IOB 4000
INPUT / OUTPUT BOX FOR EUT-MONITORING

IOB 4000

- **Input / Output Box for EUT-Monitoring**
- **12 digital inputs**
- **4 analog inputs**
- **1 optical input**
- **8 low level TTL outputs**
- **Optical RS232 for data transfer**
- **Battery operated with power safe mode**

The Input / Output Box, in short IOB 4000, is an ideal addition for electromagnetic immunity test systems. With its 12 digital inputs, as many signals on one test item can be monitored. In doing so, there are two available voltage ranges; 0 V … 24 V and TTL level. There are 4 analogue inputs available which have a voltage range of 0 V … 24 V for monitoring analogue voltage values.

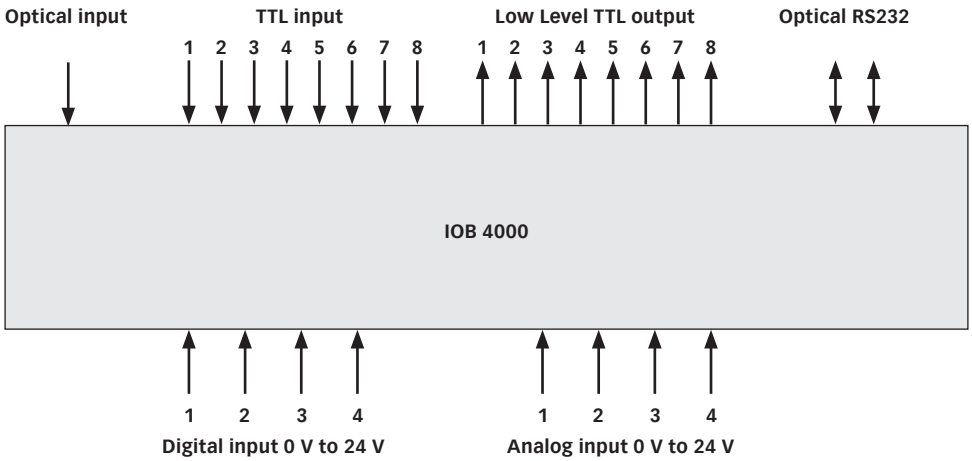
The monitoring of light sources such as, for example operating indicator lamps, can be realized with the optical input.

The IOB 4000 can be integrated in the test house software. The instruction set is provided and own applications can be written. The communication is performed via an optical RS232 interface which enables faultless access to the IOB 4000 in an immunity test setup.

All functions of the IOB 4000 can be tested with the included software “IO-Test“. The communications port can be selected, the BOX can be woken up, the number of measurements per second can be set, the serial number can be read and the battery status can be seen. All hardware inputs and outputs of the IOB 4000 are also in the window.

The box consists of a robust metal case optimized for EMC. This is due to the intended use as interface box for monitoring signals for EMC measurements. The power supply is made using batteries in order to guarantee operation independent of mains power.

