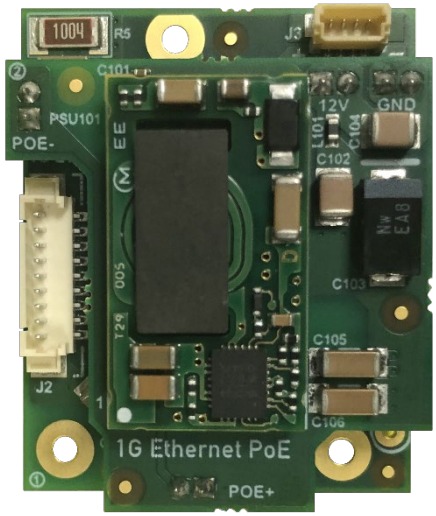
HARRIER POWER OVER ETHERNET CONNECTION BOARD

For Harrier IP Camera Interface Board

- Ethernet and power interface board for Harrier IP Camera
- 10/100/1G Ethernet support
- IEEE 802.3af (PoE class 0) compliant

FEATURES

- On board magnetics for 10/100/1G Ethernet support.
- 24-way power and Ethernet connection to Harrier IP Camera Interface Board (SoC board).
- 9-16.5V separate power input.
- IEEE 802.3af (class 0) compliant PoE power supply on Ethernet connection.



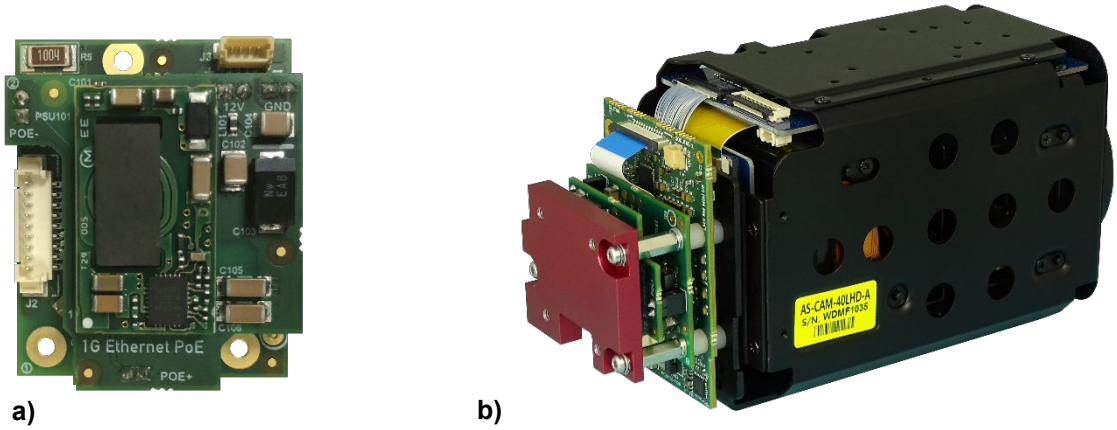
AS-CIB-IP-IFPOE-001-A

OVERVIEW

The **Harrier PoE Connection Board** (AS-CIB-IP-IFPOE-001-A) is an Ethernet interface solution designed for use with Active Silicon's **Harrier IP Camera Interface Board** (SoC board, AS-CIB-IP-SOC-001-A or AS-CIB-IP-SOC-002-A). It carries Ethernet magnetics to provide a standard 1Gb IP/Ethernet output interface for the Harrier IP Camera Interface Board (SoC board). The Ethernet connection board connects to the SoC board via a 24-way FFC/FPC that also carries power to the SoC board, and the camera connected to it. The power can be supplied by Power Over Etherent (PoE) from the Ethernet connection (and the on-board PoE power converter) or from a separate 12V power socket.

The PoE connection board can be mounted directly on the back of the camera (e.g. Harrier 10x AF-Zoom Camera, Tamron MP3010M-EV) or stacked on top of the SoC board (e.g. Harrier 36x/40x AF-Zoom Cameras and Sony EV-series cameras).

Note that the product is not supplied with a heatsink, screws or spacers as this product is intended to be supplied only as a replacement unit for the repair of ready built camera/board assemblies.



a) b)

Figure 1.
a) Harrier PoE Connection Board (IFPOE)
b) Harrier PoE Connection Board with heatsink (not supplied), mounted on Harrier IP Camera Interface Board/Harrier 40x AF-Zoom Camera (mounting parts not supplied).

