Babelbox BB2 and HEP PWM

Babelbox BB2 and HEP PWM , S3 product group

TECHNICAL DATA

Supply voltage:	230 V
Power input:	0.25 W
Signal input leading edge:	0-230 V
Signal input trailing edge:	0-230 V
Signal input wave packet:	0-230 V, 50 Hz
Signal input power consumption:	1.5 mA
PWM output:	12 V DC, 15 mA
Frequency:	1000 Hz
Ambient temperature:	0 °C to +70 °C
Cable connection input:	3 x M16
Dimensions:	115 x 117 x 50 mm
Weight:	0.3 kg

USE

The Babelbox BB2 is designed for use in heating systems in which an on-site controller pulses a standard pump via the power line and this pump is to be replaced by a high-efficiency pump. High-efficiency pumps do not react to a pulsed power line and therefore cannot simply substitute for a standard pump. Interposing the Babelbox BB2 solves this issue while retaining the control functions of the system.

MODE OF OPERATION

The BB2 automatically detects if an on-site controller is pulsing the power line via a wave packet or is outputting leading or trailing edge voltage. The BB2 converts this into a PWM signal which is identified by the Armstrong PWM pump. Just like the standard pump previously, its power is also then controlled. An integrated LED shows the presence of voltage from the on-site controller.

MAIN AREAS OF USE

All applications in which a standard pump controlled externally by the power line is to be replaced by a high-efficiency pump.

- Return flow boost
- Solar installation
- Differential temperature controlled underfloor heating
- Storage charging circuit
- Freshwater station (suitability should be checked with the manufacturer due to the highly sensitive controlled system)

INSTALLATION

Stable cable bushings and elevator terminals enable easy installation. The BB2 must be connected to 230 V voltage, with the PWM pump and the pulsed power line. Fully automatic detection of the input signal means no further settings need be adjusted.

MOTOR (HIGH EFFICIENT ECM TECHNOLOGY)

Power supply nominal:	200-230 V, 50-60 Hz
Power consumption:	Version 4 m (4-25 W); Version 7 m (4-66 W)
Power consumption stand-by PWM:	0.8 W

PWM CONNECTION

PWM input:	
Frequency f nominal:	100-2000 Hz
Voltage U nominal:	5-24 V
Power PWM to 12 V:	max. 10 mA
Power PWM to 24 V:	max. 20 mA
Insulation voltage optocoupler:	5300 VRMS
	$(T_{ein} / T_{pwm}) \times 100$

STANDARDS

8/37/EG, 2006/95/EG, 2004/108/EG

EN 60335-1, EN 60335-2-51,

EN 55014-1:2006+A1:2009,

EN 55014-2:1997+A1.2001+A2:2008

EN 61000-6:2007, EN 61000-6-3:2007,

EN 50366, EN 61000-3-2, EN 61000-3-3,

EN 55014-1, EN 55014-2

THE BABELBOX BB2 SOLUTION

It was previously not possible to replace standard heating pumps driven by wave packet, leading or trailing edge control with high-efficiency pumps. For the first time, this can now be done with the Babelbox BB2.

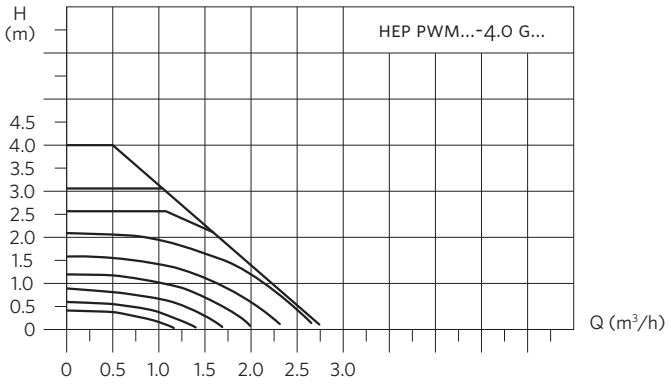
FULLY AUTOMATIC SIGNAL DETECTION

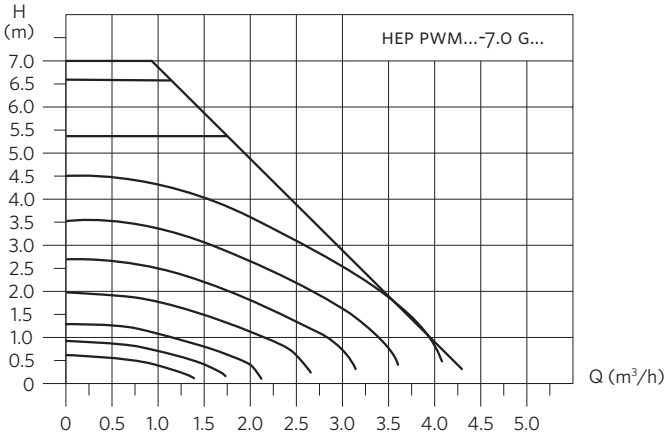
Typical high-efficiency pumps require a 230 V constant voltage supply. If, however, a high-efficiency pump is connected to a variable power voltage supply (solar controller, freshwater station controller, charging controller etc.), it reacts neither to a wave packet nor leading edge control as desired. This is where the Babelbox BB2 from Armstrong comes in. It independently and fully automatically detects which signal is being output by the controller of the standard pump and converts it into a PWM signal which can be understood by the high-efficiency pump, controlling the latter in just the same way as the previously installed standard pump. The voltage supply for the high-efficiency pump itself comes from a separate 230 V connection.

