Selection Guide

Allen-Bradley

Enclosed Pump Panel Solutions

NEMA Pump Panels, Soft Starters, and Drives

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THINK.
SOLVE.®

Allen-Bradley • Rockwell Software

Rockwell Automation

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Additional information for these product lines is available on the Industrial Controls Catalog and Drives Catalog web site: www.ab.com/catalogs.

Rockwell Automation offers a robust and complete range of Allen-Bradley pump panels to meet your application needs.
Our product offering includes durable direct-on-line (DOL) NEMA starters, the start/stop protection of Smart Motor Controllers (SMCs), and PowerFlex variable frequency drives. These pre-engineered designs offer solutions for a wide variety of pumping applications.

Applications

- Crop Irrigation
- Golf Course
- Oil & Gas Pumping
- Commercial Fish Farming
- Waste Water Treatment
- Marina Slip Power Hook-Ups

Which Solution is right for your Pumping Application?

NEMA Starters

NEMA pump panels provide a dependable and simple starting solution for pumping applications.

The NEMA panels, rated Type 3R (rainproof), are available with a NEMA starter or vacuum starter and standard features such as a fusible or circuit breaker disconnecting means, HOA selector switch, start push button, and an external reset. Additional factory installed options such as pilot lights, power monitor, and lightning arrestors are available.

Soft Starters

Smart Motor Controllers (SMCs) are ideal for limiting the inrush of current to the pump. This limits the stress on the system by reducing the torque during startup and helps to avoid pressure surges and water hammer.

The SMC-3 offers five start/stop modes and built-in overload protection. These pump panels are rated Type 3R and come standard with start push button, HOA selector switch, transformer, and external reset. Other factory installed options are available. The SMC-3 is a cost efficient full speed solution with basic control and easy startup.

Drives

PowerFlex AC drives offer selectable pump curves that provide reduced voltage patterns for pump loads. Proportional integral derivative (PID) controller allows a process variable to be maintained by automatically adjusting the output frequency. This allows the drive to be used in a wide range of simple to complex applications.

PowerFlex drive communication allows for easier integration, configuration, and system control. The PowerFlex drive solution offers full speed control in variable torque fan and pump applications.

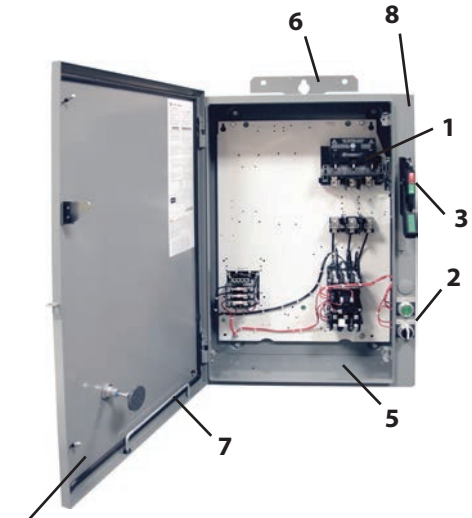
ProposalWorks

NEMA starters, SMCs, and variable frequency drives can be configured with ProposalWorks. This user-friendly tool allows the user to select desired options, access current pricing, and view related accessories and specifications.

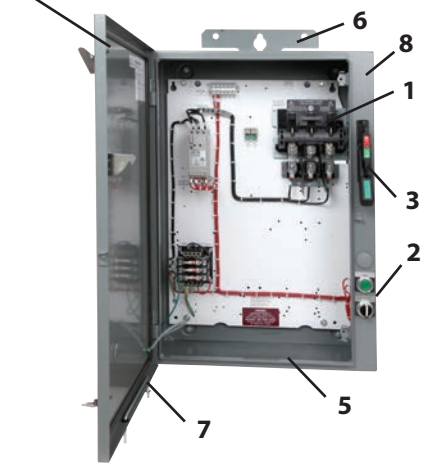
Product Feature Comparison

NEMA starters and SMC-3 soft starters use the same NEMA Type 3R enclosure

1. Fusible or circuit breaker disconnecting means
2. Standard with start push button, HOA selector switch, and reset button
3. Color-coded disconnect handle clearly identifies ON & OFF position for ease of operation; handle allows up to three padlocks for LOTO
4. Foam-in-place gasketing ensures a dust- and water-tight enclosure rating; Type 3R rating for outdoor use
5. Knockouts for ease of installations
6. Pole mounting bracket for easy installation
7. Door positioning rod holds door open even in windy conditions
8. Standard gray finish



