TWIGA

SONY FCB H11 / EH / SE HDMI INTERFACE

> Digital HDMI and Analog HD video output.
> Automatic SONY camera recognition.
> Video format selection with micro switches.
> 6 x keyswitch channels for zoom & memory control.
> TTL or RS232 VISCA dialog level.
> 6 to 12 VDC protected power supply for interface and camera.

Features

More than a video transmission module, the TWIGA HDMI interface is the heart of an industrial vision OEM system.

Compact size
Highly compact, the electronic module can be fixed at the rear of all SONY FCB HD without disturbing the mechanical integration.

Low power consumption
The board uses components that require little energy. Internal supply voltages are lowered. The intensity that circulate in components is reduced in order to lower the consumption. This also reduces the radiated emission for EMC regulation. It confers on the module an EMC behavior suitable with the hardest medical and aeronautical standards.

Key switch local control
Connecting the camera to a computer system to drive it, is not necessary. Switches or Pushbuttons allow the modification of the camera video format as well as the control of the main VISCA functions.
The most used functions: zoom, freeze, factory preset are preprogrammed, but it is possible to modify this configuration to replace them by your own OEM functions.
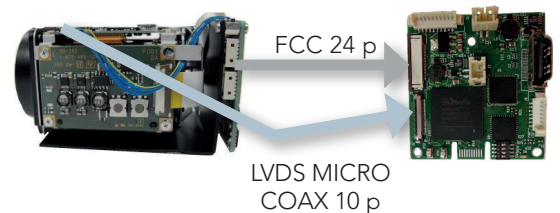
OEM Embedded Image processing functions
The TWIGA HDMI interface is based on an oversized Xilinx FPGA for a simple signal transmission application. Graphic overlay and image processing functions can be applied to the image flow in real time.

Auxiliary power output
The TV80 0005 & TV80 0006 feature an auxiliary 5V/ 1A output. This can be used to supply external devices such as a microcontroller based active keyboard or a TWIGA WHDI TV10 0007wireless video transmission system.
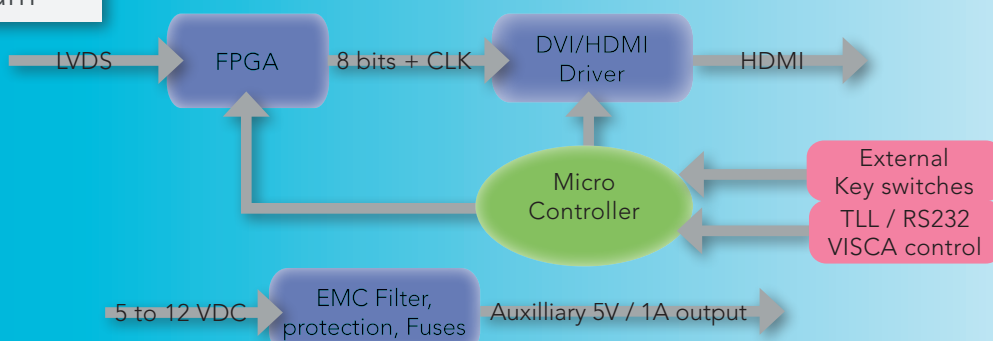
Connection with FCB H11

FCC 24 p

LVDS MICRO COAX 10 p

Connection with FCB EH & SE600

LVDS MICRO COAX 30 p

Bloc diagram

LVDS → FPGA → 8 bits + CLK → DVI/HDMI Driver → HDMI

Micro Controller

External Key switches

TLL / RS232 VISCA control

5 to 12 VDC → EMC Filter, protection, Fuses → Auxilliary 5V / 1A output

SONY FCB H11 / FCB EH HDMI Interface specifications

	H11	EH6300	EH3400	EH3300	EH3150	SE 600
DVI 1080p25, 1080p30		✓				
DVI 1080i50, 1080i60	✓	✓				
DVI 720p50, 720p60	✓	✓	✓	✓	✓	✓
DVI 720p25, 720p30	✓	✓	✓	✓	✓	✓
HD Analogue Y,PbPr	✓	✓	✓	✓	✓	✓

