



Celyss , Electronic innovation, Historical Know How

CELYSS Team with a 20 year experience on railways market, and more than 25 000 computer build, chose in 2010 to create his own company. Inside a mid-size group of electronic boards assembling plants and a worldwide partnership network, our last creation **QUASAR SYSTEM** Is already deployed and field proven since 4 years and 3000 computers.

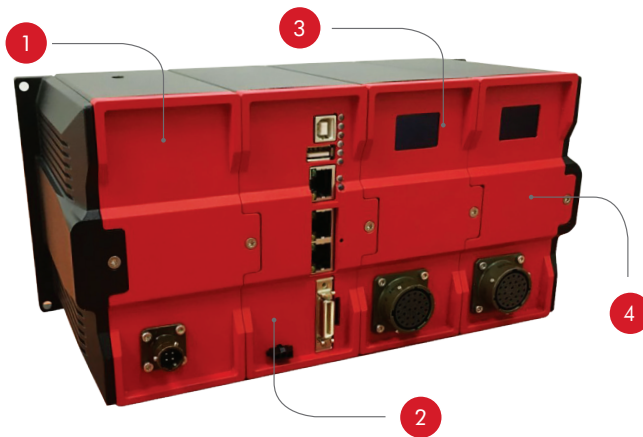
INNOVATIVE PRODUCT - NEW GENERATION

Distributed Intelligence computer

QUASAR SYSTEM

QUASAR SYSTEM The Quasar is a collaborative aggregate of intelligent modules that integrates a master CPU, Power Supply Unit and Expansion I/O Modules all interconnected through the Quasar-BUS. Mechanically easily interconnected, these I/O Modules are extremely rugged and use suitable connectors for high-reliability applications. All the I/O Modules are powered through the +12Vdc rail of the Quasar-BUS.

Each I/O Module is intelligent with its own local CORTEX M4 processor that manages all the functions of the module itself as well as interfacing over the Quasar-BUS. This intelligence enables a distributed architecture in one system combining a local and global programming philosophy. The Straton PLC kernel and its binding protocol allows for global data exchange on a system level, between PLC-type I/O Modules as well as dedicated communication I/O Modules. Inherently inbuilt into the Quasar system are powerful recovery and fail-safe modes as well as reliable system initialization, all included and supported in the global PLC software architecture.



QUASAR SYSTEM

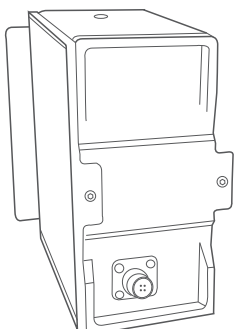
Modules

- 1 POWER SUPPLY UNIT
- 2 CENTRAL PROCESSING UNIT
- 3 ANALOG DIGITAL UNIT
- 4 DIGITAL UNIT
- + ...

CHARACTERISTICS - QUASAR SYSTEM

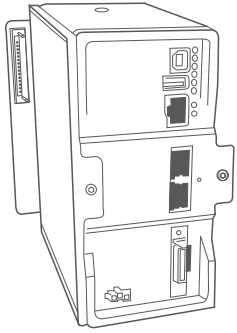
• POWER SUPPLY UNIT

This high power density galvanically isolated supply, based on planar transformer technology and features an ultra-wide input range



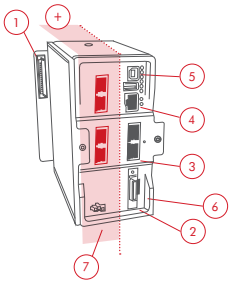
1 POWER SUPPLY UNIT	PSU 35W	PSU 50W
INPUT VOLTAGE	24 - 48 V (- 30% + 25%) with shutdown	72 - 220 V (- 30% + 25%) with 50% shutdown
ISOLATION	2.8 KV. dc	2.8 KV. dc
ENVIRONMENTAL	Fully operating : -20 to + 70°C , Humidity : 9% to 93% non condensing	Fully operating : -20 to + 70°C , Humidity : 9% to 93% non condensing
COMPLIANCE	EN50155 / IEC60255 / IEC60068-2-2 Operating temperature and Storage Temperature / IEC600255-2-1-1 and EN6113733 Shock and vibration / IEC60255-27 Safety / NF F 16-102 and IEC 50695 Fire and smoke / GAM EG13 (French military)	

• **CENTRAL PROCESSING UNIT** This module is dedicated to communication and human machine interface. Can be adapted with some powerful CPU, able to deal with all communication networks with a wide range of optional modules.

