

# **MATSING<sup>®</sup>**

LENS TECHNOLOGY ENABLED

## **LSA "S" RET Motor General Guide** **(Large Sphere Antenna)**



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#### *Revision History:*

*26th Sep 2023*  
*7th May 2024*

*Initial Release*  
*General Update*

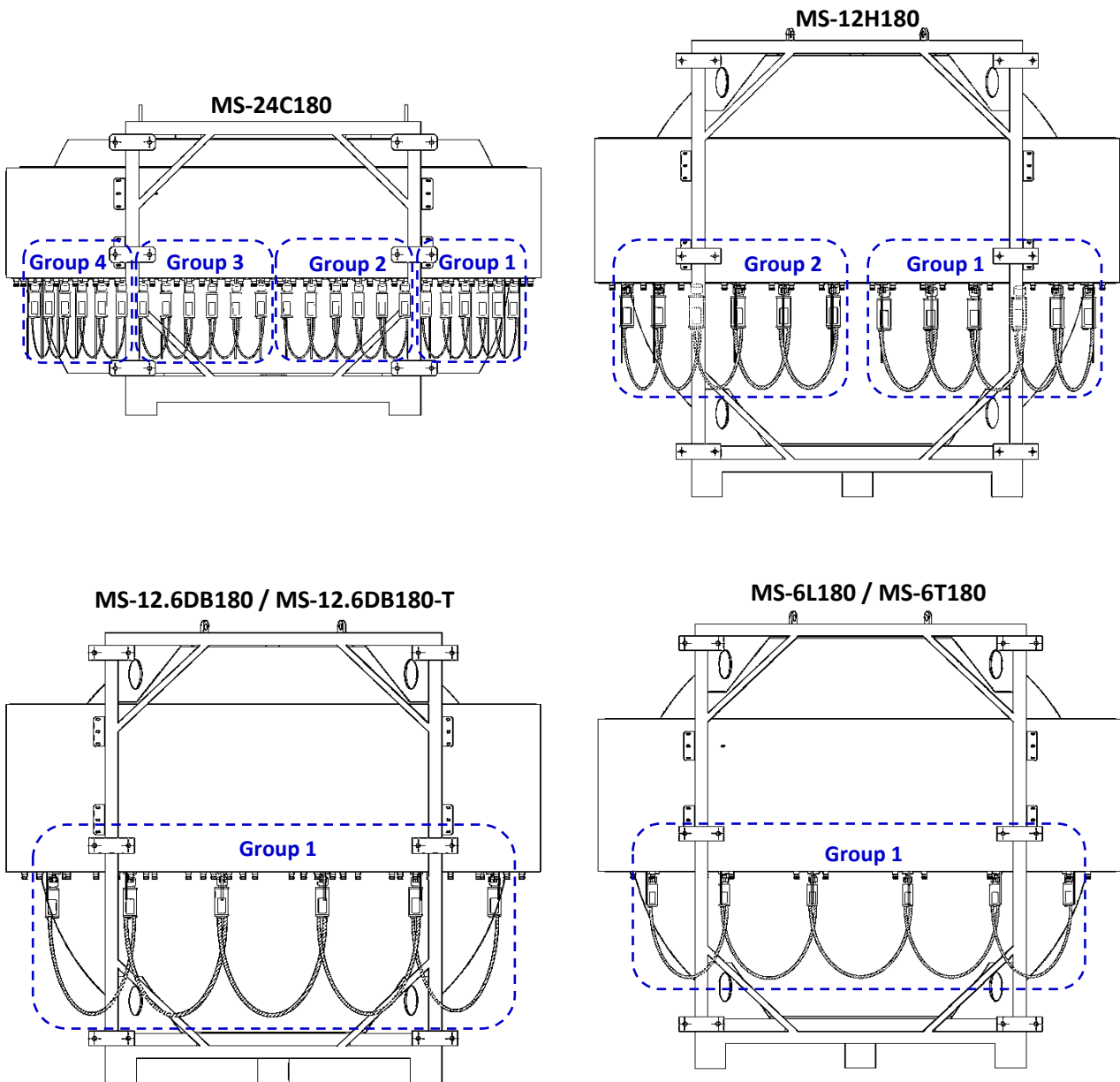
*Rev 0*  
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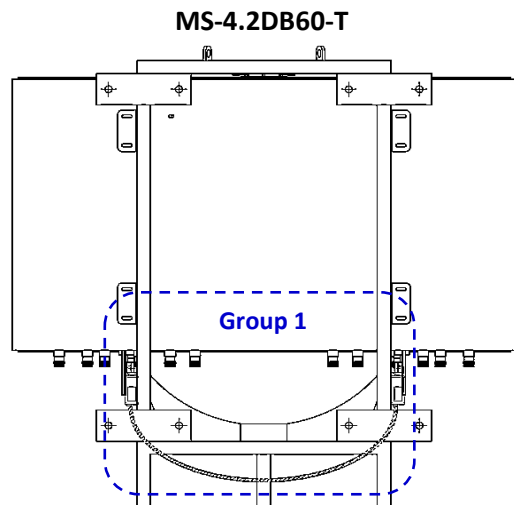
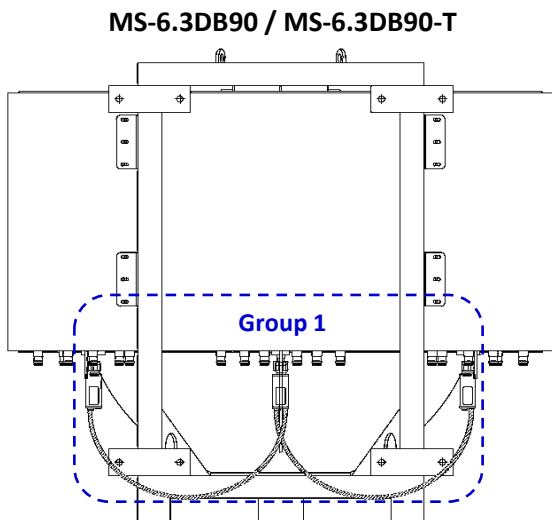
