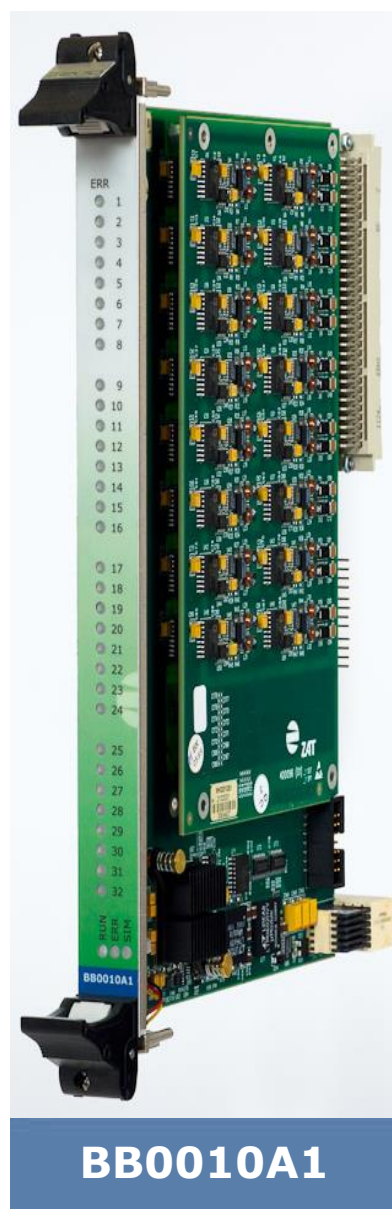


The BB0010A1 board represents an interface of a system for analog input signals. It is intended to measure direct current signals from technological converters and sensors. The modular design enables to meet different requirements for analog channel processing where the input channels can be brought to the input connector of the motherboard either directly or via an extension board which is inserted to the backplane of the rack. The assortment of these extension boards covers:

- Board for galvanic-isolated power supply of sensors in individual measuring channels
- Boards with circuits intended to modify input and output ranges.

The design enables to choose a combination of an analog motherboard and an extension module to meet required parameters of the equipment. The extension boards include EEPROM with data about board qualities. On the basis of these data, the motherboard firmware is automatically reconfigured after connecting an extension board to the motherboard so that the IOs input operating respects the extension board qualities. Diagnostic and secondary data coming from the extension board are led, via an SPI interface, to the motherboard where they are pre-processed by firmware; and they are transferred together with other data from AD transducer via an internal bus (SRIO) into a control board where they are processed.

Its construction and circuit design allow the board to be safely inserted and removed from the live backplane (Hot Swap function)



- **32 analog channels**
- **Independent inputs, galvanic-isolated for measuring of direct current signals:**
 - Input ranges $-20\text{mA} \div 20\text{mA}$
 - Resolution of inputs 16-bit
 - Accuracy of inputs 0.05% of the range
 - Software adjusting of measuring channels
 - Galvanic-isolation of inputs from the system and from each other

Electrical parameters					
Parameter	Conditions	Min.	Stand.	Max.	Units
Number of inputs			16		
Input range I			-20÷20		mA
Input range II			-5÷5		
Exceeding of the measuring range with the granted measuring accuracy				10	%
Exceeding of the range without input circuit damage				±50	mA
Time of A/D conversion		78,5	80,12	81,72	ms
Accuracy of an input after calibration [2] at the ambient temperature 23±2°C			0,02	0,05	%
Accuracy of an input without calibration at the ambient temperature 23±2°C			0,07	0,11	%
Integral non-linearity of an input datum	teplota okolí 23±2°C		0,005	0,01	%
Error of output datum caused by the ambient temperature change			0,0015	0,0025	% / K
Error of output datum by the supply voltage change				0,0015	% / V
Input resistance			53		Ω
50Hz signal suppression		100	140		dB
Dielectric strenght Input / System or Output / System		700			V DC

- High tolerance to the input over-voltage
- Integrated failure / error testing:
 - Check of data consistency
 - Check of a calibration state
 - Automatic recovery after the failure / error
 - Reports on the failure / error
- Suppression of a serial alternate disturbance 50HZ min. 110dB

