6.1. Switching method to setting mode, and finishing method

figure 1

figure 2

figure 3

<Method of displaying setting menu>
After start of HiTES, setting menu can be displayed from initial screen (left figure 1).
Long push [To setting menu] button at right bottom of the screen until display changes.

<Method of displaying initial screen>
At the first start:
At the first start, E20 (absence of sensor unit registration) is displayed.
At ordinary use (when air pressure and temperature are normal and within management value range):
Push screen to display air pressure indication screen (left figure 2).
It is displayed by pushing [HOME] button down at right bottom of displayed screen.
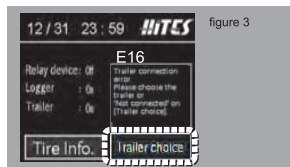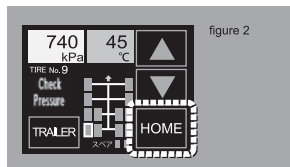In the case of E16 trailer connection abnormality:
The initial screen is in the state of E16 error indication.
[TRAILER] button (left figure 3) is displayed at right bottom of screen.
In order to carry out setting operation, push [Trailer choice] button to move to trailer selection screen, and [Cancel] selection screen to move to setting menu.
*In order to carry out trailer connection operation, carry out connection/disconnection operation from screen displayed by pushing [TRAILER].

<Concerning setting menu>
Setting menu consists of three screens from 1 to 3.
Move among the screens is possible using [Previous page] or [Next page] buttons at the bottom of screen.
Pushing [End] button down ends setting menu and restarts.

Setting menu 1:
This is the ordinarily used setting menu.
6.5. Buzzer sound volume/luminance
6.7. Registration of repeater
7.4. Tire rotation

Setting menu 2:
This is a setting menu to be used after mounting instruments and when sensor is changed.
Erroneous operation may erase information.
In operation, carry out setting after fully confirming contents.
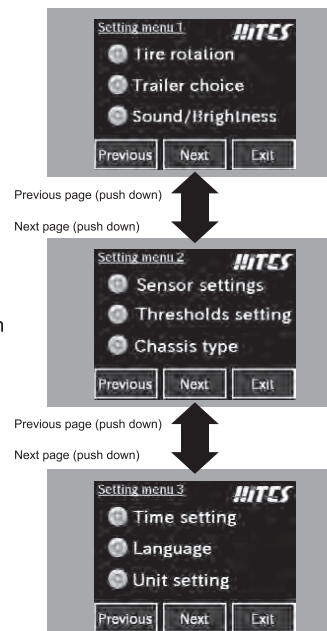6.2. Wheel arrangement registration
6.3. Sensor information
6.4. Management values

Setting menu 3:
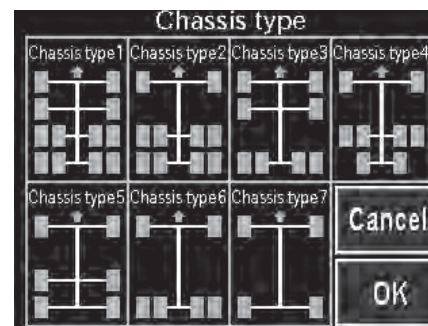This is a setting menu to be used only at the first time after mounting instruments.
6.6. Time
6.8. Language (set as needed)

Previous page (push down)
Next page (push down)

Previous page (push down)
Next page (push down)

6.2. Wheel arrangement registration
<Carried out only at the first time after installation of instruments>

Wheel arrangement setting of vehicle in which instruments are installed

1, Select [Chassis type] from setting screen [Setting menu 2].
2, Select pattern of vehicle in which instruments are installed.
Select one from 1 to 7 on the screen.
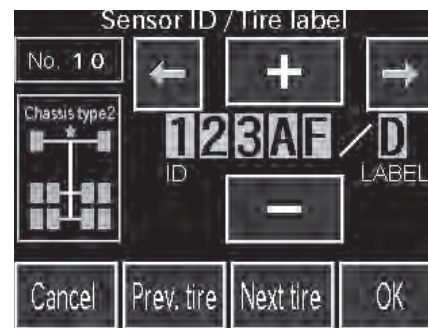* Frame of the vehicle pattern selected is colored blue.
3, Push [OK] button and select [OK] on displayed confirmation screen to complete registration.

