## Microcomputer board BC0021M2 of Control System SandRA Z100 line

Microcomputer board BC0021M2 is part of the **SandRA Z100** family, which is designed for use in the demanding environment of **nuclear industry** due to its safety and reliability. **ZAT has many years of experience** in the development and manufacture of control systems and has been continuously active in the nuclear power industry since **1972**.

Board **BC0021M2** is the basic user- processor board of the **SandRA Z100**. Communication with other boards (inside the rack) is provided by a serial bus. It has two processors, an algorithmic and a communication processor. The algorithmic one is used for control and regulation tasks of the control system, the communication one is designed for data exchange with external systems. The board is equipped with RTC. Additionally, there are ETH, RS232/485/482 communication interfaces, a USB diagnostic channel and an external serial bus for connection to other **SandRA Z100** systems. The board contains binary inputs for software configuration, IP address setting and power supply diagnostics. LEDs are located on the front panel to display board status and diagnostic information.
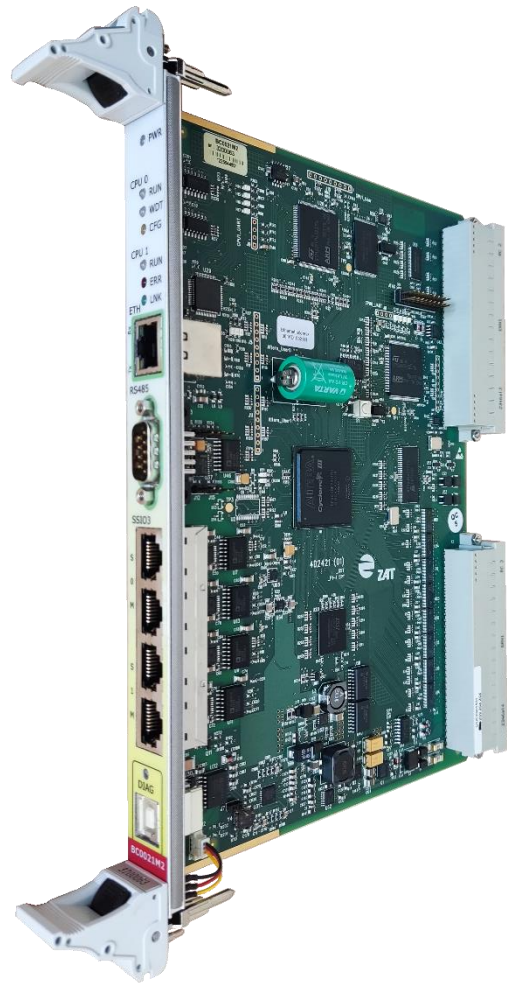
- **Designed for 19" rack**
- **Board dimensions 20 x 262 x 208 mm**
- **2x CPU with Cortex-H7**
- **Ethernet interface**
- **RS232/RS422/RS485 interface**
- **USB service channels**
- **Binary inputs**
- **Binary outputs**
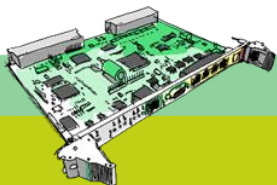
Mechanical parameters and weight

Parameter	Conditions	Min.	Type	Max.	Units
Board dimensions	(w x h x d)		20 x 262x208		mm
Front panel dimensions[1]			20 x 262		mm
Weight			400		g

[1] *Designed for 19" rack*

Performance parameters

Part	Number	Parameter
Processor	2	32-bit ARM Cortex H7, 400 MHz, 2x 856 DMPS (Dhrystone)
		FPU with double precision
		2 MB FLASH
		1 MB RAM
Memory (external)	2	4 MB DATA FLASH (record of events)
	1	8 MB SRAM
	1	4 MB MRAM
	1	2 MB SSRAM
	2	32 Kb EEPROM (configuration)
Bus		Serial, 22 links, star architecture, maximum data throughput 352 Mbps

		Min.	Type	Max.	Units
Power voltage		21	24	26	V
Consumption			500	700	mA

Parameter	Conditions	Min.	Type	Max.	Units
Serial port	RS-422/485/232		1		
Baud rate		150		115200	
Isolation strength serial ports/system		700			V DC
Ethernet	10BASE-T 100BASE-TX		1		
Baud rate		10	100	100	Mb/s
Insulation strength input/system		700			V DC
SSIO3 (External)			2x Master 2x Slave		
Baud rate			8		Mb/s
Insulation strength input/system		700			
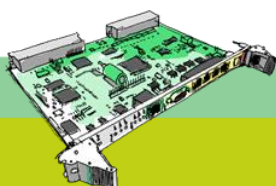
Parameter	Conditions	Min.	Type	Max.	Units
Binary inputs- configuration					
Number of inputs			16		
Logical levels					
log. H		2	3.3	3.6	V DC
log. L		-0.5		0.8	V DC
Current consumption				1	mA

Parameter	Conditions	Min.	Type	Max.	Units
Special Binary inputs- source diagnostics					
Number of outputs			2		
Logical levels					
log. H		3	3.3	5	V DC
log. L		0		0.7	
Current consumption				15	mA
Electrical strength			700		V DC

Parameter	Conditions	Min.	Type	Max.	Units
Binary outputs					
Number of outputs			2		
Switching voltage	peek AC			80	V
Current load				100	mA
Resistance in NC			23.5	35	Ω
Overload protection				120	mA
Insulation strength output/internal circuit board		700			V DC

This document applies to the board BC0021M2 following the document"Technical conditions Z100 "No. C4-2443 , of which it is an integral part.