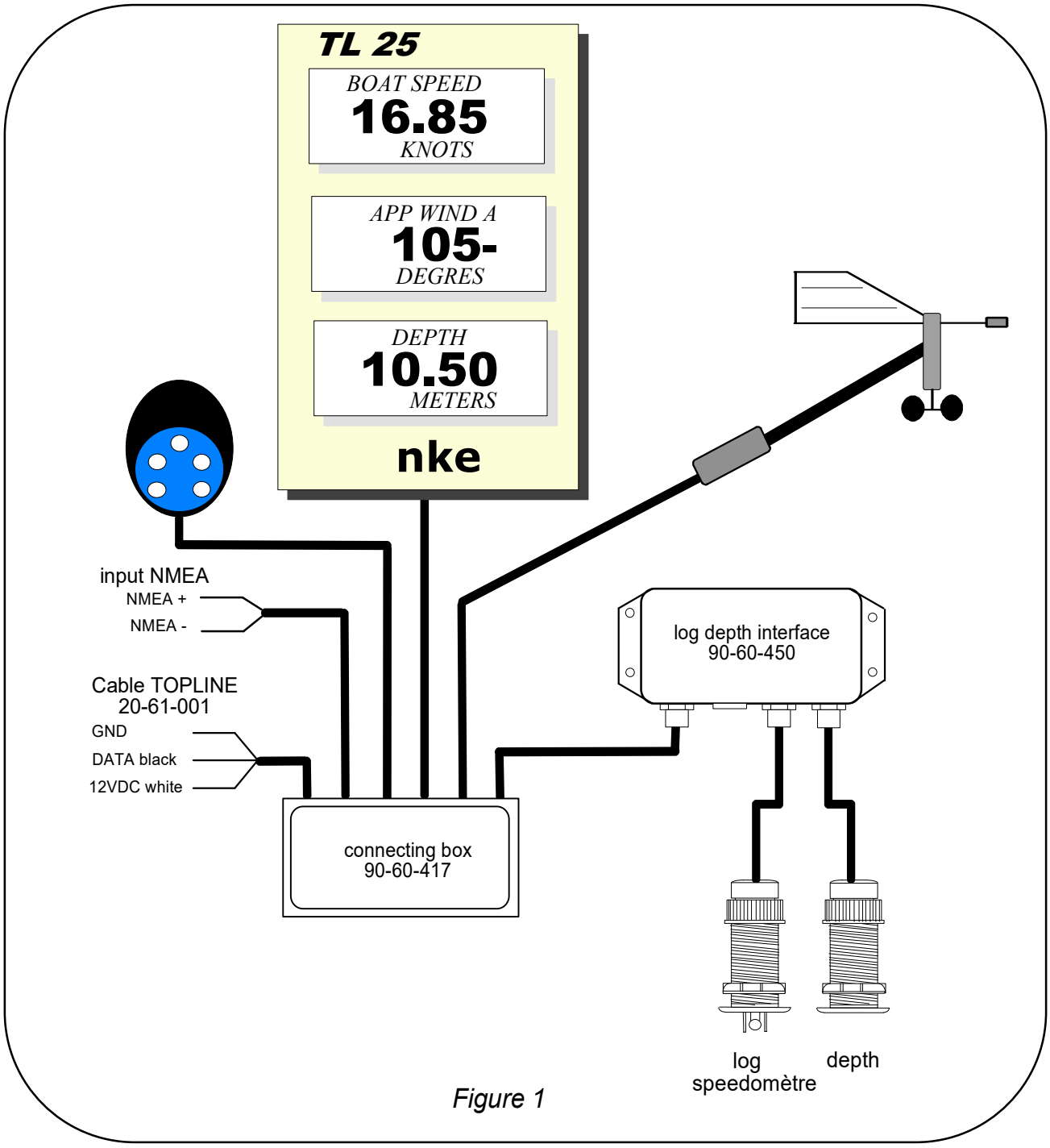


Figure 1

1.2 List of channels created

The master display, whether it is the ***TL25*** or any other ***TOPLINE*** display***,*** and each ***TOPLINE*** sensor, automatically create their respective channels when they are connected to the ***TOPLINE bus***.

	Channel designation
Channels created by the *TL25* when set as master display	Magnetic heading
	Apparent wind angle
	Apparent wind speed
	Depth
	Boat speed
	Maximum and average speed
	Distance and bearing to man over board
	Configuration
	Bus voltage
	VMG
	CMG
	True wind speed
	True wind angle
	True wind direction
	Corrected heading
	Estimated distance
	Estimated angle
	Total log
	Tip log
NMEA ***Performance*** channels displayed	Target speed
	Heading on other side
	Optimum wind angle
NMEA channels displayed	Optimum VMG angle
	Optimum CMG angle
	Efficiency at close-haul
	Polar efficiency
	Speed over Ground and Course over ground
	Cross-track error

Please note that the channels ***MAX SPD*** and ***AVERAGE SPD*** can be accessed when the ***TL25*** is master. In this case, these channels are displayed alternatively on one single screen. By default, this channel is calculated using the surface speed, and in the absence of the latter it will be calculated using the bottom speed. These average and maximum values are calculated from the last power-up of your installation. You can reset these channels to zero, without switching off the bus : select the channel ***MAX SPD*** and ***AVERAGE SPD*** then press the ⓥ key for 2 seconds.

1.3 Keypad functions of the remote control

- **key**

Press this key to select one of the three display screens of the ***TL25***. The selected screen flickers.

- **Low key and High key**

These keys allow to select a different channel to the one already displayed. They also allow to increment or decrement a data which is in the process of being modified.

- **key**

The remote control also enables you to control the other displays of your ***TOPLINE*** installation, the address of which is lower than the address of the remote control. Press this key to select the ***TOPLINE*** display, which you wish to operate.

- Ent **key**

This key allows to access the sub-channels and to validate the settings you implement. Brief pressure on this key also allows to set the level of lighting.

- Mob **Man Over Board key**

Press this key for 5 seconds, and the function «Man Over Board» is activated. When a speedometer and a compass are connected to the ***TOPLINE bus***, the displays then automatically indicate the estimated heading and distance to reach the man over board. If your installation only comprises a speedometer, then only the estimated distance will be displayed.