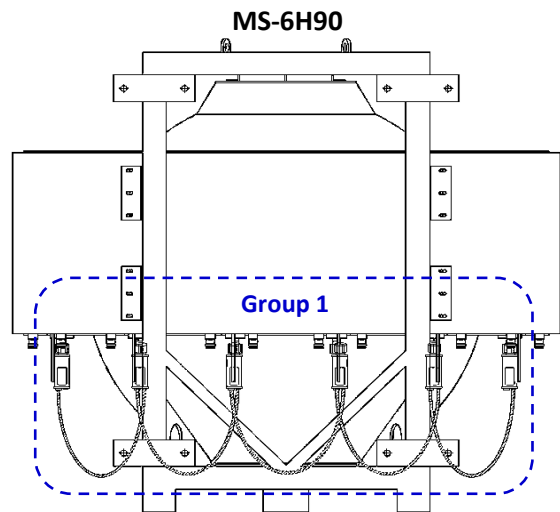
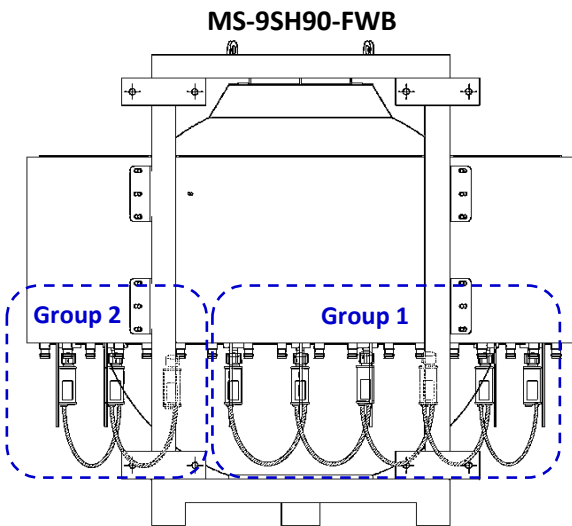
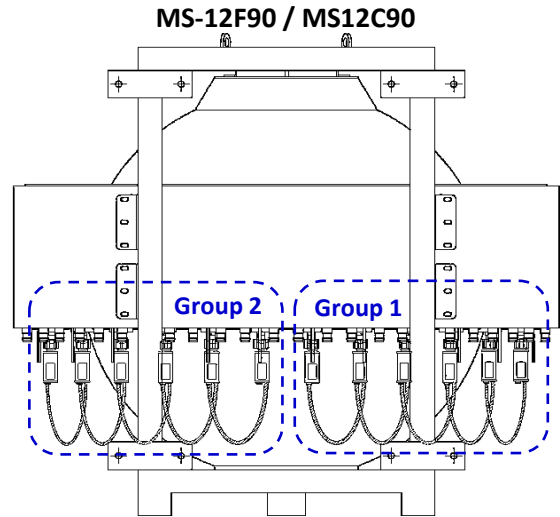
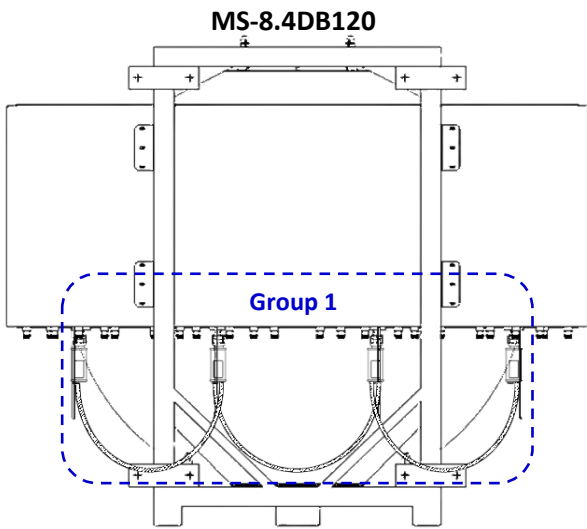
## 1.00 Large Sphere Antenna's (LSA) With RET Attachment Overview

