



**MOTOSAT
DIGIMATIC SM65**
**MOTOSAT
DIGIMATIC SM85**



**INSTALLATION GUIDE
AND USER MANUAL**

TELECO WARRANTY

Teleco guarantees its satellite dishes and terrestrial antennas against any material and/or construction fault and defect. The warranty offered by TELECO is limited to the free-of-charge replacement or repairing of any parts that are deemed faulty by TELECO. The warranty is applicable for a period of 3 YEARS starting from the product purchase date; however, it will only be considered valid if the Customer is able to produce a written document (invoice or tax receipt) showing the purchase date.

The following is excluded from the TELECO warranty:

- a. Damages caused by incorrect installation and/or use and/or maintenance
- b. Damages resulting from product alterations not authorised by Teleco
- c. Damages resulting from the use of spare parts different from original Teleco parts
- d. Damages resulting from repairs carried out by personnel not authorised by Teleco
- e. Normal part wear;
- f. Expenses incurred for spare parts transport between the Customer's and the service centre
- g. Damages that may occur during transport:
the Customer shall always be responsible for transport risks.

Information

Congratulations on your purchase! MotoSat is among the most technologically advanced products in the field of satellite TV reception. This handbook has been prepared to provide information on how to install, use, maintain and technical specifications your MotoSat.

For additional information, please contact your local dealer or directly the manufacturers:

TELECO s.p.a.

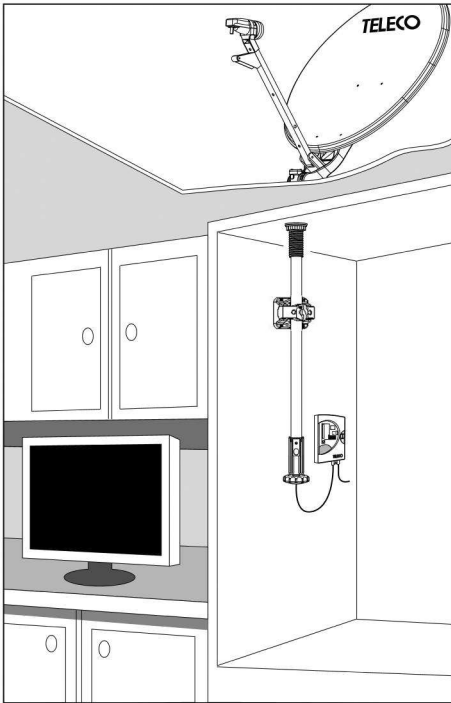
Via E. Majorana 49
48022 LUGO (RA)

Web site: www.telecogroup.com

Technical attendance: 899.899.856

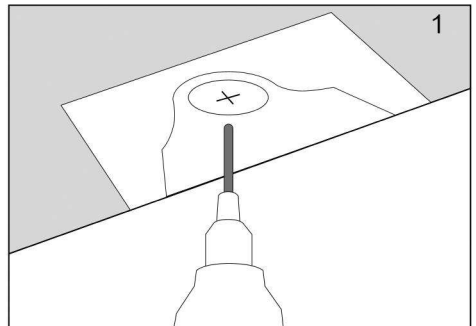
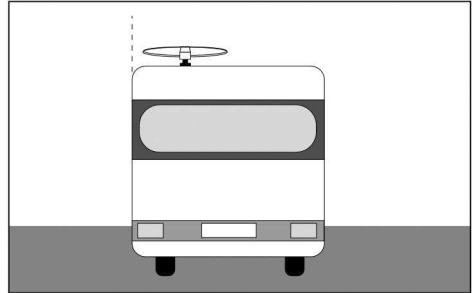
TELECO .p.a. declines all responsibility for any errors contained in this manual. All the contained information are up to the dates of printing and of the above-mentioned software revisions. TELECO .p.a. reserves the right to introduce any modification made necessary by the development of its products.

Installation instructions

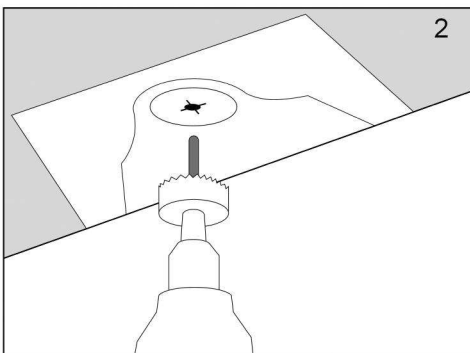


The MotoSat antenna must be installed near a vertical wall where the wall outlet can be fitted

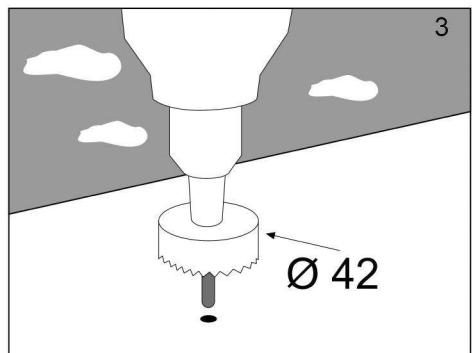
Caution:
Mount the antenna away from the vehicle roof edge to avoid overhanging the roof line when travelling.



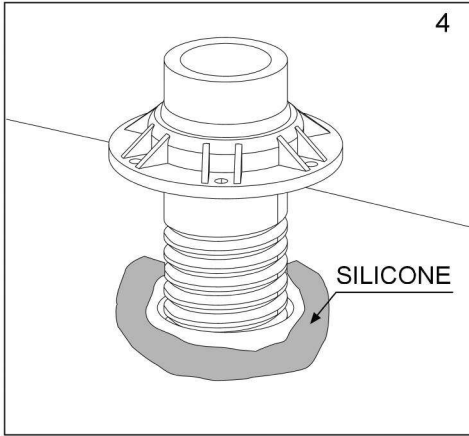
Set the drilling jig in place. Drill in the middle of the jig (page 23)



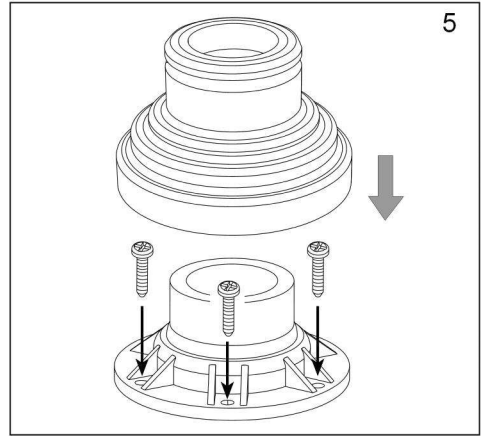
Using a dia. 42 cutter, drill the inside wall first...



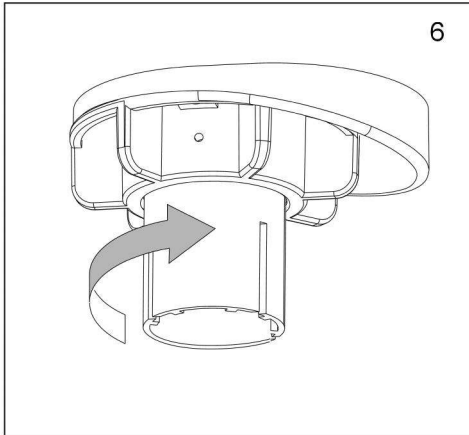
...and then drill the outside wall.



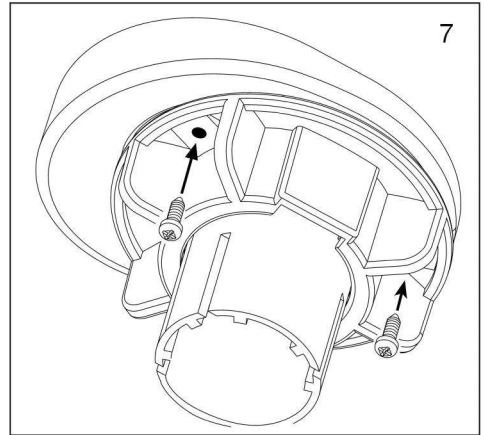
Insert the mast roof mounting bracket in the dia. 42 hole bored in the roof, making sure you apply a layer of silicone under the ring nut.



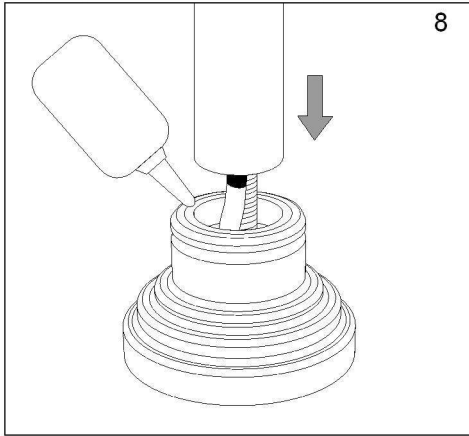
Fasten the ring nut using self-tapping screws. Place the rubber gasket over the ring nut. (Screws not supplied)



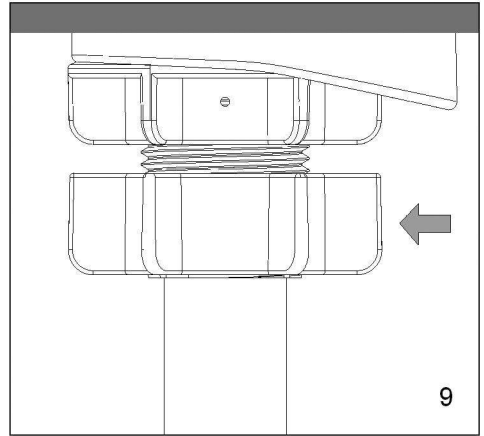
Secure the pipe lead to the roof using the ring nut and its wedge-shaped spacer. Caution: the antenna must be in horizontal position. The wedge-shaped spacer is used to set the antenna in the horizontal position even if the roof is inclined.