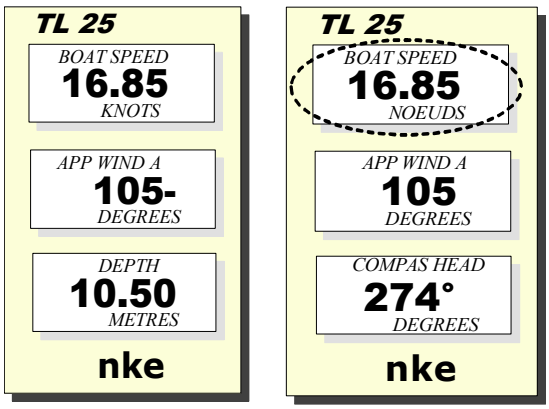
To disable the «Man Over Board» alarm, you must cut off the power supply of your ***TOPLINE*** installation.

CAUTION : the calculation of the estimate, for the Man Over Board function, does not take into account the drift of the boat caused by the current and the wind.

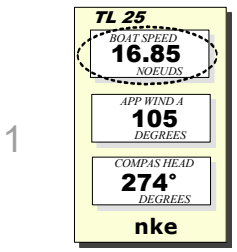
For more detailed information, please refer to the remote control user guide.

1.4 Channel selection

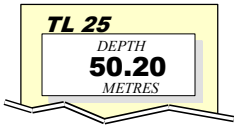
The three screens of the ***TL25*** are independent. Using the remote control, configure the display according to your requirements. Examples of configuration:



1.4.1 Procedure



1 Using the key ⇕, select the row from wich you wish to change the channel.
The selected row flikers.



2 Using the key ▼ ▲ select in the list, the channel you wish to display.
The new display is save in memory

Figure 2

CAUTION : if your installation is equipped with several ***TOPLINE*** displays, make sure that the remote control controls the display which you wish to operate. Press the ◀▶ key repeatedly, until the intended display blinks.

1.4.2 List of channels displayed

The master display, whether it is the ***TL25*** or any other ***TOPLINE*** display, and each ***TOPLINE*** sensor, automatically create their respective channels when they are connected to the ***TOPLINE*** bus. You will find the list of created channels in annex 1.

1.5 What is a sub-channel

The sub-channels are made to modify setting and display parameters of the channels. For example, the sub-channels of the ***surface speed*** channel are:

- ***offset*** and ***calibration coefficient*** : setting parameters of the log-speedometer sensor,
- the measurement ***unit*** : in knots or in km/hr,
- ***filter*** setting,
- ***high alarm*** and ***low alarm*** setting.

The same applies to all channels present on the ***TOPLINE bus***. The following chapters provide detailed explanations on how to access the sub-channels and implement the settings.

1.6 Alarms setting

The setting of an alarm enables you to monitor the value of a channel. When the preset threshold is exceeded, a warning message is displayed and an audible alarm is activated. For example, you can set an upper threshold and a lower threshold on the ***surface speed*** channel.

High alarm is activated when the display is higher than the programmed threshold.

Low alarm is activated when the display is lower than the programmed threshold.

To cancel the alarm of a channel, enter the value **0** in the upper alarm and the lower alarm.

Thus, the setting of the alarms will allow you to supervise your ***TOPLINE*** installation effectively as well as the good operation of your boat.

Note that for angular channels such as ***magnetic heading*** or ***wind angle***, the sub-channels of alarms are the ***alarm base*** and the ***alarm range***.

1.6.1 Setting procedure

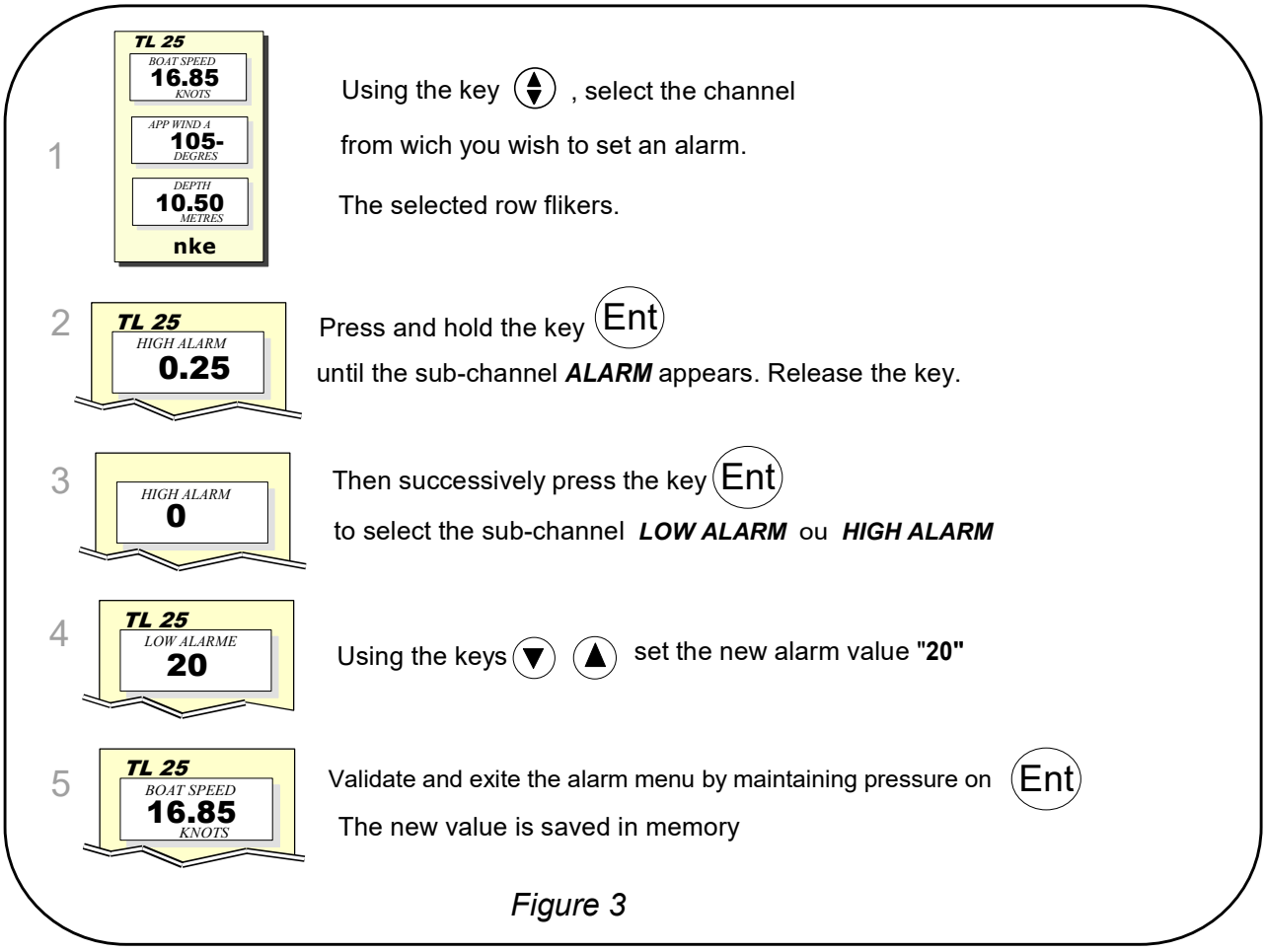
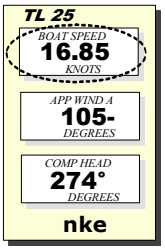


