
***CROSS ARM
WAC151
Technical Reference***

WAC151-T648en-1.1
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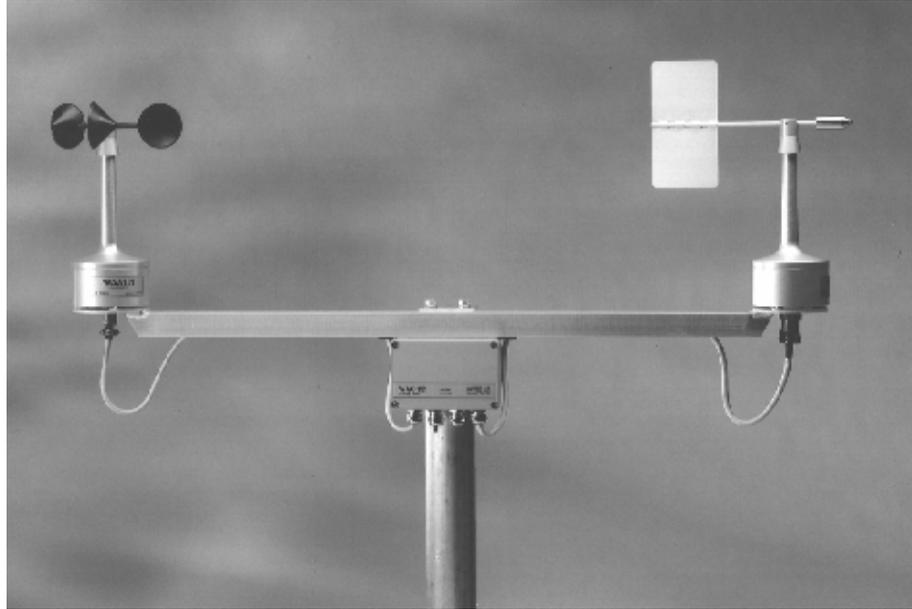
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1. INTRODUCTION



The WAC151 is a cross arm assembly to support the Vaisala WAA151 Anemometer, WAA251 Heated Anemometer and WAV151 Wind Vane. The assembly consists of an anodized aluminum tube construction with a mounting clamp for installation on top of a mast.

A water tight junction box is fitted to the cross arm, including a screw terminal block for connection of the power and signal cables. Inside the junction box, there is also a thermostat switch for controlling sensor shaft heating for the standard '151-series sensors.

The junction box is equipped with four cable glands offering easy way for earthing different cables. Typically, three cable glands are in use; two for sensor cables one for signal cables. To ensure accurate wind speed measurement in extreme winter conditions, WAA251 Heated Anemometer as well as WHP25 Outdoor Mains Power Supply are recommended. The fourth gland is reserved for the cable supplying heating power for heated anemometer system.

It is important to notice that wiring instruction label inside the junction box is for the standard '151-series sensors. However, when WAC151 is used with WAA251 Heated Anemometer, small wiring changes are necessary. Please, refer to the drawing WA35172.

The cross arm is installed in the north-south direction, with the wind vane pointing to the north. The cross arm supports just one way to fix the sensors to it ensuring correct assemblage.

2. INSTALLATION

Figure WA35095 illustrates mounting of the WAC151 to the top of a Ø 60 mm pole mast, with the standard mounting clamp. For installation, follow the procedure below:

- 1 Remove the four screws attaching the cover of the WAC151 unit. Remove the cover.
- 2 Enter the power and signal cables through the cable glands(s). For better protection against RF interference, follow the earthing instructions of the cable shield in drawing WA35095.
- 3 Do the wiring to the screw terminal block according to the drawing WA35172. Notice that the factory wiring is for WAA151 & WAV151 sensors. If WAA251 is used with WAV151, 10 kΩ NTC (delivered with the WAA251) must be used instead of thermostat. Tighten the output cable gland(s).
- 4 Carefully reattach the enclosure cover with the four screws.
- 5 Attach the unit to the top of a pole mast with the mounting clamp.

3. TECHNICAL DATA

Type & Function	Cross Arm for Vaisala wind sensors.
Mechanical	
Dimensions	Junction Box 125 x 80 x 57 mm ³ Cross Arm length 800 mm
Mounting	To a pole mast with a nominal outside diameter 60 mm. The cross-arm supports the WAA151, WAA251 and WAV151 sensors.
Material	Cross Arm Al, anodized Junction Box Al, painted
Weight	1.5 kg (without sensors)
Electrical connections	
Cable entries	Line cable entry through a gland (for cable diam. 7...10mm) with coaxial connectability of the cable screen, for proper RF shielding. Sensor cables enter through two rubber glands.
I/O connectors	Screw terminal connectors (15 pcs) for the sensors and power lines.
Thermostat switch	connects at + 4°C ($\pm 3^{\circ}\text{C}$) disconnects at +11°C ($\pm 3^{\circ}\text{C}$)

4. APPENDICES / DRAWINGS

WA35095	WAC151 Cross Arm Assembly
ZZ45037	Sensor Wind Vane Cable Assembly
ZZ45036	Sensor Anemometer Cable Assembly
WA35172	WAT11 Wind Sensor Control Unit Basic Wiring (Options)