PowerFlex®

PowerFlex® 4 and PowerFlex® 40 AC Drives

Provide Optimized Simplicity

Providing users with powerful motor speed control in a compact, space saving design, the Allen-Bradley PowerFlex 4 & 40 AC drives are the smallest and most cost effective members of the PowerFlex family of drives. Ideal for machine level speed control, these products provide the application versatility to meet the demands of global OEMs and end users who require flexibility, space savings and ease of use. The PowerFlex 4 and PowerFlex 40 AC drives have commonality in three key areas:

Flexible Packaging and Mounting Options

- Installation can be a virtual snap using the DIN rail mounting feature on A and B frame drives.
- Flange mount drives are available to reduce overall enclosure size.
- Zero Stacking™ is allowable for ambient temperatures up to 40°C, saving valuable panel space. 50°C ambient temperatures are permitted with minimal spacing between drives.

Easy to Start up and Operate

- Integral keypad features a 4 digit display and 10 additional LED indicators providing intuitive control.
- The keypad and control keys and local potentiometer are active out of the box, simplifying start up.
- The 10 most commonly programmed parameters are grouped together for fast and easy start up.

Versatile Programming and Network Solutions

- Integral RS485 communications enable the drives to be used in a multi-drop network configuration. A serial converter module provides connectivity to any controller that has the ability to initiate DF1 messaging.
- DriveExplorer™ and DriveTools™ SP software can be used to program, monitor and control the drives.
- A NEMA 4X remote and NEMA 1 handheld LCD keypad provide additional programming and control flexibility, both featuring the popular CopyCat function.

PowerFlex 4 AC Drive

Designed with simplicity and space savings in mind, the PowerFlex 4 is:

- Ideal for applications with limited panel space
- An economical replacement for electromechanical devices or DC solutions

PowerFlex 4 AC Drive
0.2 to 3.7 kW; 0.25 to 5 hp
120, 240, 480 V

PowerFlex 40 AC Drive

Designed with application versatility and robust performance in mind, the PowerFlex 40 features sensorless vector control and additional I/O capability.
In addition, the PowerFlex 40 features:

- 0-10V or 4-20mA (10-bit) analog output for feedback or as reference for other drives
- Timer, counter and logic functions can reduce hardware design cost, simplifying control schemes
- Two analog input channels, including PID capability, offer enhanced application flexibility
- Integral communication option cards such as DeviceNet™, EtherNet/IP, and Profibus can improve machine performance

PowerFlex 40 AC Drive
0.4 to 11 kW; 0.5 to 15 hp
120, 240, 480, 600 V
(Product shown with DeviceNet option)

PowerFlex 40 Packaged Drives Program

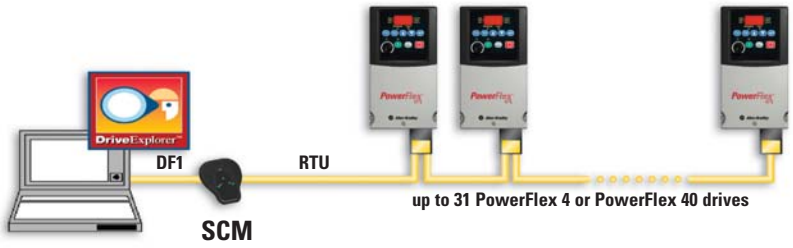
The PowerFlex 40 Packaged Drives Program simplifies installation and start up by allowing users to order drive packages that combine operator interface, control, communications and power options in pre-packaged assemblies. Offering a number of commonly requested pre-engineered options, as well as more complex custom-engineered packages, the packaged drives program provides a wide range of motor control options.

PowerFlex 4 and 40
Flange Mount Drives

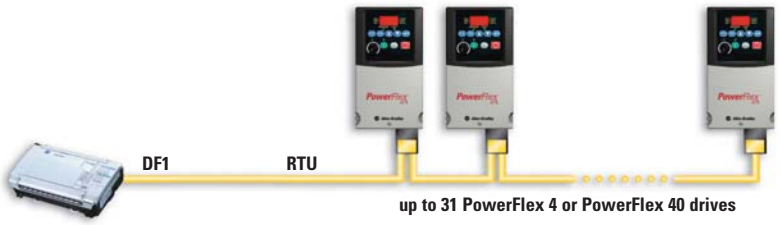
Allen-Bradley
Reliance Electric
Dodge
Rockwell Software
Rockwell Automation

Now we're talking… low cost communications!