Figure 3

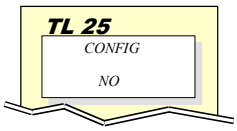
CAUTION : if your installation is equipped with several ***TOPLINE*** displays, make sure that the remote control controls the display which you wish to operate. Press the key repeatedly, until the intended display flickers.

1.6.2 Alarms activation procedure

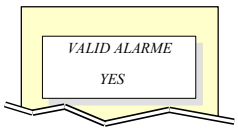
After having set the alarms, you can activate or disable all the alarms. When alarms are activated, the alarm symbol below appears at the bottom left of the display :

1 

Using the keys ▼ ▲
select the channel ***CONFIG***

2 

Press and hold the key Ent
until the sub-channel ***valid alarme*** appears. Release.

3 

Using the keys ▼ ▲ select ***YES***
Validate by maintaining pressure on the key Ent

After 5 s, the TL25 automatically exits the setting mode

Figure 4

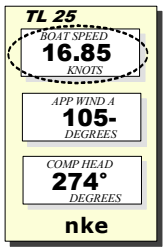
1.7 Filtering of the channels

The level of **filtering** of a channel determines the frequency of update of the data displayed.

For example, in rough sea when the boat moves significantly, it is useful to increase the filtering of the speed channel to stabilise the value displayed. Conversely, in calm sea, low filtering will be preferable to obtain a fast response of the display.

Filtering is adjustable between **1** and **32**, and the default value is **8**. The lower this value is, the higher the frequency of update is.

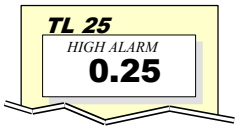
Filter setting procedure

1 

Using the key ▲▼

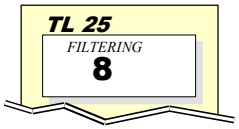
select the channel you need to change the filtering.

The selected channel flickers

2 

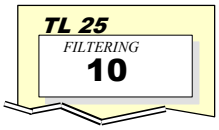
Presse and hold the key Ent

until ***high ALARM*** appears. Release.

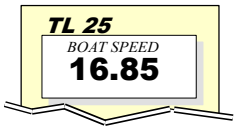
3 

Then successively press the key Ent

to select the sub-channel ***FILTERING***

4 

Using the key ▼ ▲ set the new filtering value **10**

5 

Validate and exits the menu by maintaining a pressure un key Ent

The new filtering value is saved in memory

Figure 5

1.8 Lighting setting

The ***TL25***, as well as the other displays of the ***TOPLINE*** range, have five levels of backlighting : 0 = no lighting, 1 corresponds to the minimum level of lighting and 4 to the maximum level.

You have the option to set the level of lighting, either on the ***TL25*** only, or on every ***TOPLINE*** display of your installation :

1.8.1 *TL25* setting procedure

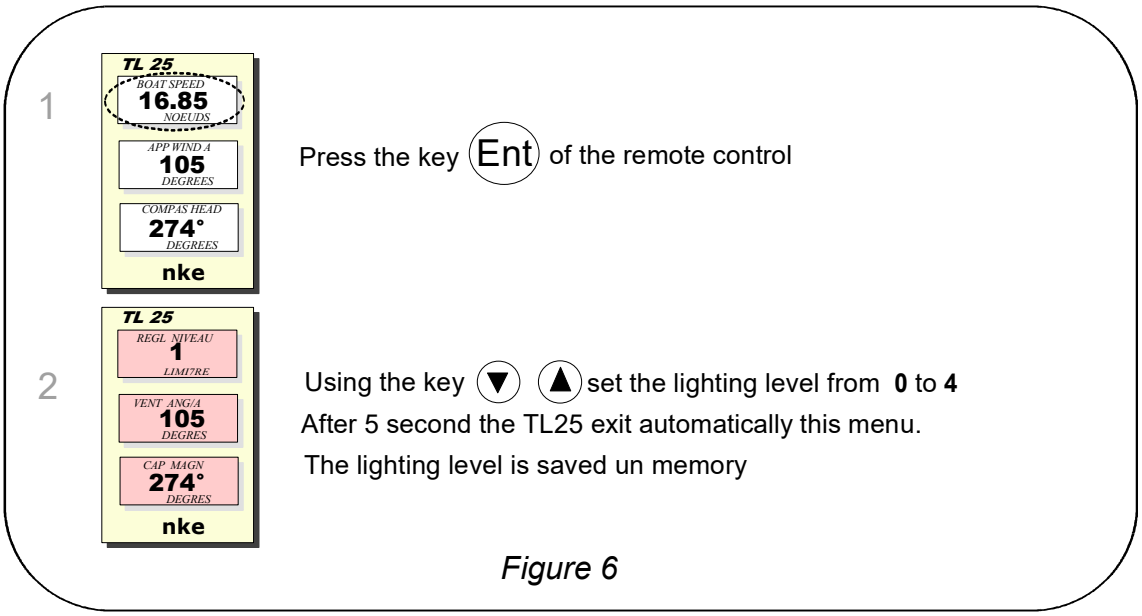


Figure 6

1.8.2 Setting procedure for every display of your installation

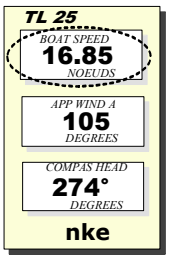
Follow the above procedure, then press on the Ent key to apply the setting to every display.