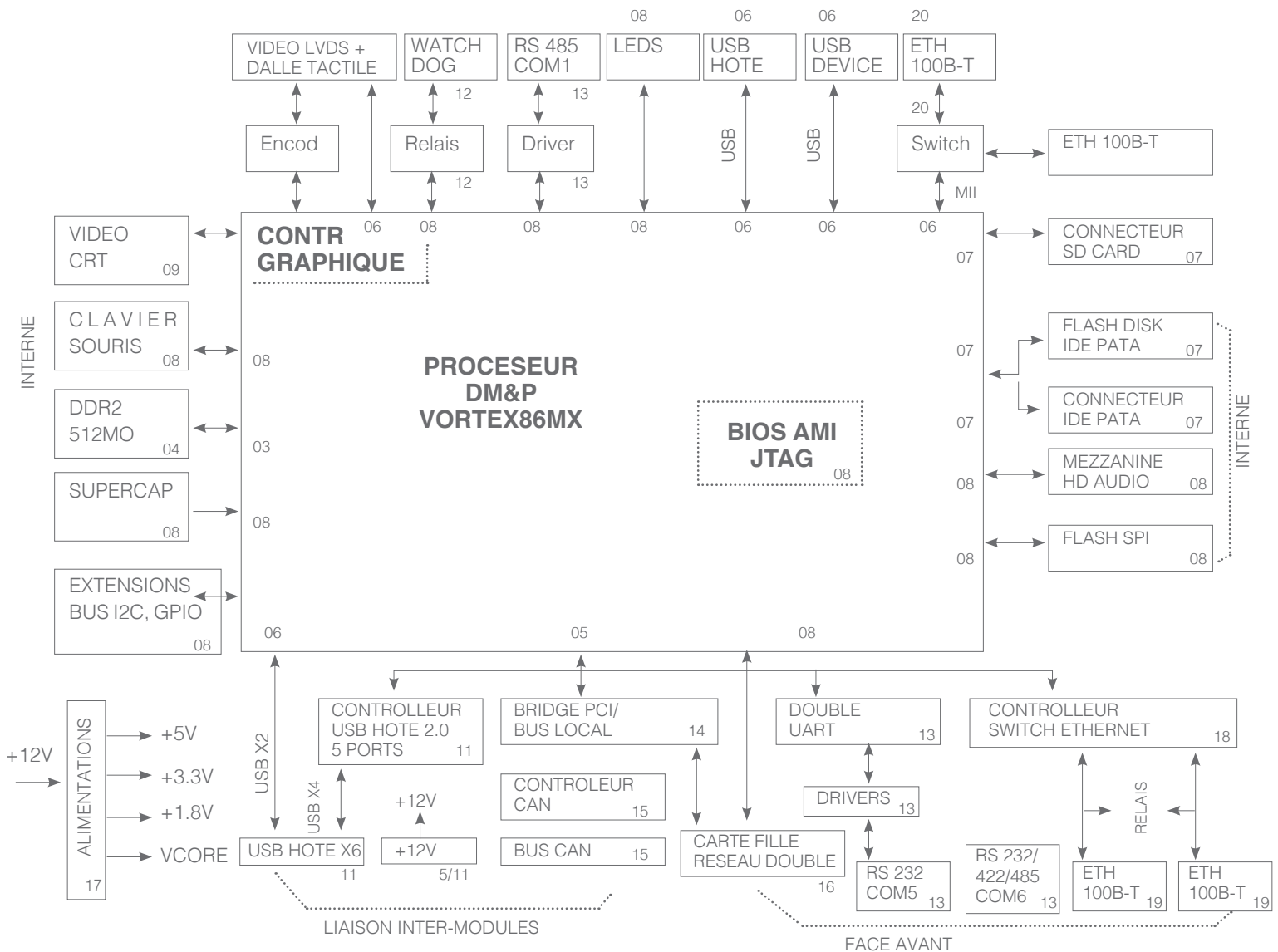


2 CENTRAL PROCESSING UNIT	CPU VORTEX MX +	CPU ATOM E8000
PROCESSOR	486 DX 800MHZ	E3940 - 1.8 GHz
MASS STORAGE	512 Mo	2 Go
INTERFACE	LVDS Display 7" + Touch screen	LVDS Display 7" + Touch screen
ETHERNET	1 ethernet with safety daisy chain + 1 ethernet standard 10/ 100 MBit + 1 USB master + 1 USB devise	
OPTIONS	1) Quasar Bus - 2) LDDS - 3) Ethernet 1&1bis - 4) Ethernet 2 - 5) USB Host and Device - 6) SD Card - 7) WD - 8) Single ou Dual Optical fiber with safety modes IEC 62439 - 9) AnyBus 1 and 2 - 10) COM/ CRT/ PS2 - 11) MUB - 12) Ethernet 2FU - 13) IEC 62439 Fibre Option - 14) IEC 62439 RJ45	
CONTROL INDICATOR	8 statuts LED : 12V / 3V / WDG / Run / Error / Consumer statut : L1/ L2 / L3	
MTBF	250000h 24h/24h IEC TR 62380	
ENVIRONMENTAL	Fully operating : -20 to + 70°C , Humidity : 9% to 93% non condensing	Fully operating : -20 to + 70°C , Humidity : 9% to 93% non condensing
BASIC SYSTEM INTERFACE	Réf. diagram below	
COMPLIANCE	EN50155 / IEC60255 / IEC60068-2-2 Operating temperature and Storage Temperature / IEC600255-2-1-1 and EN6113733 Shock and vibration / IEC60255-27 Safety / NF F 16-102 and IEC 50695 Fire and smoke / GAM EG13 (French military)	

