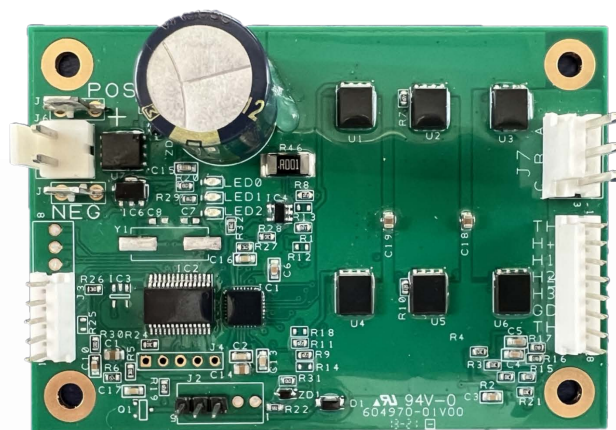


- > Easy to use BLDC technology/operation
- > Off-the-shelf integration with many Thomas pumps
- > Go from development to production with no changes
- > No PCBA cooling required
- > Variable speed PWM input signal for full range flexibility
- > Closed loop speed operation for consistent performance
- > Advanced algorithm for better efficiency at low speeds
- > Integrated mounting plate for simple and safe install
- > Optional PWM generator accessory for quick testing

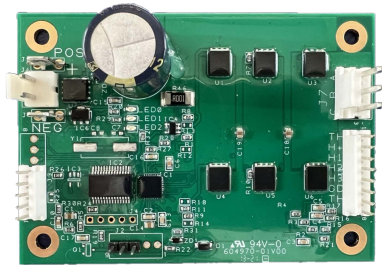
230ZC30/12
250ZC35/24
260ZC35/24
2110ZA26/12
2109ZA26/12M
2220ZA30/12
2220ZA3012M
2250ZC35/24



BLDC

ZB Series

Voltage	12V or 24V
Continuous Motor Current	8 Amps



GENERAL PERFORMANCE INFORMATION				
Compatible pump series (8 pole motor)	2109ZA26/12M, 2110ZA26/12, 2220ZA30/12, 2220ZA3012M			
Compatible pump series (10 pole motor)	230ZC30/12, 250ZC35/24, 260ZC35/24, 2250ZC35/24			
	Minimum	Typical	Maximum	Unit
Operating input voltage	11	24	30	Vdc
Continuous motor current	-	-	8	A RMS
Tachometer output signal	3.1	3.3	3.5	Vdc
Tachometer pulses per revolution (8 pole)	-	4	-	Digital pulse
Tachometer pulses per revolution (10 pole)	-	5	-	Digital pulse
Operating ambient temperature	32° (0°)	-	113° (45°)	Fahrenheit (Celcius)
Operating ambient humidity	0%	-	90%	RH, Non-Condensing
Net weight	-	2.9 (83)	-	Ounces (Grams)

For additional details or special requirements, please consult your Thomas representative regarding your system needs.
All test values are nominal and for reference only. They are not guaranteed maximum or minimum limits, nor do they imply mean or median.
See Thomas instruction sheet 603288DOC for more details on the ZB controller.
Test Reference: T22-0205, T22-212, T22-213, T22-214, T22-0215, T22-0216.

PWM CONTROL INFORMATION

The PWM configuration of the ZB controller requires a PWM signal to operate. PWM is a “Pulse Width Modulation” signal input that tells the controller what speed to operate the pump.

There are 3 possible modes of operation:

- External PWM signal connected to the control board
- Optional Thomas PWM generator accessory for lab testing
- To operate at 100% speed, a 3.3Vdc voltage can be applied to the PWM input pin. This can be done externally, or by connecting pin 3 on connector J3 (PWM input) to pin 5 on connector J3 (3.3Vdc source, see instruction sheet 603288DOC for more detail.)

Description	Minimum	Typical	Maximum	Unit
PWM Input Frequency	14	20	26	kHz
PWM Signal Voltage	2.0 (high trigger)	3.3	3.5	Vdc
Input Speed Range (8 Pole Motors)	1062 (5% PWM)	-	4375 (95%)	RPM
Input Speed Range (10 Pole Motors)	850 (5% PWM)	-	3500 (95%)	RPM

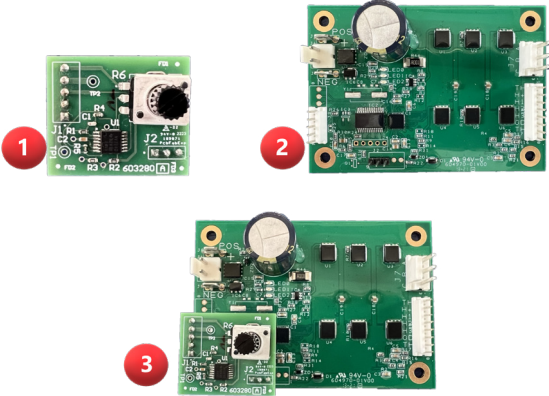
ORDER INFORMATION

Discription	Type/Features	Model Number
ZB Controller	PWM Input	ZB603288P01W
PWM Generator Accessory	-	ZZ603287P00
ZB Controller Instruction Sheet	Available on thomaspumps.com	603288DOC
PWM Generator Instruction Sheet	Available on thomaspumps.com	603287DOC