1.9 Units

You have the option to choose the display units of the channels:

- in knots or in km/hr for the log/speedometer,
- in knots or m/s for the anemometer,
- in degree Fahrenheit or in degree Celsius for the temperature
- in meters or in feet for the sounder

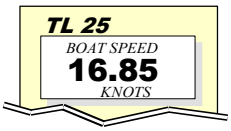
Unit setting procedure

1 

Using the key ⇕

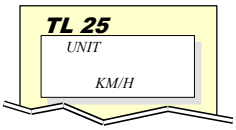
select the channel for which you wish to change the unit

The selected channel flickers

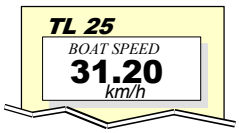
2 

Press and hold the key Ent

until the sub-channel ***UNIT*** appears. Release.

3 

Using the keys ▼ ▲ select the ***UNIT***

4 

Validate and exit the setting by maintaining the pressure on Ent

The new unit is saved to the memory. In approximataly 5 or 6 seconds, display will revert to value.

Figure 7

1.10 Zero setting of the daily log

The channels ***daily log*** and ***total log*** are at your disposal on your display.

You will use the daily log to count the number of nautical miles completed during a sailing leg. The value is kept in memory when the power supply of your installation is cut off. Resetting the ***daily log*** channel to zero will allow you to count the number of nautical miles of the following sailing leg.

The ***total log*** indicates the number of nautical miles completed since the installation of your ***depth-finder log interface***. Only a complete initialisation of your ***depth-finder log interface*** allows to reset the ***total log*** to zero. It is performed by initialising the ***surface speed*** channel.

Zero setting procedure of the daily log

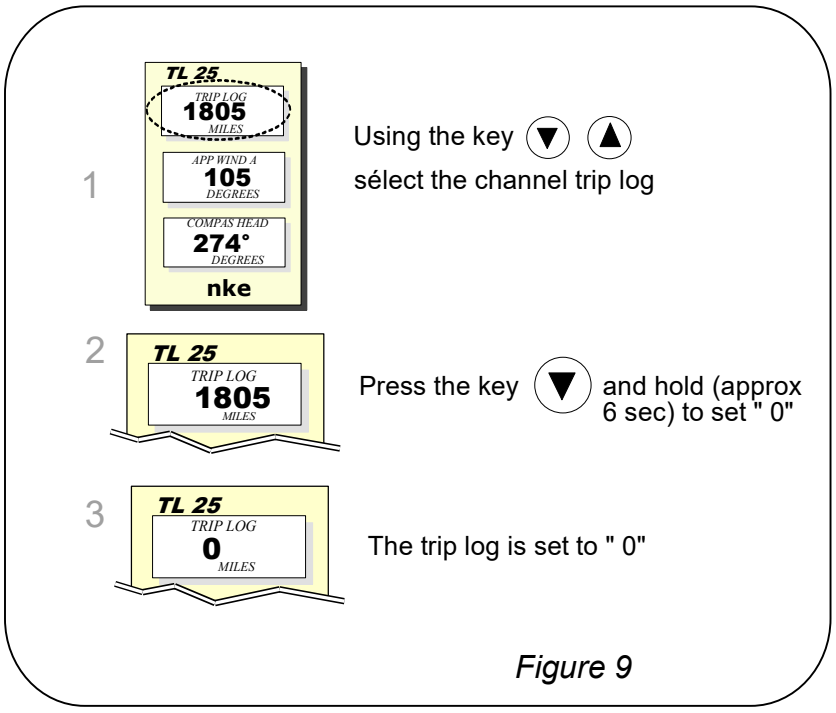
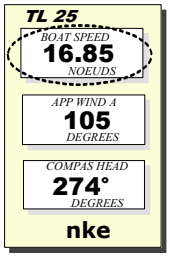


Figure 9

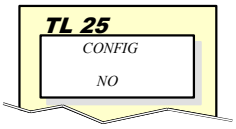
1.11 Choice of languages

You can configure the TL25 in one of these six available languages : French, English, Italian, Spanish, German and Dutch.

1 

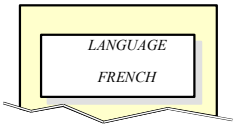
Using the keys ▼ ▲

select the channel ***CONFIG***

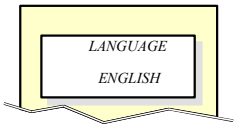
2 

Press the key and hold Ent

until the sub-channel ***valid alarm*** appears. Release..

3 

Press once more the key Ent to select ***Language***



Using the keys ▼ ▲ select english (for example)

Valid by maintaining pressure on the Key Ent

After 5s, the TL25 automatically exits this menu

Figure 10

1.12 Use of the race timer

The display includes a regatta race timer. Times by default are T1= 6min and T2 = 4min.