* Be sure to carry out wheel arrangement registration work before carrying out "6.3. Sensor information and management values" because already registered information such as sensor ID is all reset when the work is carried out.
* When wheel arrangement is changed with already registered instruments, registered information is reset.
* If you want to end menu without changing wheel arrangement, push [Cancel] button, and then push [OK] button on displayed confirmation screen.

6.3. Sensor information

This is carried out when new sensor assembly or sensor change is carried out.

1, Select [Sensor settings] from setting screen, [Setting menu 2].
2, Select position where you want to register sensor with [Previous tire] button or [Next tire] button.
⇒Selected position blinks.
3, Enter ID of sensor assembled to the relevant position to carry out setting.
⇒ Select figures with [+] button or [-] button, and move input digit with [←] button or [→] button.
4, Following the input of 5 digits of ID, input label to carry out setting.
⇒ Use the same indication as the alphabet of label for rim which is pasted on the rim on which sensor is mounted.
* The label is utilized at the time of rotation.
5, When input is finished at all positions, push [OK], and then push [OK] on displayed confirmation screen to complete registration of set information.

*In order to end menu without changing content of registration, push [Cancel] button, and then push [OK] button on displayed confirmation screen.
*Do not input "00000" as sensor ID number.
*Starting with "00000" results in error.
*Input "FFFFF" in all unused positions
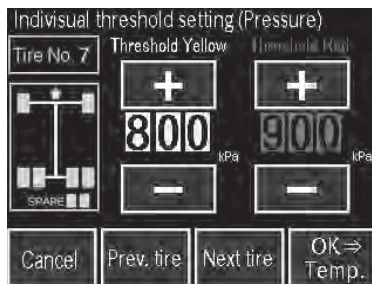(tires without mounted sensor)

6.4. Management values

Management values for yellow and red can be set for tire air pressure and air temperature inside tire of all positions (including spare tire).
●Yellow management value: management value indicating need for confirmation of tire air pressure and air temperature inside tire
●Red management value: management value indicating notification of tire air pressure reduction and rise of air temperature inside tire
Carry out setting from [Batch setting] in case management values of all positions are same, and from [Individual setting] in case individual setting is required.

<Method of Batch setting>
1, Push [Thresholds setting] button from setting screen, [Setting menu 2], and select [Batch setting] from displayed screen.
2, Set management values with [+] or [-] button.
* Management value of air pressure: figure at left side is management value for (yellow), and figure at right side is that for (red).
* As management value of tire air pressure for (yellow), value lower than that for (red) cannot be set.
As management value of tire air pressure for (red), value higher than that for (yellow) cannot be set.
* Management value of temperature: left side figure is management value for (yellow) and right side value is that for (red).
* As management value of temperature for (red), value lower than that for (yellow) cannot be set.
As management value of temperature for (yellow), value higher than that for (red) cannot be set.
3, When input is finished at all positions, push [OK], and then push [OK] button on displayed confirmation screen to complete registration of set information.
* In order to end menu without changing contents of registration, push [Cancel] button, and then push [OK] button on displayed confirmation screen.

<Method of individual setting>
1, Push [Thresholds setting] button from setting screen, [Setting menu 2], and then select [Individual setting] from displayed screen.
Setting of management value of tire air pressure:
2, Select position at which setting is to be carried out with [Previous tire] or [Next tire].
3, Set management values with [+] or [-] button.
* Management value of air pressure: figure at left side is management value for (yellow), and figure at right side is that for (red).
*As management value of tire air pressure for (yellow), value lower than that for (red) cannot be set.
As management value of tire air pressure for (red), value higher than that for (yellow) cannot be set.
*Management value of temperature: left side figure is management value for (yellow) and right side value is that for (red).
*As management value of temperature for (red), value lower than that for (yellow) cannot be set.
As management value of temperature for (yellow), value higher than that for (red) cannot be set.
Setting of management value of air temperature inside tire:
4, Push [OK⇒Temp] button to move to temperature setting screen, and carry out setting work for each position in the same manner as that for air pressure.
* Work can be carried out smoothly by setting management values of air temperature inside tire after setting management values of tire air pressure.
5, When input finished at all positions, push [OK], and then push [OK] on displayed confirmation screen to complete registration of set information.
* In order to end menu without changing contents of registration, push [Cancel] button, and then push [OK] button on displayed confirmation screen.
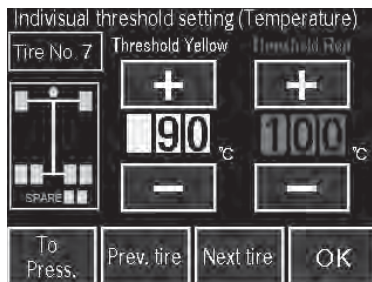* Return to air pressure management value setting screen is possible from [Return to air pressure].