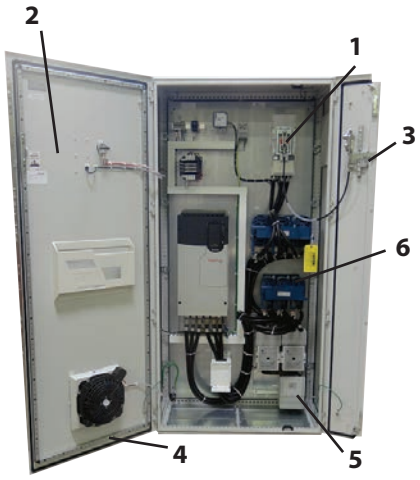
NEMA Starter



SMC-3 Pump Panel

PowerFlex 753/755 in Type 3R enclosure

1. Fusible or circuit breaker disconnecting means
2. Door-mounted HIM and variety of pilot devices
3. Color-coded disconnect handle clearly identifies ON & OFF position for ease of operation; handle allows up to three padlocks for LOTO
4. Foam-in-place gasketing ensures a dust- and water-tight enclosure rating; Type 3R rating for outdoor use
5. Bypass contactor
6. Line and load reactors

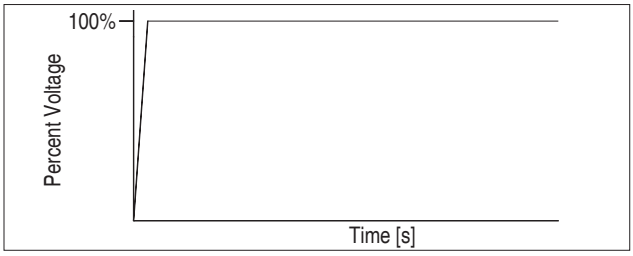


PowerFlex Drive

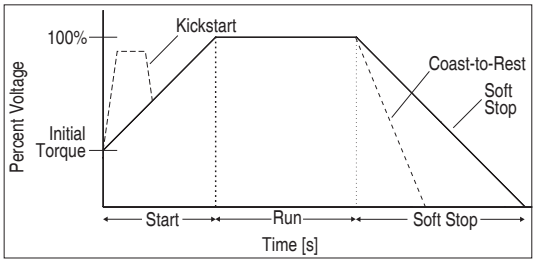
Motor Starting Comparison

Performance	NEMA Starter (DOL)	SMC-3 Controller (Softer Starter)	Variable Frequency Drive
Complexity	Basic starting and stopping only	Simple, customizable starting and stopping control	Complex, full control
Reduces torque and current inrush at startup, limits peak demand charges	—	Yes	Yes
Reduces motor wear & tear (slipping belts & wearing bearings)	—	Yes	Yes
Reduces water hammer in pumping applications	—	Reduces	Eliminates
Reduces transmission peak	—	Yes	Yes
Controlled stopping and starting	—	Yes	Yes
Speed control	• Full voltage	• Limited control at various speeds • Highly efficient when running at full speed	• Complete continuous control at any speed • Full torque at base speed (and below)
Setup	• Simple to set up • Reduced installation costs (smaller footprint, no need for harmonic, EMC mitigation)	• Simple to set up and adjust • Reduced installation costs (smaller footprint, no need for harmonic, EMC mitigation)	• Programming required • Larger footprint • Power line considerations • Application considerations (motor types, lead lengths, wire type, and ambient conditions)
Features	• Limited functionality unless used with advanced overload relay	• Soft start/voltage ramp starting (adjustable torque 0… 100%) • Kick start • Current limit motor starting (adjustable current limit 100…600%) • Soft stop • Integrated bypass • Built-in overload protection	• Energy saving benefits • PID controller allows a process variable to be maintained by automatically adjusting the output frequency • Selectable pump curves provide reduced voltage patterns for pump loads • Three programmable skip frequencies and bands • DriveTools™ SP software can be used to easily program, monitor, and control the drive • RS485 communications integral to base drive

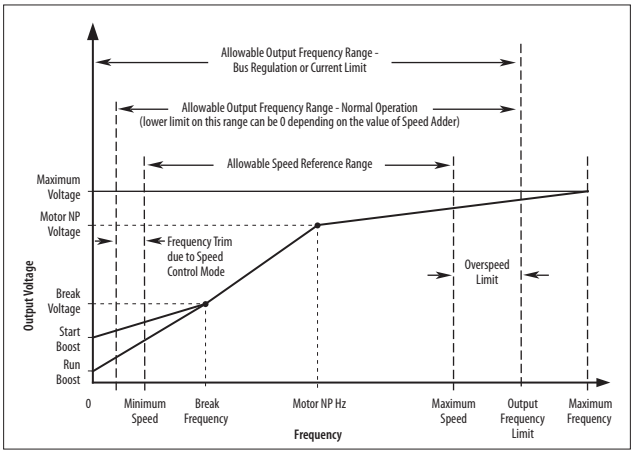
Operating Mode



NEMA Starter (DOL)



