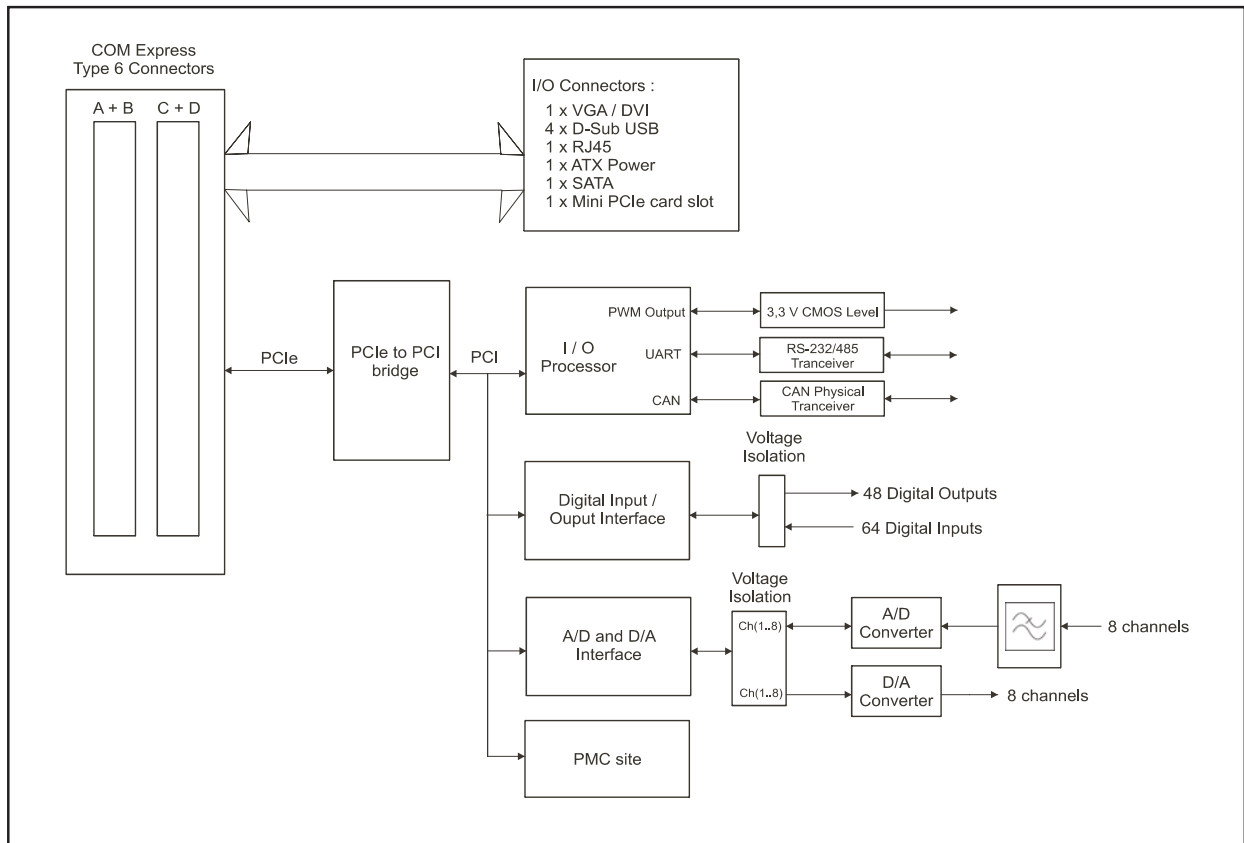


## ► COM Express Universal Fibre Hub Carrier Board

The COM Express Universal Fibre Hub (UFH) Carrier Board is a multi-format Input / Output (I/O) signal concentrator and data redistribution unit. It is highly flexible and configurable and is suitable for use in a wide range of I/O monitoring and control applications. It has exceptional utility in systems which use a wide variety of different and remote sensors and actuators and which need to be connected to a central node, more often than not in difficult electromagnetic environments.

The COM Express UFH Carrier Board provides various I/O signals in different formats for a Type 6 Computer-On-Module host. These include analog to digital (A/D) and digital to analog (D/A) converters, digital inputs and outputs, Gigabit Ethernet connector, UART serial I/O interfaces, PWM outputs, CANbus, USB, etc. The Carrier Board also provides standard I/O connectors for display, data storage, power, etc.