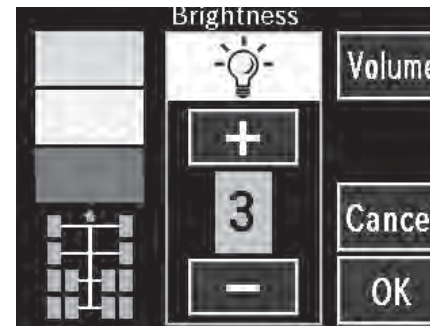
6.5. Buzzer sound volume/Brightness

Buzzer sound volume and screen luminance when air pressure and temperature reach management values (yellow or red) are adjusted.

<Method of setting buzzer>
1, Select [Sound/Brightness] from setting screen, [Setting menu 2].
2, Set sound volume and sounding time with [+] or [-] button.
* Left figure shows yellow sound volume, red sound volume, operation sound volume and sounding time from left side.
* Sound volume can be set in a range of 0 to 5.
0=no sound, 5=maximum volume
* Sounding time can be selected from 5 sec., 10 sec., 15 sec., 20 sec. and ∞ (sound continues until screen is touched).

<Method of setting Brightness>
3, Push [Brightness] to display Brightness setting screen.
4, Set Brightness with [+] or [-] button.
* Luminance can be adjusted in a range of 1 (dark) to 5 (bright).
5, After finishing input, push [OK], and then push [OK] on displayed confirmation screen to complete registration of set information.
* In order to end menu without changing contents of registration, push [Cancel] button, and then push [OK] button on displayed confirmation screen.

6.6. Time

Setting of time is carried out.
1, Select [Time setting] from setting screen, [Setting menu 3].
2, Adjust time and day with [0] to [9] buttons.
*In case of wrong input, return to previous state is possible with [←].
3, After finishing input, push [OK], and then push [OK] on displayed confirmation screen to complete registration of set information.
* In order to end menu without changing contents of registration, push [Cancel] button, and then push [OK] button on displayed confirmation screen.

6.7. Registration of repeater (in cases of trailer and bus)

Trailer choice (Relay device A)

		Relay device B
FF003	FF015	
FF015	FF020	
FF020	FF021	Cancel
FF021		
Trailer unconnected		OK

Trailer choice (Relay device B)

		Relay device A
FF003	FF015	
FF015	FF020	
FF020	FF021	Cancel
FF021		
Trailer unconnected		OK

In case repeater is used in trailer or bus, setting is required after installation of instruments. (Only at the first time for bus, and also at the time of switching vehicle connection for trailer.) Carry out setting according to the following procedure.

* Change indicator to setting mode after first setting of repeater in trailer, or after switching trailer.
1, Start (turn power source on for) repeater to be registered and receiver. (For receiver side, move to setting menu in indicator.)
2, Confirm ID of the repeater to be registered.
* Repeater ID is written on the label pasted on connection part of tractor and trailer.
In case label cannot be found, ID is indicated on the main body of repeater.
3, Select [Trailer select] from setting screen, [Setting menu 1].
4, A screen of repeater A is displayed and ID of started repeater is indicated.
5, Select ID of repeater to be registered confirmed in 2, and push [Determine] to restart.
*In case two repeaters are used, push [Repeater B], and select ID of repeater B.
* In case repeater ID is not indicated in repeater selection screen, select [Return] to return to setting menu 1 and after waiting for about 90 seconds, carry out operation again from 3,.
* If repeater ID is not indicated after waiting as mentioned above, following reasons are estimated.
* Repeater is not started (power source is off).
* In case power source of repeater is always connected, work with engine of vehicle started.
* Reception is not accomplished by instruments set in cabin. (Connection error of receiving antenna, wrong position of setting, failure of receiving antenna, etc.)
6, When input finished, push [Determine], and then push [OK] on displayed confirmation screen to complete registration of set information and restart.
* In order to end menu without changing contents of registration, push [Cancel] button, and then push [OK] button on displayed confirmation screen.