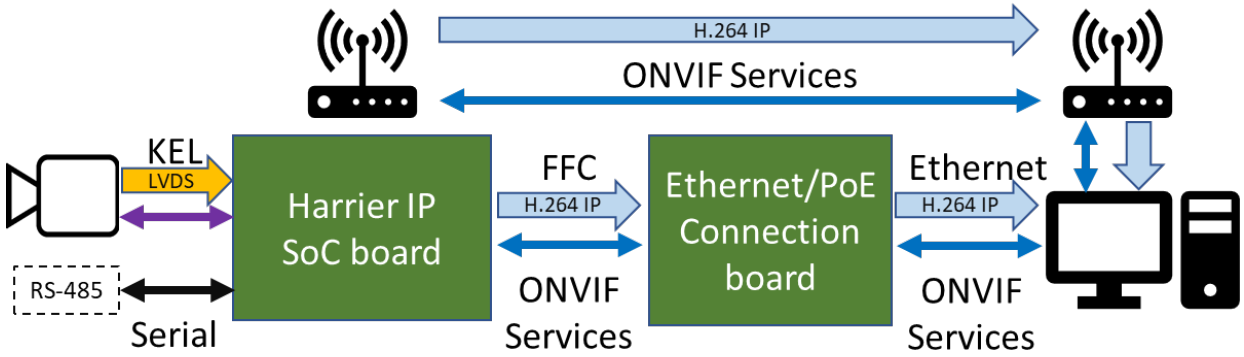
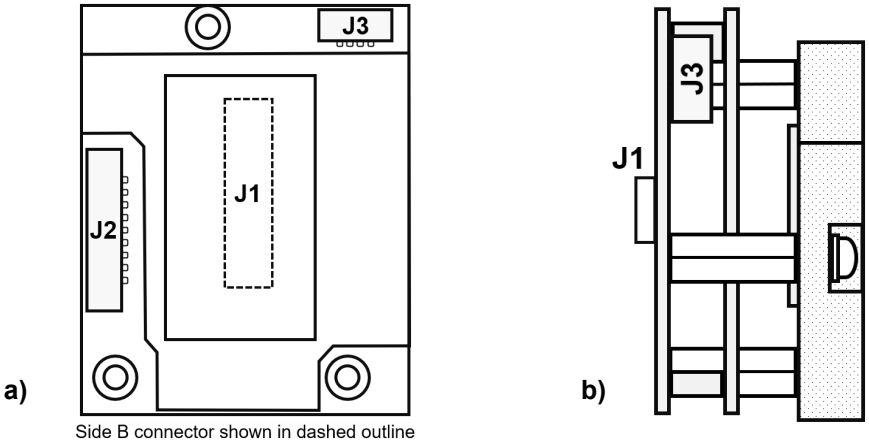


Figure 2. Harrier IP camera system block diagram (wireless/PoE features are optional)



a) b)

Figure 3. Harrier PoE Connection Board diagram.
a) view (from rear of camera) with no heatsink b) view (from above camera) with heat sink.

The PoE power delivery board is an isolated, regulated, DC-DC converter with an output of 12V, an input range of 37-57V DC, a typical efficiency of 84% and full 2250 Volt DC isolation. The board is a PoE class 0 IEEE 802.3af compliant powered device with input undervoltage lockout and output current limit.

CONNECTOR SPECIFICATION

Harrier IP Camera Interface Board Connector: 24-way (J1)

The PoE connection board is fitted with a 24-way 0.5mm pitch FFC connector for connection to the Harrier IP Camera Interface Board (SoC board).

Connector type: Samtec ZF5S-24-01-T-WT

Mating cable: 24-way 0.5mm pitch FFC

A suitable cable can be supplied with the boards (see ordering information).

Ethernet Connector: 9-way (J2)

The PoE connection board is fitted with a 9-way connector for connection to external devices.

Connector type: Molex Picoblade 9-way socket 53398-0971

Mating cable: Molex PicoBlade - 0510210900 connector and cables

A suitable cable can be supplied with the evaluation kit (see ordering information).

