JDSU

TIA-568 defines two pin/pair assignments for 100-ohm balanced twisted-pair cabling. These assignments are named T568A and T568B and they define the pinout, or order of connections, for wires in 8P8C (commonly – but incorrectly referred to as RJ45) eight-pin modular connector plugs and sockets.

The two schemes initially existed to support backwards compatibility with previous wiring schemes – Primarily USOC and AT&T 258A. T568A is backwards compatible to USOC wiring (orange pair on pins 3,6) while T568B is backwards compatible to AT&T 258A (green pair on pins 3,6).

The only difference between these two schemes is what color pairs are assigned to what pins.

The Certifier40G, like all certifiers and cabling testers, tests based on pairs and obviously has no way to know the actual color of any specific pair. What is critical in certification is ensuring Pin/Pair integrity. Pin/Pair integrity means the following pins use a pair of wires (for example Blue, Blue/White).
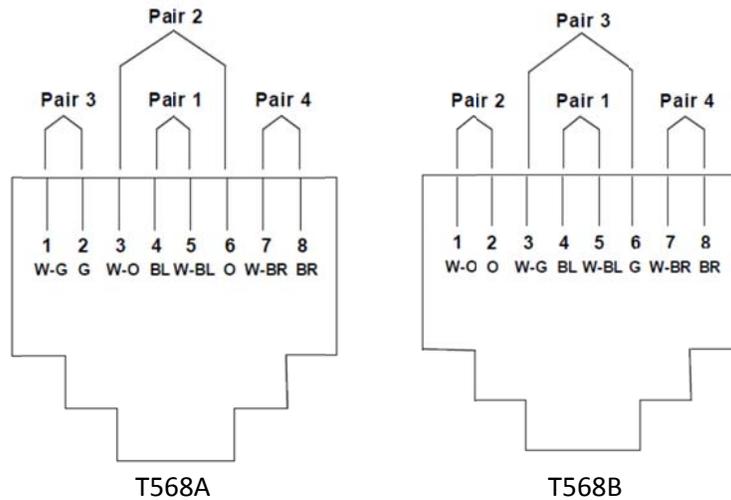
> 1,2
> 3,6
> 4,5
> 7,8

Within a standard 4-pair twisted-pair cable there are four pairs defined by color:

> Pair 1: Blue/Blue-White
> Pair 2: Orange/Orange-White
> Pair 3: Green/Green-White
> Pair 4: Brown/Brown-White

How these pairs are assigned to the pins is the difference between T568A and T568B as shown below:

As stated above there is no way for ANY tester to know the specific color connected to a pair. Cable testers like the Certifier40G will detect pin/pair wiring mistakes and, if detected, the test will fail and be indicated in the report. Provided there is pin/pair integrity, the only way to verify what wiring scheme has been used is to visually inspect the connectors.

Initial releases of the Certifier40G and its reporting software assumed the T568B color scheme was used and displayed a graphic with the Orange pair assigned to pins 1,2 and the green pair assigned to pins 3,6. This is simply a graphic and has no bearing on the test results as the test results are based on specific pin/pairs combinations. So the results for pins 1,2 will ALWAYS be the result for pins 1,2 regardless of what color pair is connected to it.

When looking at results from the Certifier40G that were performed before the option to change the color graphic attention should be paid to the pin labels vs. the displayed color.