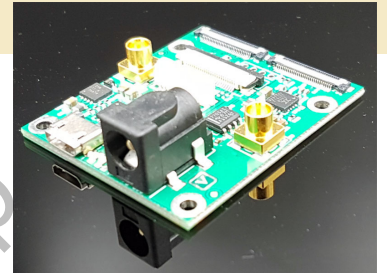


Thunder Link is a family of small form factor modules for formatting and converting generic digital video streams to standard compliant formats. Different interface standards are supported from the transmitter side including DVI/HDMI, VGA, HD-SDI, SDI, USB, CVBS and Y/C video. In addition the Thunder Link family also includes simple modules for interfacing power, analog video and control only.

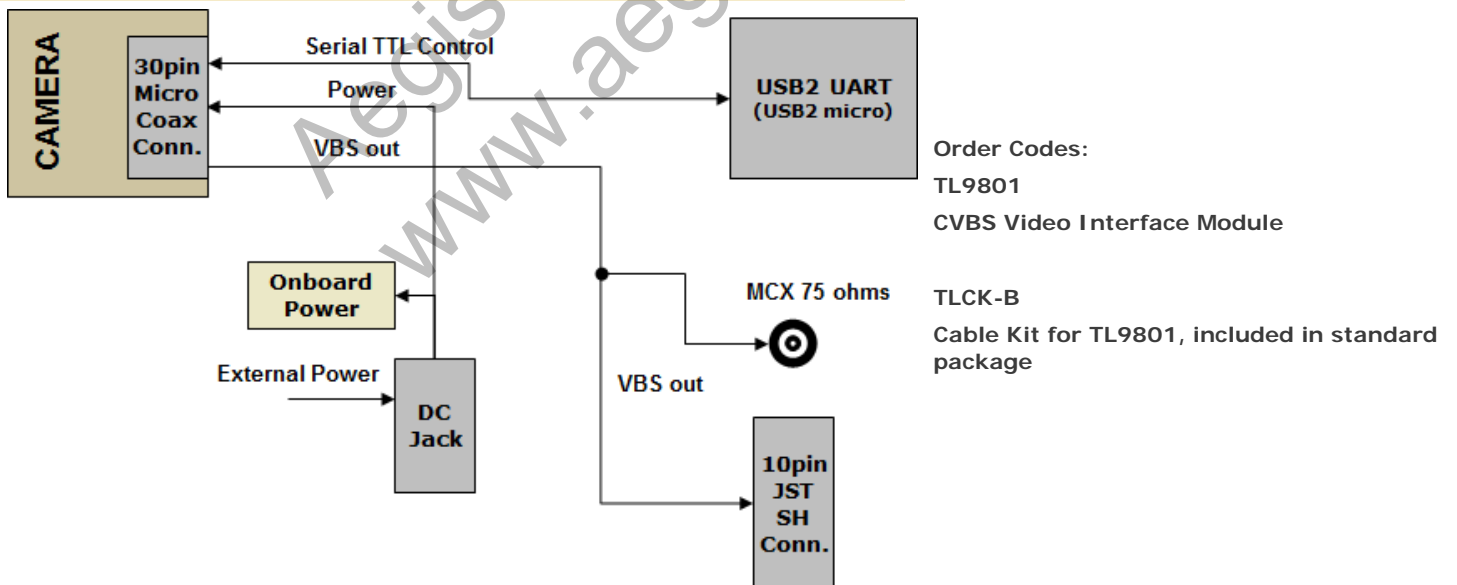
### TL9801 - Features

- + Supports Sony FCB-EV7520A camera block
- + Supports Tamron MP1110M-VC and MP2030M-GS camera blocks
- + Supports AZM-FS10L, AZM-FS20L and AZM-FS30L camera blocks
- + CVBS analog video output\*
- + USB2 UART based camera control
- + Supply voltage: 9V to 12V DC regulated



\*Note: CVBS pass through from camera. Camera must be set to CVBS PAL or NTSC operating mode.