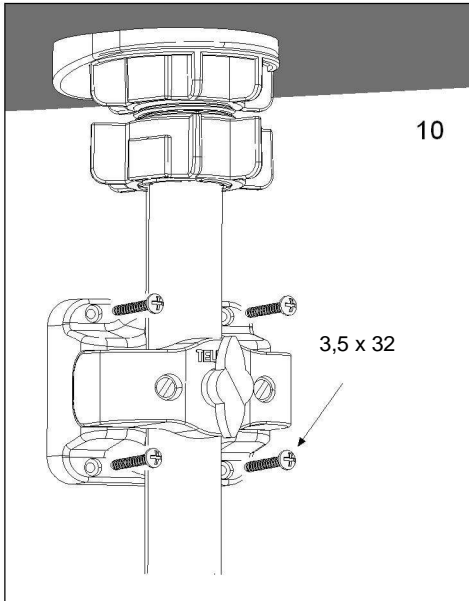
Lock the collar on the wedge spacer by applying the 2 screws (not supplied).



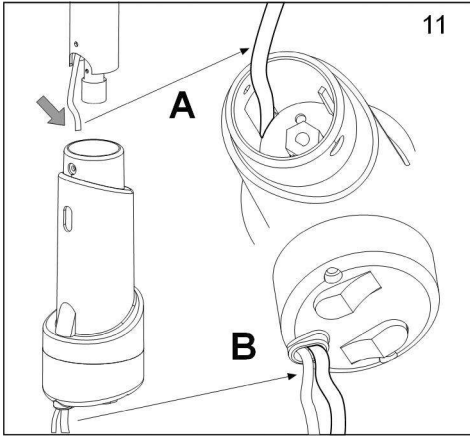
Spread a thin film of Vaseline inside the seal and introduce the mast



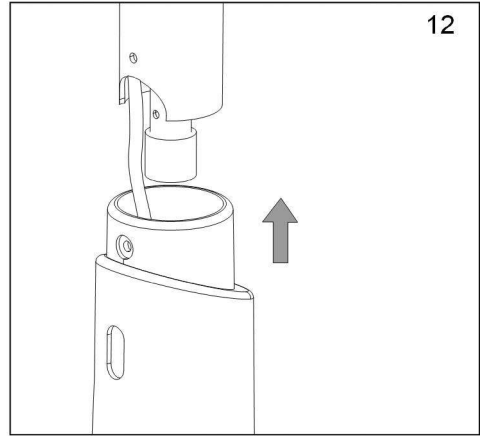
Tight the locking ring nut
 This **mast locking** device must be screwed tight every time you wish to secure the antenna in the desired position. To turn or lift the mast, loosen this ring nut.



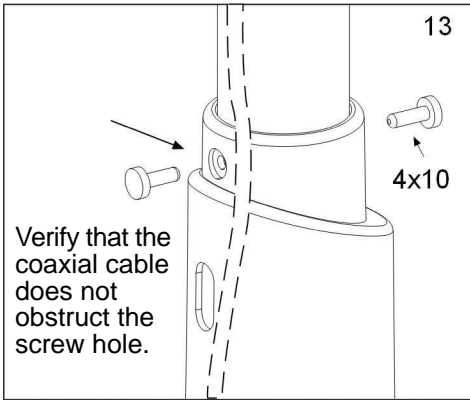
Fix the outlet unit to the wall



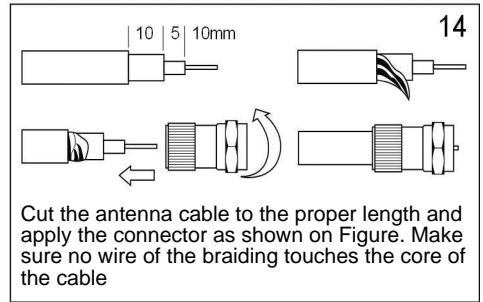
11
Introduce the coaxial cable in the special slot (A) and lead it out of rear bottom side of Motosat (B)



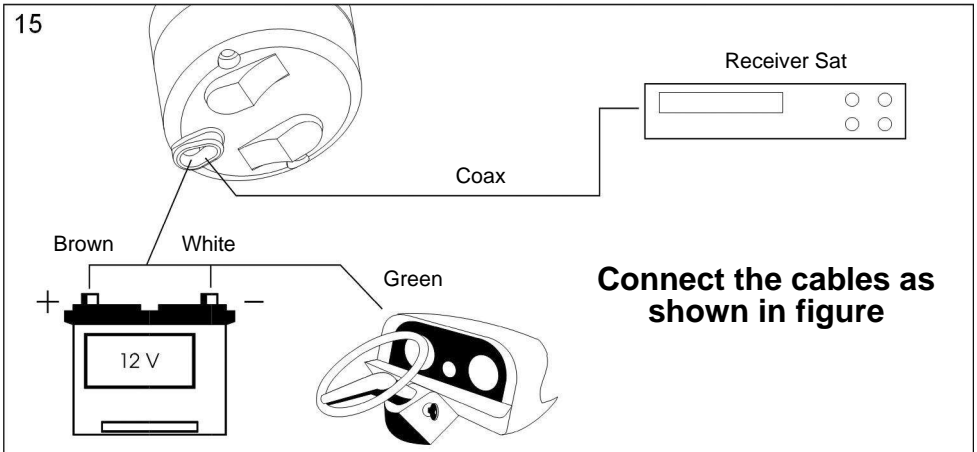
12
Engage Motosat in the antenna support tube until the tube holes are aligned with the Motosat holes.

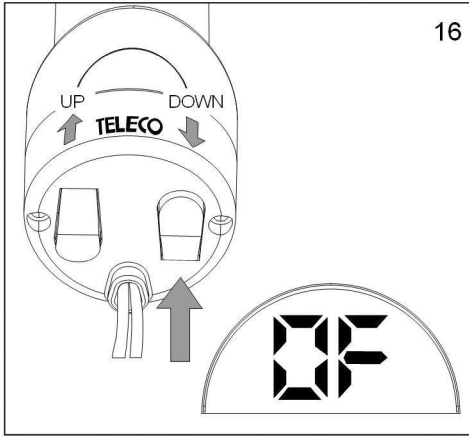


13
Fix Motosat to the antenna support tube with the special screws.

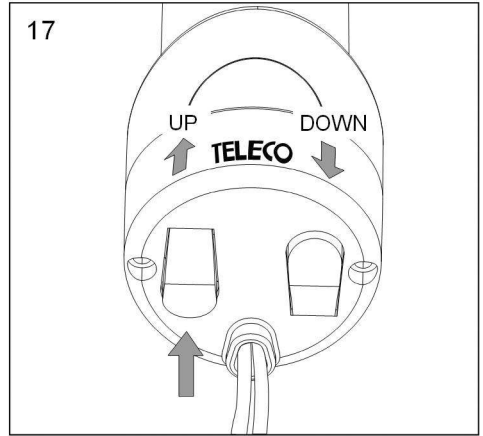


14
Cut the antenna cable to the proper length and apply the connector as shown on Figure. Make sure no wire of the braiding touches the core of the cable

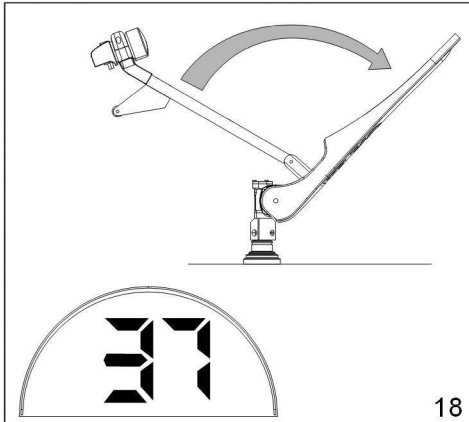




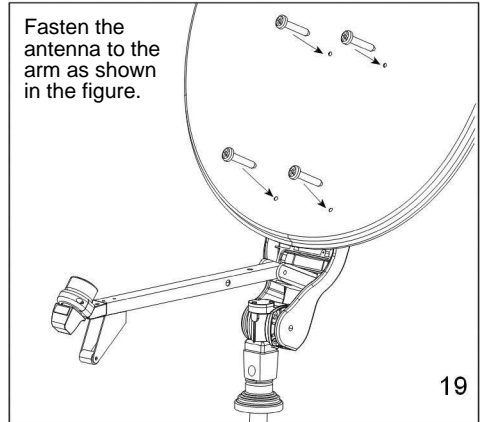
Press the **DOWN** button until the display reads **OF**.



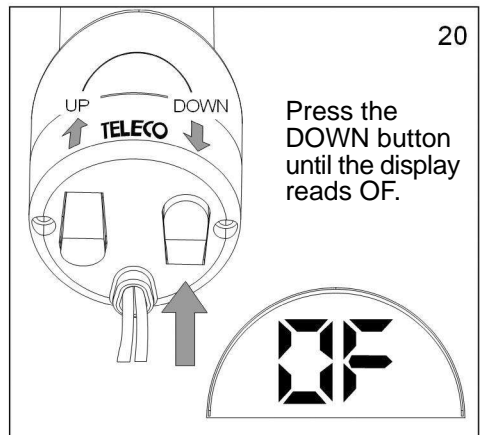
Press the **UP** button until a sequence of beep sounds is obtained.