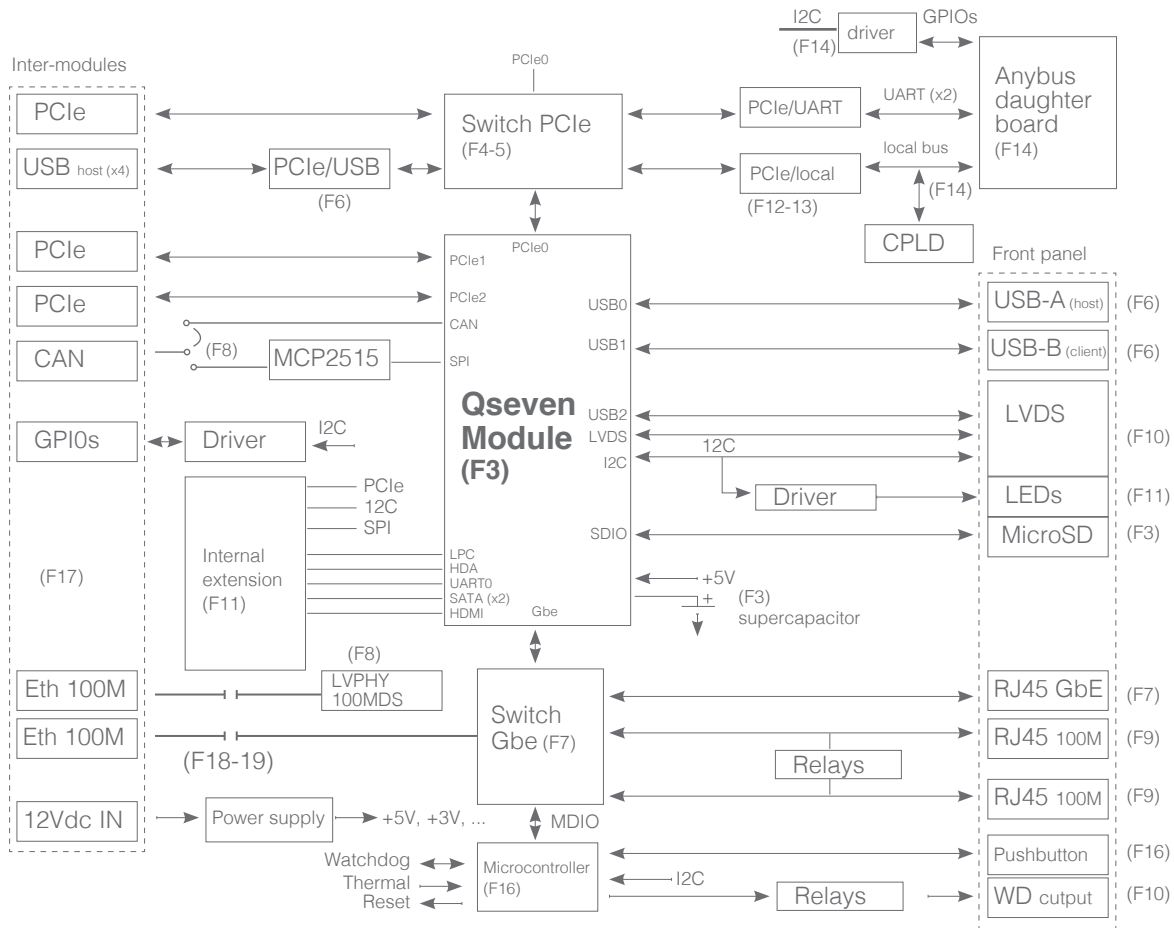
OPTIONS



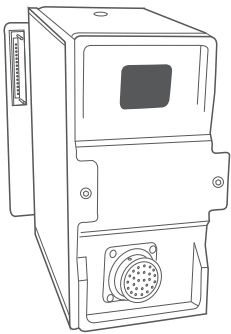
BASIC SYSTEM INTERFACE CPU VORTEX MX+



BASIC SYSTEM INTERFACE CPU ATOM E8000

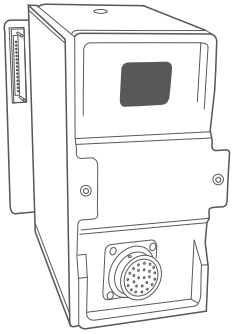


• **ANALOG DIGITAL UNIT** Powered by a CORTEX M4 CPU, this module is dedicated to Process control with analog interfaces. Integrated PLC Kernel allowing local IEC 61161-3 Programming with Straton. State of the art integrated auto test, and safety local / global programming allows a safety redundancy strategy.



3 ANALOG DIGITAL UNIT	24 - 48V or 72-240V	
PROCESSOR	Cortex M4	
DIGITAL Interfaces	4 Digital inputs	2 Digital outputs (Relays) 1 fast output (transistor)
ANALOG Interfaces OUTPUT	4 Analog inputs 16 bits resolution 0,5% accuracy +-10V or 4-20 mA, 2 Analog outputs	
CONTROL INDICATOR	OLED display : input/ output values and com status, Function can be customised	
PROTECTION	Surges protection on relays, Inductive loads allowed	
ENVIRONMENTAL	Fully operating : -20 to + 70°C, Humidity : 9% to 93% non condensing	
COMPLIANCE	EN50155 Input voltage / IEC60255 Voltage Dips / IEC60068-2-2 Operating temperature ans Storage Temperature / IEC600255-2-1-1 and EN6113733 Shock and vibration / IEC60255-27 Safety / NF F 16-102 and IEC 50695 Fire and smoke / GAM EG13 (French military)	
MTBF	1 300 000h 24h/24h at + 35°C IEC TR 62380	
ENVIRONMENTAL	Fully operating : -20 to + 70°C, Humidity : 9% to 93% non condensing	

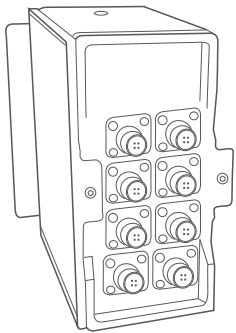
• **DIGITAL** Powered by a CORTEX M4 CPU, this module is dedicated to Process control Digital interfaces. Integrated PLC Kernel allowing local IEC 61161-3 Programming with Straton. State of the art integrated auto test, and safety local / global programming allows a safety redundancy strategy.



