



Interfacing an Analog Camera with a DOMINO Board

Hitachi KP-M32P

Main characteristics.....	2
Configurations.....	3
Compatible Cables.....	4
Locating Items.....	5
Connection Information.....	6
Camera Setup.....	8
Board Jumpers Setup.....	10

EURESYS s.a. shall retain all property rights, title and interest of the documentation of the hardware and the software, and of the trademarks of EURESYS s.a.

All the names of companies and products mentioned in the documentation may be the trademarks of their respective owners.

The licensing, use, leasing, loaning, translation, reproduction, copying or modification of the hardware or the software, brands or documentation of EURESYS s.a. contained in this book, is not allowed without prior notice.

EURESYS s.a. may modify the product specification or change the information given in this documentation at any time, at its discretion, and without prior notice.

EURESYS s.a. shall not be liable for any loss of or damage to revenues, profits, goodwill, data, information systems or other special, incidental, indirect, consequential or punitive damages of any kind arising in connection with the use of the hardware or the software of EURESYS s.a. or resulting of omissions or errors in this documentation.

Main characteristics

Sensor	Area-scan, monochrome
Image size	736 (H) x 273 (V) Pixels
Line rate	1000 Line per second
Frame rate	50 frames per second
Last update	15 Nov 2011

Configurations

Configuration	CAM file	Description
I50SA	KP-M32P_I50SA.cam	Interlaced Free-Run Scanning, Analog synchronization.
I50SM	KP-M32P_I50SM.cam	Interlaced Free-Run Scanning, Master synchronization.
P50RA	KP-M32P_P50RA.cam	reset, Grabber controls exposure, Analog/Master synchronization.
P50RM	KP-M32P_P50RM.cam	Asynchronous reset, Grabber controls exposure, Master synchronization.

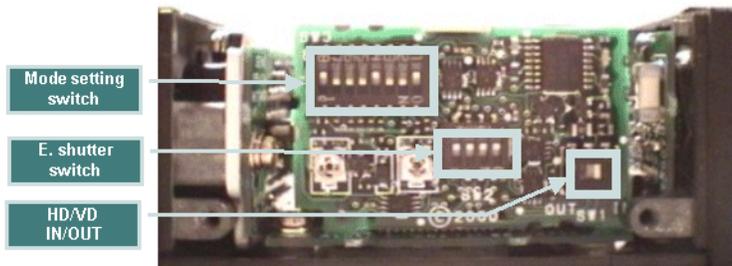
Compatible Cables

Configuration	Cable name	Designator	Usage
I50SA I50SM P50RA P50RM	Single Channel R	A15-C01-XX	Synchronous mode Single HR12M connector

Locating Items



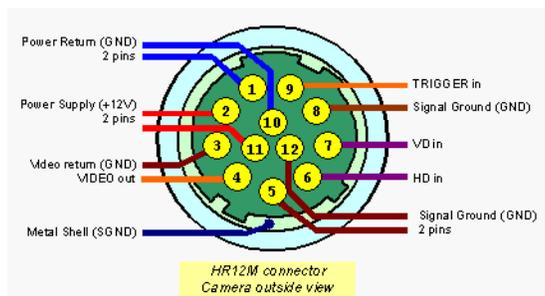
Camera rear view



Camera internal view

Connection Information

HR12M Pin-out



Valid for all configurations

Signal Mapping

Cable "Single Channel R"

Signal @ Camera	Signal @ Board	Configuration		Usage
		I50SA	P50RA	
VIDEO out	V1+	✓	✓	Analog channel
VIDEO return GND	V1-	✓	✓	
TRIGGER in	RST	-	✓	Asynchronous reset
+12 V	+12 V	✓	✓	Power supply
Power return GND	PGND	✓	✓	
Signal Return GND	GND	✓	✓	Signal return
Metal Shell SGND	Metal Shell SGND	✓	✓	EMC shield
HD	HIO	-	-	-
VD	VIO	-	-	-

Cable "Single Channel R"

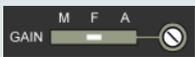
Signal @ Camera	Signal @ Board	Configuration		Usage
		I50SM	P50RM	
VIDEO1 out	V1+	✓	✓	Analog channel
VIDEO return GND	V1-	✓	✓	
TRIGGER in	RST	-	✓	Asynchronous reset
HD	HIO	✓	✓	Horizontal synchronization
VD	VIO	✓	-	Vertical synchronization
+12 V	+12 V	✓	✓	Power supply
Power return GND	PGND	✓	✓	
Signal Return GND	GND	✓	✓	Signal return
Metal Shell SGND	Metal Shell SGND	✓	✓	EMC shield

Refer to the camera cable A15-C01-xx for additional useful manufacturing information.

Camera Setup

Gain Select Switch

Valid for all configurations

Look	Setting	Effect
	F	Fixed gain recommended If manual gain is selected, adjust gain with potentiometer

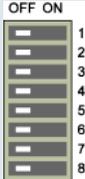
HD/VD IN/OUT

Valid for all configurations

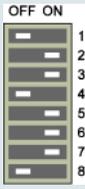
Look	Setting	Effect
	IN	Ext HD/VD input

Mode Setting Switch

Valid for configurations I50SA, I50SM

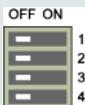
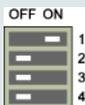
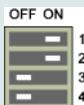
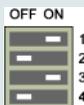
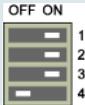
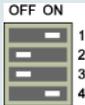
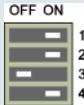
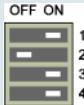
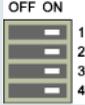
Look	Switch	Setting	Effect
	1	OFF	Normal mode
	2	OFF	
	3	OFF	
	4	OFF	
	5	OFF	
	6	OFF	
	7	OFF	
	8	OFF	

Valid for configurations P50RA, P50RM

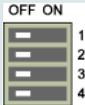
Look	Switch	Setting	Effect
	1	OFF	RI-2 trigger mode
	2	ON	
	3	ON	
	4	OFF	
	5	ON	
	6	ON	
	7	ON	
	8	OFF	

E. Shutter Switch

Establishing exposure time for I50SA and I50SM

			
Shutter off	1/60 s 16.67 ms	1/100 s 10 ms	1/250 s 4 ms
			
1/500 s 2 ms	1/1000 s 1 ms	1/2000 s 500 μ s	1/4000 s 25 μ s
			
1/10000 s 100 μ s			

Valid for configurations P50RA, P50RM

Look	Switch	Setting	Effect
	1	OFF	Exposure controlled by reset pulse width
	2	OFF	
	3	OFF	
	4	OFF	

Board Jumpers Setup

The Domino Iota and Domino Alpha 2 jumper blocks should be configured as follows (valid for all configurations). Settings for the jumper block facing the connector the camera is linked to

Jumper block	MultiCam parameter	Value	Meaning
	JumperV	TTL	The pin 4 (VIO) and pin 5 (EXP) of the connector feeding the channel can be used as input or output in TTL format.
	JumperH	TTL	The pin 14 (HIO) and pin 15 (GATE) of the connector feeding the channel can be used as input or output in TTL format.
	JumperCK	EMPTY	Camera clock: None. Pin 9 and pin 10 of the channel connector are unused.
	JumperL1	DT	The video lane 1 is sensed as a differential 75 W terminated analog signal applied at pin 1 (V1+) and pin 2 (V1-).
	JumperL2	DT	The video lane 2 is sensed as a differential 75 W terminated analog signal applied at pin 11 (V2+) and pin 12 (V2-).