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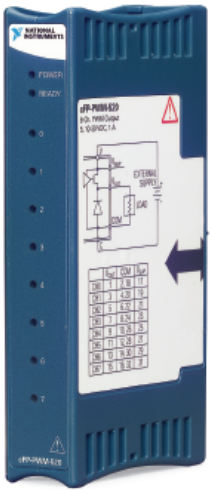
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Pulse-Width Modulation Output Module for Compact FieldPoint

NI cFP-PWM-520

- 8 outputs
  - 5, 12, and 24 VDC
  - 1 A per channel, maximum
  - 1 kHz max frequency
- Overcurrent protection on outputs
- 2,300 V_{rms} bank isolation for transient overvoltage protection
- Hot-swappable with autoconfiguration
- -40 to 70 °C operating range



Module	Output Channels	Output Voltages	Output Frequency	Output Duty Cycle	Output Current (see Specifications)
cFP-PWM-520	8	5 VDC or 10 to 30 VDC	Up to 1 kHz	0 to 100%	1 A

Overview

The National Instruments cFP-PWM-520 is a versatile pulse-width modulation output module for Compact FieldPoint that you can use to control the power of many DC-powered devices. By pulsing the input voltage and varying the duty cycle, you can perform analog control on many DC devices. The NI cFP-PWM-520 is commonly used to efficiently control power such as the speed of a DC servo motor, the intensity of a light bulb, or the heat output of an industrial heater. It includes onboard diagnostics to ensure trouble-free installation and maintenance.

Pulse-Width Modulation Output

You can configure the output period for each cFP-PWM-520 channel to vary from 1 ms to 65.5 in 1 ms increments. You then programmatically set the duty cycle for each channel. The duty cycle is the percentage of the output period when output is high. You can set the duty cycle for 0 to 100 percent with 12-bit resolution (4,096 settings). Each output channel is an optically isolated sourcing output with overcurrent protection. The outputs are compatible with voltages from 10 to 30 VDC, or 4.5 to 5.5 VDC, and each output can drive up to 1 A.

Isolation

The cFP-PWM-520 features optical bank isolation with 2,300 V_{rms} of breakdown isolation. This Compact FieldPoint module does not have channel-to-channel isolation.

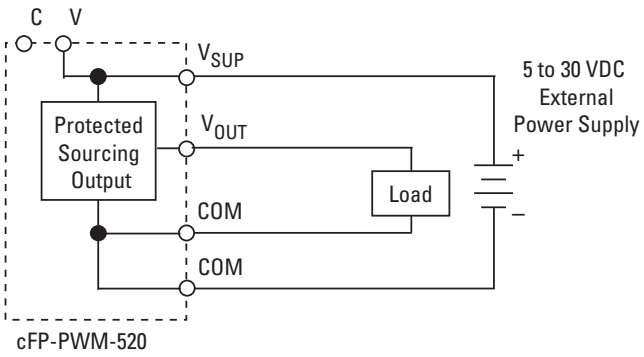
Field I/O Connections

Compact FieldPoint modules include a built-in power distribution bus that provides multiple power connections on the module. A field-wired power supply connected to the voltage (V) and common (C) terminals is internally connected to a power distribution bus that offers additional breakout terminals for voltage supply (V_{SUP}) and common (COM). These terminals deliver a convenient way to distribute power to field devices that require external power.

The cFP-PWM-520 has:

- 8 pulse-width modulation digital output terminals (V_{OUT})
- 16 common terminals (COM)
- 8 power connections to power field devices (V_{SUP})

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Wiring Schematic for the cFP-PWM-520

Ordering Information

NI cFP-PWM-520 777318-520

Recommended Compact FieldPoint System Products

NI cFP-2120 777317-2120
NI cFP-BP-4 778617-04
NI cFP-CB-1 778618-01
NI PS-5 power supply 778805-90
NI Developer Suite Professional Control Edition 777906-03

BUY NOW!

For complete product specifications, pricing, and accessory information, call 800 813 3693 (U.S.) or go to **ni.com/compactfieldpoint**.

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Specifications

Typical for -40 to 70 °C unless otherwise noted.

Output Characteristics

Number of channels	8
Output type	Sourcing
Output voltage	Supply voltage (Output current x output impedance)
Supply voltage	5 VDC or 10 to 30 VDC, user-provided
Maximum output current	1 A per channel at -40 to 50 °C; 0.75 A per channel at 50 to 60 °C; 0.5 A per channel at 60 to 70 °C
All channels	8 A
Output impedance	0.3 Ω typical at 10 to 30 VDC
Period	1 to 65,535 ms
Duty cycle	0 to 100%
Resolution	12 bits
Pulse-width accuracy	-1 to +3 µs ± 0.005%
Protection	Short-circuit

Isolation Voltage

Channel-to-channel isolation	No isolation between channels
Transient overvoltage	2,300 V_{rms}

Physical Characteristics

LED indicators	
POWER (green)	Power on and self-test passed
READY (green)	Module configured and ready
Output <0...7> (green)	Instantaneous on/off output status
Dimensions	127.0 by 65.9 by 23.9 mm (5.00 by 2.60 by 0.94 in.)
Weight	110 g (3.9 oz)

Power Requirements

Power from network module	715 mW

Environment

Operating temperature	-40 to 70 °C
Storage temperature	-55 to 85 °C
Relative humidity	10 to 90%, noncondensing

Shock and Vibration

Operating vibration, random	
(IEC 60068-2-64)	10 to 500 Hz, 5 g_{rms}
Operating vibration, sinusoidal	
(IEC 60068-2-6)	10 to 500 Hz, 5 g
Operating shock	
(IEC 60068-2-27)	50 g, 3 ms half sine, 18 shocks at 6 orientations; 30 g, 11 ms half sine, 18 shocks at 6 orientations

Safety and Compliance

Safety

This product is designed to meet the requirements of the following standards of safety for electrical equipment for measurement, control, and laboratory use:

- IEC 61010-1, EN 61010-1
- UL 61010-1, CSA 61010-1

Note: For UL and other safety certifications, refer to the product label or visit **ni.com/certification**, search by model number or product line, and click the appropriate link in the Certification column.

Electromagnetic Compatibility

This product is designed to meet the requirements of the following standards of EMC for electrical equipment for measurement, control, and laboratory use:

- EN 61326 EMC requirements; Minimum Immunity
- EN 55011 Emissions; Group 1, Class A
- CE, C-Tick, ICES, and FCC Part 15 Emissions; Class A

Note: For EMC compliance, operate this device according to product documentation.

CE Compliance

This product meets the essential requirements of applicable European Directives, as amended for CE marking, as follows:

- 2006/95/EC; Low-Voltage Directive (safety)
- 2004/108/EC; Electromagnetic Compatibility Directive (EMC)

Note: Refer to the Declaration of Conformity (DoC) for this product for any additional regulatory compliance information. To obtain the DoC for this product, visit **ni.com/certification**, search by model number or product line, and click the appropriate link in the Certification column.

Waste Electrical and Electronic Equipment (WEEE)

EU Customers: At the end of their life cycle, all products must be sent to a WEEE recycling center. For more information about WEEE recycling centers and National Instruments WEEE initiatives, visit **ni.com/environment/weee.htm**.

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