PowerFlex[®] 755 On-Machine[™] Drive

A simplified solution for high-performance VFD applications

On-machine advantages

Placing your AC drive on or near your machine provides benefits that can save you both time and money. It can also reduce floor space and help to cut downtime. Here's how:

- The IP66 enclosure rating allows the drive to be mounted near the machine or motor to reduce the length of cables and installation costs
- Panels can be smaller, resulting in more available floor space for production
- Plug 'n play connections reduce installation and commissioning time
- Using a pre-engineered solution saves design time and helps with faster installation with fewer mistakes

Other features:

- Safety options help protect personnel and equipment
- Support for up to 4 encoders including incremental, absolute, and linear feedback
- Four 24V DC digital inputs for overtravel switches, in-position switches, auxiliary feedback, etc.
- Built-in dual ports for EtherNet/IP[™] allow a variety of network configurations, including linear, star and Device Level Ring, which helps with higher network resiliency
- A cover-mounted HIM allows you to access drive parameters and status information and to set the EtherNet/IP address
- Convenient local lockable disconnect provides motor isolation and can reduce system mean time to repair
- Serviceable by user for replacement of major components



If you're looking for a variable-frequency drive that combines the performance of the well-established PowerFlex 755 AC drive with the benefits of an on-machine solution, you just found the perfect answer.

The PowerFlex 755 On-machine Drive is a simple, cost-effective preengineered product that can be mounted right on or near your machine. The drive has an IP66 environmental rating and incorporates I/O, network communications and safety options into a single package that connects easily to your application. Think of the time you can save on wiring, installation and maintenance.

This on-machine drive is a great solution for a wide variety of applications including automotive, packaging and material handling work using conveyors, vertical lifts, power roll beds, framers, turntables and trunnions. Get the features you need by selecting from various options for safety, input and control power, braking controls and encoder types.

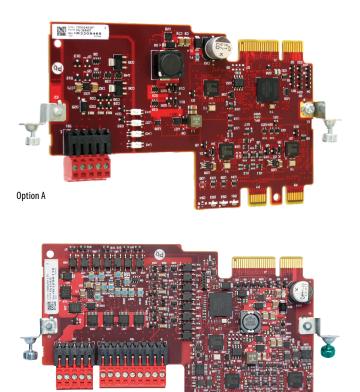


Quick-connect cable receptacles reduce installation and commissioning time. All functions are fully factory-tested.



Safety Options

This on-machine drive offers safety options that not only help protect your people and equipment but also enable reduced downtime. This functionality offers the benefit of quick startup after a demand on the safety system. Choose the safety option that best meets your application needs.



Option B and C

Premier Integration

The PowerFlex 755 On-machine Drive offers seamless integration into the Logix environment for simplified and enhanced configuration, programming, commissioning, diagnostics and maintenance. Using Add-on Profiles, you'll be able to reduce engineering time - and related costs - while improving the configuration, control and collection of data.

To further simplify your drive and controller set-up, the PowerFlex 755 drive offers the option to use Studio 5000[®] integrated motion instructions to help speed up programming. This allows you to configure and program both variable-frequency drives and servo drives using the same motion instructions in the Studio 5000 environment.

Automatic Device Configuration is another productivityenhancing feature available within Studio 5000. Now, the Logix controller can automatically detect a replaced PowerFlex 755 drive and download all configuration parameters. This eliminates the need for manual reconfiguration. Safe Torque Off (option A in catalog string) is ideal for safety-related applications that benefit from removal of rotational power to the motor without removing power from the drive. This hardwired or EtherNet/IP networked solution provides safety ratings up to and including SIL 3, PLe and CAT 3. Option module shown at left.

Integrated Safety Functions (options B and C in catalog string) is a networked-only option that provides drive safety on EtherNet/IP. Option module is shown at left.

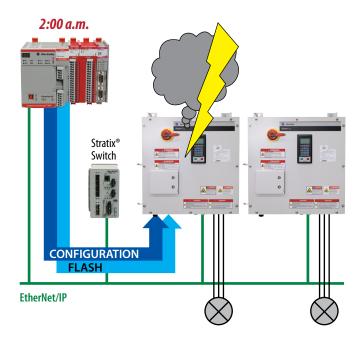
For Integrated Safety Functions, the drive-based safety instruction is:

• STO – Safe Torque Off

Controller-based safety instructions include:

- SFX Safety Feedback Interface
- SS1 Safe Stop 1
- SS2 Safe Stop 2
- SOS Safe Operational Stop
- SLS Safely-limited Speed
- SLP Safely-limited Position
- SDI Safe Direction
- SBC Safe Brake Control

When used as part of an integrated safety system that includes a GuardLogix[®] 5580ES controller or Compact GuardLogix 5380ES controller, integrated safety functions (option B and C) provide safety ratings up to and including SIL 3 and PLe Cat 4. Studio 5000 Logix Designer[®] application version 31 or later is also required.