SMC-3 Controller (Softer Starter)



Variable Frequency Drive

NEMA Pump Panels

Overview/Cat. No. Explanation

NEMA Pump Panels

			
Bulletin	**1232/1233**	**1232X/1233X**	**1232V/1233V**
Features	Non-reversing starter	Non-reversing starter with extra panel space	Non-reversing vacuum starter
Disconnecting Means	• 1232 disconnect switch • 1233 circuit breaker	• 1232X disconnect switch • 1233X circuit breaker	• 1232V disconnect switch • 1233V circuit breaker
Type 3R — Painted Metal Enclosure Screw Fasteners	NEMA Size 1…3	NEMA Size 1…7	NEMA Size 4…6

Example Cat. No.

The information below is for reference purposes only. Not all combinations will produce a valid cat. no. Refer to the tables on the following pages for product selection.

1232	–	B		N		CD	–	A2E	–	1	–	24R	–	90
a		*b*		*c*		*d*		*e*				*f*		

a

Bulletin No.	
Bulletin No.	**Description**
1232	Pump panel with disconnect switch (Narrow) (Size 1…3)
1232X	Pump panel with disconnect switch (Extra space)
1232V	Pump panel with vacuum contactor and disconnect switch (Extra space)
1233	Pump panel with circuit breaker (Narrow) (Size 1…3)
1233X	Pump panel with circuit breaker (Extra space)
1233V	Pump panel with vacuum contactor and circuit breaker (Extra space) (Size 4…6)

b

Starter Size	
NEMA Size Code	**NEMA Size**
B	1
C	2
D	3
E	4
F	5
G	6
H	7

c

Enclosure Type	
N	Type 3R: Rainproof, painted metal enclosure with screw fasteners, external overload relay reset, and a non-metallic handle

d

Coil Voltage			
Voltage Code	**Description**	**Line Voltage [V]**	**Coil Voltage [V]**
H	Common Control (without transformer)	208	208
A		240	240
B		480	480
C		600	600
H	Transformer Control	208	120
A		240	120
B		480	120
C		600	120
HD	Separate Control (without transformer)	208	120
AD		240	120
BD		480	120
CD		600	120

e

Overload Relay	
Code	**Description**
None	Eutectic Alloy
See ab.com/catalogs, or publication A117-CA001.	Solid-State

f

Options
See ab.com/catalogs, or publication A117-CA001.

Note: Start push button, external reset, HOA, and transformer are included as standard with no option code necessary.

Bulletin 1232/1233, 1232X/1233X, and 1232V/1233V Pump Panels

NEMA pump control panels consist of a Bulletin 509 starter mounted in an enclosure.

- NEMA starter sizes 1…7
- Fusible or circuit breaker disconnect switch
- Overload relays: Eutectic supplied as standard, solid-state available as an option
- Painted metal enclosure
- Foam-in-place gasket on door
- Medium light grey (ANSI 49) finish; epoxy powder coating
- Modifications — factory installed
- Accessories — field installed
- Service entrance rated
- Ships in 3 business days (size 1…2), 5 business days (size 3…4), 7 business days (size 5…6). For size 7 pump panels, consult your local Rockwell Automation sales office or Allen-Bradley distributor for leadtime.

Additional Product Information

For additional product information, including product selection, accessories, options, specifications, and dimensions, please consult the Industrial Controls catalog at www.ab.com.catalogs.

Standards Compliance

UL 508
CSA 22.2, No. 14

Certifications

cULus Listed (File No. E125316, Guide No. NKJH, NKJH7)

Heater Elements — Starters with eutectic alloy overload relays require 3 heater elements. See the Industrial Controls catalog or www.ab.com/catalogs.

