

AN207 - EBM-PAPST Fans Use with VPWM Products

Introduction

The purpose of this application note is to provide more details on applications using the VPWM products with an EMB-papst fan and the model that is best suited.

Model P/N	Description	Supersedes models:
AX030000	0-5V input, PWM output, DIN rail mount	VPWMDR5V
AX030003	0-5V input, 100 Hz PWM output, DIN rail mount	VPWMDR5V100Hz
AX030002	0-10V input, PWM output, DIN rail mount	VPWMDR10V
AX030010	4-20 mA input, PWM output, DIN rail mount	IPWMDR420MA

AX030002

There is a version of the VPWM product that was a circuit modification specifically for the ebm-papst fans. The VPWM-DR-10V-SH or the AX030002.

For the ebm-papst fans it is a 0 – 10V control signal.

The output is an open-collector, BJT transistor at 25KHz.

If acceptable, a 0 – 10V control signal this one will drive the fan.

If using VPWM-DR-SH then the output is already at 25KHz, and output is already modified for driving up to 10 of these emb-papst fans. The customer would need to be OK with a 0 – 10V input model.

AX030010

The newer AX030010 has an adjustable output frequency to 10KHz (from datasheet). The AX030010 has a 4-20 mA input is also available.

If using the AX030010 we need to modify the PWM output frequency to 25KHz. The output can drive 6 x fans.

These ebm-papst fans require a very specific drive signal.



AN207
Version 1.00

Version	Date	Author	Comments
1.00	June 10, 2022	Greg Laronde, Sue Thomas	Initial Release