Catalog Number Explanation

Dynamic Braking (internal to drive)

Yes

Transistor

Resistor

Code

No

А

IN2

Future use

Mini, 4-pin,

male

Build the catalog string that provides the features and options your application needs.

	·		5	•				•			•			
	13	4 5	5 6	7	810	11	12 13	14	15	16	17 18	19 20	21 22 23	
	26G	1 1	1 F	D	022	J	A 4	Ν	Ν	Ν	N A	-M1 -IN	1 -SB -E41 -E51	
	a	b c	c d	е	f	g	h i	j	k	1	m n	0 p	q r s	-
		а						i					q	
Drive					Cover Mounted HIM						Brake Control Options			
Code Type				Code Type						Code	Brake Control ⁽¹⁾			
26G PowerFlex 755						4 UL Type 4X / IP66						SB	400/480V AC source brake, M24 output	
		Ь						j, k, l,	m				receptacle, 3-pin fem connector for brake	ale. No additional
Future Use					Future Use						B2	24V DC brake, M24 output receptacle, 3-pin female with 24V DC auxiliary power input, mini 4-pin, male		
Code Description						Code Description								
Future Use					N Future Use						B3	24V DC brake + servo motor output, M40 or		
	r uture obe						. uture obt	-				05	M23 output receptac	e, 6-pin, female with
		C						n					24V DC auxiliary pow	er input, mini 4-pin mal
Input Type						Safety Option Module - Slot 6						(1) Optio	ons SB and B2 are for use	with AC induction motors.
Code Description						Code Type						Option B3 is for use with Allen-Bradley MPM and MPL serv		
1 AC input with precharge, includes DC						A Network Integrated Safe Torque Off Module						motors.		
	terminals	,	,				(STO) S3			1				
						B ⁽¹⁾⁽²⁾⁽³⁾	Network I	ntegrated	d Safety I	Functio	n (SSM) S4		r	
d					Network Integrated Safety Function with							Encoder Type	- Slot 4	
	En	iclosure Ty	уре			C ⁽¹⁾⁽²⁾⁽⁴⁾	Brake Con	trol (S4)	,			Code	Type ⁽¹⁾	Receptacle
Code	UL Type 12 /	,	ype oor use or	lv)		N (1) late	None	Ft				E41	Incremental HTL, 12 DC	/ M23, Female, 12-Pin, 20° Coded
	or type 127			iiy)		5000	prated Safety V31.00 or hi	gher firmv	vare with	n Guard L	ogix 5580 or	E42	Hiperface SC	M23, Female, 12-pin, 20° Coded
		е					pact GuardLo	gix 5380 0	ontrollers	s for ariv	e safety	E43	SSI SC Rotary	M23, Female, 12-pin,
Voltage Rating Class					functions. (2) Options B and C require, at a minimum, selection of one of					tion of one of			20° Coded	
Code	// *				the following options: E42, E43, E44, E51, E52, E53, E55,						E44 ⁽²⁾	Dual Incremental	M23 (qty. 2), Female,	
C 400V AC, 50 Hz				E56.					N	HTL, 12V DC	12-pin, 20° Coded			
D 480V AC, 60 Hz				 (3) Option B provides two customer safety inputs, S0 and S1. (4) Option C uses the safety output S0 to provide control power 						Ν	None (Future Use)	None (Future Use)		
		f				•				-	•			AC induction motors only.
Normal Duty Drive Rating @ 400V AC, 50 Hz				to the brake circuit and provides one customer input S1. The S0 input is used internally to monitor the status of the						Option E42, E43, and E44 are for use with the AC induction and Allen-Bradley servo-motors.				
Code					brake contactor.						(2) Option E44 on-board P3 jumper is set to provide feedback			
P7	8.7 4 2					0						to an SSM Safety Option Module.		
11	11.5	5.5	2					Motor	Type					
15	15.4	7.5	2			Code Motor						S		
22	22.0	11	2	6 (011		M1	Induction	motor					Encoder Type	- Slot 5
	ormal Duty Driv					-	Allon Proc	dley MPL,			otor, for use	Code	Type ⁽¹⁾	Receptacle
Code	Amps	Нр		Frame	2	M2 ⁽¹⁾⁽²⁾	with 14 A	NG or 16	AWG mo	otor cab	le	E51	Hiperface SC	M23, Female, 12-pin,
P0	8.0	5	2			M2(2)(3)				ervo mo	otor, for use			20° Coded
11	11.0 14.0	7.5 10	2			M3 ⁽²⁾⁽³⁾	with 10 A					E52	Hiperface SC	AB servo motor bulk
14 22 ⁽¹⁾	22.0 / 14.0	10	2				on M2 selecte			g 022 con	figures the	552	Hinorford CC + CC	head
(2)						drive for Heavy Duty (HD) rating. 2) M2 and M3 are only available in 480V AC / 60 Hz.					E53	Hiperface SC + SSI Linear	M23 (qty. 2), Female, 12-pin, 20° Coded	
 Option 022 for 22A, 15HP, Normal Duty with induction motor or Allen-Bradley servo motor. Option 022 for 14A, 1010 Hours Particular to an anti- transfer of the server motor and the server of the serve				(3) Option M3 for use with Drive Rating 022 only.						E54	SSI Linear	M23, Female, 12-pin, 20° Coded		
10HP, Heavy Duty with servo motor only.					p Connector - AC Input Power and Control						E55	Hiperface SC + SSI Linear	AB servo motor bulk	
<i>g</i> Filtering and Common Mode Cap Configuration											200		head + M23, Female, 12-pin, 20° Coded	
Code	Filteri			lt Connec		Code	Inpu	ut Size / T	уре	Con	ntrol Size /	E56	SSI SC Rotary	M23, Female, 12-pin,
J Yes Jumper installed						IN1	M35 Aller	n-Bradley	r, 4-pin		Type 4-pin,	N	None	20° Coded None
		h					male			male				
						1112	F .	-				(1) Onti	on ES1 ES2 ES4 and ES6	are for use with AC