The antenna becomes automatically positioned to facilitate installation (the display reading is 37°).

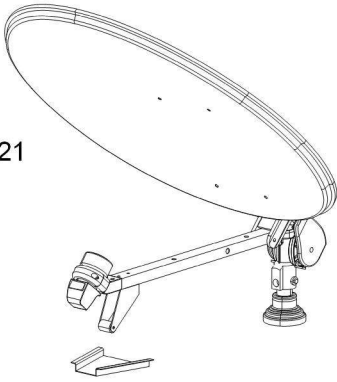


Fasten the antenna to the arm as shown in the figure.

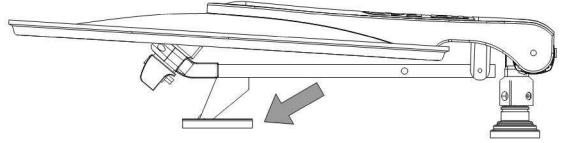


Press the **DOWN** button until the display reads **OF**.

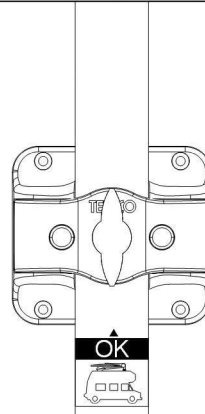
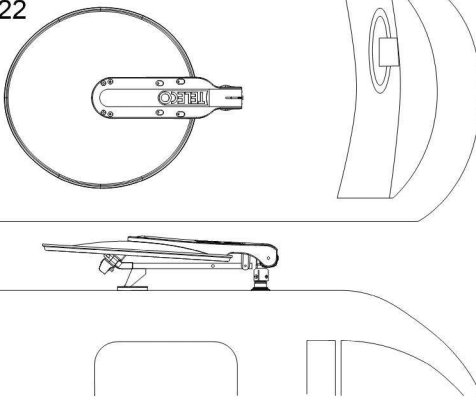
21



Lower the dish until the right travelling position is reached (fig 22). Fix the steel plate to the roof with cement or both-sides adhesive tape under the LNB spacer



22



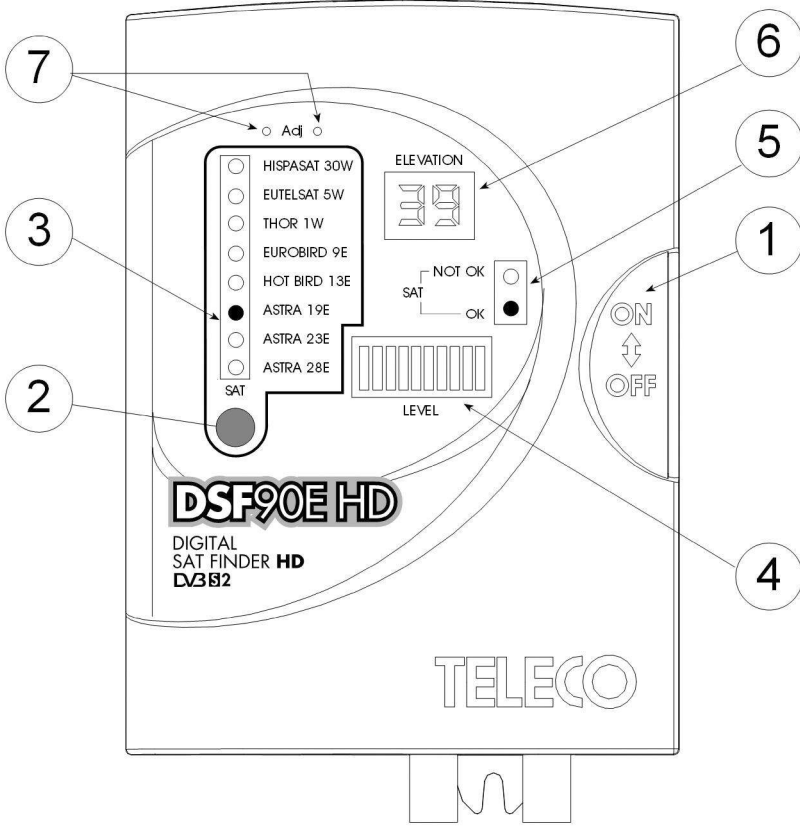
Make sure that the antenna is exactly in its stowed position. Place the sticker on the mast in such a way that you can quickly lock the antenna in the right position before every start.



The antenna must be absolutely installed according to fig. 22, i.e., the disc must be bent to the rear of the vehicle.

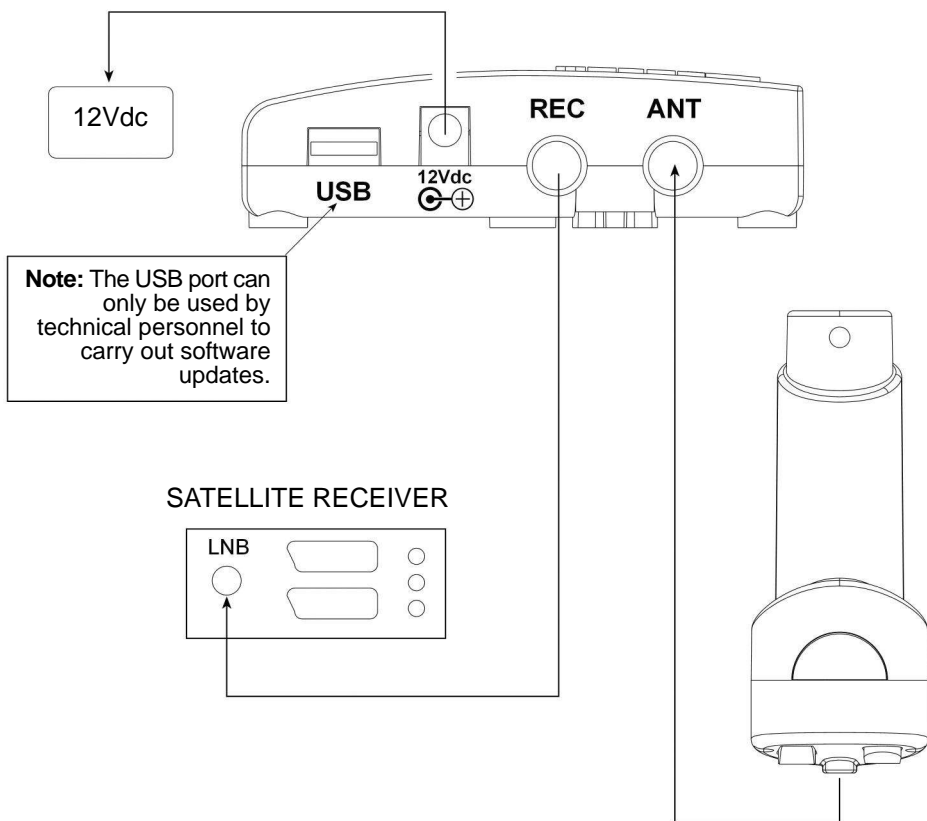
CONNECTIONS DSF90E

DSF90E is a device designed to quickly find required DIGITAL satellites according to a manual dish pointing system. The 8 most popular satellites used in Europe are stored in the system memory: Astra 28E, Astra23E, Astra19E, Hotbird 13E, Eurobird 9E, Thor 1W, Atlantic Bird 5W and Hispsat 30W. The Digital Finder is equipped with visual and sound indicators to achieve received signal optimisation. If used in conjunction with the Electronic Angle Detector available in the Voyager Digimatic systems, DSF90E will also show the dish elevation figure, thus further simplifying pointing operations. The device display unit will show the dish angle actual 'absolute' value even if the vehicle is not levelled.



- | | |
|--------------------------------|---|
| 1) ON/OFF switch | 4) Signal level indicator |
| 2) Satellite selection button | 5) Pointing completed indicator |
| 3) Pointed satellite indicator | 6) Dish angle display unit |
| | 7) Angle adjustment buttons
(upon first installation only) |

- 1) Connect the coaxial cable coming from the mast handle to the ANT connector of the DSF90E device
- 2) Plug the REC connector of the DSF90E in the LNB connector of your satellite receiver via the supplied coaxial cable.
- 3) Connect the 12Vdc input cable to the 12Vdc connector of the DSF90E device. Plug the other end of the cable into the vehicle battery or a 12Vdc power outlet. (stabilised)



Instructions for DSF90E initial set-up with Voyager systems

Set-up operations should only be carried out once upon system installation. After completing all the required connections, perform inclinometer "**ADJUSTMENT**" to the vehicle on which it is installed.

- 1) Check the **Adjustment Table** to identify the correct dish angle for the selected satellite pointing (e.g. HOT BIRD 13E) from the installation area (e.g. HOT BIRD from Florence = 39°).
- 2) Switch on the DSF90E device by setting the power switch to **ON** and then select the satellite to point (e.g. HOT BIRD) by pressing the **SAT** button. Adjust the MotoSat elevation and rotation settings to point the satellite as required and optimise pointing until the **LEVEL** indicator shows the maximum number of burning LEDs and the **SAT OK LED** lights up.
- 3) The **ELEVATION** display unit of DSF90E will show a figure describing your dish angle. This figure must match the figure shown in the Adjustment Table (for instance, in Florence, the angle value that can be found in the table is 39°). If the display unit reading does not match the adjustment table value, the device must be reset.
- 4) To reset the device, insert a small hard tip (e.g. the end of a metal staple) in one of the 2 holes next to "**Adj**" then press repeatedly until the display unit reads the correct angle value (39°). The button inside the left-hand hole will decrease the value, while the button inside the right-hand hole will increase the value.
- 5) The DSF90E device is now ready to function and the display unit will always show the dish angle actual 'absolute' value even if the vehicle is not levelled.