NEMA Size	Continuous Ampere Rating [A]	Maximum Horsepower Rating Full Load Current Must Not Exceed Continuous Ampere Rating — Motor Voltage 60 Hz 200V	60 Hz 230V	50 Hz 380…415V	60 Hz 460…575V	Line Voltage [V]	Fuse Clip Rating Amperes [A] Fuses not included. Select per NEC‡	Disconnect Switch Type 3R Rainproof with Narrow Enclosure Cat. No.★	Disconnect Switch Type 3R Rainproof with Extra Panel Space Cat. No.	Vacuum Contactor and Disconnect Switch Type 3R Rainproof with Extra Panel Space Cat. No.§
1	27	7-1/2	7-1/2	10	10	208…600	30	**1232-BN⊗-✪-24**	**1232X-BN⊗-✪-24R**	—
		7-1/2	7-1/2	10	10	208…600	60	**1232-BN⊗-✪-25**	**1232X-BN⊗-✪-25R**	—
2	45	10	15	25	25	208…600	60	**1232-CN⊗-✪-25**	**1232X-CN⊗-✪-25R**	—
		10	15	25	25	208…600	100	**1232-CN⊗-✪-26**	**1232X-CN⊗-✪-26J**	—
3	90	25	30	50	50	208…600	100	**1232-DN⊗-✪-26**	**1232X-DN⊗-✪-26R**	—
		25	30	50	50	208…600	200	**1232-DN⊗-✪-27**	**1232X-DN⊗-✪-27J**	—
4	135	40	50	75	100	208…600	200	—	**1232X-EN⊗-✪-27R**	1232V-EN⊗-✪-27R
		40	50	75	100	208…600	400	—	**1232X-EN⊗-✪-28J**	1232V-EN⊗-✪-28J
5	270	75	100	150	200	208…600	400	—	**1232X-FN⊗-✪-28R**	1232V-FN⊗-✪-28R
6	540	150	200	300	400	208…600	600★	—	1232X-GN⊗-✪-29R	1232V-GN⊗-✪-29R
7	810	—	300	500	600	240…600	1200	—	1232X-HN⊗-✪-25L	—

★ Class R fuse clips can be supplied as a factory option in place of Class H clips. To order Class R fuse clips, add an **R** after the cat. no. Example: **Cat. No. 1232-BN⊗-✪-24** becomes **Cat. No. 1232-BN⊗-✪-24R**. Class H fuse clips will accept Class R fuses. However, only Class R fuse clips are the rejection type which limit their use to Class R fuses. To order Class J fuse clips, add a **J** after the cat. no. Example: **Cat. No. 1232-BN⊗-✪-24** becomes **Cat. No. 1232-BN⊗-✪-24J.**

‡ Some applications may require time-delay fuses when this size fuse clip is used.

§ For 230V and 460V Hp ratings, limit the maximum fuse sizing to 125% of motor full load current.

⊗ Coil Voltage Code

The cat. no. as listed is incomplete. Select a coil voltage code from the table below to complete the cat. no.
Example: **Cat. No. 1232X-BN⊗-✪-24** becomes **Cat. No. 1232X-BNA-✪-24**. For other voltages, consult your local Rockwell Automation sales office or Allen-Bradley distributor.

	[V]	208	230…240	460…480	575…600
Common Control	AC, 60 Hz	**H**	**A**	**B**	**C**
Transformer Control					
120V Separate Control (without transformer)		**AD**	**AD**	**CD**	**CD**

✪ Overload Relay Code

Use to order solid-state overload relay. Do not use when ordering eutectic alloy overload relay. The cat. no. as listed is incomplete. Select an overload relay code from page 1-159 of the Industrial Controls Catalog to complete the cat. no.
Example: **Cat. No. 1232X-BNA-✪-24** becomes **Cat. No. 1232X-BNA-A2E-24**.

NEMA Pump Panels

Product Selection

Heater Elements — Starters with eutectic alloy overload relays require 3 heater elements. See the Industrial Controls catalog or www.ab.com/catalogs.