Functions	Specifications	Functions	Specifications
Digital video output	With FCB H11, 1080i60, 1080i50, 720p60, 720p50. With FCB EH6300, EH 3150, 3300, 3400 and SE 600 1080p30, 1080p25,1080i60, 1080i50, 720p60, 720p50.	Auxiliary power output	5V,1A
		Power	6 to 12 VDC, 6 W (including camera) 5V for SE 600
Analog video output	Y, Pb, Pr 75 ohms, 1V p to p.	Environmental	0°C to 60°C
Video output standard configuration	Micro switches	Storage	-20°C to 60°C
Camera setting	RS232 or TTL, RX, TX, SONY VISCA protocol	Regulation	EMC FCC part 15, PCB : UL 94 V0
Connector	HDMI	Dimensions(mm)	48(H)x 45(L)x 20(P)

SONY FCB H11 / FCB EH HDMI Interface connection and configuration
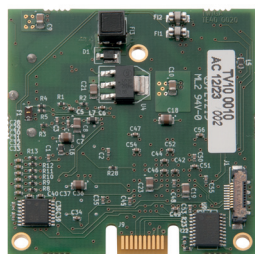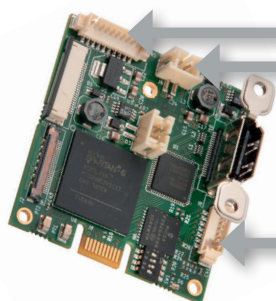
J4	Power
1	6 to 12 VDC
2	GND

J6	Key switches
1	GND
2	Zoom TELE
3	Zoom WIDE
4	Freeze ON / OFF
5	Factory Preset SET / RECALL
6	Function 1
7	Function 2 (bar chart & reticle)

J5	HD video and COM signal
1	Y
2	GND
3	Pb
4	GND
5	Pr
6	GND
7	RX RS232
8	TX RS232
9	GND
10	Not Connected

J7	Aux Power Output
1	5 volts, 1A max
2	GND

1	2	3	4	FCB-H11	FCB-EH SERIE
OFF	OFF	OFF	OFF	External	External
ON	OFF	OFF	OFF		1080p30
OFF	ON	OFF	OFF		1080p25
ON	ON	OFF	OFF	1080i59,94	1080i60
OFF	OFF	ON	OFF	1080i50	1080i50
ON	OFF	ON	OFF	720p59,94	720p60
OFF	ON	ON	OFF	720p50	720p50
ON	ON	ON	OFF		720p30
OFF	OFF	OFF	ON		720p25

TTL / RS232 Dialog level	Open	Bypass
PS 3	RS232 level	TTL level input
PS 4	RS232 level	TTL level input

LED Blinking	Status
1 blink	Firmware loading
2	Decoder initialization OK
3	FPGA loading OK
4	Camera Dialog OK
5	Video format config OK
6	FPGA video processing OK
7	Video format modification by switches.

SONY FCB H11 / FCB EH HDMI Interface product code

	HDMI Conversion module for SONY FCB HD range	
Camera reference	FCB H11	FCB EH & SE series
Product code	TV80 0005	TV80 0006
Content	Interface electronic board ref TV10 0010	
Mechanical interface	Right angle black anodised aluminium plate +screws	
Analog camera link	24 pins FCC 150 mm length	
Digital camera link	SSL20-10SSB-009-B Cable assembly	USL20-30SS-005-C Cable assembly
Power input wires	2 ways harness, 200mm length for power connector (J4)	
Analog HD output wires	10 ways harness, 200mm length for HD video / com signal connector (J5)	
Key switches wires	7 ways ways harness, 200mm length (J6)	

Twiga