

DTMA-1900-850 BYP-12-AISG

Fullband Double Dual Duplex Tower Mounted Amplifier (Masthead Amplifier)

KATHREIN

Antennen · Electronic

- Double unit for easy use with XPol antennas
- RF-Bypass feature for 850 MHz
- DC-stop integrated to 850 MHz ports
- Kathrein redundancy amplifier design for improved system reliability
- Bypass mode to ensure cell operation in case of DC power down
- Built-in lightning protection
- Compact size
- Suitable for antenna RET control according to AISG standard
- **DTMA DC supply and AISG feed via BTS 0 port for both TMAs**



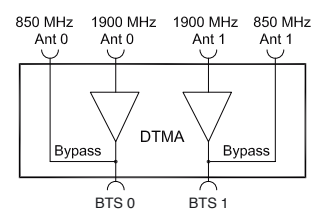
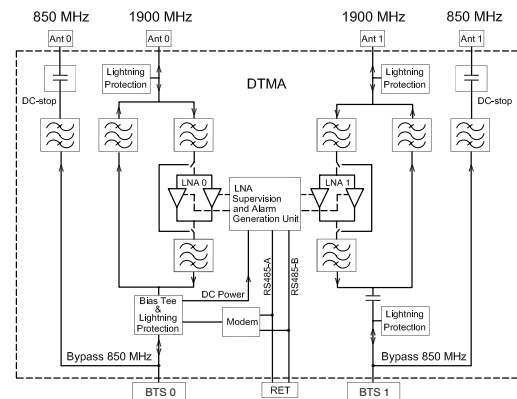
RET = Remote Electrical Tilt

AISG = Antenna Interface Standards Group

BYP = RF-BYPass

Technical Data

Type No.	782 10406 DTMA-1900-850 BYP-12-AISG (12 dB gain)
850 MHz Bypass	
Frequency range	806 – 896 MHz
Insertion loss	< 0.15 dB
Isolation to 1900 MHz	> 80 dB
Input power	500 W CW / per input
Return loss	> 18 dB
1900 MHz DTMA	
Tx Characteristics	
Frequency range	1930 – 1990 MHz
Bandwidth	60 MHz
Insertion loss	< 0.5 dB at 80% of BW, a further 0.25 dB at 100% BW.
Input power	< 160 W (+52 dBm) CW / per input < 1.6 kW (+62 dBm) Peak
Intermodulation products in Rx band	< -117 dBm (2 Tx carriers at +43 dBm)
Return loss	> 18 dB
Rx Characteristics	
Frequency range	1850 – 1910 MHz
Bandwidth	60 MHz
Loss in by-pass mode	2.8 dB typically
Return loss	> 18 dB (DC ON) > 15 dB (DC OFF)
Gain	+22 ... +28 °C -40 ... +65 °C 12 ±0.7 dB 12 ±1.3 dB
Noise figure	+22 ... +28 °C < 1.7 dB at 80% of BW, a further 0.3 dB at 100% BW.
Noise figure	-40 ... +65 °C < 2.2 dB at 80% of BW, a further 0.3 dB at 100% BW.
Output 1-dB compression point	> 15 dBm
3rd order intercept point (OIP3)	> 25 dBm
Environmental Characteristics	
Operating temperature range	-40 ... +65 °C
IP rating	IP67*
MTBF	> 1 000 000 hours (per TMA)
EMC	ETS 300 342-3
Lightning protection	5 kA, 8/20 µs RF connections and AISG port
DC and Alarm Characteristics	
Through BTS 0 Port only	
DC supply without RET	+12 V nominal (9 – 15V, minus grounded) Typically 150 mA per TMA
Alarm management	According to AISG standard 1.1
Modem Characteristics	According to AISG standard 1.1 (Data rate: 9.6 kB)
Mechanical Characteristics	
Material	Aluminium housing
Connectors	7-16 female
RF	8-pin female, IEC 60130-9*
AISG Connector (Compliance AISG 1.1)	(Pin 1: +12 V DC nominal, pin 3: RS485B, pin 5: RS485A, pin 7: DC return; other pins: Not connected)
Mounting	Wall mounting: With 4 screws (max. 8 mm diameter) Mast mounting: With additional clamp set
Weight	Approx. 8.7 kg
Dimensions (w x h x d)	271 mm x 278 mm x 77.5 mm (without connectors, without mounting brackets)



936.2943/b Subject to alteration.