**Block Diagram of the COM Express Universal Fibre Hub Carrier Board**

### Features

- digital input / output channels
- digital I/O channel to system voltage isolation
- Gigabit Ethernet connector
- air-cooled version
- commercial, industrial and ruggedised grades
- USB ports
- CAN V2.0 interface
- 1 Mbit/s UART serial interfaces
- PMC site (32-bit 33/66 MHz PCI)
- COM Express Type 6 interface
- mini PCIe card slot
- single board solution
- programmable PWM outputs
- small formfactor
- SATA port
- 16-bit A/D inputs
- 8-bit D/A outputs



► **COM Express Universal Fibre Hub Carrier Board**

<b>Supported Modules</b>	COM Express Pin-out Type 6 Compatible PICMG COM Express Module Base Specification, COM.0 R2.1
<b>Board Functionality</b>	32 x Digital Input Channels 32 x Digital Output Channels 8 x 16-bit Analog to Digital Converter Channels 8 x 8-bit Digital to Analog Converter Channels 3 x 1 Mbit/s UART serial interfaces (RS-232 or RS-485) 2 x 1 Mbit/s electrically isolated CAN V2.0 Interfaces 4 x programmable Pulse Width Modulation (PWM) Outputs
<b>USB</b>	4 x USB 2.0 over D-subminiature connectors or industry standard
<b>Data Storage</b>	1 x SATA connector for expandable memory storage 1 x PCIe Mini Card slot for mountable Solid State Drives
<b>Ethernet Connectors</b>	1 x SFF / LC or 1 x RJ45 connectors or 1 x D-subminiature connectors
<b>Display</b>	VGA and DVI ports
<b>Power Connectors</b>	ATX Power Supply 20 + 4 pins
<b>Formfactor</b>	COM Express Size : 170 mm x 170 mm
<b>PCI Bus Interface</b>	32-bit, 33/66 MHz Electrically : PCI Rev. 2.2; 3,3 V signalling Single 32-bit PMC site (with no PMC rear I/O)

<b>Power</b>	3,3 V DC at 1 A (3,3 Watt), 5 V DC at 2 A (10 Watt) and 12 V DC at 1 A (12 Watt)		
<b>MTBF</b>	Figures according to MIL-HDBK-217F, Parts Stress Method		
	Commercial and Industrial Grade	Ground Benign, Controlled, 25 C	250 000 hours
	Ruggedised Grade	Ground, Mobile, 45 C	45 000 hours
Naval, Sheltered, 40 C		60 000 hours	
Airborne, Inhabited Cargo, 55 C		40 000 hours	
<b>Software Drivers</b>	Support for Linux. VxWorks, Windows and others are costed options.		

<b>Physical Characteristics</b>	
<b>Cooling Type</b>	<b>Air-Cooled</b>
<b>Dimensions</b>	170 mm x 170 mm
<b>Mass</b>	800 g +/- 50 g

<b>Environmental Specifications</b>			
Grade	Commercial	Extended Industrial	Ruggedised
Temperature			
- Operating	0 C to +55 C	-20 C to +75 C	-40 C to + 85 C
- Storage	-40 C to +85 C	-40 C to +85 C	-55 C to +125 C
Humidity	0% - 90%	0% - 95%	0% - 95%
Shock	10 g peak for 11 ms	20 g peak for 11 ms	40 g peak for 11 ms
Vibration			
- Sine	2 g (peak) at 10 Hz to 100 Hz	5 g (peak) at 5 Hz to 2 kHz	10 g (peak) at 5 Hz to 2 kHz
- Random	0,04 g²/Hz at 15 Hz to 2 kHz	0,06 g²/Hz at 15 Hz to 2 kHz	0,1 g²/Hz at 15 Hz to 2 kHz

Board-Level COM Express UFH Carrier Board



► **COM Express Universal Fibre Hub Carrier Board**

Part Designation	Grade	Ethernet Connector Type	Ethernet Media Type
CCII/UFH/CEXP/64C/SX/COM CCII/UFH/CEXP/64C/SX/MIND CCII/UFH/CEXP/64C/SX/RGD	Commercial Extended Industrial Ruggedised	SFF/LC Connector SFF/LC Connector SFF/LC Connector	Fibre, Multimode Fibre, Multimode Fibre, Multimode
CCII/UFH/CEXP/64C/LX/COM CCII/UFH/CEXP/64C/LX/MIND CCII/UFH/CEXP/64C/LX/RGD	Commercial Extended Industrial Ruggedised	SFF/LC Connector SFF/LC Connector SFF/LC Connector	Fibre, Singlemode Fibre, Singlemode Fibre, Singlemode
CCII/UFH/CEXP/64C/RJ/COM CCII/UFH/CEXP/64C/RJ/MIND CCII/UFH/CEXP/64C/RJ/RGD	Commercial Extended Industrial Ruggedised	RJ-45 Connector RJ-45 Connector RJ-45 Connector	UTP, Copper UTP, Copper UTP, Copper
CCII/UFH/CEXP/64C/DS/COM CCII/UFH/CEXP/64C/DS/MIND CCII/UFH/CEXP/64C/DS/RGD	Commercial Extended Industrial Ruggedised	D-subminiature D-subminiature D-subminiature	UTP, Copper UTP, Copper UTP, Copper