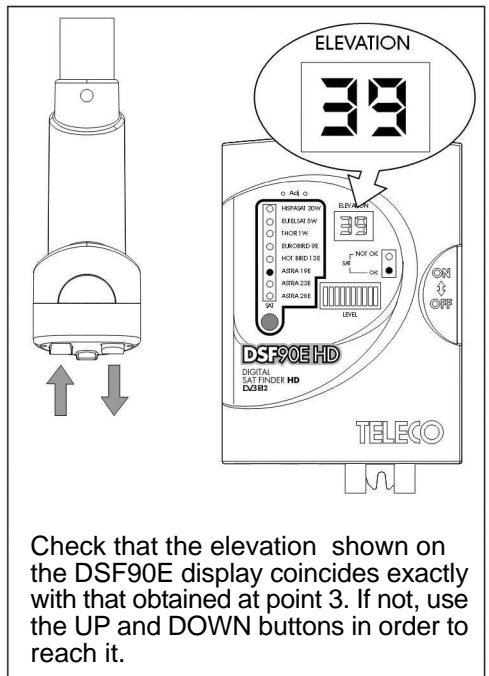
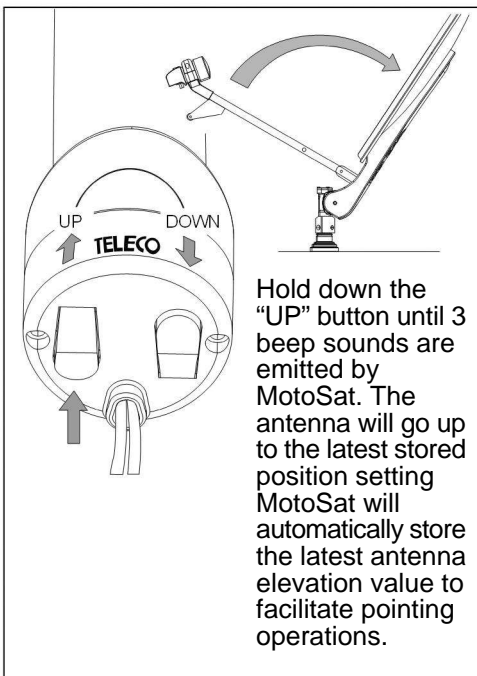
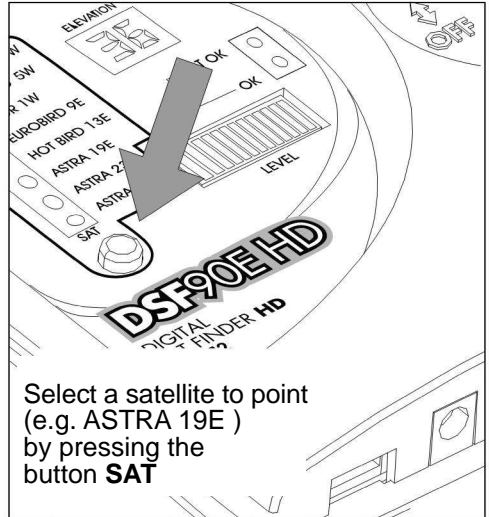
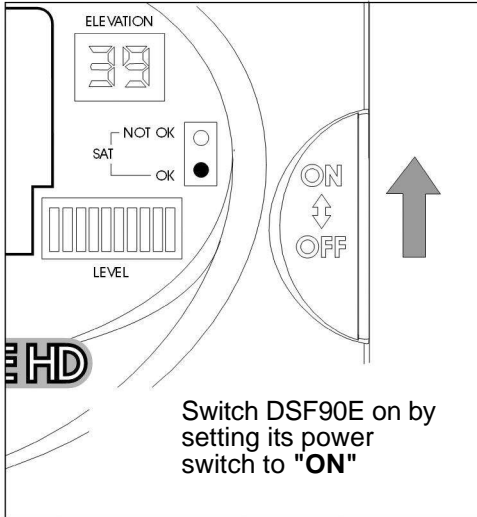
Table of Elevation values for initial DSF90E setting up with MotoSat systems

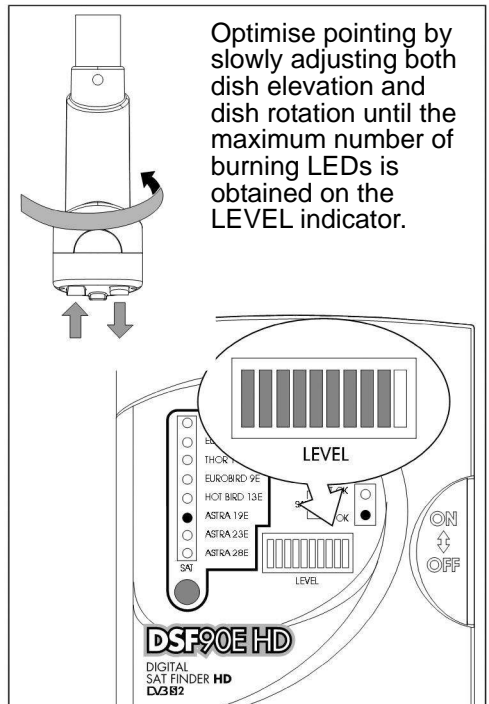
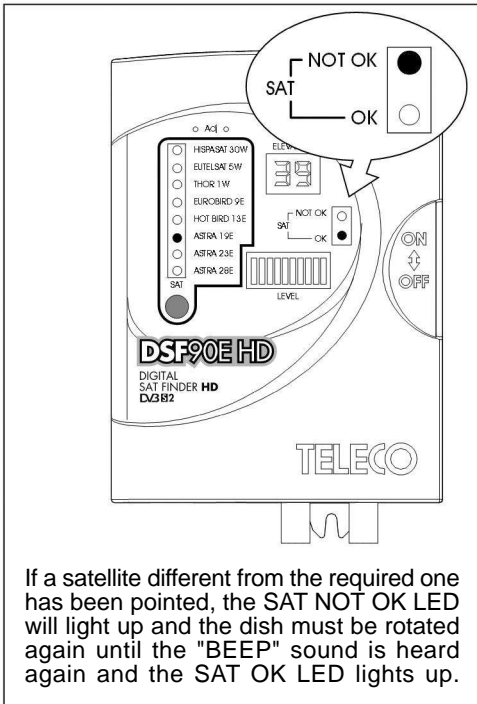
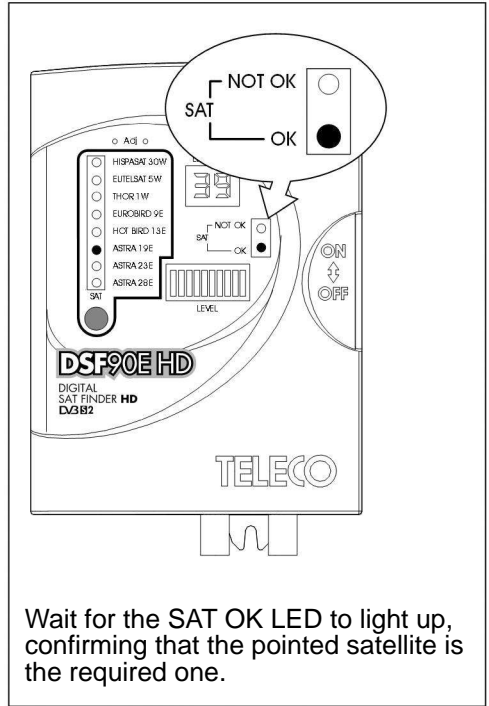
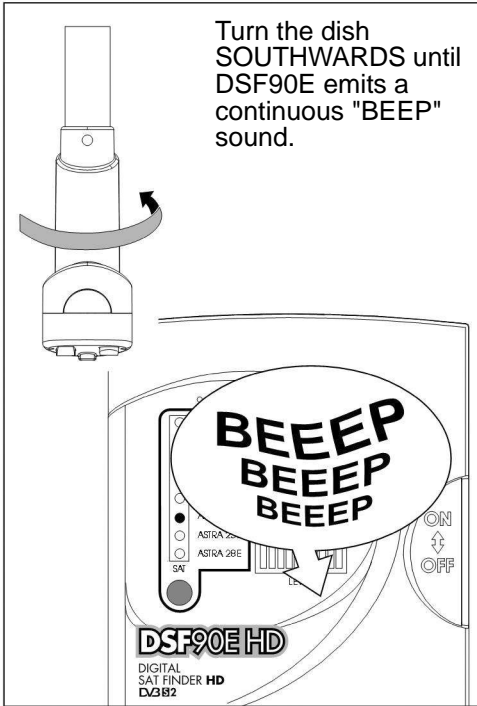
Country	Town	HOT BIRD 13° EST	ASTRA 19° EST	ATLANTIC BIRD 3 5° WEST
ALBANIA	Tirana	42	42	36
ALGERIA	Algiers	46	44	47
	Costantine	47	45	45
	Oran	46	43	48
AUSTRIA	Innsbruck	36	35	33
	Salzburg	35	35	32
	Vienna	35	35	31
BALEARICS	Palma	44	42	44
BELGIUM	Antwerp	31	30	31
	Brussels	31	30	31
	Gand	31	30	31
BULGARIA	Liege	31	30	31
	Burgas	39	40	31
	Sofia	40	41	33
CZECH REPUBLIC	Brno	33	34	30
	Prague	33	32	30
DENMARK	Copenhagen	27	27	25
EGYPT	Alexandria	49	52	38
	Cairo	50	53	38
FINLAND	Helsinki	21	22	17
FRANCE	Lyon	36	35	36
	Marseille	39	37	38
	Paris	36	35	36
	Toulouse	38	37	39
GERMANY	Berlin	30	30	28
	Cologne	31	31	31
	Hamburg	30	28	28
	Munich	35	34	33
	Stuttgart	34	34	33

