RET

Model	Product Type	Page
TY-RCUB20(F1V4)	External Remote Control Unit type 1	295
TY-ICUB20	External Remote Control Unit type 2	296
TRCU-TM10P1V01	Internal , Replaceable Remote Control Unit	297
TRCU-TQ10P2V01	Internal , Replaceable Remote Control Unit ,One for five RET	298
TRCU-TQ20P3V01	Internal , Replaceable Remote Control Unit ,One for ten RET	299
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External Remote Control Unit (RCU) for Tongyu Variable Electrical Tilt (VET) base station antennas with adjustable electrical downtilt and appropriate mechanical interface.

| Electrical specifications	
Product number	TY-RCUB20(F1V4)
Release Version	A3
Standard	AISG 2.0/3GPP release 8
AISG device type	S-RET(0x01)
Input voltage range	10-30V DC (pin 1 or pin 6)
Power consumption (idle)	<1W
Power consumption (tilting)	<6W
Connectors	2 x 8 pin connector according IEC 60130-9; conforming to AISG2.0 Daisy chain in: male; Daisy chain out: female Ready for daisy chain connection
Hardware interfaces	RS 485A/B (pin 5, pin 3); power supply (pin 1, pin 6); DC return (pin 7); conform to AISG2.0
Data rate	9.6 kbps
Firmware	Remotely upgradeable by .bin or .xml file
Adjustment time (full range)	40sec (typically, depending on antenna type)
Adjustment cycles	> 50,000
Mechanical specifications	
Dimensions(mm)	160 × 48.5 × 50
Packing size(mm)	195 × 85 × 75
Weight(kg)	0.36
Housing Material	Profile: Aluminum, coated Connector: Aluminum with polyester powder, coated varnished housing (RAL 7035, orange gray)
Environmental specifications	
Temperature range	-40 °C to +65 °C
Protection class	IP 65
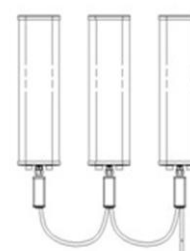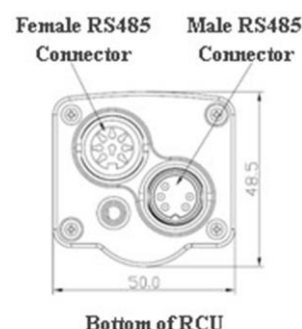
Features:

-Compact size

-Suitable for daisy chain connection

-Easy attachment without dismantling antennas

-Accurate adjustable downtilt

-Support customized solution

Notes:

-Install RCU according to installation manual

-Keep the protection cap of the last chain out socket if not used

Pluggable Remote Control Unit (RCU) for Tongyu Variable Electrical Tilt (VET) base station antennas with adjustable electrical downtilt and appropriate mechanical interface.

| Electrical specifications	
Product number	TRCU-TM10P1V01
Release Version	A0
Standard	AISG 2.0/3GPP release 10
AISG device type	S-RET(0x01)
Input voltage range	10-30V DC (pin 1 or pin 6)
Power consumption (idle)	<1W
Power consumption (tilting)	<6W
Connectors	2 x 8 pin connector according IEC 60130-9; conforming to AISG2.0 Daisy chain in: male; Daisy chain out: female Ready for daisy chain connection
Hardware interfaces	RS 485A/B (pin 5, pin 3); power supply (pin 1, pin 6); DC return (pin 7); conform to AISG2.0
Data rate	9.6 kbps
Firmware	Remotely upgradeable by .bin or .xml file
Motor Type	Step motor
Adjustment time (full range)	45sec (typically, depending on antenna type)
Adjustment cycles	> 50,000
Mechanical specifications	
Dimensions(mm)	90.5×40×40
Packing size(mm)	150×80×70
Weight(kg)	0.24
Housing Material	Profile: Aluminum, coated
Environmental specifications	
Temperature range	–40 °C to +65 °C
Protection class	IP 24 (Installed)
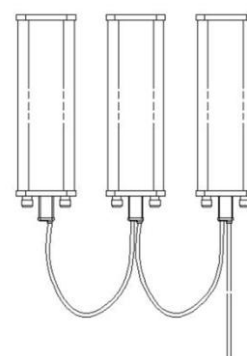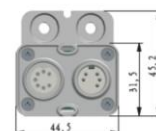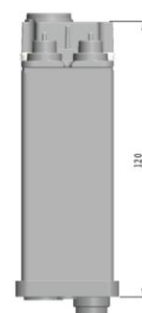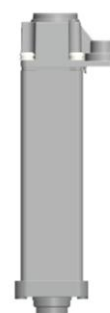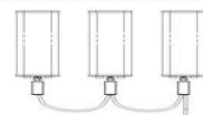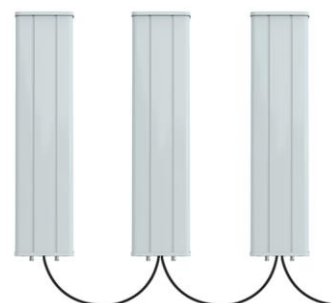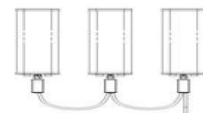
Features:

-Compliant to AISG2.0/3GPP

-Miniaturized size and pluggable to antennas

-Support customized solution

Notes:

-Install RCU according to installation manual

-Keep the protection cap of the last chain out connector if not used

-Tongyu variable electrical tilt antenna named as "xxDEIxx" only, please refer to Tongyu's market supporter for more information

Pluggable Remote Control Unit (RCU) for Tongyu Variable Electrical Tilt (VET) basestation antennas, with adjustable electrical downtilt and appropriate mechanical interface.

- Pre-Configuration
- Exchangeable
- AISG 2.0/3GPP compatibility
- Daisy chain possibility
- Suitable for Tongyu Tri-band, Quad-band and Penta-band antennas

Electrical specifications	
Product number	TRCU-TQ10P2V01
Standard	AISG 2.0/3GPP release 10
AISG device type	Single-RET(0x01) or Multi-RET(0x11) *
Input voltage range	10-30V DC (pin 1 or pin 6)
Power consumption	<1W(idle) ;<6W(tilting)
Connectors	2 x 8 pin connector according to IEC 60130-9; conforming to AISG2.0; Daisy chain in: male; Daisy chain out: female; Ready for daisy chain connection;
Hardware interfaces	RS 485A/B (pin 5, pin 3); power supply (pin 1, pin 6); DC return (pin 7); conform to AISG2.0
Data rate	9.6 kbps
Firmware	Remotely upgradeable by .bin or .xml file**
Adjustment time (full range)	90sec (typically, depending on antenna type)
Adjustment cycles	> 10,000
Mechanical specifications	
Dimensions(mm)	98×62×33
Weight(kg)	0.25
Housing material	Profile: Aluminum, coated. Connector: Zinc alloy with polyester powder, coated. varnished housing (RAL 7035, orange gray).
Environmental specifications	
Temperature range	–40 °C to +65 °C
Lightning protection	3KA (8/20µs) @ Pin 5& Pin3 5KA (8/20µs) @ Pin 1/Pin 6 & Pin7
Protection class	IP 24 (Installed)

*The default Single-RET can be switch to Multi-RET by firmware update.

*The .xml file is supported by Ericsson BTS system only.

Notes:

-Install RCU according to installation manual

-Tongyu variable electrical tilt Tri-band, Quad-band and Penta-band antennas named as "xxDEI-xx"only, please refer to Tongyu's market supporter for more information

Pluggable Remote Control Unit (RCU) for Tongyu Variable Electrical Tilt (VET) basestation antennas, with adjustable electrical downtilt and appropriate mechanical interface.

