

IAR J-Link-KS ARM pins

There is a standard 20-pin connector defined by ARM. J-Link-KS ARM has a built-in 20-pin JTAG connector, which is compatible with this standard. Only pin 19 differs from the standard.

JTAG interface connector signals:

| Pin | Name | Function |
|-----|-------|-----------------------------------|
| 1 | VCCS | VCC Sense |
| 2 | NC | not connected |
| 3 | TRST | JTAG Reset |
| 4 | GND | Common ground |
| 5 | TDI | JTAG data input of target CPU |
| 6 | GND | Common ground |
| 7 | TMS | JTAG mode set input of target CPU |
| 8 | GND | Common ground |
| 9 | TCK | JTAG clock signal to target CPU |
| 10 | GND | Common ground |
| 11 | NC | not connected |
| 12 | GND | Common ground |
| 13 | TDO | JTAG data output from target CPU |
| 14 | GND | Common ground |
| 15 | RESET | Target CPU reset signal |
| 16 | GND | Common ground |
| 17 | NC | not connected |
| 18 | GND | Common ground |
| 19 | VDC | +5V DC to target board |
| 20 | GND | Common ground |

Notes

Pins marked NC are not connected inside J-Link. Any signal can be applied here; J-Link will simply ignore such a signal.

Pin 1 (VCCS) is used to supply J-Link's target interface. J-Link itself is USB powered, only the target interface is powered via this pin. It must be connected to the target CPU's supply voltage (VCC) and be between 1.8 and 3.3 V.

Pin 2 is not connected inside J-Link. Many targets have pin 1 and pin 2 connected. Some targets use pin 2 instead of pin 1 to supply VCC. These targets will not work with J-Link, unless Pin 1 and Pin 2 are connected on the target's JTAG connector.

Pin 3 (TRST) must be connected to the target CPU's TRST pin (sometimes called NTRST). J-Link will work even if this pin is not connected, but there will be some limitations when debugging. TRST should be separate from the CPU Reset (pin 15)

Pin 11 is not connected inside J-Link. On some targets, this pin is called RTCK (Returned test clock). This signal is neither handled nor required by J-Link. J-Link will work also with devices which have a RTCK signal.

Pin 19 is connected directly to 5V DC via the USB connection, and can be used to supply current to a target board. Most IAR KickStart Development Boards have a jumper to select between J-Link and an external power supply.