



Auto-Sense Combiners

Simplifying Site Configurations



Auto-Sense Combiners | Two Different Modes

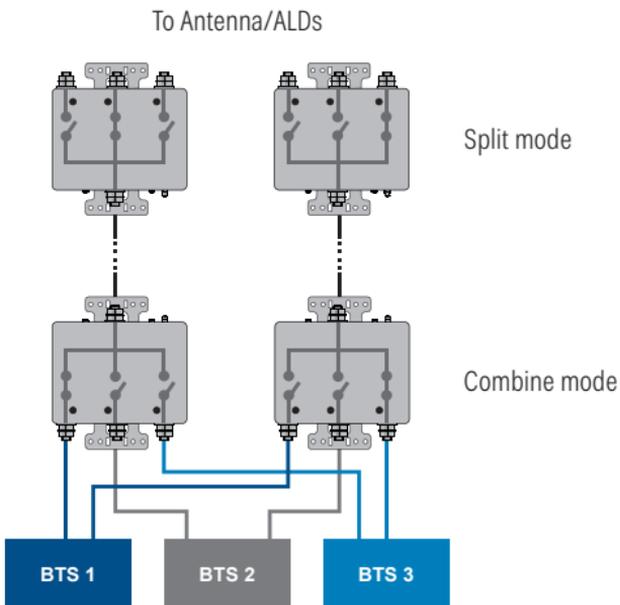
In order to enable the control of ALDs¹⁾ when deploying standard multi-band combiners in mobile communication networks, such combiners are fitted with integrated DC/AISG bypass circuits. Depending on the application, different bypass configurations are available. The correct bypass combination needs to be selected in order to ensure the proper control and configuration of the ALDs.

KATHREIN Auto-Sense Combiners automatically detect the correct bypass, thereby enabling safe and easy deployment in universal applications.

¹⁾ ALD = Antenna Line Device (including, where appropriate, secondary AISG devices)

Two Different Modes

KATHREIN Auto-Sense Combiners automatically switch into the appropriate mode by checking the DC voltage on all ports.



Split mode: close to the antenna

KATHREIN Auto-Sense Combiners detect if an ALD (DC load) or an antenna (short circuit) is connected to a port and therefore bypass or block the DC/AISG signal. LEDs for each port indicate if DC is bypassed or not.

Combine mode: close to the BTS

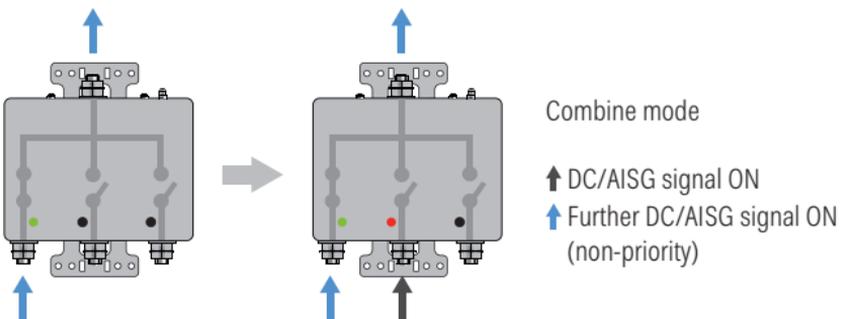
Automatic detection of DC voltage on one or more input ports. DC/AISG signal is bypassed to connected ALDs according to three different functional preconfigurations. In combine mode, LEDs show if DC is connected to a port and which DC/AISG signal is put through to the common port.

Functional Preconfigurations

KATHREIN Auto-Sense Combiners are available in three variants with different preconfigured functions.

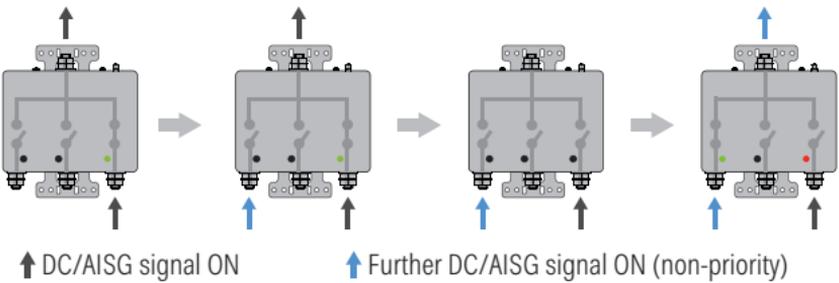
1. First In – First Out function

The first BTS which supplies DC voltage at any input port is bypassed to the common port, other DC/AISG signals will be ignored and blocked. After installation, LED lights help to adjust the system by indicating the bypass situation.



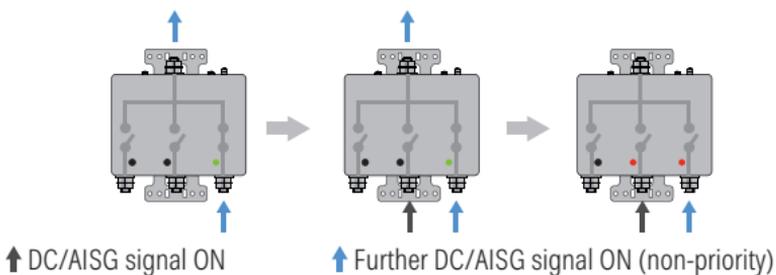
2. Priority Controlled function

The combiner detects all ports that are supplied with DC and bypasses the AISG/DC signal with the highest priority according to a preprogrammed priority table setting. (For detailed information on the preset priorities of each combiner, please check the latest datasheets on our website.) During the detection phase, LED lights indicate which port/signal is bypassed and which ones are blocked. If a new base station is attached during this phase, the combiner automatically switches the DC/AISG bypass to this port if the priority is higher than the one of the currently bypassed port.



3. Exclusive User function

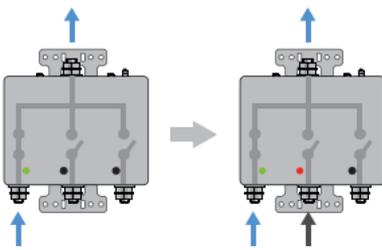
If the Exclusive User function is set in the combiner, the first base station which supplies an appropriate DC voltage at any input port is bypassed to the common port. If a second DC/AISG signal is erroneously fed into the combiner, then none of the DC/AISG signals will be allowed to bypass to the common port. The DC/AISG functionality at the common port will be disabled and the LEDs start blinking in red until only one DC/AISG signal is connected.



Features/Benefits

■ LED status indication:

Installation errors can be easily identified as LEDs for each port indicate if DC is bypassed or not and even if DC is blocked.



Example: Combiners

↑ DC/AISG signal ON

↑ Further DC/AISG signal ON (non-priority)

● Green LED light indicates that this is the port/DC signal that is bypassed to the common port.

● Red light indicates that this port would also be supplied with a DC/AISG signal, but the signal is blocked.

● No light indicates that no DC has been detected on this port.

■ Simplification:

KATHREIN Auto-Sense Combiners can be used for split and combine applications – one type for all DC bypass situations. As soon as DC is connected to the combiner, the combiner will detect its role in the system and automatically adjust the behaviour accordingly.

■ Savings and efficiency:

The multi usability of KATHREIN Auto-Sense Combiners helps to reduce stock, ordering logistics and number of parts. No external DC stops are required.

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