Simple RS485 Solutions



- Controls and monitors from a PC using DriveExplorer™ or DriveTools™ SP software
  - Requires use of Serial Converter Module (SCM)

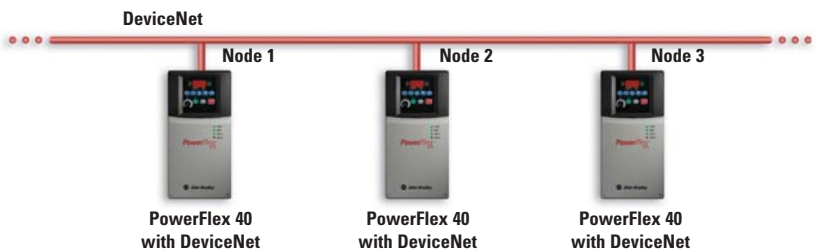


- Simple network control with any logic controller using DF1 messaging
  - Requires use of Serial Converter Module (SCM)

- Compatible with any device that acts as a RTU Master
  - Drive supports standard 03 and 06 RTU commands

Advanced Network Solutions

- Multi-drive solution using a single PowerFlex 40 DeviceNet option
  - Significantly reduces node count and system cost

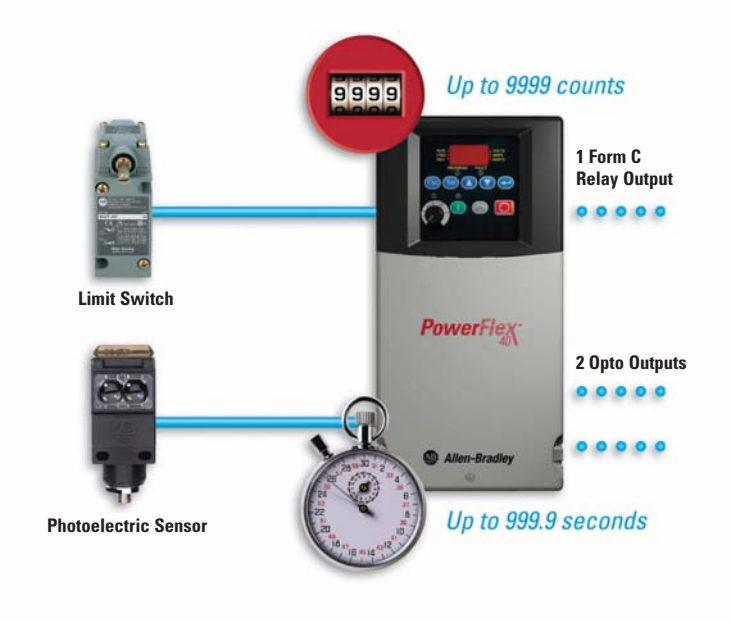


- Network configuration using PowerFlex 40 drives with DeviceNet option cards
  - Provides highest performance and most flexible configuration capabilities

And, even lower cost machine level control.

Timer and Counter Functions

- Digital inputs control digital outputs based on timer or counter function



Ideal for:

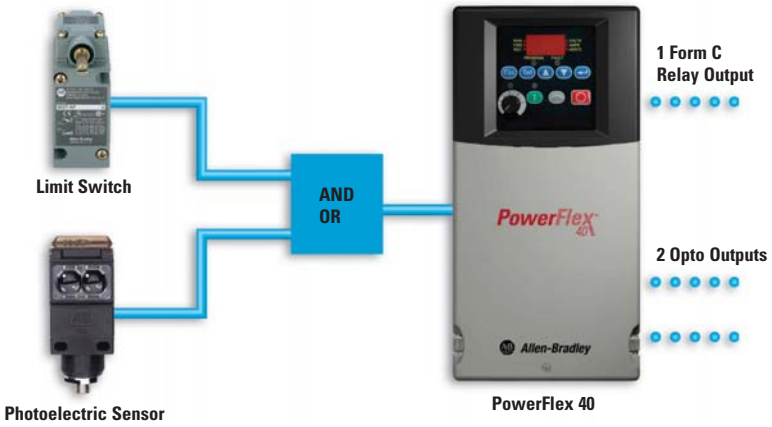
Mixers

Fillers

Shrink wrap machines

Basic Logic Functions

- Digital inputs control digital outputs based on Boolean logic
  - AND and OR logic inputs provide application flexibility



Ideal for:

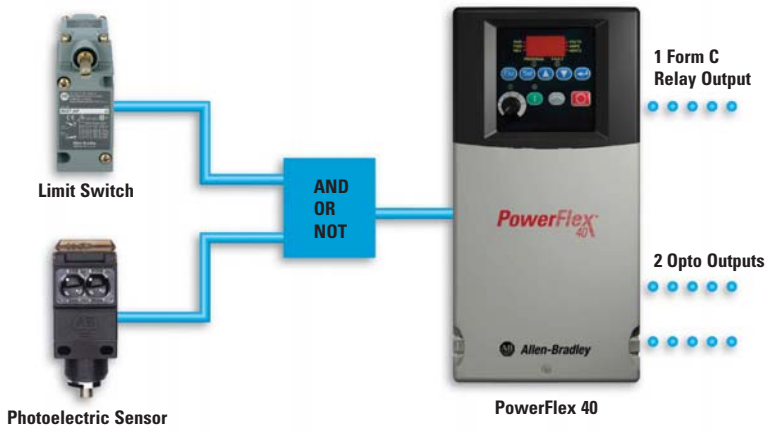
Packaging machines

Conveyors

Palletizers

StepLogic™ Function

- Logic controlled steps using preset speed settings
- Each step can be programmed to:
  - Step based on digital input status including AND, OR and NOT logic
  - Step based on specific time
  - Control speed, direction and accel/decel rate
  - Control the status of an output
  - Make deterministic jumps