NEMA Size	Continuous Ampere Rating [A]★	Maximum Horsepower Rating Full Load Current Must Not Exceed Continuous Ampere Rating — Motor Voltage 200V	230V	460V	575V	Disconnect Switch — Type 3R Rainproof with Narrow Enclosure Cat. No.	Disconnect Switch — Type 3R Rainproof with Extra Panel Space Cat. No.	Vacuum Contactor and Disconnect Switch — Type 3R Rainproof with Extra Panel Space Cat. No.
1	27	0…1/3	0…1/3	—	—	**1233-BN⊗-✪-32**	**1233X-BN⊗-✪-32**	—
		1/2…1	1/2…1	0…1	0…1	**1233-BN⊗-✪-35**	**1233X-BN⊗-✪-35**	—
		1-1/2…3	1-1/2…3	1-1/2…3	1-1/2…3	**1233-BN⊗-✪-38**	**1233X-BN⊗-✪-38**	—
		5	—	—	—	**1233-BN⊗-✪-39**	**1233X-BN⊗-✪-39**	—
		7-1/2	5…7-1/2	5…7-1/2	5…7-1/2	**1233-BN⊗-✪-40**	**1233X-BN⊗-✪-40**	—
		—	—	10	10	**1233-BN⊗-✪-41**	**1233X-BN⊗-✪-41**	—
2	45	10	10	—	—	**1233-CN⊗-✪-41**	**1233X-CN⊗-✪-41**	—
		—	15	15	15	**1233-CN⊗-✪-42**	**1233X-CN⊗-✪-42**	—
		—	—	20…25	20…25	**1233-CN⊗-✪-44**	**1233X-CN⊗-✪-44**	—
3	90	15…25	25	—	—	**1233-DN⊗-✪-44**	**1233X-DN⊗-✪-44**	—
		—	30	—	30	**1233-DN⊗-✪-45**	**1233X-DN⊗-✪-45**	—
		—	—	30…50	40…50	**1233-DN⊗-✪-47**	**1233X-DN⊗-✪-47**	—
4	135	30	—	—	—	—	**1233X-EN⊗-✪-45**	1233V-EN⊗-✪-45T
		40	40	—	—	—	**1233X-EN⊗-✪-46**	1233V-EN⊗-✪-46T
		—	50	—	—	—	**1233X-EN⊗-✪-47**	1233V-EN⊗-✪-47T
		—	—	—	60	—	**1233X-EN⊗-✪-48**	1233V-EN⊗-✪-48T
		—	—	60…75	—	—	**1233X-EN⊗-✪-49**	1233V-EN⊗-✪-49T
		—	—	100	75…100	—	**1233X-EN⊗-✪-50**	1233V-EN⊗-✪-50T
5	270	50…60	—	—	—	—	**1233X-FN⊗-✪-48**	1233V-FN⊗-✪-48T
		75	60…75	—	—	—	**1233X-FN⊗-✪-49**	1233V-FN⊗-✪-49T
		—	100	—	—	—	**1233X-FN⊗-✪-50**	1233V-FN⊗-✪-50T
		—	—	—	125	—	**1233X-FN⊗-✪-51**	1233V-FN⊗-✪-51T
		—	—	125…150	—	—	**1233X-FN⊗-✪-52**	1233V-FN⊗-✪-52T
		—	—	200	150…200	—	**1233X-FN⊗-✪-54**	1233V-FN⊗-✪-54T
6	540	100	—	—	—	—	1233X-GN⊗-✪-50T	1233V-GN⊗-✪-50T
		125	125	—	—	—	1233X-GN⊗-✪-51T	1233V-GN⊗-✪-51T
		150	150	—	—	—	1233X-GN⊗-✪-52T	1233V-GN⊗-✪-52T
		—	200	—	—	—	1233X-GN⊗-✪-54T	1233V-GN⊗-✪-54T
		—	—	250	250	—	1233X-GN⊗-✪-56T	1233V-GN⊗-✪-56T
		—	—	300	300	—	1233X-GN⊗-✪-57T	1233V-GN⊗-✪-57T
		—	—	—	350	—	1233X-GN⊗-✪-58T	1233V-GN⊗-✪-58T
		—	—	350…400	400	—	1233X-GN⊗-✪-59T	1233V-GN⊗-✪-59T
7	810	—	250	—	—	—	1233X-HN⊗-✪-56T	—
		—	300	—	—	—	1233X-HN⊗-✪-57T	—
		—	—	450…500	—	—	1233X-HN⊗-✪-61T	—
		—	—	—	450…600	—	1233X-HN⊗-✪-62T	—

★ When controlling high efficiency motors – consult your local Rockwell Automation sales office or Allen-Bradley distributor for proper circuit breaker selection.

⊗ Coil Voltage Code

The cat. no. as listed is incomplete. Select a coil voltage code from the table below to complete the cat. no.
Example: **Cat. No. 1233X-BN⊗-✪-35** becomes **Cat. No. 1233X-BNB-✪-35**. For other voltages, consult your local Rockwell Automation sales office or Allen-Bradley distributor.

	[V]	208	230…240	460…480	575…600
Common Control	AC, 60 Hz	**H**	**A**	**B**	**C**
Transformer Control					
120V Separate Control (without transformer)		**HD**	**AD**	**BD**	**CD**

✪ Overload Relay Code

Use to order solid-state overload relay. Do not use when ordering eutectic alloy overload relay. The cat. no. as listed is incomplete. Select an overload relay code from page 1-159 of the Industrial Controls Catalog to complete the cat. no.
Example: **Cat. No. 1233X-BNB-✪-35** becomes **Cat. No. 1233X-BNB-A2E-35**.