### 1.10 LSA Model With RET Configuration Table

Model	Lens (cm)	Groups Of Motors	Motors Per Group			
			Grp 1	Grp 2	Grp 3	Grp 4
MS-24C180	180	4	6	6	6	6
MS-12H180	180	2	6	6		
MS-12.6DB180 / MS-12.6DB180-T	180	1	6			
MS-6L180 / MS-6T180	180	1	6			
MS-8.4DB120	120	1	4			
MS-12F90 / MS-12C90	90	2	6	6		
MS-9SH90-FWB	90	2	6	3		
MS-6H90	90	1	6			
MS-6.3DB90 / MS-6.3DB90-T	90	1	3			
MS-4.2DB60-T	60	1	2			

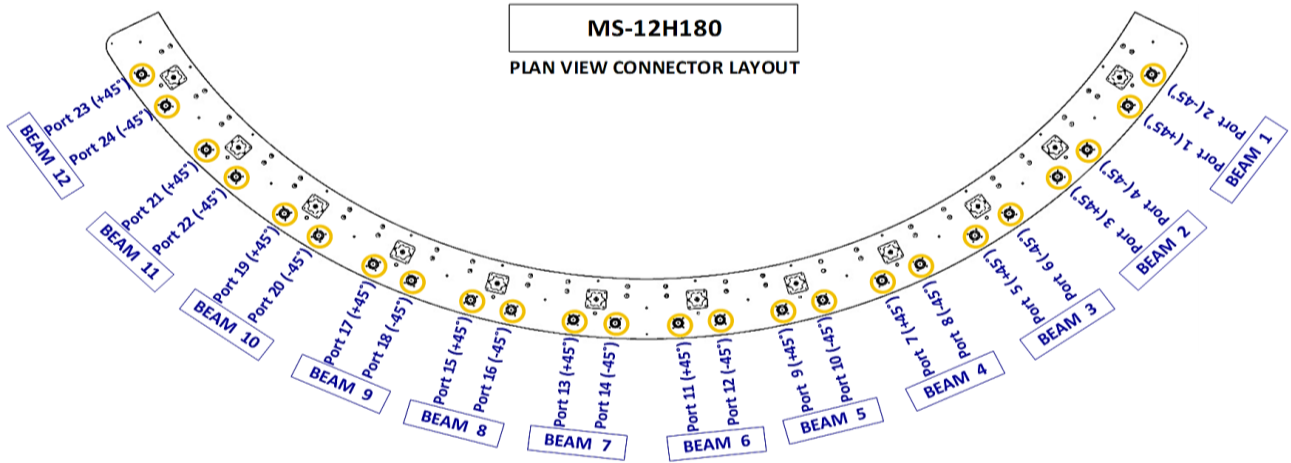
### 1.20 LSA Model With RET Product View





## 2.00 "S" RET Installation & Controller Display (*Example of MS-12H180*)

### 2.10 Antenna Connector Layout



### 2.20 Antenna Connector Port Table

BEAM 6		BEAM 5		BEAM 4		BEAM 3		BEAM 2		BEAM 1	
PORT	PORT	PORT	PORT	PORT	PORT	PORT	PORT	PORT	PORT	PORT	PORT
11	12	9	10	7	8	5	6	3	4	1	2
(+45°)	(-45°)	(+45°)	(-45°)	(+45°)	(-45°)	(+45°)	(-45°)	(+45°)	(-45°)	(+45°)	(-45°)

BEAM 12		BEAM 11		BEAM 10		BEAM 9		BEAM 8		BEAM 7	
PORT	PORT	PORT	PORT	PORT	PORT	PORT	PORT	PORT	PORT	PORT	PORT
23	24	21	22	19	20	17	18	15	16	13	14
(+45°)	(-45°)	(+45°)	(-45°)	(+45°)	(-45°)	(+45°)	(-45°)	(+45°)	(-45°)	(+45°)	(-45°)