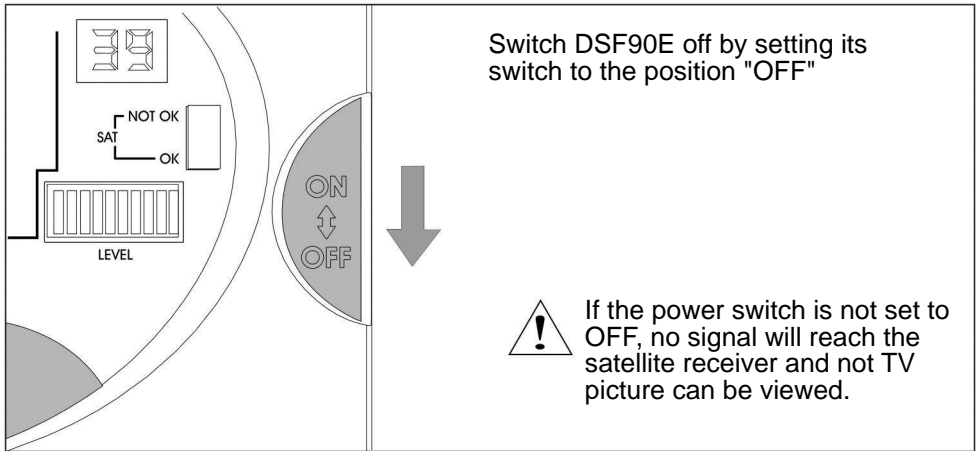
Country	Town	HOT BIRD 13° EST	ASTRA 19° EST	ATLANTIC BIRD 3 5° WEST
GIBRALTAR		44	41	48
GREECE	Athens	45	46	37
	Iraklion	47	49	38
	Patras	45	46	38
	Thessalonica	42	43	35
	Budapest	35	35	31
HUNGARY	Pecs	37	37	32
	Reykjavik	12	11	16
ICELAND	Brindisi	43	43	37
ITALY	Cagliari	44	43	42
	Firenze	39	39	37
	Milano	37	37	36
	Napoli	43	43	39
	Palermo	46	45	42
	Roma	42	41	38
	Venezia	38	37	35
	Tripoli	52	51	47
	LYBIA	Casablanca	45	41
MAROCCO	Fes	46	43	50
	Marrakech	46	42	53
	Tangiers	44	41	48
NETHERLANDS	Amsterdam	30	29	29
	Eindhoven	31	30	30
	Rotterdam	30	29	30
NORWAY	Oslo	22	22	21
	trondheim	19	19	18
POLAND	Cracow	32	33	28
	Gdansk	28	28	24
	Warsaw	29	30	25
	Wroclaw	31	32	28
	Lisbon	40	36	45
PORTUGAL	Porto	37	35	42
ROMANIA	Bucarest	37	38	30
	Timisoara	37	37	31
RUSSIA	St. Petersburg	20	21	16
	Moscow	23	25	16
SLOVAKIA	Bratislava	35	35	31
	Kosice	33	34	29
SPAIN	Barcelona	41	39	42
	Bilbao	40	37	42
	Carthagene	44	42	46
	Madrid	40	38	43
	Seville	42	39	47
	Goteborg	25	24	23
SWEDEN	Stockholm	23	23	20
	Berne	36	35	35
SWITZERLAND	Geneve	36	35	36
	Zurich	35	35	34
	Tunis	47	46	44
TUNISIA	Ankara	39	42	29
TURKEY	Istanbul	40	42	31
	Izmir	44	45	35
	Belfast	28	27	27
UNITED KINDOM	Cardiff	31	29	31
	Dublin	29	28	29
	Glasgow	26	25	26
	Inverness	24	23	24
	Limerick	30	29	29
	London	30	29	31
	Manchester	27	26	29
	Newcastel	26	25	27
	Plymouth	32	31	32
	York	27	26	28

INSTRUCTIONS FOR USE

- 1) Switch on and prepare the SAT receiver and the TV set for reception following the instructions of their respective manufacturers.
- 2) It is critical to make sure that there are no obstacles (e.g. houses, trees etc.) between the antenna and the satellite southwards.
- 3) Check in the table supplied the elevation relative to the town closest to the place where you are located.

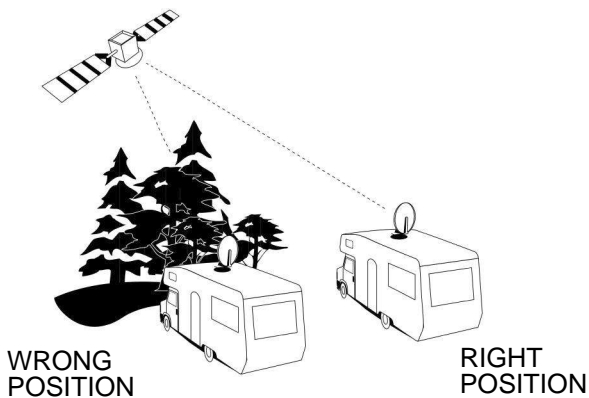






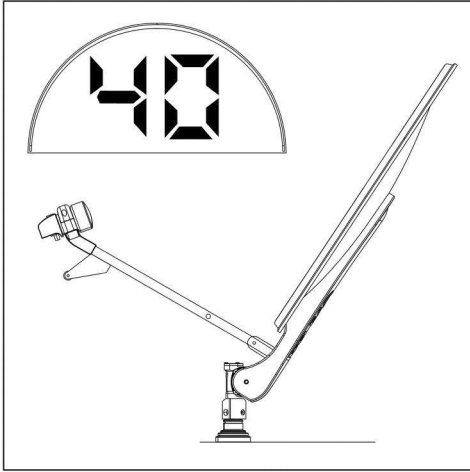
Important information for proper antenna tracking

Before performing antenna tracking operation, make sure you have positioned your vehicle so that the view towards the South (where Satellite signals come from) is free from any nearby obstacle (trees, houses, etc.). This way, the antenna will be free to receive signals coming from the satellite.

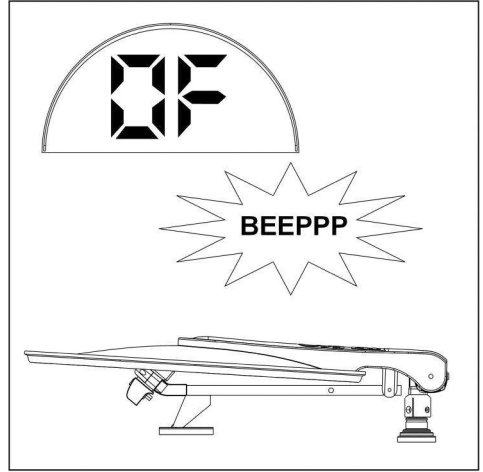


- 1) It is also important to know that satellites do not transmit with the same intensity throughout Europe, so if you are outside the reception area, your Motosat search might be unsuccessful.
- 2) The reception areas for each Satellite can be found on the main magazines dealing in this line of business. Also remember that the larger the dish, the more reception area is available
- 3) Make sure that the vehicle battery is sufficiently charged, if the voltage drops below 11.5 volts the electronic circuit protection prevents MotoSat antenna to move.

DISPLAY MESSAGES

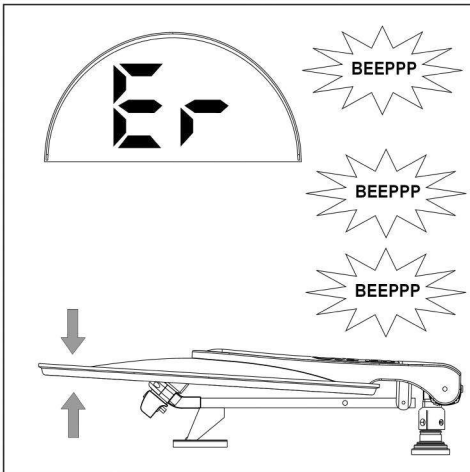


With the antenna up, the display will show the corresponding antenna elevation. The elevation reading may be not accurate because of poor levelling of the parked vehicle.



DISPLAY "OF"

The antenna is folded. This message is accompanied by a prolonged beep sound.

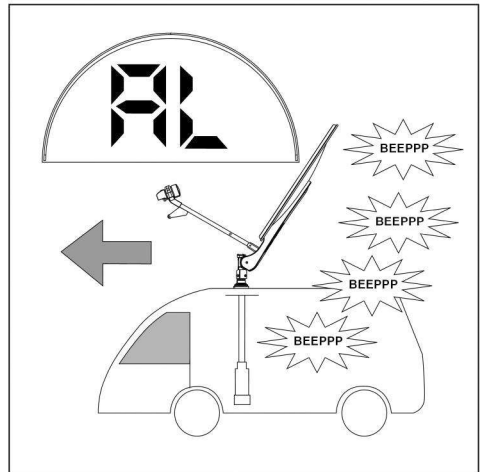


DISPLAY "Er"

The antenna has become locked. This message is accompanied by 3 beep sounds.



Remove any possible obstacle which may block the antenna (such as branches etc.)