PIN	SIGNAL	ETHERNET NAME	RJ45 PIN	RJ45 PAIR	CABLE COLOR	NOTES
1	0_P	A+	1	3	White Green	
2	0_N	A -	2	3	Green	
3	1_P	B+	3	2	White Orange	
4	1_N	B -	6	2	Orange	
5	2_P	C+	4	1	Blue	
6	2_N	C -	5	1	White Blue	
7	3_P	D+	7	4	White Brown	
8	3_N	D -	8	4	Brown	
9	Shield	-	-	-	Shield	1kΩ to ground

Power Connector: 4-way (J3)

The PoE connection board is fitted with a 4-way connector for connection to a power supply.

Connector type: JST - BM04B-SRSS-TB(LF)(SN)

Mating cable: JST - SHR-04V-S-B connector

A suitable cable can be supplied with the evaluation kit (see ordering information).

PIN	SIGNAL	LEVEL	NOTES
1	PWR	9V to 16.5V	Please ensure you do not exceed the
2	PWR	9V to 16.5V	maximum voltage of the attached camera.
3	GND	0V	
4	GND	0V	

CONFORMANCE

Ethernet	Compliant with IEEE802.3af, IEEE802.11	
Approvals:	Active Silicon makes the following approval statements:	
	CE	In accordance with the CE Marking regulations, the **Harrier PoE Connection Board** is not a finished product and is supplied for further integration into a finished product that will be CE marked by the final manufacturer/integrator. Therefore, no CE marking or Declaration of Conformity is required or allowed.
	RoHS3	This product is compliant with the RoHS3 requirements (Directive 2015/863/EU).
	REACH	Please contact Active Silicon for the latest formal REACH declaration (EC 1907/2006).
	EMC	This product is designed to be compliant with the following requirements when housed in a suitable enclosure: • EN 55022:2010 (Class A) and EN 55024:2010 (EU Directive 2014/30/EU Electromagnetic Compatibility • FCC Rules for Class A digital devices
	UL	All printed circuit boards used in this product are manufactured by UL recognized manufacturers and have a flammability rating of 94-V0.