* see note on page 2

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Accessories (order separately)

Type No.	Clamp set suitable for mast diameter of
734 360	34 – 60 mm
734 361	60 – 80 mm
734 362	80 – 100 mm
734 363	100 – 120 mm
734 364	120 – 140 mm
734 365	45 – 125 mm



Mounting Instructions

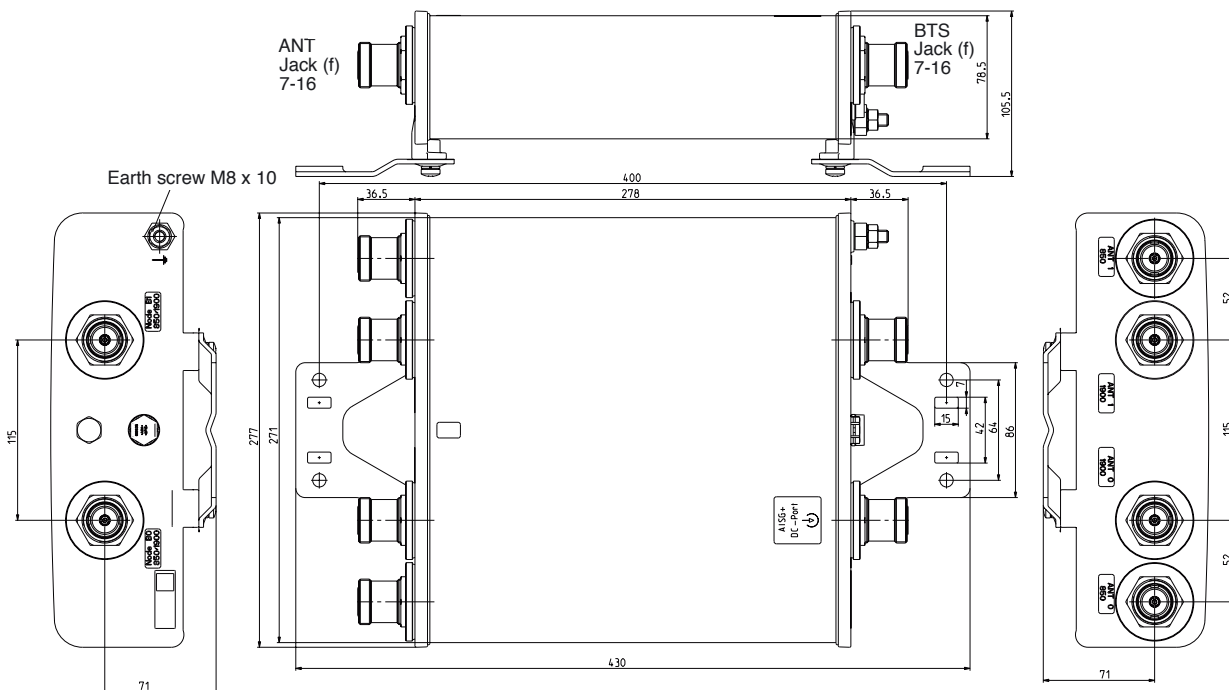
The coupling torque at 7-16 connectors is 25 – 30 Nm!

The tightening torque for fixing the AISG connector must be 0.5 – 1.0 Nm ("hand-tightened").

It is recommended to install the DTMA's with the antenna connectors pointing upwards and the BTS connectors pointing downwards.

In case of DTMA's with RET-connectors (Remote Electrical Tilt-connectors according to AISG Standard) it is **recommended** to mount the DTMA's in such a way that the RET-connector **always points downwards!**

A downward slanted mounting position between the vertical and horizontal plane is also allowed.



Please note:

The DTMA is not designed for permanent operation under water.

Test conditions for the IP67 rating: submerge depth: 1 m; submerge time: 24 hours

As a result of more stringent legal regulations and judgements regarding product liability, we are obliged to point out certain risks that may arise when products are used under extraordinary operating conditions.

Extraordinary operating conditions, such as heavy icing or exceptional dynamic stress (e.g. strain caused by oscillating support structures), may result in the breakage of a mast mounted device or even cause it to fall to the ground.

These facts must be considered during the site planning process.

KATHREIN tower mounted amplifiers are designed to operate under the environmental conditions as described in ETS 300 019-1-4 class 4.1E and have passed environmental tests as specified in ETS 300 019-2-4.

The homogenous design of KATHREIN's tower mounted amplifiers use identical modules and materials. Extensive tests have been performed on typical samples and models.

The DTMA is designed to operate under the environmental conditions as described in ETS 300 019-1-4 class 4.1E and have passed environmental tests as recommended in ETS 300 019-2-4.

The installation team must be properly qualified and also be familiar with the relevant national safety regulations.

The details given on our data sheets have to be followed carefully when installing the antennas, filters, combiners, amplifiers and accessories.

The limits for the coupling torque of RF connectors, recommended by the connector manufacturers must be obeyed.

Any previous datasheet issues have now become invalid.