### 2.30 "S" RET Motor Overview

#### 2.31 "S" RET Motor

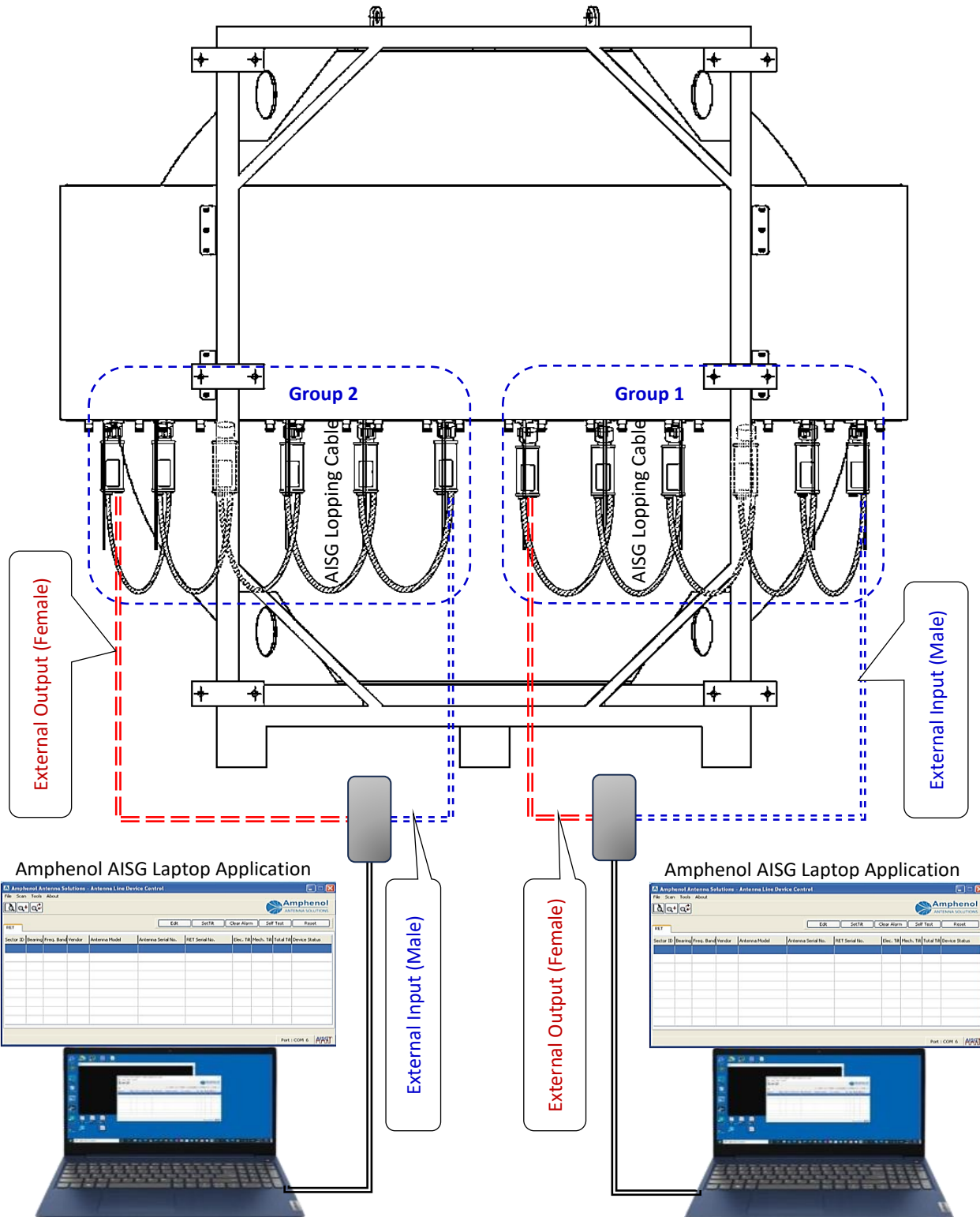


#### 2.32 AISG Looping Cable



## 2.40 "S" RET Installation/Connection (Example of MS-12H180 sn: #10)

2 Group of Motors Connection (Max 6 Per Group)



## 3.00 RET Operations / Information (Example of MS-12H180 sn: #10)

A standard AISG 2.0 compliant cable (not included) is used to connect the MDCU to the AISG interface control. Once connected, use an AISG 2.0 compliant Control software to perform a Sub Unit SCAN to identify the RET Elements.

### 3.10 Model & S/N Reference From Label



**Model No. : MS-12H180**  
**Serial No. : MS-12H180-0010**  
**Frequency: 1695 - 2690 MHz**

**Reminder:** If Information Has Been Edited, Remember to Perform "Radio Hard Reset" for Changes to take Place

Add 3 Zero(0) in front if the serial nos If is shorter than 7 digits

### 3.20 Display & Information Reference (Example of Antenna Unit s/n 10)

#### 3.21 Group 1 Display

NO	HDLC	Vendor	Serial Number	Product Number	H/W Version	S/W Version	3GPP	Device	AISG	Connect	Link
1	1	MS	12H180-0000010B01	ACS-RU370	1.00	5.12	6	Single RET	2	Connect	Link
2	2	MS	12H180-0000010B02	ACS-RU370	1.00	5.12	6	Single RET	2	Connect	Link
3	3	MS	12H180-0000010B03	ACS-RU370	1.00	5.12	6	Single RET	2	Connect	Link
4	4	MS	12H180-0000010B04	ACS-RU370	1.00	5.12	6	Single RET	2	Connect	Link
5	5	MS	12H180-0000010B05	ACS-RU370	1.00	5.12	6	Single RET	2	Connect	Link
6	6	MS	12H180-0000010B06	ACS-RU370	1.00	5.12	6	Single RET	2	Connect	Link