3 DIGITAL UNIT		24 - 48V or 72-240V
PROCESSOR	Cortex M4	
DIGITAL Interfaces	16 Digital inputs	8 Digital outputs (Relays)
ANALOG Interfaces OUTPUT		
CONTROL INDICATOR	OLED display : input/ output values and com status, Function can be customised	
PROTECTION	Surges protection on relays, Inductive loads allowed	
ENVIRONMENTAL	Fully operating : -20 to + 70°C, Humidity : 9% to 93% non condensing	
COMPLIANCE	EN50155 Input voltage / IEC60255 Voltage Dips / IEC60068-2-2 Operating temperature ans Storage Temperature / IEC600255-2-1-1 and EN6113733 Shock and vibration / IEC60255-27 Safety / NF F 16-102 and IEC 50695 Fire and smoke / GAM EG13 (French military)	
MTBF	1 300 000h 24h/24h at + 35°C IEC TR 62380	
ENVIRONMENTAL	Fully operating : -20 to + 70°C, Humidity : 9% to 93% non condensing	

Optionally a 32 Inputs only module is available Q1 2017

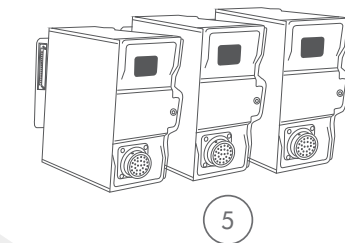
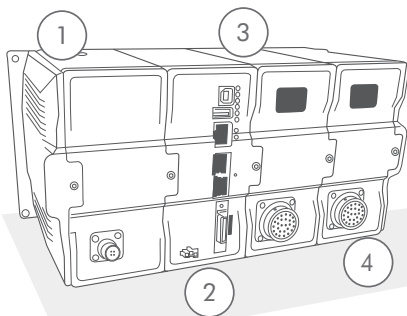
• **COM** Connected through PCIe expansion bus, this module is dedicated to communication interfaces. The module supply 3 MiniPCle express slots that can support a wide range of options: LTE, 3G,4G, GSMR, WIFI, BlueTooth, Frame grabber for video inputs, H264 compression... .



3 COM UNIT		LTE GSM etc...
PROCESSOR	No	
DIGITAL Interfaces	3 Mini PCIe slots	
ANALOG Interfaces OUTPUT		
CONTROL INDICATOR	Leds depending on options	
PROTECTION		
ENVIRONMENTAL	Fully operating : -20 to + 70°C, Humidity : 9% to 93% non condensing	
COMPLIANCE	EN50155 Input voltage / IEC60255 Voltage Dips / IEC60068-2-2 Operating temperature ans Storage Temperature / IEC600255-2-1-1 and EN6113733 Shock and vibration / IEC60255-27 Safety / NF F 16-102 and IEC 50695 Fire and smoke / GAM EG13 (French military)	
MTBF	TBD	
ENVIRONMENTAL	Fully operating : -20 to + 70°C, Humidity : 9% to 93% non condensing	

EVOLUTION QUASAR SYSTEM

Distributed Intelligence computer



With Quasar inter module bus

- 1 - POWER SUPPLY UNIT
- 2 - CENTRAL PROCESSING UNIT
- 3 - ANALOG DIGITAL UNIT
- 4 - DIGITAL UNIT With **CDV CORTEX M4**
- 5 - MULTI FONCTIONS MODULE(S)

QUASAR
SYSTEM

More efficient energy