Modifications for Combination Devices
For Use on Bulletins 1232X, 1232V, 1233X, and 1233V

Description of Modification			Suffix No.	Enclosure Type	NEMA Size 1	2	3	4	5	6	7
Pilot Devices in Cover or Flange											
Full Voltage Non-Reversing Single Speed Starters	START-STOP illuminated push button		1L 1L	1 3R/4/12, 4/4X	A A	A A	A A	A A	A A	NA NA	NA NA
	HAND-OFF-AUTO selector switch		3	3R/4/12, 4/4X	A	A	A	A	A	A	A
	PILOT LIGHT	Transformer Type — incandescent bulb	4★‡	1, 3R/4/12, 4/4X, 3R	A	A	A	A	A	A	A
		Transformer Type—LED bulb	4L★‡	1, 3R/4/12, 4/4X, 3R	A	A	A	A	A	A	A
	PUSH-TO-TEST PILOT LIGHT Transformer—incandescent bulb		5★‡	1, 3R/4/12, 4/4X, 3R Bolted	A	A	A	A	A	A	A
			5L★‡	1, 3R/4/12, 4/4X, 3R Bolted	A	A	A	A	A	A	A
Accessories	3-phase Powermonitor (Timemark Model 258)		400	1, 3R/4X/12, 4/4X, 3R	A	A	A	A	A	A	A
	Bracket Mounting Feet for Pump Panels§		424	3R	A	A	A	A	A	NA	NA
	Elapsed Time Meter (ENM - Series T50)		425	3R/4/4X/12	A	A	A	A	A	A	A

A = Available
NA = Not Available
★ "OFF" pilot lights for non-reversing and non-multi-speed applications require a normally closed auxiliary contact (-91).
‡ The suffix number is incomplete. Specify the lens with the following letters: **A** = Amber; **B** = Blue; **C** = Clear; **G** = Green; **W** = White.

SMC™ Smart Motor Controllers

		Available Through Modified Standards Program Only	
			
	SMC™-3	SMC™ Flex	SMC™-50
Features	200…600V 1…480 A	200…690V 1…1250 A	200…690V 90…520 A
Soft Start	S	S	S
Kickstart	S	S	S
Current Limit	S	S	S
Dual Ramp Start	—	S	S
Full Voltage	—	S	S
Energy Saver	—	—	S
Soft Stop	S	S	S
Pump Control	—	O	S
Preset Slow Speed	—	S	S
Linear Acceleration/Deceleration	—	S	S
Torque Control	—	—	S
SMB™ Smart Motor Braking	—	O	S
Accu-Stop™	—	O	S
Slow Speed with Braking	—	O	S
Integrated Bypass Contactor	S	S	NA♠
Integrated Motor Overload Protection	S	S	S
DPI Communication	—	S	S
Metering	—	S	S
Real Time Clock	—	—	S
Motor Winding Heater Function	—	‡	S
Diagnostic Faults and Alarms	—	S	S
Motor and Starter	—	—	S
Individual Bit Enable of Faults and Alarms	—	—	S
Automatic Tuning of Motor Parameters	—	—	S
Parameter Configuration/Programming	—	S	S★
Human Interface Module (HIM)	—	O	O★
Parameter Configruation Module	—	—	O★
Configuration Software: Drives Explorer and Drives Executive	—	O	O★
Digital I/O Expansion Module§♣	—	—	O
Analog I/O Expansion Module§♣	—	—	O
Ground Fault/CT/PTC Module§	—	—	O
Network Communications	—	O	O
Inside Delta Connection	S	S	S
Standards Compliance: CE Marked per Low Voltage Directive 73/23/EEC, 93/68/EEC CSA Certified (File No. LR 1234) UL Listed (File No. E96956)	S	S	S

S = Standard Feature, O = Optional Feature
‡ Option using a Bulletin 1410 motor winding heater.
♣ Starter ships with 2 24V DC inputs and 2 relay outputs as standard.
♠ The starter is fully solid-state (no integral bypass). An external bypass contactor can be added as an option.
★ Starter does not include a configuration device as standard.
§ With removable terminal block.

Modified Standards Program

The Modified Standards program is available to build customized SMC pump panels that include non-standard options or third-party devices. Special product needs typically supported include:

- SMC Flex and SMC-50 pump panels
- Additional pilot devices
- Custom enclosures
- Voltage meters, ammeters, and hour meters
- Shunt trip
- Control relays

Modified standards designs utilize the layouts and wiring practices of a standard product offering, providing a consistent panel appearance across multiple orders.

Bulletin 150 — SMC™-3 Smart Motor Controller

The SMC-3 is a compact, simple to use, solid-state motor controller designed to operate 3-phase motors. It features a built-in overload relay and a built-in SCR bypass contactor on all three phases, allowing a smaller footprint than other soft starters on the market. This product is designed for many applications, including compressors, chillers, pumps, conveyors, and crushers.