12H180-0000010B01 } Display: Beam 1 (Reference as RET 01)  
 12H180-0000010B02 } Display: Beam 2 (Reference as RET 02)  
 12H180-0000010B03 } Display: Beam 3 (Reference as RET 03)  
 12H180-0000010B04 } Display: Beam 4 (Reference as RET 04)  
 12H180-0000010B05 } Display: Beam 5 (Reference as RET 05)  
 12H180-0000010B06 } Display: Beam 6 (Reference as RET 06)

Model s/no. (7 Digits)

#### 3.22 Beam Nos & Port Nos Display (Group 1)

RET ID : MS12H180-0000010B01

RET Status and Control

Antenna Information List

NO	Sector ID	Ant Model	Ant Serial	Current Tilt	Status
1/1	Beam 1	MS-12H180	MS12H180-00000010	10.0	Normal

Display: Beam 1 (Refer as RET 01)      **RET 01 Info:** R1 (HB1,P1,2)

BEAM 1	
PORT 1	PORT 2
(+45°)	(-45°)

RET ID : MS12H180-0000010B02

RET Status and Control

Antenna Information List

NO	Sector ID	Ant Model	Ant Serial	Current Tilt	Status
1/1	Beam 2	MS-12H180	MS12H180-00000010	10.0	Normal

Display: Beam 2 (Refer as RET 02)      **RET 02 Info:** R2 (HB2,P3,4)

BEAM 2	
PORT 3	PORT 4
(+45°)	(-45°)

RET ID : MS12H180-0000010B03

RET Status and Control

Antenna Information List

NO	Sector ID	Ant Model	Ant Serial	Current Tilt	Status
1/1	Beam 3	MS-12H180	MS12H180-00000010	10.0	Normal

Display: Beam 3 (Refer as **RET 03**)

**RET 03 Info:** R3 (HB3,P5,6)

BEAM 3	
PORT 5	PORT 6
(+45°)	(-45°)

RET ID : MS12H180-0000010B04

RET Status and Control

Antenna Information List

NO	Sector ID	Ant Model	Ant Serial	Current Tilt	Status
1/1	Beam 4	MS-12H180	MS12H180-00000010	10.0	Normal

Display: Beam 4 (Refer as **RET 04**)

**RET 04 Info:** R4 (HB4,P7,8)

BEAM 4	
PORT 7	PORT 8
(+45°)	(-45°)

RET ID : MS12H180-0000010B05

RET Status and Control

Antenna Information List

NO	Sector ID	Ant Model	Ant Serial	Current Tilt	Status
1/1	Beam 5	MS-12H180	MS12H180-00000010	10.0	Normal

Display: Beam 5 (Refer as **RET 05**)

**RET 05 Info:** R5 (HB5,P9,10)

BEAM 5	
PORT 9	PORT 10
(+45°)	(-45°)

RET ID : MS12H180-0000010B06

RET Status and Control

Antenna Information List

NO	Sector ID	Ant Model	Ant Serial	Current Tilt	Status
1/1	Beam 6	MS-12H180	MS12H180-00000010	10.0	Normal

Display: Beam 6 (Refer as **RET 06**)

**RET 06 Info:** R6 (HB6,P11,12)

BEAM 6	
PORT 11	PORT 12
(+45°)	(-45°)