Ideal for:

Positioning

Shuttle transfer cars

Machine tool

Batch process

	PowerFlex 4	PowerFlex 40
Operator Interface	Integral keypad with a 4 digit display, 10 additional LED indicators and local potentiometer, optional Remote Human Interface Modules (HIM)	
Standards	CSA/cUL, UL, C-Tick, CE, EMC EN61800-3, Low Voltage EN60204-1/EN50178	
Input Specifications	1 Phase Voltage: 100 - 120V / 200 - 240V 3-Phase Voltage: 200 - 240V / 380 - 480V Frequency: 47 to 63 Hz Logic Control Ride Through: >0.5 seconds, 2 seconds typical Voltage: Adjustable from 0V to rated motor voltage Intermittent Current: 150% for 60 seconds	1 Phase Voltage: 100 - 120V / 200 - 240V 3-Phase Voltage: 200 - 240V / 380 - 480V / 480 - 600V Frequency: 47 to 63 Hz Logic Control Ride Through: >0.5 seconds, 2 seconds typical Voltage: Adjustable from 0V to rated motor voltage Intermittent Current: 150% for 60 seconds
Output Specifications	Voltage: Adjustable from 0V to rated motor voltage Intermittent Current: 150% for 60 seconds	
Enclosure and Ambient Operating Temperature	Open Type / IP20: -10° to 50° C (14° - 122°F) NEMA Type 1 / IP30: -10° to 40° C (14° - 104°F) with optional conduit kit	
Frequency Range	0 - 240 Hz	0 - 400 Hz
Control	24V sink or source control 3 dedicated inputs for start, stop and reverse 2 programmable inputs for functions such as preset speed, jog, etc. 0 - 10V or 4 - 20mA input 1 programmable form C relay output	24V sink or source control 3 dedicated inputs for start, stop and reverse 4 programmable inputs for functions such as preset speeds, jog, etc. ± 10V (bipolar), 0 - 10V and 4 - 20 mA 1 programmable form C relay output 1 analog output (0 - 10V or 4 - 20mA) 2 programmable opto outputs
Dynamic Braking	7th IGBT included on all ratings (except no brake drives)	7th IGBT included on all ratings
Carrier Frequency	2-16 kHz. The drive rating is based on 4 kHz	
Frequency Accuracy	Digital input within + 0.05% of set frequency Analog input within 0.5% of maximum output frequency	

Ratings	**Voltage Class**	**A Frame Ratings**	**B Frame Ratings**	**Voltage Class**	**B Frame Ratings**	**C Frame Ratings**
	100-120V, 1Ø	0.2-0.37 kW (0.25-0.5 HP)	0.75-1.1 kW (1-1.5 HP)	100-120V, 1Ø	0.4-1.1 kW (0.5-1.5 HP)	
	200-240V, 1Ø	0.2-0.75 kW (0.25-1 HP)	1.5-2.2 kW (2-3 HP)	200-240V, 1Ø	0.4-1.5 kW (0.5-2 HP)	2.2 KW (3 HP)
	200-240V, 3Ø	0.2-1.5 kW (0.25-2 HP)	2.2-3.7 kW (3-5 HP)	200-240V, 3Ø	0.4-3.7 kW (0.5-5 HP)	5.5-7.5 kW (7.5-10 HP)
	380-480V, 3Ø	0.37-1.5 kW (0.5-2 HP)	2.2-3.7 kW (3-5 HP)	380-480V, 3Ø	0.4-4.0 kW (0.5-5 HP)	5.5-11 kW (7.5-15 HP)
				480-600V, 3Ø	0.75-4.0 kW (1-5 HP)	5.5-11 kW (7.5-15 HP)

Dimensions mm (inches)	**A Frame:** 152 (5.90) H X 80 (3.15) W X 136 (5.35) D **B Frame:** 180 (7.09) H X 100 (3.94) W X 136 (5.35) D	**B Frame:** 180 (7.09) H X 100 (3.94) W X 136 (5.35) D **C Frame:** 260 (10.2) H X 130 (5.1) W X 180 (7.1) D
Additional Functionality	N/A	Sensorless vector control Process PID StepLogic™ functions (relays and timers) Integral communication options: – DeviceNet – EtherNet/IP – Profibus PTC input compatible
Additional Accessories	EMC line filters Line reactors Dynamic brake resistors DSI cable accessories	

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