- Pre-Configuration
- AISG 2.0/3GPP compatibility
- Suitable for Tongyu up to Deca band antennas
- Exchangeable
- Daisy chain possibility

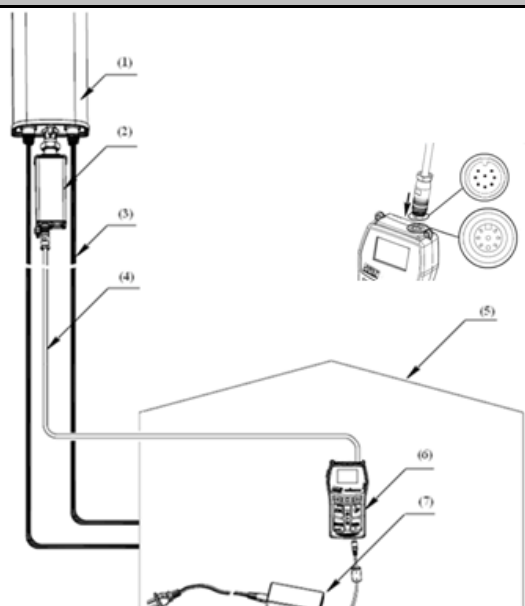| Electrical specifications	
Product number	TRCU-TQ20P3V01
Standard	AISG 2.0/3GPP release 10
AISG device type	Single-RET(0x01)
Input voltage range	10-30V DC (pin 1 or pin 6)
Power consumption	<1W(idle) ;<6W(tilting)
Connectors	2 x 8 pin connector according to IEC 60130-9; conforming to AISG2.0; Daisy chain in: male; Daisy chain out: female; Ready for daisy chain connection;
Hardware interfaces	RS 485A/B (pin 5, pin 3); power supply (pin 1, pin 6); DC return (pin 7); conform to AISG2.0
Data rate	9.6 kbps
Firmware	Remotely upgradeable by .bin or .xml file**
Adjustment time (full range)	60sec (typically, depending on antenna type)
Adjustment cycles	> 50,000
Mechanical specifications	
Dimensions(mm)	92.8×140.8×33
Weight(kg)	0.41
Housing material	Profile: Aluminum, coated. Connector: Zinc alloy with polyester powder, coated. varnished housing (RAL 7035, orange gray).
Environmental specifications	
Temperature range	−40 °C to +65 °C
Lightning protection	3KA (8/20µs) @ Pin 5& Pin3 5KA (8/20µs) @ Pin 1/Pin 6 & Pin7
Protection class	IP 65 (Installed)
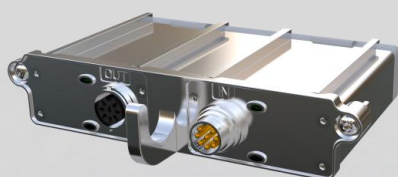
Notes:

-Install RCU according to installation manual

-Pre-configure according to antenna bands/arrays allotment

-Tongyu variable electrical tilt multi-band antennas named as "xxDEI-xx" only, please refer to Tongyu's market supporter for more information

HCU (Hand-held Control Unit) is a portable controller for tilt adjustable antennas.

✧ AISG v1.1/v2.0 compatibility

✧ Easy-to-carry controller with a built-in rechargeable battery

✧ Well-suited tool for on-site installation, tilting and maintenance

Electric specification			
Power supply	Input: 20V DC 1.5A(AC/DC adapter) Output: 20V DC 1.5A(AC/DC adapter)/16V DC 1.5A (rechargeable battery)		
Rechargeable battery	Li-polymer (16V 2000mAh), > 300 cycles		
AISG connector	RS485(female) x 2, conforming to IEC 60130-9 and AISG 8-pin connector	Pin 1, Pin 6	DC(+20V)(AC/DC adapter)
			DC(+16V)(rechargeable battery)
		Pin 3	RS485 B
		Pin 5	RS485 A
		Pin 7	DC return
Environment specification			
temperature range	−10 ℃ to +55 ℃（Operating） −40 ℃ to +65 ℃（Storage）		
Storage humidity	5% ~ 95%		
Life	3 years		
Mechanism specification			
Weight	0.36 kg(with rechargeable battery)		
Dimensions	168mm x 90mm x 44mm		
Material	ABS		

Appearance

(1) AISG Cable Connector
(2) Strap Hole
(3) Power Switch
(4) LCD Display
(5) Keyboard
(6) AC/DC Adapter Input