*Setting of sensor ID, etc. to repeater is a work with PC using a (separately sold) setting device and attached software. For details of contents of work, refer to instruction manual in HiTES application CD-ROM or web page of HiTES.
URL: http://www.yokohamatire.jp/hites/
*In the case of bus, use without registration of repeater is possible, but judgment will be impossible when failure of repeater occurs.

6.8. Language select

HiTES
言語／Language
日本語　English

Setting of display language is carried out.
Display language can be selected from Japanese and English.

1,Select [Language] from setting screen, [Setting menu 3].
2,When either [Japanese] or [English] is selected from displayed screen, languageis changed to selected one and screen returns to setting menu 3.

6.9. Performance confirmation

Completion of setting up to previous section completes setting work.
If setting is completed normally, each tire pressure and each air temperature inside tire are indicated in Display several seconds later.
In case there are tires for which data are not indicated, existence of things such as metal that block electric wave is estimated.
Trying to change relative positions of sensor and receiving antenna by making half turn of tire or change position of mounting of receiving antenna may enable reception in some cases.
If information of all tires to which sensor units are mounted is indicated, performance confirmation is complete.

7.1. HiTES starting method

Power source ON

When energized, HiTES functions in the order of left diagram.
If there is no problem in tire air pressure and air temperature inside tire, screen turns to light-off state 15 seconds later.

Displaying YOKOHAMA logo

Language selection is necessary only at the first start.
Select language to be used.

言語／Language
日本語　English

Date information, instruments connection information, air pressure and temperature conditions, logger information, etc. are indicated.

E20
Sensor ID is unregistered. Please go to [Sensor setting] on Setting menu 3

E16
Trailer choise

In case error occurs at start, details of error is indicated.
Carry out readjustment of setting from [Setting menu].

When trailer connection abnormality (E16) occurs, button to [Trailer choice] is displayed.
Readjust connection operation.

<Display method of Setting menu>
1,Display HOME screen.
　When screen is off;
　　Push screen and push [HOME].
　When yellow or red occurs:
　　Push [HOME].
2,Long push [To setting menu] at right bottom of HOME screen.

Air pressure and temperature of each registered position are indicated.

In case when trailer is registered, air pressure of each position of trailer is indicated after display of tractor head.

If there is no problem, screen is turned off.

7.2. Indicator operation method

When air pressure and temperature are in normal state, screen is off.
Tire information screen is displayed by touching screen.

<Manual display>
[△] or [▽] button is used to indicate air pressure and temperature information of each position.
Background color of air pressure and temperature indication part indicates present state by color.
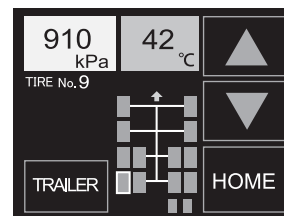(Blue): Normal
(Yellow): State of management value (yellow)
(Red): State of management value (red)
(White):State of no reception
In the cases of yellow and red, comment is indicated at left side of screen.

Entire state is indicated by color in wheel arrangement diagram in the center of screen.
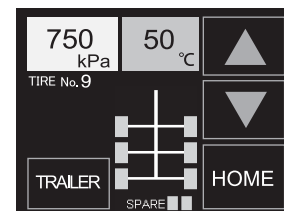(Green): Both air pressure and temperature are normal.
(Yellow): Either one or both of air pressure and temperature are in management value (yellow).
(Red): Either one or both of air pressure and temperature are in management value (red).
(White): State of no reception
The position for which information is presently displayed is indicated by blinking.

<Automatic display>
When wheel arrangement diagram in the center of screen is pushed, display is implemented sequentially from the earliest registered position to the last position in 5 second intervals.
When wheel arrangement diagram is pushed during automatic display, display is switched to manual mode at presently displayed position.
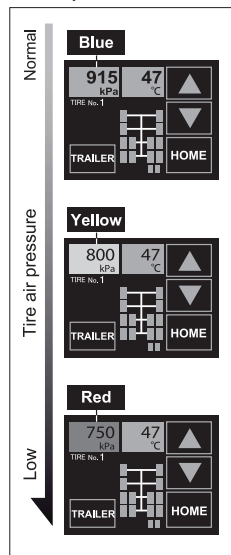Manual operation is possible with [△] and [▽].
In the case of vehicle to which trailer is connected, information of trailer side is displayed after display of truck head side finishes.
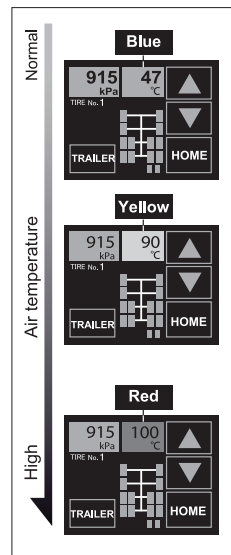
7.3. Management values of tire air pressure and air temperature

State of tire air pressure and air temperature inside tire can be known by color by setting management values of yellow and red.