1.12.1 Starting the race timer

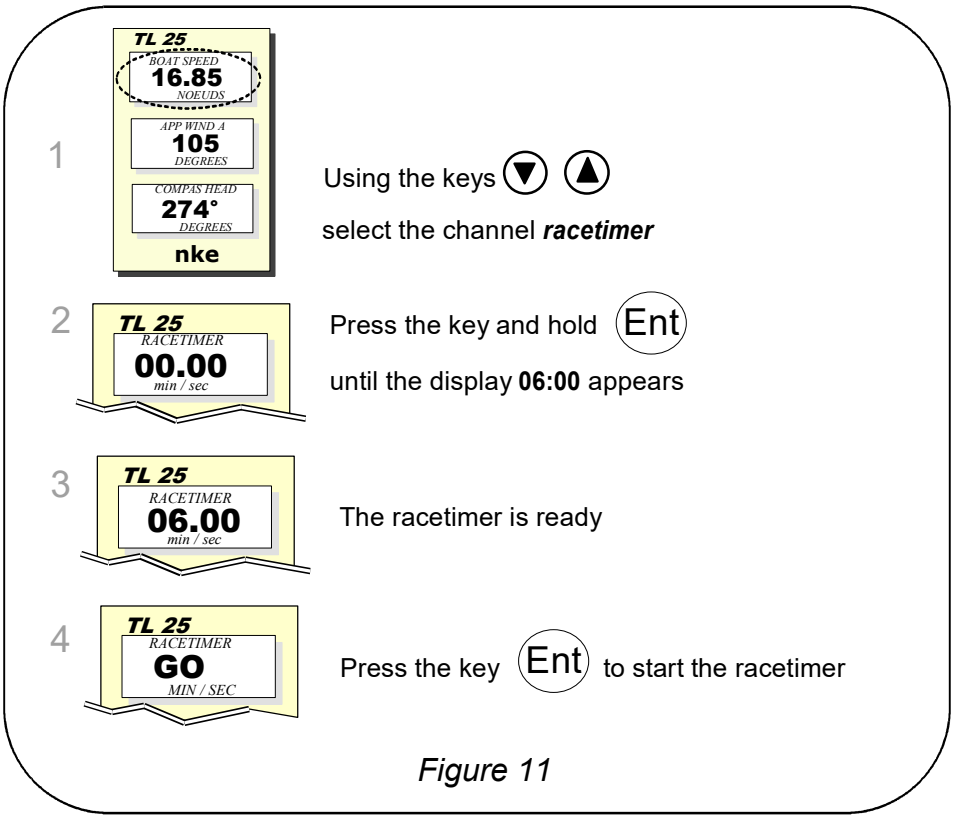


Figure 11

During countdown, the last 5 seconds are signalled by a BEEP, then the START signal is given by the alarm.

Note that if you did not start the race timer exactly at the start signal, you can synchronise the countdown at T2 by pressing the ***Ent*** key. During the procedure, you can also return to the initialization value by pressing the ***Ent*** key for 2 seconds. The race timer displays T1 = 6.00 minutes for a new start.

1.12.2 Setting of T1 and T2

<u>This setting can only be performed on the master display of your installation</u>.

- select the ***race timer*** channel, using the ▼ and ▲ keys,
- press Ent until the message ***T1 setting*** appears,
- change the value of T1 using the ▼ and ▲ keys**,** then confirm with Ent,
- the message ***T2 setting*** appears,
- change the value of T2 using the ▼ and ▲ arrow keys, then confirm with the Ent key,
- after 5 seconds, the TL25 will automatically leave the setting mode.

1.13 NMEA link

The ***TL25*** includes an NMEA input, allowing the connection of a GPS, a PC, meteorological sensors, etc. After performing the NMEA initialisation of the ***TL25***, the NMEA channels corresponding to the frames transmitted by the instrument are available on the ***TOPLINE bus***. You can then display data.

Please note that if an instrument transmits an NMEA frame which is already created by an **nke** sensor, then this frame will not be taken into account.

1.13.1 Connection of the NMEA link

The NMEA input of the ***TL25*** only allows the connection of one instrument providing NMEA frames (see chapter 16). If you wish to connect a second instrument (for example a GPS and a PC), you must connect it either to the NMEA input of another display, or to a ***TOPLINE NMEA INPUT INTERFACE*** box (ref : 90-60-055).

1.13.2 NMEA initialisation procedure

- Select the **CONFIG** channel on the upper display,
- Press and hold the ⓥ key until the message «***INIT NMEA***» appears. Release the ⓥ key.

The ***TL25*** subsequently performs a sequence of NMEA data search for 20 seconds, then it creates the new channels corresponding to the NMEA frames transmitted by the instrument. The NMEA channels created are saved in the display memory and restored every time it is powered up.

1.13.3 Characteristics of NMEA data

The NMEA frames identified by the TL25 are in conformity with the NMEA standard 0183 V2.30 (or lower version).

The NMEA input is insulated by an optocoupler.

The format of the frames is : 4,800 bauds / 8 bits with bit 7 at 0 / 1 start bit and 1 stop bit.

Distances are truncated to the lower value.

The other dimensions are rounded to the nearest unit (ex : degrees for angles).

A frame can be partially empty between commas.

The TL25 will take the missing data in another frame (ex : speedometer in VWH and compass in HDG).

The depth in feet will be identified if it does not exist in meters for example.

A channel can be included in several frames (ex : the compass is taken in HDG in priority, if not in HDM, if not in VHW).

If the bottom heading or the WP heading do not exist in magnetic, the true heading is taken.

Refreshing of the display of the NMEA channels is performed each time a new valid NMEA frame is received. If the NMEA link is lost (example : loss of satellites on the GPS) the last received data will remain on the display for 64 seconds. After that, the TL25 will signal the breakdown.