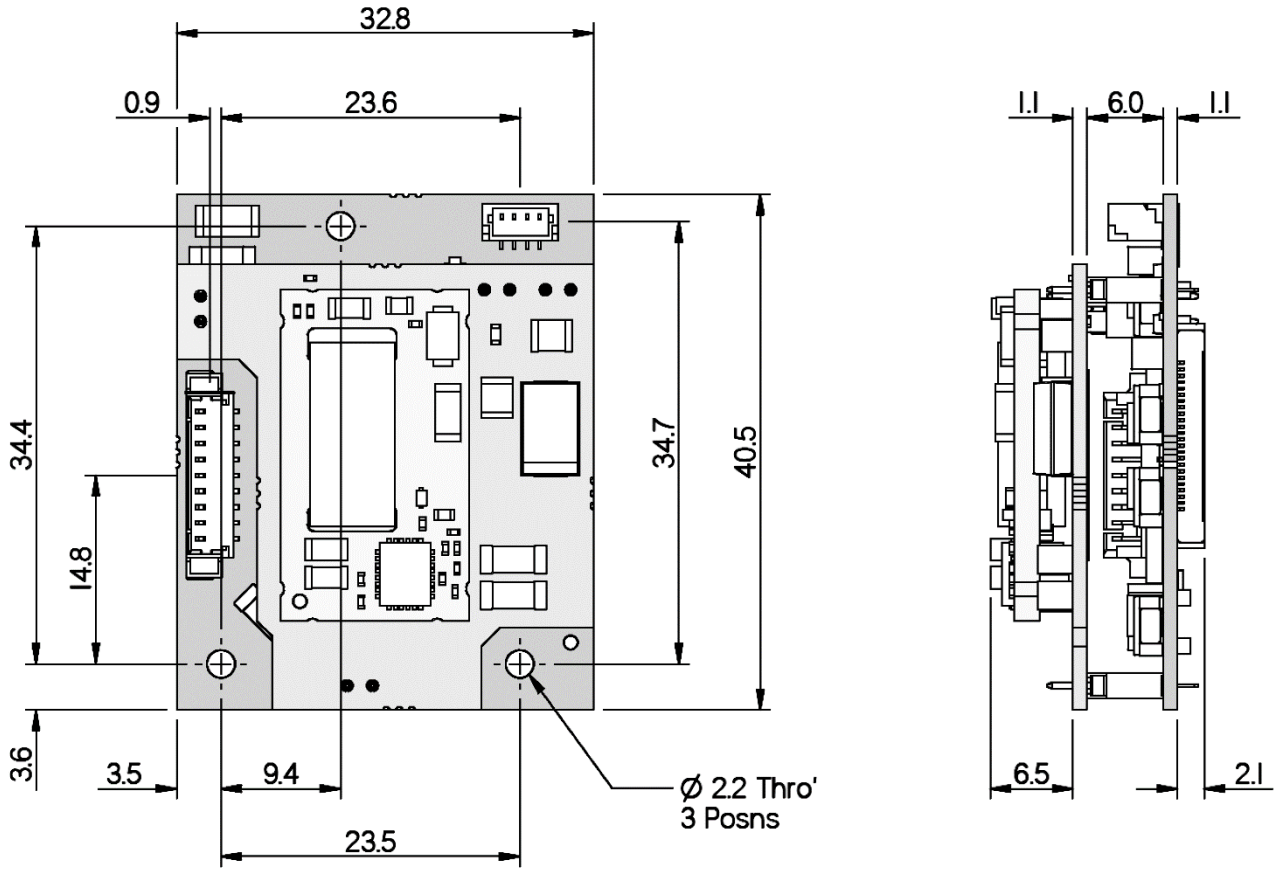


Figure 4. Mechanical overview of the Harrier PoE Connection Board; all dimensions in mm.

PHYSICAL AND ENVIRONMENTAL DETAILS

Dimensions:	32.8mm x 40.5mm
Weight:	15g (connection board only, no heatsink or mounting components)
Power Supply:	48v/12W (PoE) or 9V to 16.5V (J3)
Power Consumption:	PoE ~ 15% of load current (1.8W max)
Storage Temperature:	-20°C to +70°C
Operating Temperature:	0°C to +60°C (ambient environment)
Relative Humidity:	10% to 90% non-condensing (operating and storage)

ORDERING INFORMATION

Note that these parts are intended to be supplied as spares for the repair of camera assemblies.

PART NUMBER	***DESCRIPTION***
AS-CIB-IP-IFPOE-001-A	Harrier PoE Connection Board.
AS-CIB-IP-IFETH-001-A	Harrier Ethernet Connection Board.
AS-CIB-IP-SOC-001-A	Harrier IP Camera Interface Board.
AS-CIB-IP-SOC-002-A	Harrier IP Camera Interface Board (with wireless option).
AS-CIB-USL30-100MM	30-way micro-coax cable for connecting the interface board to the camera. Length 100mm; manufacturer: KEL.
AS-CBL-020-731U	Ethernet interface adapter cable, Molex to RJ45 socket (PoE).
AS- CBL-935-153S	Ethernet interface adapter cable, JST to RJ45 socket.
AS-CBL-549-503Y	Power adapter cable, barrel socket to 4-way JST connector.

Assembled module and Evaluation kit part numbers:

PART NUMBER	***DESCRIPTION***
AS-CIB-IP-003-3010-A	Harrier IP Camera with Tamron MP3010M-EV camera and POE module.
AS-CIB-IP-004-3010-A	Harrier IP Camera with Tamron MP3010M-EV camera, wireless option and POE module.
AS-CIB-IP-001-3010-A	Harrier IP Camera with Tamron MP3010M-EV camera.
AS-CIB-IP-002-3010-A	Harrier IP Camera with Tamron MP3010M-EV camera and wireless option.
AS-CIB-IP-001-A	**AS-CIB-IP-SOC-001-A, AS-CIB-IP-IFETH-001-A** and FFC cable.
AS-CIB-IP-002-A	**AS-CIB-IP-SOC-002-A, AS-CIB-IP-IFETH-001-A** and FFC cable.
AS-CIB-IP-003-A	**AS-CIB-IP-SOC-001-A, AS-CIB-IP-IFPOE-001-A** and FFC cable.
AS-CIB-IP-004-A	**AS-CIB-IP-SOC-002-A, AS-CIB-IP-IFPOE-001-A** and FFC cable.
AS-CIB-IP-001-EVAL-A	Evaluation kit for Harrier IP (does not include boards).

More camera options and custom builds are available, please contact Active Silicon for more information.

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