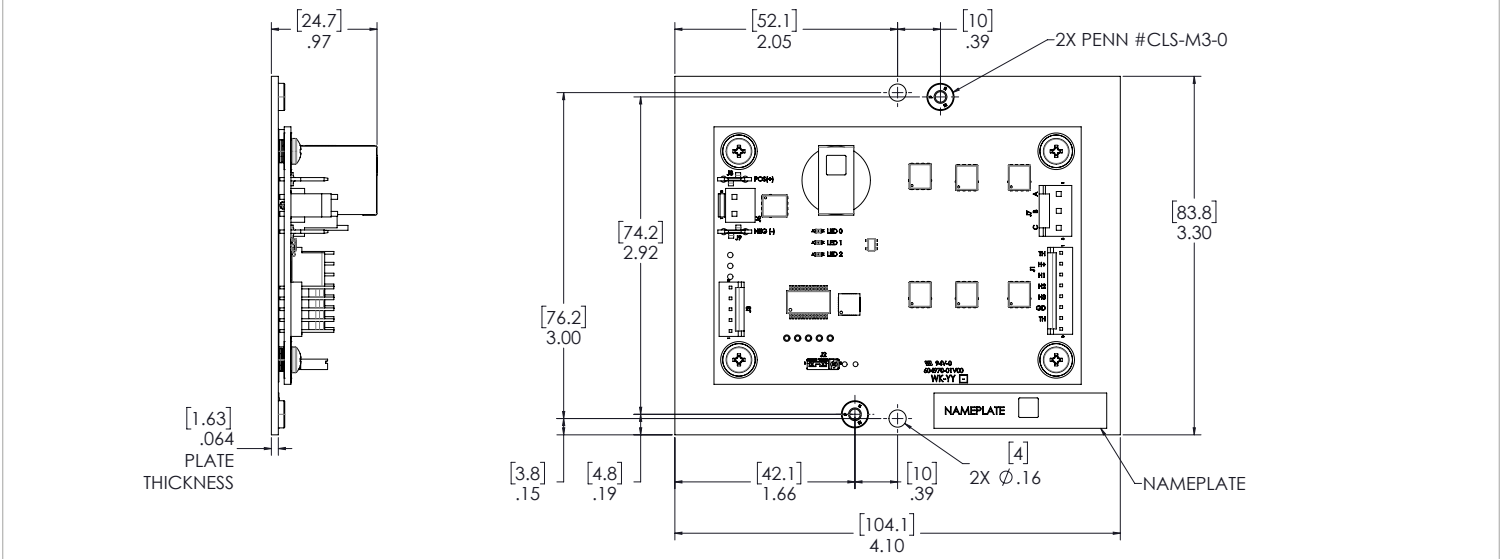
PWM GENERATOR ACCESSORY

The PWM generator accessory (1) can be installed on the ZB controller for quick lab testing. This accessory is sold separately and installed on the J3 & J2 header (2) of the standard ZB controller with PWM input. Once installed on the ZB controller (3) the potentiometer will adjust the speed of a connected pump.

See Thomas instruction sheet 603287DOC for more details on the PWM generator accessory.



PRODUCT DIMENSIONS



GENERAL CONTACT

EMEA

Gardner Denver Thomas GmbH

Livry-Gargan-Str. 10
82256 Fuerstenfeldbruck
Germany

Tel: +49 8141 2280 0
Fax: +49 8141 8892136
td.usa@irco.com

AMERICAS

Gardner Denver Thomas, Inc.

1419 Illinois Avenue
Sheboygan, WI 53081
USA

Tel: +1 920 457 4891
Fax: +1 920 451 4276
td.usa@irco.com

ASIA PACIFIC

**Gardner Denver Thomas
Pneumatic Systems (Wuxi) Co., Ltd.**

No. 1 New Dong An Road
Shuofang Town
Wuxi, Xinwu District
Jiangsu 214142
China

Tel: 400-012-1268
QQ 800 180 724
thomas.cn@irco.com

THOMAS is a leading manufacturer of systems, compressors, vacuum, and liquid pumps for Original Equipment Manufacturers (OEMs) in the medical, laboratory, environmental and industrial sector.

With its experienced Engineering, Technical, and Operations staff and capabilities, Thomas designs and manufactures customized pressure and vacuum solutions that meet the precise needs of its customers. Backed by over 60 years of engineering excellence and innovation, and a global manufacturing network, Thomas stands out as the reliable choice for OEMs worldwide.

For more information, visit www.thomaspumps.com

Please check out all our brands for your mission-critical flow control technologies:



OEM Pumps
gd-thomas.com



Vacuum Pumps & Systems
welchvacuum.com



Syringe Pumps
tricontinent.com



Lab Automation
zinsser-analytic.com



Syringes
microsyringes.com


An Ingersoll Rand Business

Gas Sampling Pumps
airdimensions.com