IOB 4000 in suitcase



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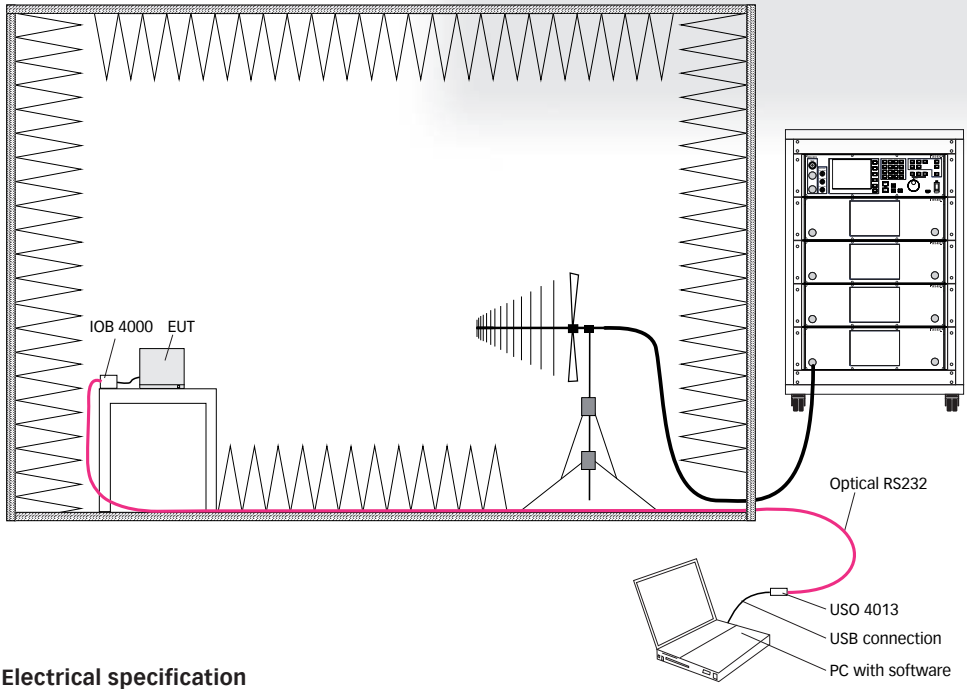
Applications

The IOB 4000 is intended to be located with the test item in a corresponding test environment (e.g. screened room, anechoic chamber, TEM cell or reverberation chamber). It is also used to monitor relevant electrical and optical parameters or indicators of a test item. The transfer to the control PC is performed using the optical RS232 interface whereby an electromagnetic coupling is avoided.



Electrical specification

Electromagnetic susceptibility (tested with 1 kHz AM, 80%, according to IEC 61000-4-3)	
Frequency range 10 to 1000 MHz:	>190 V/m*
Frequency range 1 to 18 GHz:	>200 V/m
Supply:	4 x 1.2V Mignon (AA) rechargeable batteries, exchangeable, extended battery charger
Charging conditions:	LED, display within software and deep-discharge protection
Operating time (fully charged set of batteries):	approx. 1 week with 8 h active operating per day and 16 h sleep mode
Current consumption (sleep mode):	approx. 6 mA
Current consumption (operation):	approx. 26 mA
Power switch:	hardware switch

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Electrical specification (continued)

Communication interface to USO 4013:	opt. RS232
Connection:	2x HFBR0501 socket for 1 mm fiber optic cable
Distance:	10 m (>10 m on request)
*) Limited by the power amplifier in the test setup.	

EUT monitoring connections

Analogue input	
Quantity:	4
Connector:	4x BNC sockets
Input range:	0 V ... 24 V
Cut-off frequency:	f_g = 6 kHz
Resolution:	10 Bit
Input resistance:	R_{ein} = 25 kΩ
Digital input	
Quantity:	4
Connector:	4x BNC sockets
Input range:	0 V to 24 V
Threshold level:	approx. 3 V
Latch:	Latch to trigger on pos. and neg. edge
Digital input	
Quantity:	8
Connector:	D-SUB socket, 9 pins
Input range:	TTL level
Latch:	Latch to trigger on pos. and neg. edge
Digital output	
Quantity:	8
Connector:	D-SUB socket, 9 pins
Output range:	LVTTL (3.3 V)
Configuration:	programmable by user
Optical input	
Connector:	HFBR0501 socket for 1 mm fiber optic cable

Mechanical specification

Dimensions of the chassis (L x W x H):	160 mm x 80 mm x 60 mm
Dimensions over all (L x W x H):	160 mm x 113 mm x 60 mm
Dimensions of the suitcase (L x W x H):	450 mm x 360 mm x 135 mm
Weight:	approx. 0.8 kg
Weight (complete in the suitcase):	approx. 3 kg

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Delivery information

Part number	Description
254700	IOB 4000 Input/output box, battery operated EUT monitoring system with optical interface, incl. USO 4013, 10 m fiber optical cable and suitcase
254720	USO 4013 (included in IOB 4000) USB to serial/optical converter

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