1.13.4 Frames identified by the TL25

NMEA Frame	Description	TOPLINE channels created
$xxGLL	Latitude, longitude, time and quality index	*LAT_DEGMIN*, *LAT_MILMIN*, *LON_DEGMIN*, *LON_MILMIN.*
$xxGGA	Latitude, longitude and time	*LAT_DEGMIN*, *LAT_MILMIN*, *LON_DEGMIN*, *LON_MILMIN.*
$xx-ZDA	Date and time	*ANNMOIS*, *HEUJOUR*, *MINSEC*.
$xxRMC	Latitude, longitude, date, time, SOG, COG and magnetic variation : in minimum data ;	*ANNMOIS*, *HEUJOUR*, *MINSEC*.
$xxVTG	COG, SOG	*CAP_FOND*, *V_FOND*.
$xxXTE	Cross-track error	*ECART_ROUTE*, *B_PILOT*, *C_WP_OD*.
$xxAPB	Automatic pilot in A format	*ECART_ROUTE*, *B_PILOT*, *C_WP_OD*.
$--RMB	XTE, latitude, longitude and distance and heading to destination (DTW and BTW) in minimum data.	*A_WP*, *D_WP*
$xxBWC	Bearing and Distance to Waypoint	*A_WP*, *D_WP*
$xxXDR	Measurement transmitter : stays tension or temperature	*TEN_ETAIS.*
$xxHDG	Magnetic heading, deviation and variation	*COMPAS*, *R_COMPAS*.
$xxVHW	Surface speed, magnetic and true heading	*COMPAS*, *R_COMPAS*, SPEEDO
$xxHDM	Magnetic heading, deviation and variation	*COMPAS*, *R_COMPAS*.
$xxVLW	Surface distance	*LOCHJ*, *LOCHT*.
$xxDBT	Depth beneath transducer	PROF
$xxDPT	Depth beneath transducer and offset	PROF
$xxMTW	Water temperature	*TEMP_EAU*.
$xxMWV	Wind speed and wind angle	*ANG_VENT_APP*, *R_ ANG_VENT_APP*, *ANEMO*.
$xxVWR	Apparent wind speed and wind angle	*ANG_VENT_APP*, *R_ ANG_VENT_APP*, *ANEMO*.
$xxMMB	Atmospheric pressure	*BARO_2*.
$xxMTA	Air temperature	TEMP_AIR
$PNKEP,01	Target speed	*VIT_CIBLE*.
$PNKEP,02	Heading at next board	*CAP_AUTRE_BORD.*
$PNKEP,03	Optimum upwind angle	*ANGLE_OPT_VENT*, *REND_PRES*, *REND_POLAIRE*.
$PNKEP,04	Angles to optimise the CMG and VMG and gain	*ANGLE_OPT_CMG, ANGLE_OPT_VMG, GAIN_ROUTE_CMG, GAIN_ROUTE_VMG*.
$PNKEP,05	Current direction and speed	*DIREC_COURANT, VITES_COURANT*.

1.14 Technical specifications

- Power supply : 10 to 16VDC
- Consumption : 20mA without lighting and 70mA with lighting.
- Tightness : IP67
- Weight : 1.3kg including cable
- Dimensions : height = 260mm ; width = 156mm ; thickness = 45mm
- Operating temperature : -10°C to +50°C
- Storage temperature : -20°C to +60°C
- Horizontal viewing angle : superior to 120°
- Vertical viewing angle : superior to 90°
- Height of the characters displayed : 25 mm for the channel, and 10 mm for the identifier and the unit.

1.15 Version and address number of the display

You can check the software version of the display and its address in the list. In order to do that, select the CONFIGURATION channel, then press the ***Ent*** key for 5 seconds. The date, time and version of the TL25 software are then momentarily displayed on the screen.

1.16 Diagnostic for 1st level troubleshooting.

Before contacting technical support, please check the troubleshooting table below.

Problem	Possible causes and solutions
The ***Topline*** installation does not detect the TL25	The bus cable is not or is badly connected to the terminal box : check the plugging and the connection inside the terminal box. Check the state of the cables : they must not show any sign of wear or cut.
The remote control does not control the TL25	The address of the remote control is lower than that of the TL25 : reinitialise the remote control, see chapter 17.
	The TL25 is set at the address « **0** » : perform its initialization, see chapter 17.
The TL25 displays the message « data wire error »	Check that the black data wire is connected at the right location in the terminal box : see chapter 17
The TL25 displays the message « collision error »	It is possible that there are two master displays (at address 1) on your installation : check the addresses, if it is the case, reinitialize one of the displays.
The TL25 does not display the NMEA data : that from the GPS for example.	Has the NMEA link been initialized ? see chapter 16
	The NMEA link is not or is badly connected to the terminal box : check the connection of the TL25 and that of the NMEA transmitter (GPS).
Your display indicates ***battery fault.***	Check the voltage of your battery with a voltmeter : the operating voltage must be higher than 10VDC. Check the charge behaviour of your battery.

If you do not manage to solve the problem, please contact your distributor.

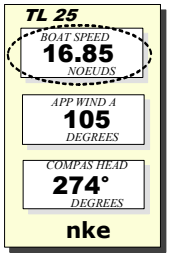
1.17 *TL25* initialization : see chapter 4.8

2 SENSOR CALIBRATION

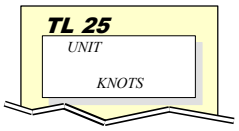
Every **nke** sensor is adjusted at the factory. However, a calibration is required to adapt the sensor to the specificities of your boat and to obtain an optimum measurement accuracy. Follow the calibration procedure below, by visualising the settings on a display.

Please refer to the installation notice of the *TOPLINE* sensor that you wish to calibrate

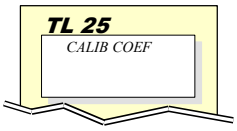
2.1 Setting procedure of the calibration coefficient:

1 

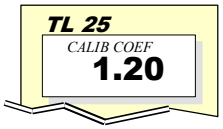
Using the key ▲▼, select the channel,
you wish to set the coefficient of calibration.
The selected channel flickers.

2 

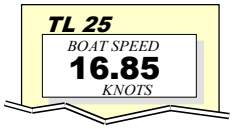
In order to access to the list of sub-channel ***UNIT, CALIB COEF & OFFSET,***.
press and hold downthe key Ent
, until the sub-channel ***UNIT*** appears then release.

3 

Press successively the key Ent to select ***CALIB COEF.***

4 

Using ▼ ▲, set the new ***coefficient 1.20***

5 

Validate and exit by maintinning Ent
The coefficient is saved in memory

Figure 12

CAUTION :

- The **calib coef** parameter is a multiplier coefficient. This value must never be equal to zero. By default this coefficient is set to **1.00**. If it is not the case, before starting a calibration enter the value **1.00.**

2.2 Offset setting procedure

Follow the above procedure and select the ***OFFSET*** sub-channel.

Note that the offset default value is **0**.

2.3 Autocompensation of the fluxgate compass

It is possible that on some boats, the ***Fluxgate Compass*** may be strongly disrupted by its environment. Despite a careful installation and an offset properly adjusted, an important difference remains between the ***magnetic heading*** displayed and the true magnetic heading, throughout the measurement range between **0** and **359°**. In this case, you must perform an autocompensation of the ***Fluxgate Compass*** to achieve an acceptable level of accuracy.

Please refer to the installation guide of the ***Fluxgate Compass*** sensor.