 Option E51, E53, E54, and E 56 are for use with AC induction motors. Option E52 and E55 are for use with Allen-Bradley servo motors.

Product Specifications

- 400V AC, 3-phase, 50 Hz normal duty ratings: - 8.7 A – 22 A; 4 kW – 11 kW*
- 480V AC, 3-phase, 60 Hz normal duty ratings:
- 8 A 14 A; 5 Hp 10 Hp*
- 22 A, 15 Hp (14 A, 10 Hp heavy duty when Motor Type = M2 selected)
- AC induction motor or servo motor** control
- Safety options:
 - Networked or hardwired Safe Torque Off
 - Networked Integrated Safety Functions
 - None
- Encoder feedback options:
 - Incremental HTL 12V DC
- SSI Linear Absolute
 - Dual Incremental 12V DC - Hiperface SC
 - SSI SC Rotary Absolute
- Hiperface SC + SSI Linear

Product Dimensions

Width	Depth	Height		
649.8 (25.58)	391.9 (15.43)	711.2 (28.0)		

Enclosure dimensions without mounting hardware in mm (inches)



Certifications

rockwellautomation.com

- c-UL-us, CE, RoHS, RCM, KCC
- TÜV Rheinland Functional Safety Certification applies to 20-750-S3 and 20-750-S4 safety options when installed in drive

See a complete list of certifications in publication 750-TD003

- Enclosure Type: IP66 / UL Type 12
- 65kA SCCR
- Ambient operating temperature: 0-40° C (32-104° F)
- Compatibility with ArmorConnect[®] cable media
- Multi-language product labels including English, Chinese, French, German, Portuguese, Romanian and Spanish
- DeviceLogix[™] control provides built-in drive capability to process logic locally and reduce demands on the controller and network

* For additional power ratings, contact Rockwell Automation. ** Allen-Bradley permanent magnet servo motor. Ask about availability.

Standard components on every packaged drive include:

- PowerFlex 755 flange-mount AC drive
- Branch circuit breaker with lockable through-cover rotary disconnect
- Control power and motor brake circuit breakers accessible via auxiliary circuit breaker door
- Front-mounted Human Interface Module (HIM) with enhanced LCD display and full numeric keypad
- Built-in dual M12 EtherNet/IP ports for linear, star or DLR network configurations
- · Quick connect receptacles for all your connections
- Four customer programmable digital inputs
- Dynamic brake thermostat input
- Brake contactor
- EMC filter
- Common mode input core as required for CE installations
- Common mode output core (in induction motor versions)
- Four collar studs for mounting of customer supplied equipment
- Lifting handles
- Hoist lifting/mounting brackets



expanding human possibility

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