- Soft start
- Kick start
- Current limit start
- Soft stop
- 1…480 A range
- Fusible or circuit breaker disconnect switch
- Built-in electronic motor overload protection
- Built-in SCR/run bypass
- Inside delta compatibility
- Painted metal enclosure
- Foam-in-place gasket on door
- Medium light grey (ANSI 49) finish; epoxy powder coating
- Ships in 5 business days (25…201 A) or 10 business days (317…480 A)

Additional Product Information

For additional product information, including product selection, accessories, options, specifications, and dimensions, please consult the Industrial Controls catalog at www.ab.com.catalogs.

Standards Compliance

UL 508 (Open Type)
UL 508A (Enclosed Type)
CSA C22.2 No.14 (Open Type)

Certifications

cULus Listed (Open Type) (File No. E96956, Guides NMFT, NMFT7)
CSA Certified (Open Type) (File No. LR 1234)

Cat. No. Explanation

Combination

152H	–	C	30	X	BD	43	–	8L
a		*b*	*c*	*d*	*e*	*f*		*g*

a

Bulletin Number	
Code	Description
152H	Solid-State Controller with Fusible Disconnect
153H	Solid-State Controller with Circuit Breaker

b

Controller Type	
Code	Description
C	SMC-3

c

Ampere Ratings	
Code	Description
25	25 A
43	43 A
85	85 A
108	108 A
135	135 A
201	201 A
317	317 A
361	361 A
480	480 A

d

Enclosure Type	
Code	Description
X	NEMA Type 3R (IP44)

e

Input Line Voltage Open Type	
Code	Description
BD	400…460V AC, 3-Phase, 50/60 Hz

f

Horsepower			
Cat. No.	Hp Rating	Cat. No.	Hp Rating
41	10	49	75
42	15	50	100
43	20	51	125
44	25	52	150
45	30	56	250
46	40	57	300
47	50	58	350
48	60	59	400

g

Options	
Code	Description
8L	Line-Mounted Protective Module
8B	Line- and Load-Mounted Protective Modules

Note: Start push button, external reset, HOA, and transformer are included as standard with no option code necessary.

Rated Horsepower	Operating Voltage	Fusible Disconnect Cat. No.	Circuit Breaker Cat. No.
10	460	152H-C25XBD-41	153H-C25XBD-41
15		152H-C25XBD-42	153H-C25XBD-42
20		152H-C43XBD-43	153H-C43XBD-43
25		152H-C43XBD-44	153H-C43XBD-44
30		152H-C43XBD-45	153H-C43XBD-45
40		152H-C85XBD-46	153H-C85XBD-46
50		152H-C85XBD-47	153H-C85XBD-47
60		152H-C85XBD-48	153H-C85XBD-48
75		152H-C108XBD-49	153H-C108XBD-49
100		152H-C135XBD-50	153H-C135XBD-50
125		152H-C201XBD-51	153H-C201XBD-51
150		152H-C201XBD-52	153H-C201XBD-52
200		152H-C317XBD-54	153H-C317XBD-54
250		152H-C317XBD-56	153H-C317XBD-56
300		152H-C361XBD-57	153H-C361XBD-57
350		152H-C480XBD-58	—
400		152H-C480XBD-59	153H-C480XBD-59

Environmental Specifications	
Operating Temperature Range	-5…+40 °C (23…104 °F)
Storage and Transportation Temperature Range	-25…+85 °C (-13…+185 °F)
Altitude	2000 m (6560 ft)
Humidity	5…95% (non-condensing)

PowerFlex® 750-Series — Pre-Engineered FasTrac AC Drive

PowerFlex 753 and 755 Pre-engineered FasTrac Packaged Drives program provides PowerFlex 750-series drives packaged with a large offering of factory mounted options. The Pre-engineered FasTrac program lets you receive packaged PowerFlex 753 and 755 drives in as little as 20 business days.

The Pre-engineered FasTrac program is a separate, centrally managed program with these benefits:

- Proven, tested design
- Quality drives
- Quick turnaround
- Pre-engineered packages to ensure sizing, wiring, and calculations
- Available in an assortment of environmental protection enclosures - NEMA 1, 12, or 3R

Additional Product Information

For additional product information, including product selection, accessories, options, specifications, and dimensions, please consult the PowerFlex 753 and PowerFlex 755 Pre-Engineered FasTrac Packaged Drives Technical Data, publication 750-TD002.