2.3.1 Principle of autocompensation

The operation consists in executing, **at a rigorously rotation constant speed**, a perfect circle with your boat, **clockwise**. While the boat describes this circle, the sensor will record the measurement points of a deviation curve, every 10° with an accuracy of 0.25°. Thus, your ***Fluxgate Compass*** will be accurately corrected between **0** and **359°**.

CAUTION : the autocompensation operation of the Fluxgate Compass requires precision in the execution of the circle : constant speed of 2 to 3 knots and constant diameter of the circle. If you cannot maintain these two criteria, the autocompensation will not be successful.

2.3.2 Autocompensation procedure

In order to achieve a successful autocompensation, you must navigate :

- On smooth sea, with no current and no wind.
- Away from large magnetic masses such as cargo boats.
- In an open area allowing the execution of a circle with a diameter approximately 5 times the length of the boat.
- At a constant speed of about 2 or 3 knots.

1. Select, on the upper display, the ***magn head*** channel,
2. Select the middle display with the key ⏎
3. Start to describe the circle, then press the 8 seconds on the key ▼, to trigger the autocompensation procedure.
4. One single circle***** is sufficient to perform the autocompensation correctly, when its a success, the message **3000** is indicated.

   ** For the previous generation of compass, referenced as 90-60-005, at least three circles must be executed.*

In case of problem during autocompensation, the ***TL25*** displays the ***PAN*** message , plus one code :

- Code 1 : cancellation at user request.
- Code 2 : detection of a gyration in the opposite direction. Start again clockwise.
- Code 3 : excessive variation between 2 heading measurements. Reduce the speed of your boat to 2 or 3 knots.
- Code 4 : angle correction higher than 20°. Start the autocompensation procedure over.

  In case of autocompensation error, the measurements are not saved to the memory and the sensor resumes its normal operating mode.

3 INSTALLATION

This chapter describes the installation and the initialization of the ***TL25.***

IMPORTANT

- Read this user guide entirely before starting the installation.
- Any electrical connection of the ***TL25*** on the ***TOPLINE bus*** must be carried out with the terminal box 90-60-417 (equipped with a connection terminal for the NMEA input).
- Only use ***TOPLINE bus*** cable of the type 20-61-001.
- Any intervention on the ***TOPLINE bus*** must be carried out with the installation power switched off.

3.1 Packing list :

- one Multifunction ***TL25*** equipped with six meters of cable, including the ***TOPLINE bus*** and one **NMEA** input,
- one user guide,
- one protective cover
- four M4 fixing screws

3.2 List of accessories

- Standard terminal box TOPLINE bus : 90-60-121
- Terminal box TOPLINE bus with NMEA input : 90-60-417
- Bracket for 1 TL25 : 31-33-003 in aluminium, 31-33-015 in glass fibre painted white, 31-33-13 in varnished carbon fibre
- Bracket for 2 TL25, in glass fibre : 31-33-016
- Cable remote control : 90-60-245
- Wireless remote control : 90-60-258

Protective cover : 31-33-002 white and 31-33-004 black

3.3 Installation precautions

The location of the ***TL25*** must be :

- so that the helmsman is able to easily read the data,
- placed in a location away from potential shocks,
- more than 40cm away from a magnetic compass,
- more than 1 meter away from a VHF radio transmitter.

The best readability of the ***TL25*** is generally obtained by mounting it on a bracket. You can also wall mount it on any flat surface of the boat.

Four M4x30mm fixing screws are provided with the TL25.

The bracket is an accessory available at your distributor.

3.4 Mounting on bracket

Make sure that the bracket you have chosen can be mounted your mast. Check that there is sufficient space behind the partition to make the cable run.

If the cable runs inside the mast, make the cable pass through an opening equipped with a grommet. If the cable runs across the deck, make the cable pass through a tight stern tube gland.

3.4.1 Mounting procedure for the bracket

- place the bracket on the mast foot,
- using a pencil, locate the six fixing holes, then remove the bracket,
- using a centre punch, mark the centre of each hole,
- drill the holes with a diameter ∅ 5,
- mount the bracket with the six fixing screws or six rivets (not included).

3.4.2 Mounting procedure of the *TL 25* on the bracket

- introduce the cable in the ∅18 drilled hole,
- position the ***TL25*** so that it faces the four ∅4 holes,
- place the four screws (provided with the product) in the holes, from the back of the partition,
- tighten the four fixing screws moderately.

CAUTION :

- When mounting the TL25, tighten the fixing screws moderately. Excessive tightening can cause the casing to break.
- Do not use glue putty to mount the ***TL25.***

3.5 Bulkhead mounting

Make sure the location is clean, smooth and flat. Check that there is sufficient space behind the partition to make the cable run.

Procedure

- Perform the drillings of figure 13 on the partition,
- Clean the mounting surface with alcohol,
- Lay a very thin silicone sealing joint around the mounting perimeter,
- introduce the cable in the ∅18 drilled hole,
- position the ***TL25*** so that it faces the four ∅5 holes,
- place the four screws (provided with the product) in the holes, from the back of the partition,
- tighten the four fixing screws moderately.

Drill four holes Ø 5 mm at each angle

Drill the side hole Ø 18 mm

TL25 size :

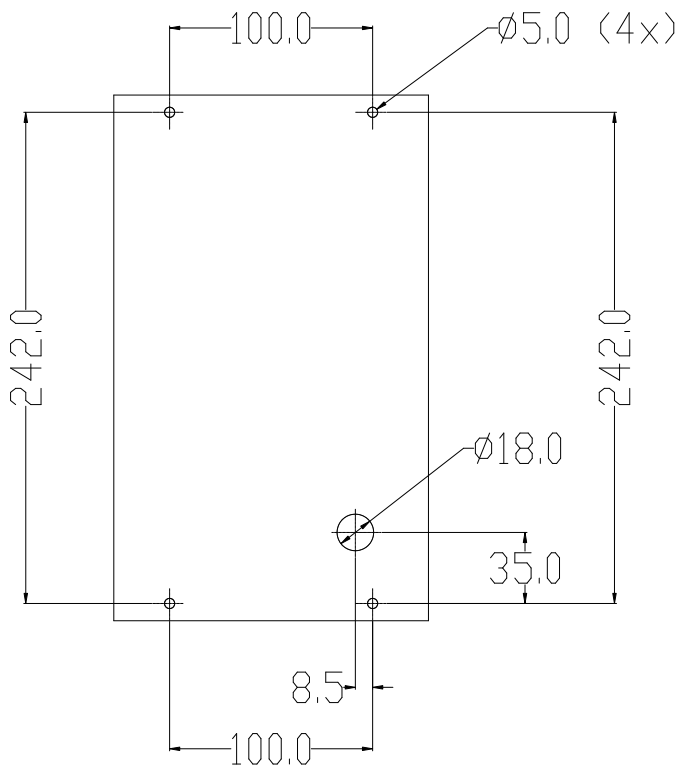


Figure 13

3.6 Connecting the *Topline bus* and the NMEA connection

1. Make the bus cable run from the ***TL25*** to the ***TOPLINE*** terminal box of your installation.
2. Connect the bus cable inside the terminal box.