Tire air pressure

Normal

Tire air pressure

Low

Blue
915 kPa   47 ℃
TIRE No.1
TRAILER   HOME

Yellow
800 kPa   47 ℃
TIRE No.1
TRAILER   HOME

Red
750 kPa   47 ℃
TIRE No.1
TRAILER   HOME

Air temperature

Normal

Air temperature

High

Blue
915 kPa   47 ℃
TIRE No.1
TRAILER   HOME

Yellow
915 kPa   90 ℃
TIRE No.1
TRAILER   HOME

Red
915 kPa   100 ℃
TIRE No.1
TRAILER   HOME

Yellow management value (management value indicating need for confirmation of tire air pressure and air temperature)
Tire air pressure: Blue when it is no less than management value and yellow when it is less than management value
Air temperature: Blue when it is no higher than management value and yellow when it is higher than management value

Red management value (management value indicating notification of tire air pressure reduction and rise of air temperature)
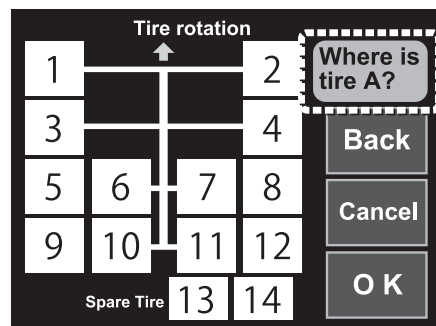**Tire air pressure:** Yellow when it is no less than management value and red when it is less than management value
Air temperature: Yellow when it is no higher than management value and red when it is higher than management value

* When the values are yellow or red, quickly take measures according to your operation manual, etc.

* Management values cannot be set at excessively high tire air pressure.

7.4. Tire rotation (truck, bus and light truck)

Tire rotation
1 2
3 4
5 6 7 8
9 10 11 12
Spare Tire 13 14
Where is tire A?
Back
Cancel
O K

<Concerning labels for rim>
Labels for rim are those indicating alphabets (A to R) pasted on rims on which sensor units are mounted. They are necessary for individual recognition of tires. Be sure to confirm before tire rotation.

<Method of tire rotation>
1, Display setting menu
(Refer to 7.1. HiTES Operation method to setting mode and finishing method (Page 16))
2, Select [Rotation] from setting screen, [Setting menu 1].
3, Position of label is asked from indicator (right top of screen). Select tire position after rotation.
*In the case of wrong selection, push [Return] to return to previous state.
4, When selection of all positions ended, push [Determine], and then push [OK] on displayed screen to register information and return to setting menu.

* In order not to overwrite content of change, push [Cancel], and then push [OK] on displayed confirmation screen to return to setting menu.