### 3.23 Group 2 Display

NO	HDLC	Vendor	Serial Number	Product Number	H/W Version	S/W Version	3GPP	Device	AISG	Connect	Link
1	1	MS	12H180-0000010B07	ACS-RU370	1.00	5.12	6	Single RET	2	Connect	Link
2	2	MS	12H180-0000010B08	ACS-RU370	1.00	5.12	6	Single RET	2	Connect	Link
3	3	MS	12H180-0000010B09	ACS-RU370	1.00	5.12	6	Single RET	2	Connect	Link
4	4	MS	12H180-0000010B10	ACS-RU370	1.00	5.12	6	Single RET	2	Connect	Link
5	5	MS	12H180-0000010B11	ACS-RU370	1.00	5.12	6	Single RET	2	Connect	Link
6	6	MS	12H180-0000010B12	ACS-RU370	1.00	5.12	6	Single RET	2	Connect	Link

12H180-0000010B07 } Display: Beam 7 (Reference as **RET 07**)

12H180-0000010B08 } Display: Beam 8 (Reference as **RET 08**)

12H180-0000010B09 } Display: Beam 9 (Reference as **RET 09**)

12H180-0000010B10 } Display: Beam 10 (Reference as **RET 10**)

12H180-0000010B11 } Display: Beam 11 (Reference as **RET 11**)

12H180-0000010B12 } Display: Beam 12 (Reference as **RET 12**)

Model s/no. (7 Digits)



### 3.24 Beam Nos & Port Nos Display (Group 2)

RET ID : MS12H180-0000010B07

RET Status and Control

Antenna Information List

NO	Sector ID	Ant Model	Ant Serial	Current Tilt	Status
1/1	Beam 7	MS-12H180	MS12H180-00000010	10.0	Normal

**Display: Beam 7 (Refer as RET 07)**

**RET 07 Info:** R7 (HB7,P13,14)

BEAM 7	
PORT 13	PORT 14
(+45°)	(-45°)

RET ID : MS12H180-0000010B08

RET Status and Control

Antenna Information List

NO	Sector ID	Ant Model	Ant Serial	Current Tilt	Status
1/1	Beam 8	MS-12H180	MS12H180-00000010	10.0	Normal

**Display: Beam 8 (Refer as RET 08)**

**RET 08 Info:** R8 (HB8,P15,16)

BEAM 8	
PORT 15	PORT 16
(+45°)	(-45°)

RET ID : MS12H180-0000010B09

RET Status and Control

Antenna Information List

NO	Sector ID	Ant Model	Ant Serial	Current Tilt	Status
1/1	Beam 9	MS-12H180	MS12H180-00000010	10.0	Normal

**Display: Beam 9 (Refer as RET 09)**

**RET 09 Info:** R9 (HB9,P17,18)

BEAM 9	
PORT 17	PORT 18
(+45°)	(-45°)

RET ID : MS12H180-0000010B10

RET Status and Control

Antenna Information List

NO	Sector ID	Ant Model	Ant Serial	Current Tilt	Status
1/1	Beam 10	MS-12H180	MS12H180-00000010	10.0	Normal

**Display: Beam 10 (Refer as RET 10)**

**RET 10 Info:** R10 (HB10,P19,20)

BEAM 10	
PORT 19	PORT 20
(+45°)	(-45°)

RET ID : MS12H180-0000010B11

RET Status and Control

Antenna Information List

NO	Sector ID	Ant Model	Ant Serial	Current Tilt	Status
1/1	Beam 11	MS-12H180	MS12H180-00000010	10.0	Normal

**Display: Beam 11 (Refer as RET 11)**

**RET 11 Info:** R11 (HB11,P21,22)

BEAM 11	
PORT 21	PORT 22
(+45°)	(-45°)

RET ID : MS12H180-0000010B12

RET Status and Control

Antenna Information List

NO	Sector ID	Ant Model	Ant Serial	Current Tilt	Status
1/1	Beam 12	MS-12H180	MS12H180-00000010	10.0	Normal

**Display: Beam 12 (Refer as RET 12)**

**RET 12 Info:** R12 (HB12,P23,24)

BEAM 12	
PORT 23	PORT 24
(+45°)	(-45°)