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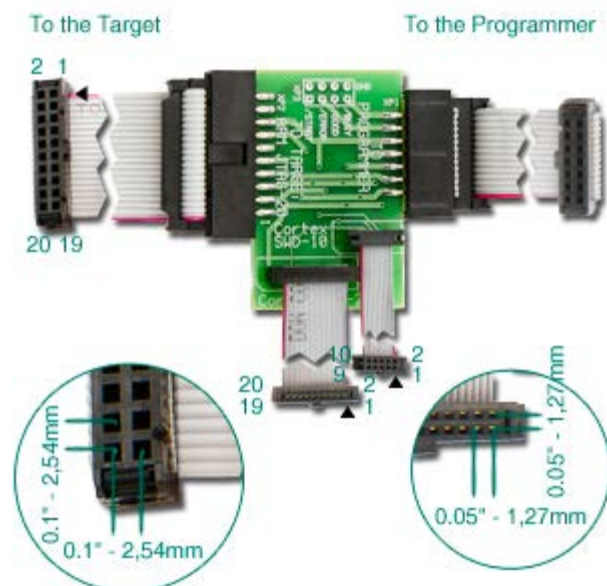
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AS-I SP- ARM-2



ChipProg-ISP BH14/BH20 and BH10 specialized adapter for in system programming of ARM microcontrollers .

Click the programmer model below to get an appropriate list of the devices supported by the adapter:

- [ChipProg-ISP](#)

Adapter Wiring Diagram:

| From Programmer Output Connector, BH-14 | To the Target Device, ARM BH-20, 0.1mil | To the Target Device, Cortex SWD-20, 0.05mil | To the Target Device, Cortex SWD-10, 0.05mil | Status and Control Signals from Programmer | Program Signals |
|---|---|--|--|--|-----------------|
| 1 | 1,2 | 1 | 1 | | VCC |
| 2 | 9 | 4 | 4 | | TCK |
| 3 | 5 | 8 | 8 | | TDI |
| 4 | 7 | 2 | 2 | | TMS |
| 5 | 13 | 6 | 6 | | TDO |
| 6 | 3 | 16 | | | TRST |
| 7 | - | - | - | | - |
| 8 | - | 9 | 9 | | GNDDetect |
| 9 | 4,6,8,10,12,14,16,18,20 | 3,5,15,17,19 | 3,5 | | GND |
| 10 | 15 | 10 | 10 | | RESET |
| 11 | | | | /Start | |
| 12 | | | | /Error | |
| 13 | | | | /Good | |
| 14 | | | | /Busy | |

[AS-ISP-ARM-2 connection for ARM/Cortex microcontrollers via JTAG](#)

[AS-ISP-ARM-2 connection for ARM/Cortex microcontrollers via SWD](#)

[AS-ISP-ARM-2 connection for Freescale Kinetis microcontrollers via SPI](#)**AS-ISP-ARM-2 connection for ARM/ Cortex microcontrollers via JTAG**

Click the programmer model below to get an appropriate list of the devices supported by the adapter:

- [ChipProg-ISP](#)

**Powering the target device:**

There are two alternative options for powering the targets:

1. The target gets power from the programmer (Vdd). This is possible only if the target does not consume too much energy. A capacity of the target power circuitry should not exceed 50 uF.
2. The target gets power from a built-in or external power supply. In this case the power output from the programmer should not be connected with the target. The target system should be tolerant to applying logical signals with the voltage levels exceeding the voltages on the target.

NOTE! It is strictly prohibited to power the target from both the programmer and built-in or external power supply simultaneously.

Isolating resistors:

Purpose of the R1..R6 resistors is to isolate the programmed chip from rest of target system.

Recommended value of resistors R1..R6 is 2k or more. You can also use jumpers instead of the resistors.

ISP characteristics:

1. Programmer's output capability:
 - 1.1 Vcc - 80 mA;
 - 1.2 Vpp - 50 mA;
 - 1.3 logical pins - 5 mA.
2. The cable length should be less then one foot.