Application Scenarios

(1) Tilt Adjustable Antenna
(2) RCU
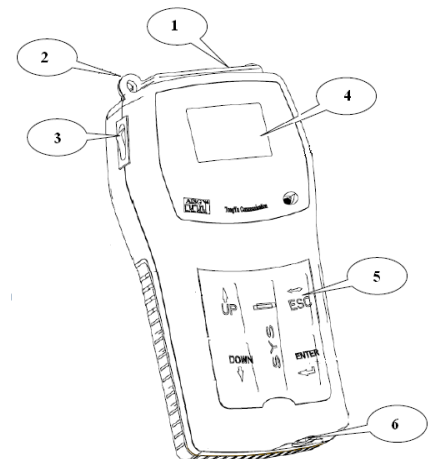(3) RF Feeder Cable
(4) AISG Cable
(5) Site
(6) HCU
(7) AC/DC Adapter

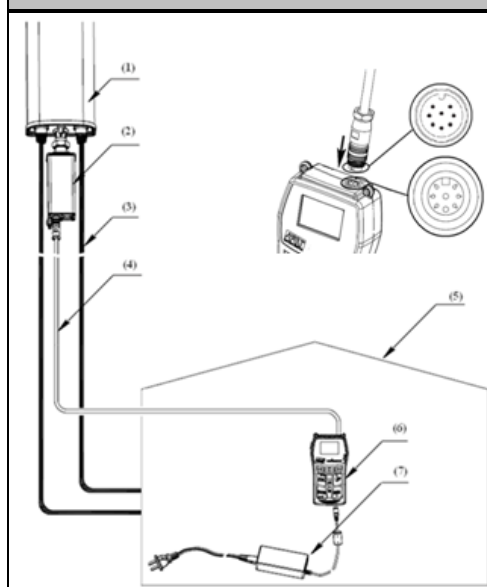HCU (Hand-held Control Unit) is a portable controller for tilt adjustable antennas.

✧ AISG v1.1/v2.0 compatibility
✧ Easy-to-carry controller with a built-in rechargeable battery
✧ Well-suited tool for on-site installation, tilting and maintenance
✧ Switchable to be a PCA (Portable Control Adapter) for USB/AISG

Electric specification			
Power supply	Input: 20V DC 1.5A(AC/DC adapter) Output: 20V DC 1.5A(AC/DC adapter)/16V DC 1.5A (rechargeable battery)		
Rechargeable battery	Li-polymer (16V 2000mAh), > 300 cycles		
AISG connector	RS485(female) x 2, conforming to IEC 60130-9 and AISG 8-pin connector	Pin 1, Pin 6	DC(+20V)(AC/DC adapter)
			DC(+16V)(rechargeable battery)
		Pin 3	RS485 B
		Pin 5	RS485 A
		Pin 7	DC return

Environment specification	
temperature range	−10 ℃ to +55 ℃（Operating） −40 ℃ to +65 ℃（Storage）
Storage humidity	5% ~ 95%
Life	3 years

Mechanism specification	
Weight	0.36 kg(with rechargeable battery)
Dimensions	168mm x 90mm x 44mm
Material	ABS

Appearance

(1) AISG Cable Connector
(2) Strap Hole
(3) Power Switch
(4) USB connector
(5) LCD Display
(6) Indicator light
(7) Keyboard
(8) AC/DC Adapter Input