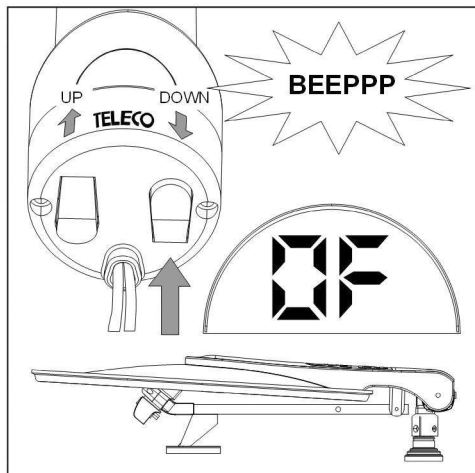
DISPLAY "AL"

The vehicle has been started with an unfolded antenna. This message is accompanied by a long sequence of beep sounds.

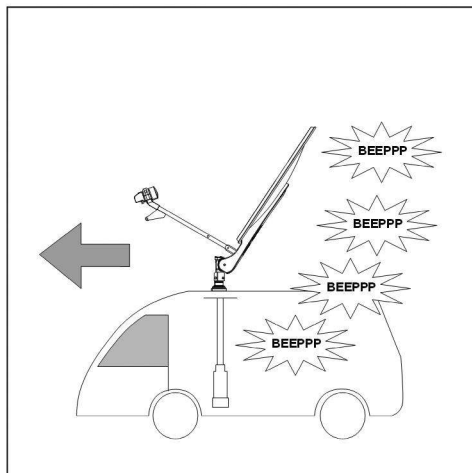


Lower the antenna pushing the DOWN button.

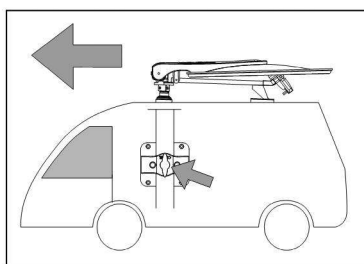
ANTENNA FOLDING



To lower the antenna, hold down the “DOWN” button until the display reads “OF” followed by a prolonged beep sound.



If the green safety cable is connected to the vehicle starter key (fig. 15) and the vehicle is started with the antenna still up, MotoSat will warn the user of the impending danger with a long sequence of beep sounds.



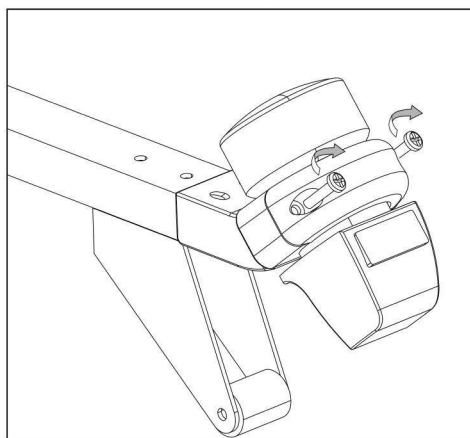
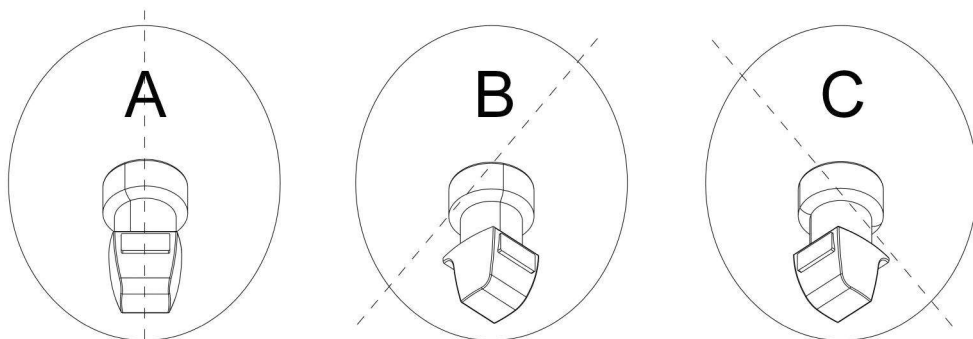
Before starting the vehicle, make sure you have brought down the antenna to its standby position and tightened the knob hard

Failure to comply with these conditions may result in product degradation which the manufacturer cannot be held responsible for.

- 1) It is recommended not to use the antenna under strong wind conditions (80 km/h). Failure to comply with this condition may result in product degradation which the manufacturer cannot be held responsible for.
- 2) The manufacturer declines any liability for all degradations suffered by the product owing to misuse.

LNB rotation for ideal reception in Europe's extreme (South-West or South-East) areas

Remember that the outside converter (a.k.a. LNB) has its own assembly position which must be complied with. Otherwise you will not receive any signal. The pre-set mounting position for the LNB is along the centre line of the disk (fig. A). With this configuration, the Voyager system works correctly in most European countries. However, if you are in areas very far from the satellite orbital position, it might be necessary to adjust the converter angle. In particular, if you wish to receive transmissions from the satellites Astra 19E, Astra 28E or HotBird 13E, while you find yourself in Portugal or Morocco, your converter angle should be adjusted as shown in (fig. B), while if you are in Turkey, to receive the same satellites you should set your converter to the position (fig. C).



- 1) Loosen the screws on the LNB locking U-bolt
- 2) Turn in the Clockwise (West) or Anti-clockwise (South-East) direction
- 3) Lock the LNB again by screwing down the screw

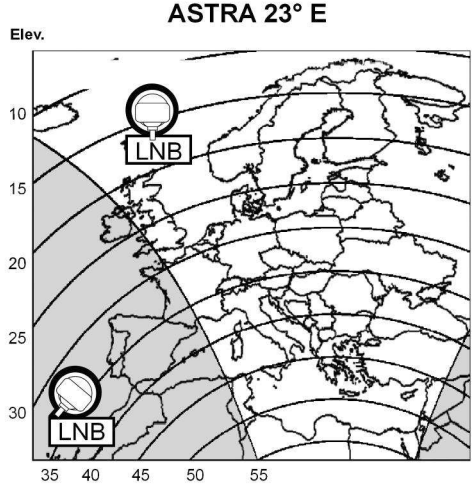
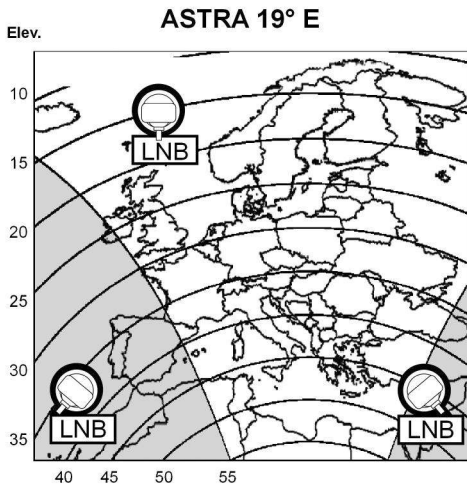
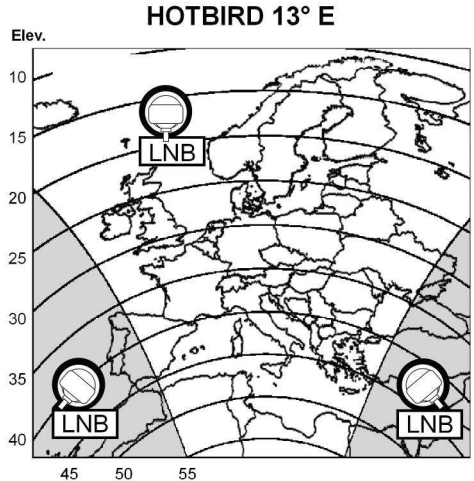
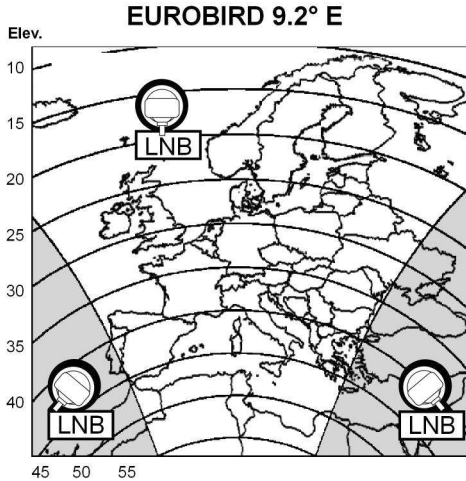
Place	Position	HotBird 13E	Astra 19E	Astra 28E
Lisbona	B	25°	28°	37°
Casablanca	B	27°	34°	41°
Ankara	C	22°	15°	5°

Dish elevation maps

To correctly point the dish towards your required satellite, it is very important to tilt the dish to the exact angle.

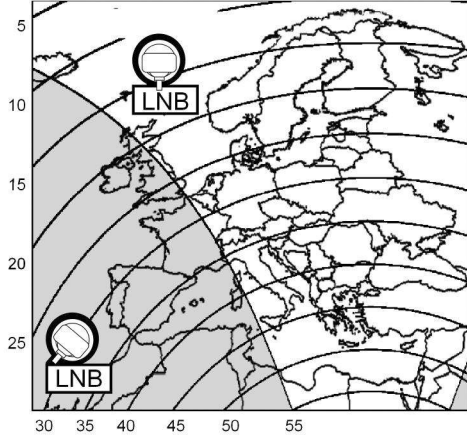
Check your position on the map, then set the dish elevation figure in degrees according to the figure on the required satellite map.

The grey sections in the various maps identify the geographical areas in which LNB adjustment may be necessary.



