**Phyton™**

## Device Programmers and Development Tools for Microcontrollers

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### AE-ISP-ARM

**DIP28/BH20 specialized adapter for in system programming of ARM/Cortex microcontrollers**
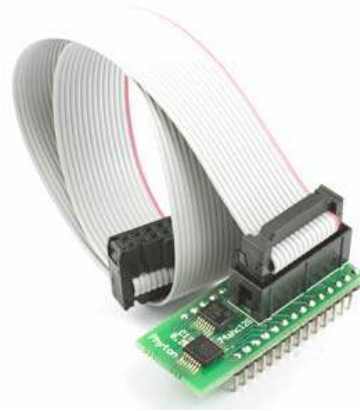
**Description:**

DIP28/BH20 specialized adapter for in system programming of ARM/Cortex microcontrollers

**Supported Devices:**

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

- ChipProg-48
- ChipProg-G4
- ChipProg-40

Adapter wiring diagram

**Connections to the target devices:**

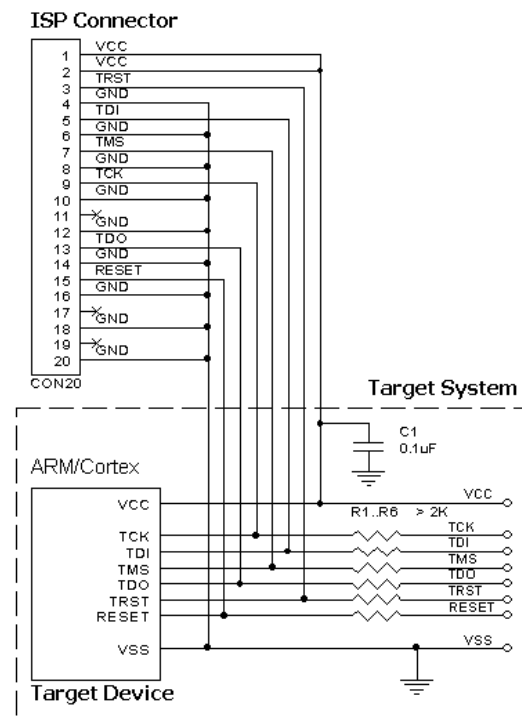- AE-ISP-ARM connection for ARM/Cortex microcontrollers

**AE-ISP-ARM connection for ARM/Cortex microcontrollers**

**Supported Devices:**

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

- ChipProg-48
- ChipProg-G4
- ChipProg-40

**Recommended connection:**



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, BH-20 | Target Device |
|---|---|
| 1 | VCC |
| 2 | VCC |
| 3 | TRST |
| 4 | GND |
| 5 | TDI |
| 6 | GND |
| 7 | TMS |
| 8 | GND |
| 9 | TCK |
| 10 | GND |
| 11 | - |
| 12 | GND |
| 13 | TDO |
| 14 | GND |
| 15 | RESET |
| 16 | GND |
| 17 | - |
| 18 | GND |
| 19 | - |
| 20 | GND |

Adapter Connection Table:

| DIP-28 | BH-20 | 74AHC126 | 74AHC126 | C1, 0.1uF |
|---|---|---|---|---|
| 1 | 1,2 | 3 | | |
| 2 | 5 | 6 | | |
| 3 | 13 | 8 | | |
| 4 | - | | | |
| 5,14 | 4,6,8,10,12,14,16,18,20 | 7 | 7,12,13 | 1 |
| 6 | | 2 | | |
| 7 | | 1 | | |
| 8 | | 5 | | |
| 9 | | 14 | 14 | 2 |
| 10 | | 9 | | |
| 11 | | 10 | | |
| 12 | | 12 | | |
| 13 | | 13 | | |
| 15 | | 4 | | |
| 16 | | | 2 | |
| 17 | | | 1 | |
| 18 | | | 5 | |
| 19 | | | 4 | |
| 20 | | | 9 | |
| 21 | | | 10 | |
| 22 | | | | |
| 24 | 15 | | 3 | |
| 25 | - | | | |
| 26 | 3 | | 6 | |
| 27 | 7 | | 8 | |
| 28 | 9 | 11 | | |

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