



## DESCRIPTION

The IOB-B1 and IOB-B2 series of products are I/O Bus devices that provide expansion to the Walker line of controllers (WS1616s, MiniSACs and MicroSACs). The modules come in many factory-assembled configurations and include a Belimo Motor with various options of inputs and outputs.

## IOB-B1 and IOB-B2 (I/O BUS UNITARY MOTORS)

### APPLICATION

- provides an Belimo Motor expansion to any SAC panel

### FEATURES

#### HARDWARE

- Belimo LM24-M motor and housing
- output drive circuitry for Belimo LM24-M motor
- Universal Inputs
- Outputs (Digital or Analog options)
- feedback positioning potentiometer (optional)
- PIC controller for I/O Bus communications
- 8 bit A/D
- PWM output 10 bit resolution

#### POWER

- powered from I/O Bus or 24 VAC

#### CABLE

- 18 AWG twisted shielded pair (same cable used for SmartLAN)

#### COMMUNICATION

- 9600 bps
- uses Walker ASCII Protocol

## IOB-B1 and IOB-B2 TECHNICAL SPECIFICATIONS

### PART NUMBERS

PART NUMBER	DESCRIPTION
IOB-B1-P	Motor Controller (RoomSTAT only option) with positional feedback
IOB-B1-DO4-P	DO4 expansion option with positional feedback
IOB-B1-OP2-P	OP2 expansion option with positional feedback
IOB-B1-DO2OP2-P	DO2 and OP2 expansion option with positional feedback
IOB-B2	Motor Controller (RoomSTAT only option)
IOB-B2-DO4	DO4 expansion option
IOB-B2-OP2	OP2 expansion option
IOB-B2-DO2OP2	DO2 and OP2 expansion options
IOB-B2-I	IOB-B2 with extra inputs
IOB-B2-DO4-I	IOB-B2-DO4 with extra inputs
IOB-B2-OP2-I	IOB-B2-OP2 with extra inputs
IOB-B2-DO2OP2-I	IOB-B2-DO2OP2 with extra inputs

B1 is the Belimo motor with positional feedback, B2 is the Belimo motor without positional feedback

### INCLUDES

TYPE****	Voltage or Motor feedback	INPUTS Temperature or Digital				OUTPUTS			IUL*	
		IP4	IP1**	IP2	IP3	IP5***	Motor Drive	Digital Outputs	Universal	I/O Bus Power
IOB-B1-P	1	1	1	1	1	1			5	1
IOB-B1-DO4-P	1	1	1	1	1	1	4		5	1
IOB-B1-OP2-P	1	1	1	1	1	1		2	15	1
IOB-B1-DO2OP2-P	1	1	1	1	1	1	2	2	15	1
IOB-B2		1				1			5	1
IOB-B2-DO4		1				1	4		5	1
IOB-B2-OP2		1				1		2	15	1
IOB-B2-DO2OP2		1				1	2	2	15	1
IOB-B2-I	1	1	1	1	1	1			5	1
IOB-B2-DO4-I	1	1	1	1	1	1	4		5	1
IOB-B2-OP2-I	1	1	1	1	1	1		2	15	1
IOB-B2-DO2OP2-I	1	1	1	1	1	1	2	2	15	1

\* I/O Bus Loading

\*\* IP1 can be accessed via telejack or terminal connector, IP5 can only be accessed via telejack

\*\*\* IP5 can be accessed via the telejack or terminal connector.

\*\*\*\* Roomstats 30/31/32/36 can be connected via telejack (IP1, IP5), Roomstats 34 and 35 prevent use of 1 input (IP5)  
-P or -I designates extra inputs (i.e. IP2, IP3, IP4) IP4 can be used as positional feedback or extra voltage input

### INPUTS

TYPE	USAGE	RANGES	DEVICES	DISPLAY
Inputs	voltage	0-10 VDC	standard devices	0 to 100%
	digital	1 mA to GND / 10 mA to GND	contact closures	user defined
	temperature	-10°C to 140°C (14°F to 284°F)	3k thermistor	temperature
	temperature	-40°C to 40°C (-40°F to 104°F)	1k thermistor	temperature
	existing sensors	inputs can be adapted to operate with existing sensors	temperature, etc.	
Flow	diff. air pressure	see Kavlico Flow Sensor # D2	flow sensor	0 to 100%

Continued...

## IOB-B1 and IOB-B2 TECHNICAL SPECIFICATIONS

### OUTPUTS

TYPE	USAGE	RANGES	CAPACITY	DISPLAY
Universal	Analog Voltage	0-10 VDC*	40 mA**	0 to 100%
	Digital Voltage	0-10 VDC	40 mA	User defined
	current	4-20 mA	500 $\Omega$	0 to 100%
4-20 mA		250 $\Omega$	0 to 100%	
digital	Triac drive	Solid State relays for AC loads	30 VAC @ 1.2 A	user defined

\* Fully modulating linear output with 10 bit accuracy

\*\* Internal current limiting

### COMMUNICATION PORTS

TYPE	QTY	USAGE	9.6 kbps
I/O Bus	1	Walker ASCII Protocol I/O Bus	✓
RS-232	1	Roomstat or temperature input	✓

### ELECTRICAL / MECHANICAL

POWER SUPPLY	BOARD SIZE	I/O BUS LOADING (IUL)
I/O BUS	127 x 115 mm	*
24 VAC		1

\* Configuration Dependent - Refer to previous page  
25.4mm = 1.0 inches