8.1. When failure is doubted

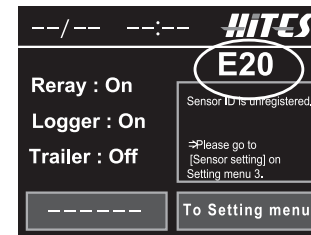| Phenomenon	Estimated factor	Measure to take
Thing other than figure is indicated in figure indication part of indicator.	It means that error is occurring.	Follow countermeasure on next page.
None is indicated on indicator.	Indicator is in standby mode.	Touching screen recovers indication.
	Power source cable is not correctly connected.	Connect correctly following procedure of this book.
	Connection between receiver and indicator is not correct.	Connect correctly following procedure of this book.
	High temperature protection function of indicator has worked.	It is not a failure. Indication will be recovered when temperature inside indicator falls.
Screen of indicator is dark, or indication speed (reaction) is slow.	It is because of characteristic feature of liquid crystal panel.	It is not a failure. Normal indication will be recovered when temperature rises.
There are dark spots and bright points in indicator screen.	It is a characteristic phenomenon of liquid crystal panel.	This is not a failure. Use it as it is.
Data indicated by indicator is extremely strange.	Sensor unit is in trouble.	Replace sensor unit with new one.
	Radio environment is bad.	Check if there are instruments utilizing radio nearby.
Instrument is abnormally hot.	It has been exposed to direct sunlight.	Move installation place of the instrument away from direct sun light.
	Instrument is in trouble.	Immediately disconnect power source cable from receiver. Contact sales agent.
Recording to logger is not possible.	Logger is not inserted, or not inserted correctly, in receiver.	Insert correctly.
	There is no free memory capacity in logger.	Although it is possible to continue recording, old data are cleared by overwriting from oldest ones when there is no free memory capacity left. Periodically take backups of necessary data to PC.
Abnormal noise is generated from tire during travel.	Tire has stone biting, foreign matter has got stuck on tire and so forth.	Confirm external appearance of tire.
	There is foreign matter inside tire. Sensor unit, fixing parts, etc. has dropped off.	Remove foreign matter if any. In case sensor unit has dropped off, contact sales agent.
[E16] is displayed after switching trailer or after start of engine.	Trailer is not selected.	Repeater information of trailer could not be obtained. Carry out trailer selection or indicator ID selection in setting mode to switch trailer.
	Trailer is not connected. (Single vehicle only)	Select [No registration] in trailer selection.
	Repeater is not started.	Check if power source wiring of repeater is disconnected or broken. Since power source may not be supplied to repeater when LED lamp of repeater is not lit, confirm vehicle side power source.

In cases of other phenomena than described above, since failure of this product may also be possible, contact sales agent.

In case error occurs in function confirmation, following contents are displayed on indicator. Meaning of each error code is shown below.

<Error code, its content and measure to take>

Error code	Error content	Measure to take
E01	Self-diagnosis abnormality	Contact sales agent.
E02	No setting of tractor pattern	Change to setting mode (Refer to page 34), and set wheel arrangement.
E03	Clock abnormality	Since backup battery of receiver may be dead, contact sales agent.
E04	No time setting	Change to setting mode (Refer to page 36), and carry out time setting.
E05	No reaction of sensor	Reception of sensor information of relevant position has not been accomplished. Contact sales agent if it occurs frequently.
E06	Duplication of sensor ID	Same ID is set in duplicate. Carry out resetting.
E15	No reaction of receiver	Contact sales agent.
E16	Trailer connection abnormality	Repeater information of trailer could not be obtained. Carry out trailer selection or repeater ID selection in setting mode to switch trailer.
E20	No registration of sensor unit	State of no registration of sensor ID of single vehicle (truck, bus, light truck). Register sensor ID from setting mode.
E21	No registration of trailer part sensor unit	State of no registration of trailer sensor unit. Register sensor ID to repeater with setting deice.

Example of error code indication

Example of information indication

8.2. Daily maintenance

*When this product is contaminated, wipe off lightly with dry soft cloth.
*In order to clean dust on screen or contamination on liquid crystal screen, turn power source off and wipe with dry soft clean cloth.
* Read "For safe use" of this book well to take good care.
*Periodically inspect receiving antenna, repeater and cables. In case break, crack, etc. are found, change the items.

Part	Specifications
Sensor unit	Pressure range: 0 to 1175 kPa (Gauge pressure when atmospheric pressure is assumed to be 100 kPa·abs) Temperature range: -40 to +125°C Transmission frequency: 300 MHz zone Applicable standard: G3-ISO(CPTLSNSC-00) G3-JIS(CPTLSNSC-10) TELEC No.: 001YUA1120 001YUA1132 FCC ID: UNK-Y001YUA1120 UNK-Y001YUA1120 IC Number: 6788A-Y001YUA1120 6788A-Y001YUA1120 Transmission control: Transmission in about 60 second intervals (About 30 second intervals when rapid tire air pressure variation or high temperature occurs) Life of sensor unit: 2 to 3 years after installation (Varies depending upon use condition) Sensor unit weight: G3-ISO(CPTLSNSC-00)39g±3g G3-JIS(CPTLSNSC-10)38g±3g Environmental conditions: Storage temperature: -20 to +40°C (Store in cold dark place) Operation temperature: -20 to +100°C
Receiving antenna	Receiving antenna cable 5 m or 8 m is attached (blue identification color on connector part of 8 m cable) Weight: about 120 g Environmental conditions: Storage temperature: -40 to +85°C Operation temperature: -30 to +75°C Humidity: 10 to 95% RH
Receiver	Operation power source: DC12 to 24 V (Consumption current no more than 250 mA) Signal input: ACC (Accessory: operation control) Environmental conditions: Storage temperature: -20 to +80°C Operation temperature: -20 to +70°C Humidity: 10 to 85% RH, no bedewing Accessory: Power source cable (3 m, with cigarette lighter plug, fuse 2 A, black and white: ACC (DC12/24 V), black: GND 0 V)
Display	Display function: Tire position, figures (pressure, temperature, error code), state indication (blue, yellow, red) Setting function: Sensor registration, management value setting, trailer connection, rotation, etc. Environmental conditions: Storage temperature: -20 to +70°C Operation temperature: -10 to +60°C Humidity: 0 to 85% RH, no bedewing Receiver connection cable: 3 m long
Logger	Operation power source: DC5 V (Consumption current: no more than 150 mA) Kind of memory: Exclusive memory (Flash type)