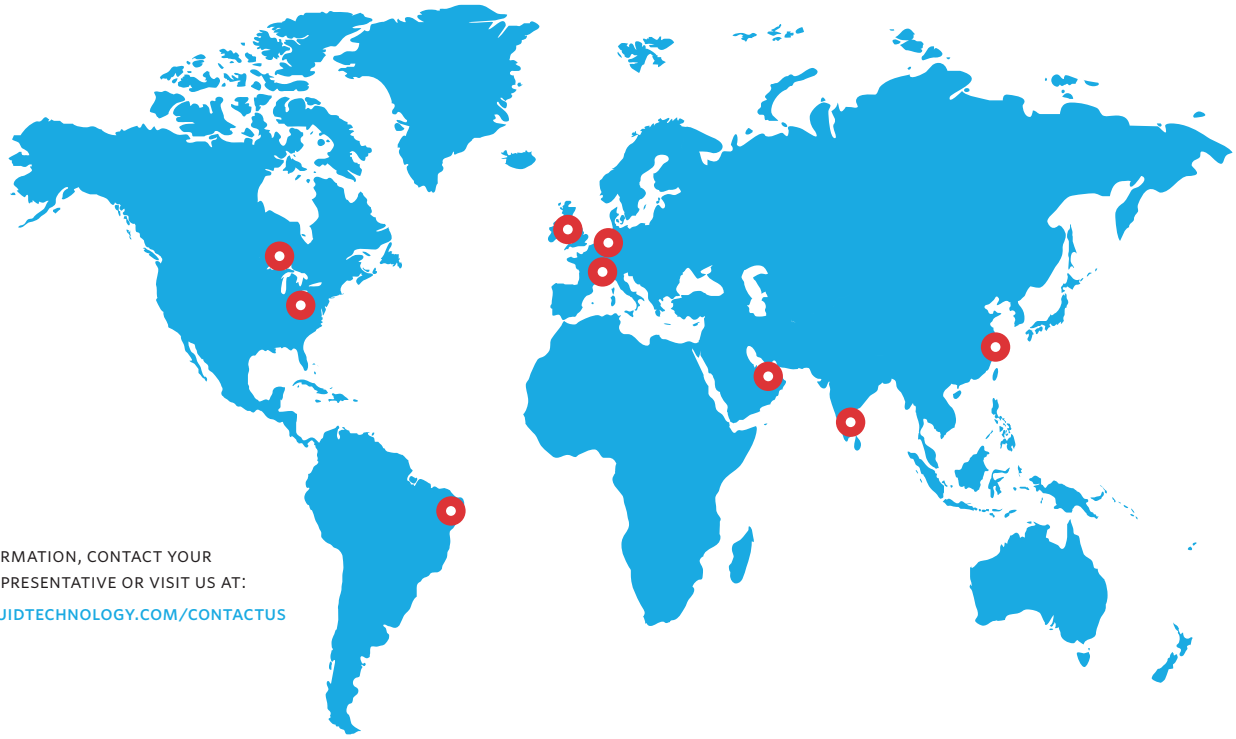
TECHNICAL DATA

TYPE	CONNECTION PIPE	THREADED CONNECTION	INSTALLATION LENGTH (MM)	P1 (W)	I_{MAX} (A)	NET-WEIGHT (KG)	PRODUCT NO.
HEP BB2 25-4.0 G180	1"	1 ½"	180	4 ... 25	0,3	3,3	0323-34204.7-71
HEP BB2 25-7.0 G180	1"	1 ½"	180	4 ... 66	0,6	3,3	0323-34207.7-71
HEP BB2 30-4.0 G180	1 ¼"	2"	180	4 ... 25	0,3	3,3	0324-34204.7-71
HEP BB2 30-7.0 G180	1 ¼"	2"	180	4 ... 66	0,6	3,3	0324-34207.7-71
HEP BB2 15-4.0 G130	½"	1"	130	4 ... 25	0,3	3,3	0321-34004.7-71
HEP BB2 15-7.0 G130	½"	1"	130	4 ... 66	0,6	3,3	0321-34007.7-71
HEP BB2 25-4.0 G130	1"	1 ½"	130	4 ... 25	0,3	3,3	0323-34004.7-71
HEP BB2 25-7.0 G130	1"	1 ½"	130	4 ... 66	0,6	3,3	0323-34007.7-71

PERFORMANCE CURVES







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