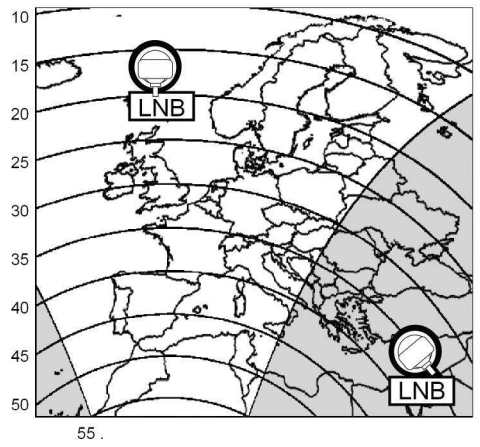
ASTRA 28° E

Elev.



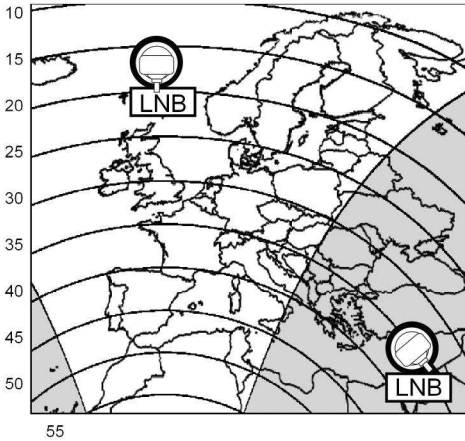
THOR 1° W

Elev.



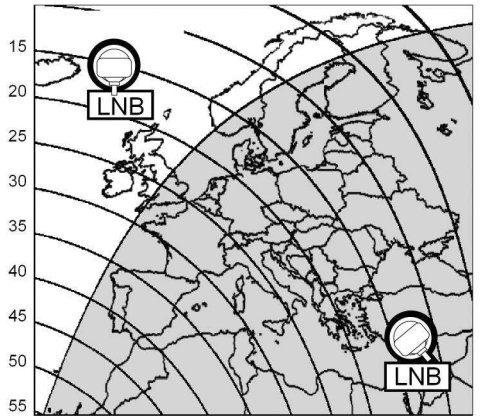
ATLANTIC BIRD 5° W

Elev. 5

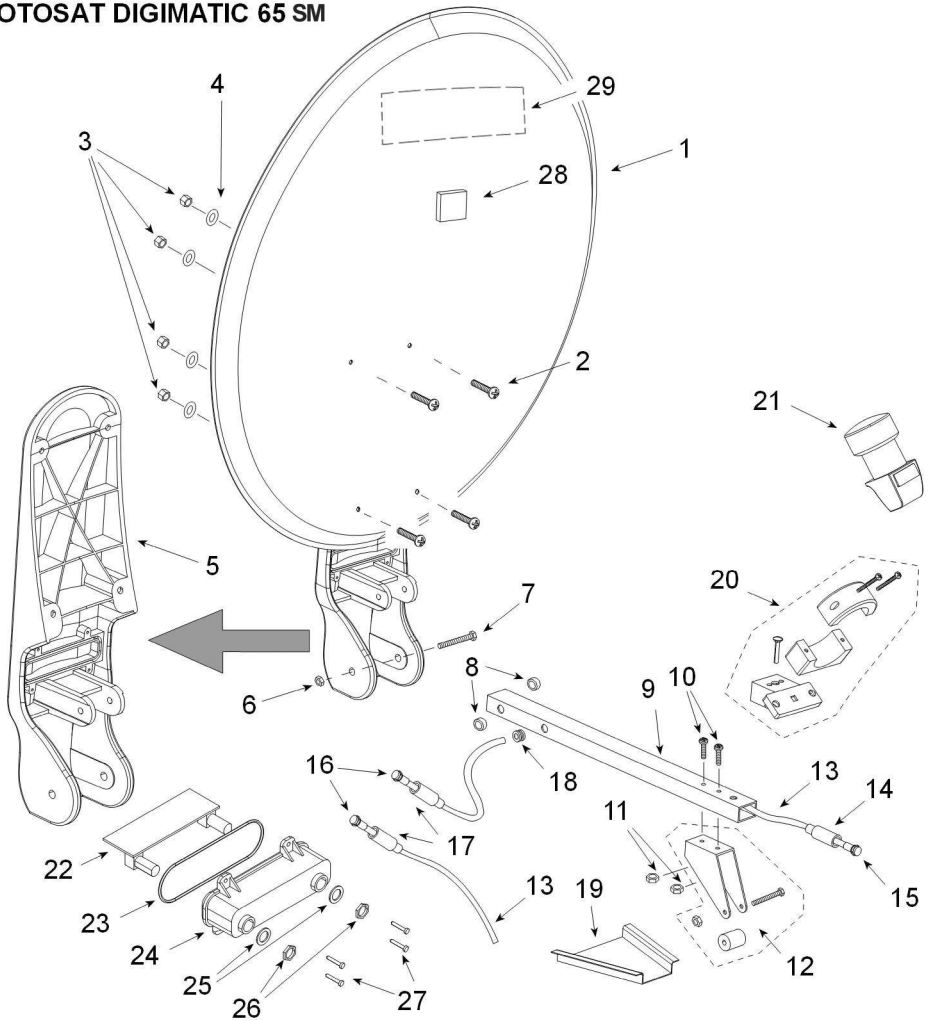


HISPASAT 30° W

10 5 0 Elev.



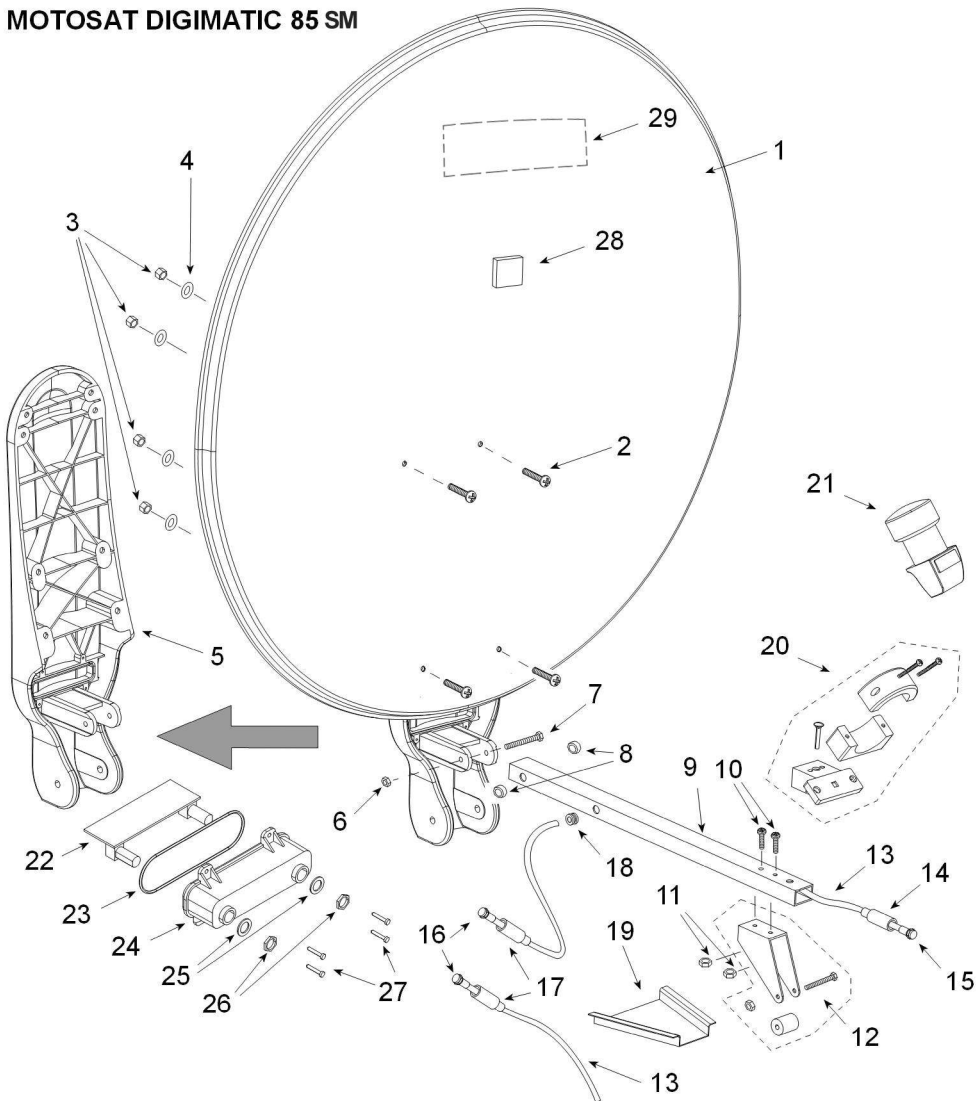
MOTOSAT DIGIMATIC 65 SM



Pos.	Code	Q.ty	Description (24/11/2017)
1	10487	N.1	Parabolic antenna D=63.5x59 cm
2	10425	N.4	Screw M5X10
3	03685	N.4	Self-locking nut M5
4	15616	N.4	Flat washer D 5
5	10757	N.1	Support dish arm
6	03684	N.1	Self-locking nut M6
7	10979	N.1	Screw 6x55
8	06076	N.2	Nylon bush
9	10561	N.1	LNB support tube / 65 (BLUSAT)
10	09013	N.2	Screw M5x25
11	09015	N.2	Nut M5
12	12878	N.1	Roll support bracket
13	13159	MT.7	Coaxial Cable
14	03459	N.1	Connector protecting rubber
15	15077	N.1	F50 F connector