Application Scenarios

(1) Tilt Adjustable Antenna
(2) RCU
(3) RF Feeder Cable
(4) AISG Cable
(5) Site
(6) HCU
(7) AC/DC Adapter
(8)USB cable
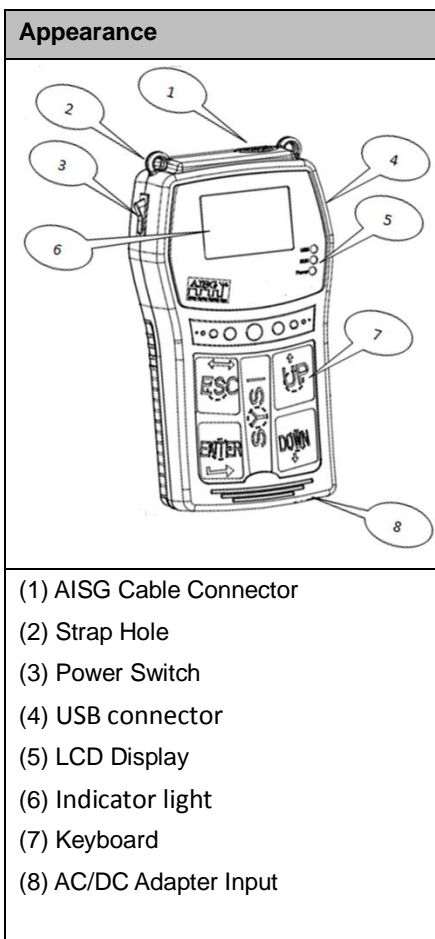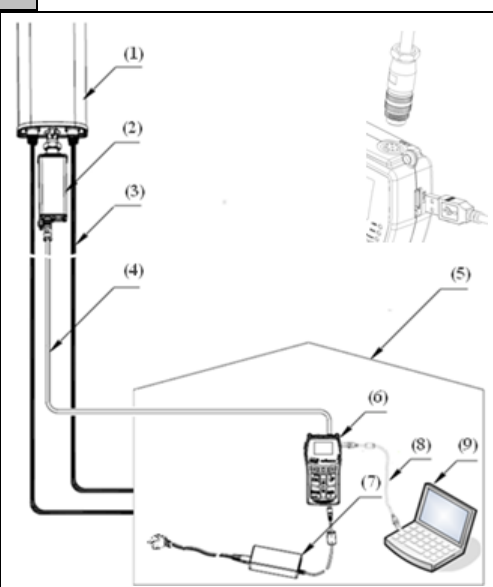(9)PC and PC software

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Smart Bias Tee

Electrical	
Frequency Band, MHz	690～2700
VSWR@BTS port & ANT port	≤1.2
Insertion loss(BTS→ ANT),dB	≤0.15
PIM(dBc) (3 rd order 2X20W)	≤-155
Peak Power	1600W Peak
Modem carrier freq	2.176MHz
Power consumption	0.6W(typ)
Lightning protection：	
Feeder port ANT port （8/20uS pulse）	8KA
DC/RCU port（8/20uS pulse）	3KA
DC Pass Current	2.5A
AISG pass	Yes
MTBF（H）	>500,000
Voltage range	10～30V

Mechanical	
Height, depth, width, mm	160X75X43
Weight kg	≤0.75
Enclosure Color	Light Grey
Connectors	DIN 7-16 & AISG

Environmental	
Operating temperature range, °C	-40 to +70
Operational	ETS 300 019-1-4
Transportation	ETS 300 019-1-2
Ingress protection	IP66 Ventilated
Storage	ETS 300 019-1-1
Housing	Aluminum

AISG	ITEM 1
10-30 V	1
NC	2
RS485B	3
NC	4
RS485A	5
10-30 V	6
DC RTN	7
NC	8
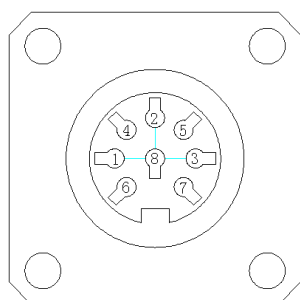
AISG connector（Female）

Part No.			
	Connector/DC configuration		
Part number	ANT	Feeder DC	AISG connect or
TY-ANTSBT-MMF	Male	Male	Female
TY-ANTSBT-MFF	Male	Female	Female
TY-ANTSBT-FFF	Female	Female	Female
TY-ANTSBT-FMF	Female	Male	Female
TY-ANTSBT-FFM	Female	Female	Male
TY-ANTSBT-FMM	Female	Male	Male
TY-ANTSBT-MMM	Male	Male	Male
TY-ANTSBT-MFM	Male	Female	Male

Dimension

TY-ANTSBT-MFF

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