### Block Diagram TL9801



### Specification

**INPUTS:**

Video CVBS Video from camera  
 CONTROL Rx USB2 (external)  
 CONTROL Rx 3.3V TTL from camera

**OUTPUTS:**

CONTROL Tx 3.3V TTL to camera  
 CONTROL Tx USB2 (external)  
 VIDEO CVBS Video, pass through from camera

**POWER INPUT:**

9V TO 12V regulated  
 Power consumption (MP1110M-VC + TL9801) 3.2 W (cam motors inactive)

**OPERATING CONDITIONS:**

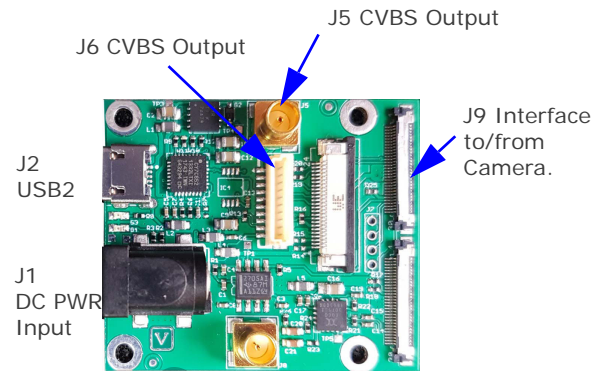
Ambient Temperature (min/max): -5°C/+60°C = 23°F/140°F  
 Humidity: 20%-80%

**STORAGE CONDITIONS:**

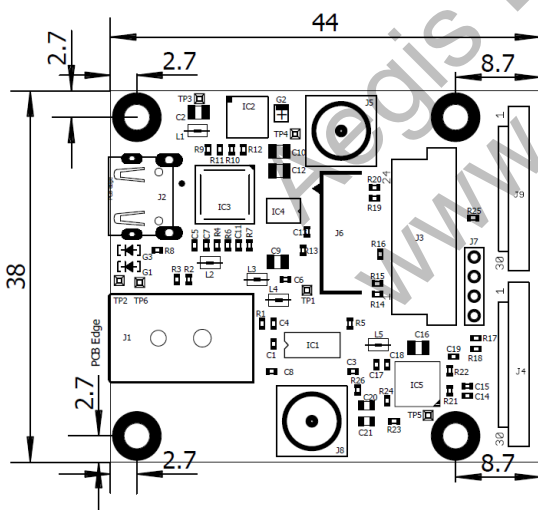
Temperature (min/max): -20°C/+60°C = -4°F/140°F  
 Humidity: 20%-80%

### Onboard Connectors

**PCB Top Side:**



### Board Mechanical



PCB thickness 1.5mm  
 Max. component height 11mm

**TOP VIEW** (Four mounting holes, drill/land diameter 2.6mm/5.0mm)

### External Connector Specification

**J1 DC Jack (Wuerth Electronics, Type 694108106102)**

Fitting plug inner/outer diameter: 2.55mm/5,5mm

Center Pin DC Power Input  
Shield GND

**J2 USB2 micro connector**

**USB2 UART camera control interface**

USB2 UART chip Cypress CY7C65213

**J5 MCX Coaxial connector**

**Primary CVBS Output**

**J6 JST BM08B-SSRS-TB**

**CVBS Output (Board to wire connector)**

- 1 CVBS Output (alternative to J5, do not connect both)
- 2 GND
- 3 Do not connect
- 4 Do not connect
- 5 Do not connect
- 6 GND
- 7 Do not connect
- 8 Do not connect

**J9 Micro coaxial connector (30pin)**

Camera must be connected here.

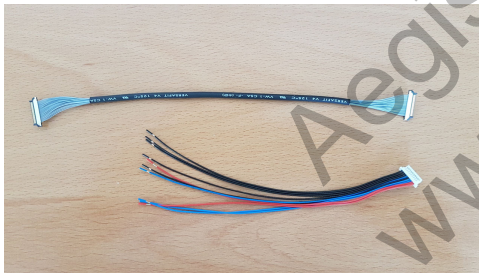
### CAUTION:

The following connectors must be left unconnected at all times.

**J3, J4, J8**

### Cable Kit Contents

TCLK-B cable kit is included in TL9801 standard package.



**TCLK-B cable kit contents:**

**External connecting cables:**

1 pcs. - 10pin flying leads cable for CVBS out, lead length = 15cm / 5.9inch

**Camera connecting cables:**

1 pcs. - 30pin KEL USL type micro coaxial cable, connector on both sides, length = 20cm / 7.8inch