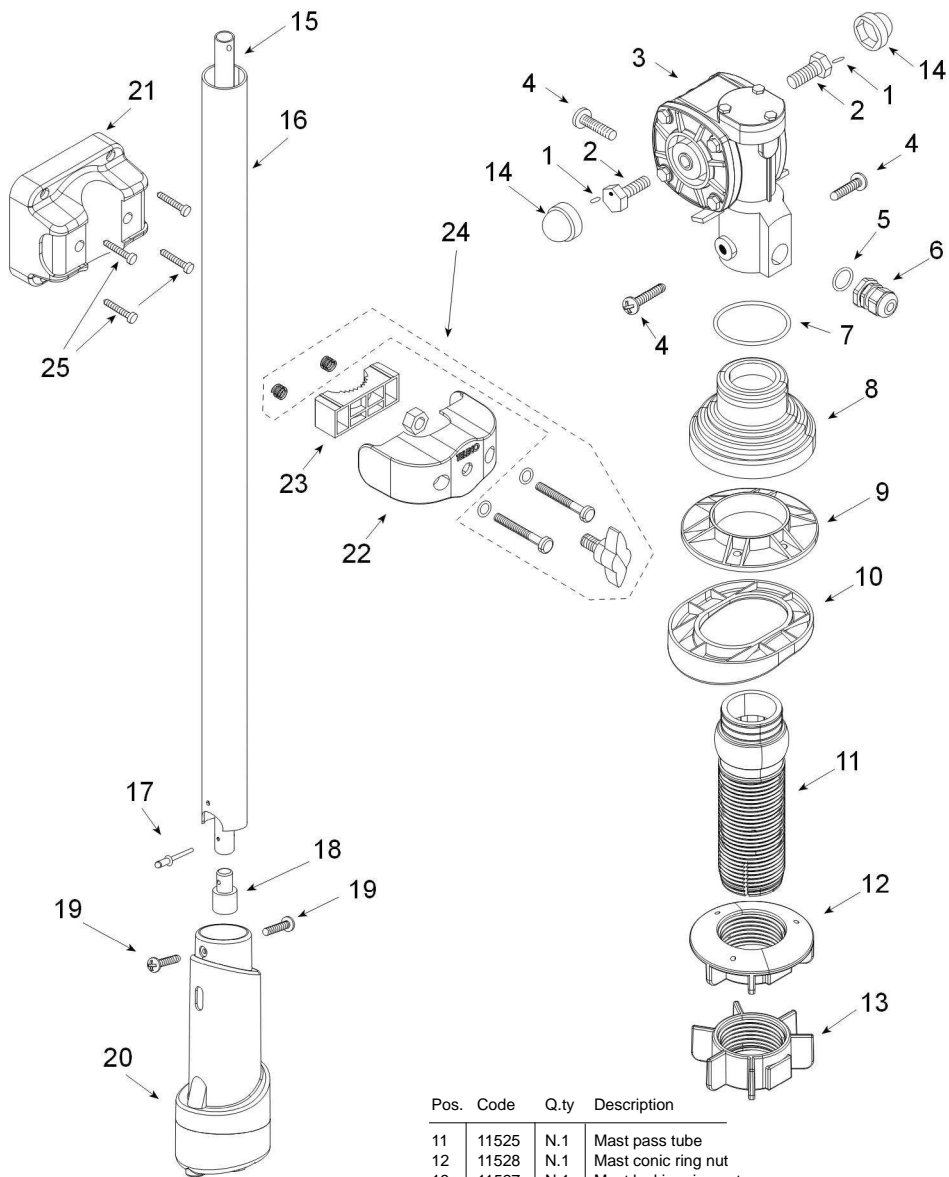
Pos.	Code	Q.ty	Description
16	15077	N.2	F50 F connector
17	03459	N.2	Connector protecting rubber
18	05293	N.1	Hole grommet
19	06132	N.1	Arm rest
20	08628	N.1	LNB Plastic Kombi-type support
21	16992	N.1	LNB Stark ST1
22	13142	N.1	SMLC.S. TO 253
23	11190	N.1	or gasket 75x2
24	11001	N.1	zamac box
25	11280	N.2	Gasket
26	07960	N.2	Nut
27	11006	N.4	Self-tapping screw M2,9 x 9,5
28	05735	N.1	Transparent rubber
29	12838	N.1	Dish sticker

MOTOSAT DIGIMATIC 85 SM



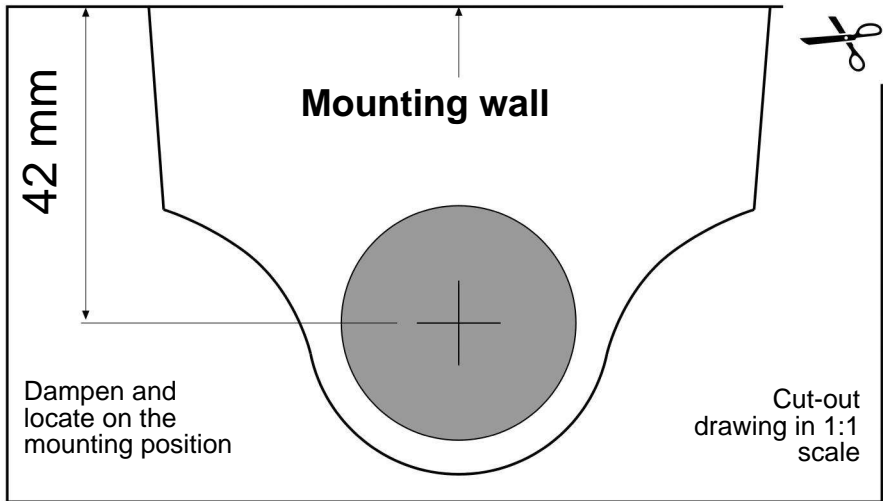
Pos.	Code	Q.ty	Description
1	10488	N.1	Parabolic antenna D=85x78 cm
2	10910	N.4	Screw M6X12
3	03684	N.4	Self-locking nut M6
4	15617	N.4	Flat washer D 6
5	10998	N.1	support dish arm
6	03684	N.1	Self-locking nut M6
7	10979	N.1	Screw 6x55
8	06076	N.2	Nylon bush
9	10564	N.1	LNB support tube / 85 (BLUSAT)
10	09013	N.2	Screw M5x25
11	09015	N.2	Nut M5
12	12878	N.1	Roll support bracket
13	13159	MT.7	Coaxial Cable
14	03459	N.1	Connector protecting rubber
15	15077	N.1	F50 F connector

Pos.	Code	Q.ty	Description
16	15077	N.2	F50 F connector
17	03459	N.2	Connector protecting rubber
18	05293	N.1	Hole grommet
19	06132	N.1	Arm rest
20	08628	N.1	LNB Plastic Kombi-type support
21	16992	N.1	LNB Stark ST1
22	13142	N.1	SMLC.S. TO 253
23	11190	N.1	or gasket 75x2
24	11001	N.1	zamak box
25	11280	N.2	Gasket
26	07960	N.2	Nut
27	11006	N.4	Self-tapping screw M2,9 x 9,5
28	05735	N.1	Transparent rubber
29	12838	N.1	Dish sticker



Pos.	Code	Q.ty	Description
1	05799	N.2	Arm locking dowel
2	07446	N.2	Arm locking screw
3	11200	N.1	Reduction gear
4	11805	N.3	Trilobed screws 5X12
5	03244	N.1	OR Gasket PG 9
6	07956	N.1	Fairlead skintop PG9
7	12030	N.1	Rubber gasket spring
8	11524	N.1	Mast gasket
9	11523	N.1	Mast inclinable flange
10	11526	N.1	Mast conic inclination adapter

Pos.	Code	Q.ty	Description
11	11525	N.1	Mast pass tube
12	11528	N.1	Mast conic ring nut
13	11527	N.1	Mast locking ring nut
14	14996	N.2	NUT COVER M14 BLACK POLYETHYLENE
15	12045	N.1	Adjustment shaft
16	12044	N.1	Supporting tube
17	03605	N.1	Tear rivet
18	12962	N.1	ZAMAK HEX FEMALE INSERT MOTOSAT
19	02075	N.2	Self-tapping screw 4x10
20	13014	N.1	Control knob complete with gearmotor + electronics
21	18175	N.1	Fixing bracket bottom
22	18176	N.1	Fixing bracket cover
23	18179	N.1	Fixing bracket clamp
24	18178	N.1	Fixing bracket screws
25	18180	N.1	4 Self-tapping screws 3.5x30



CONFORMITY CERTIFICATE

The manufacturer Teleco Spa

Via Majorana nr. 49, 48022 Lugo (RA)

Declares under its own responsibility that the following products:

MOTOSAT DIGIMATIC 65 - MOTOSAT DIGIMATIC 85

which are the subject of this certificate, conform to the following norms:

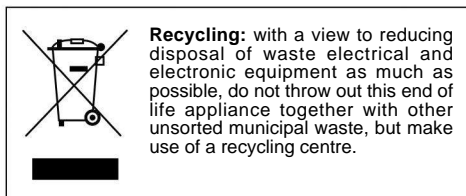
EN 60065: 2002 - EN 55013: 2001 + A1: 2003 - EN 61000 – 3 - 2: 2000 + A2: 2500
 EN 61000 – 3 – 3: 1995 + A1: 2001 + A2: 2005 - EN 55020: 2002 + A2: 2005

according to the terms of the European directive 2006/95/EC
 Low Voltage (modified by 93/68/CEE) and 2004/108/CEE of Electromagnetic
 Compatibility (modified by 92/31/CEE e 93/68/CEE)
 of the European Parliament.

Lugo 22 / 02 / 2018

THE PRESIDENT

Ing. Raul Fabbri



CE



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