Table of connections of the adapter output socket to the device pins:

| Adapter Output connector, ARM BH-20, 0.1mil | Adapter Output connector, Cortex SWD-20, 0.05mil | Adapter Output connector, Cortex SWD-10, 0.05mil | Target Device |
|---|--|--|---------------|
| 1 | 1 | 1 | VCC |
| 2 | 3 | | VCC |
| 3 | 16 | | TRST |
| 4 | 5 | 3 | GND |
| 5 | 8 | 8 | TDI |
| 6 | | 5 | GND |
| 7 | 2 | 2 | TMS |
| 8 | 15 | | GND |
| 9 | 4 | 4 | TCK |
| 10 | 17 | | GND |
| 11 | | | - |
| 12 | | | GND |
| 13 | 6 | 6 | TDO |
| 14 | | | GND |

| | | | |
|----|----|----|-------|
| 15 | 10 | 10 | RESET |
| 16 | | | GND |
| 17 | | | - |
| 18 | | | GND |
| 19 | | | - |
| 20 | | | GND |

AS-ISP-ARM-2 connection for ARM/ Cortex microcontrollers via SWD

Click the programmer model below to get an appropriate list of the devices supported by the adapter:

- [ChipProg-ISP](#)



Powering the target device:

There are two alternative options for powering the targets:

1. The target gets power from the programmer (Vdd). This is possible only if the target does not consume too much energy. A capacity of the target power circuitry should not exceed 50 uF.
2. The target gets power from a built-in or external power supply. In this case the power output from the programmer should not be connected with the target. The target system should be tolerant to applying logical signals with the voltage levels exceeding the voltages on the target.

NOTE! It is strictly prohibited to power the target from both the programmer and built-in or external power supply simultaneously.

Isolating resistors:

Purpose of the R1..R6 resistors is to isolate the programmed chip from rest of target system.

Recommended value of resistors R1..R6 is 2k or more. You can also use jumpers instead of the resistors.

ISP characteristics:

1. Programmer's output capability:
 - 1.1 Vcc - 80 mA;
 - 1.2 Vpp - 50 mA;
 - 1.3 logical pins - 5 mA.
2. The cable length should be less then one foot.

Table of connections of the adapter output socket to the device pins:

| Adapter Output connector, ARM BH-20, 0.1mil | Adapter Output connector, Cortex SWD-20, 0.05mil | Adapter Output connector, Cortex SWD-10, 0.05mil | Target Device |
|---|--|--|---------------|
| 1 | 1 | 1 | VCC |
| 2 | 3 | | VCC |
| 3 | - | | - |
| 4 | 5 | 3 | GND |
| 5 | - | - | - |
| 6 | | 5 | GND |
| 7 | 2 | 2 | SWDIO |
| 8 | 15 | | GND |
| 9 | 4 | 4 | SWCLK |

| | | | |
|----|----|----|-------|
| 10 | 17 | | GND |
| 11 | | | - |
| 12 | | | GND |
| 13 | - | - | - |
| 14 | | | GND |
| 15 | 10 | 10 | RESET |
| 16 | | | GND |
| 17 | | | - |
| 18 | | | GND |
| 19 | | | - |
| 20 | | | GND |

AS-I SP- ARM-2 connection for Freescale Kinetis microcontrollers via SPI

Click the programmer model below to get an appropriate list of the devices supported by the adapter:

- [ChipProg-ISP](#)



Powering the target device:

There are two alternative options for powering the targets:

1. The target gets power from the programmer (Vdd). This is possible only if the target does not consume too much energy. A capacity of the target power circuitry should not exceed 50 μ F.
2. The target gets power from a built-in or external power supply. In this case the power output from the programmer should not be connected with the target. The target system should be tolerant to applying logical signals with the voltage levels exceeding the voltages on the target.

NOTE! It is strictly prohibited to power the target from both the programmer and built-in or external power supply simultaneously.

Isolating resistors:

Purpose of the R1..R6 resistors is to isolate the programmed chip from rest of target system.

Recommended value of resistors R1..R6 is 2k or more. You can also use jumpers instead of the resistors.

ISP characteristics:

1. Programmer's output capability:
 - 1.1 Vcc - 80 mA;
 - 1.2 Vpp - 50 mA;
 - 1.3 logical pins - 5 mA.
2. The cable length should be less then one foot.

Table of connections of the adapter output socket to the device pins:

| Adapter Output connector, Cortex SWD-10, 0.05mil | Adapter Output connector, Cortex SWD-20, 0.05mil | Target Device |
|--|--|---------------|
| 1 | 1 | VCC |
| 2 | 2 | - |
| 3 | 3 | GND |
| 4 | 4 | EZP_CLK |

| | | |
|----|------------|--------|
| 5 | 5,15,17,19 | GND |
| 6 | 6 | EZP_DO |
| 7 | 7 | KEY |
| 8 | 8 | EZP_DI |
| 9 | 9 | EZP_CS |
| 10 | 10 | RESET |