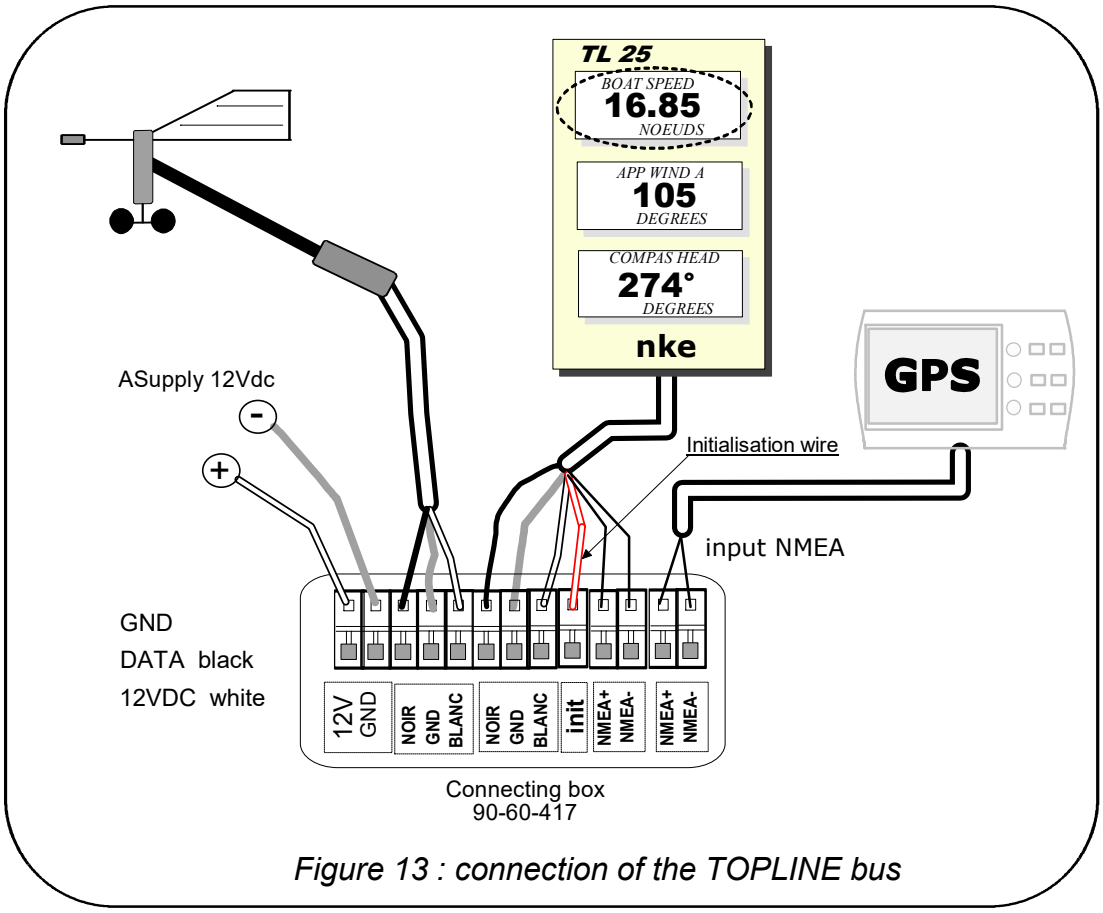


Figure 13 : connection of the TOPLINE bus

If you reduce the length of the bus cable, strip and galvanise the wires before connecting them inside the terminal box.

3.7 Identification of the cable wires

White cable 6 wires	Wire identification	
White wire	+12V	***TOPLINE*** Bus
Black wire	***Topline*** Data	
Braid	GND	
Red wire	**Initialisation wire (GND)**	
Yellow wire	NMEA +	NMEA Input
Green wire	NMEA –	

3.8 *TL25* and remote control initialization

At first power-up, you must initialize the ***TL25*** so that an address is assigned to it. The display is delivered with the address set as **0**. During the initialization, it will automatically insert itself in the list of instruments and displays of the ***TOPLINE bus*** of your installation :

- either as master, at the address **1**, if this address is available on the bus,
- or as slave, if the address 1 is taken by a master, at an available address comprised between **2** and **20**.

Likewise, the remote controls must also be initialized. Please refer to the remote control user guide.

3.8.1 Initialization procedure: the TL25 is set at the address **0**

- your installation is powered off : disconnect the initialization red wire from the ***init*** terminal (GND),
- power up your installation : the ***TL25*** then performs an auto-test,
- when the message «***connect the red wire***» appears, reconnect the red wire on ***init*** (GND) : the ***TL25*** then takes an address available on the bus,
- the TL 25 is then initialized.

CAUTION :

- the remote control(s) of your installation must be assigned to an address higher than that of the ***TL25***. To achieve that, you must first initialize the ***TL25*** then the remote control(s).
- The initialization red wire must be connected to the ***init*** terminal in normal operation.

3.8.2 Reinitialization procedure : the TL25 already has an address between 1 and 20

You may need to reinitialize the ***TL25***, for example to have another address assigned to it.

- your installation is powered off : disconnect the initialization red wire from the ***init*** terminal (GND),
- power up your installation : the TL25 performs an auto-test then takes the address **0**,
- when the message «***connect the red wire***» appears, reconnect the red wire on ***init*** (GND) : the ***TL25*** takes an address available on the bus,
- the TL 25 is then initialized.

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