FCC CAUTION
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
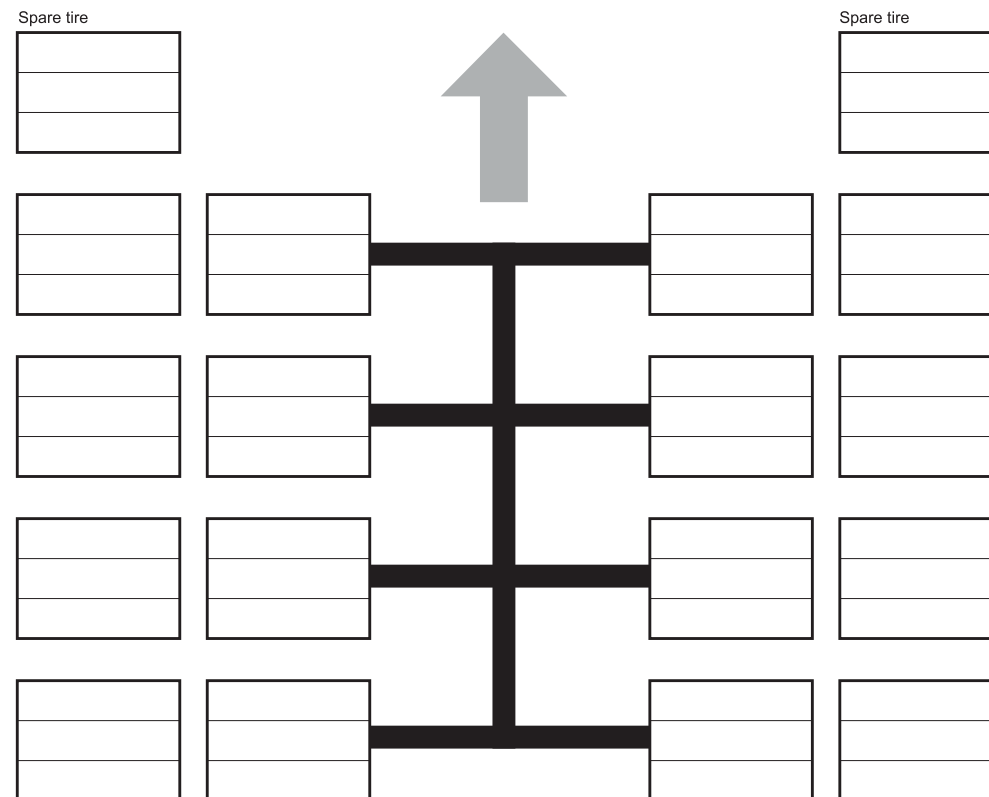
IC CAUTION
This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:
(1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.
Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
(1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Thailand
This telecommunication equipment is in compliance with NTC requirements.
เครื่อง โทรคมนาคมและอุปกรณ์นี้ มีความสอดคล้องตามข้อกำหนดของ กทช.

HITES Check sheet (Copy to use)

Spare tire

Spare tire

Example of description

Position
Sensor ID
Label (alphabet)

Work time and date

Vehicle/Registration No.

Vehicle maker/vehicle type

Tire type/size

Management value of tire air pressure
 Yellow kPa Rad kPa
Management value of air temperature inside tire
 Yellow C Rad C
Logger S/N