Certifications

UL 508A (Enclosed Type)
CSA (Enclosed Type)

Cat. No. Explanation

24G	1	1	R	D	096	A	A	0	N	N	N	N	- ND
a	*b*	*c*	*d*	*e*	*f1...f2*	*g*	*h*	*i*	*j*	*k*	*l*	*m*	*n*

a

Drive	
Code	Type
24F	PowerFlex 753
24G	PowerFlex 755

b

Future Use

c

Input Type	
Code	Type
1	AC & DC Input with Precharge
A	AC Input w/ Precharge, no DC Terminals

d

Enclosure Type and Conformal Coating			
Code	Encl. Rating	Encl. Style	Conf. Coating
R	Type 3R	Single Drive	Yes

e

Version and Voltage Rating			
Code	Input Voltage	Source Type	DC Precharge
D	480 VAC	3 Phase	No
E	600 VAC	3 Phase	No

f1

Output Amps, Hp Ratings at 480V AC Input				
Code	Amps	ND Hp	HD Hp	Frame Size
2P1	2.1	1	0.75	1 or 2
3P4	3.4	2	1.5	1 or 2
5P0	5	3	3	1 or 2
8P0	8	5	5	1 or 2
011	11	7.5	5	1 or 2
014	14	10	7.5	1 or 2
022	22	15	10	2
027	27	20	15	3
034	34	25	20	3
040	40	30	25	3
052	52	40	30	4
065	65	50	40	4
077	77	60	50	5
096	96	75	60	5
125	125	100	75	6
156	156	125	100	6
186	186	150	125	6
248	248	200	150	6
302	302	250	200	7
361	361	300	250	7
415	415	350	300	7

Cat. No. Explanation continues on next page >>

f2

Output Amps, Hp Ratings at 600V AC Input				
Code	Amps	ND Hp	HD Hp	Frame Size
1P7	1.7	1	-	3
2P7	2.7	2	1	3
3P9	3.9	3	2	3
6P1	6.1	5	3	3
009	9	7.5	5	3
011	11	10	7.5	3
017	17	15	10	3
022	22	20	15	3
027	27	25	20	4
032	32	30	25	4
041	41	40	30	5
052	52	50	40	5
063	63	60	50	6
077	77	75	60	6
099	99	100	75	6
125	125	125	100	6
144	144	150	125	6
192	192	200	150	7
242	242	250	200	7
289	289	300	250	7

g

Filtering and Common Mode Capacitor Configuration		
Code	Filtering	Default CM Cap Connection
A	Yes	Jumper Removed
J	Yes	Jumper Installed

h

Dynamic Braking		
Code	Internal Resistor	Internal Transistor
A	No	Yes
N	No	No

i

Future Use

j

Feedback		
Code	Type	Installation Location
0	None	N/A
1	Standard Encoder	I/O Card

k

I/O		
Code	Type	Voltage
N	None	N/A
A	Standard	24V DC/AC
B	Standard	115V AC

l

Communication	
Code	Version
N	None
D	DeviceNet
R	RIO
C	ControlNet (Coax)
F	ControlNet (Fiber)
S	RS485 DF-1
H	RS485 HVAC
P	Profibus DPV1
I	Interbus
E	Ethernet
T	Dual-Port Ethernet/IP Communications

m

HIM	
Code	Version
0	No HIM - Blank Plastic Inserted (Drive Mount)
3	Full Numeric LCD HIM (Drive Mounted)
5	Programmer Only LCD HIM (Drive Mounted)
6	Door Mounted Full Numeric LCD HIM
7	Door Mounted Programmer Only LCD HIM

n

Options		
Code	Option	Type
-ND	Normal Duty	Duty Cycle
-HD	Heavy Duty	
-P3	Circuit Breaker	Input Devices
-P4	Drive/Bypass Mode Circuit Breaker	
-P6	Fused Disconnect	
-P7	Drive/Bypass Mode Fused Disconnect	
-L1	Input Reactor, 3%	Reactors
-L2	Output Reactor, 3%	
-L3	Input Reactor, 5%	
-L4	Output Reactor, 5%	
-H1	Lexan HIM Cover	Enclosure Options
-H2	Metallic HIM Cover (Solid Door)	
-E5	Enclosure Space Heater	
-B0	No Bypass	Bypass
-B1	Manual Bypass	
-C1	Drive Only Control Power	Control Power
-F5	Transient Voltage Surge Suppressor	Power Filtering
-S51	H/O/A Selector Switch (Start/Stop/Spd. Ref.)	Operator Devices
-S59W	Run Pilot Light (White)	
-S59G	Run Pilot Light (Green)	
-S59R	Run Pilot Light (Red)	
-S60R	Drive Fault Pilot Light (Red)	
-S60A	Drive Fault Pilot Light (Amber)	
-S68	Speed Potentiometer (1-Turn)	
-S53	Control Power On Pilot Light (White)	
-S54	Drive & Bypass Mode Pilot Lights (Amber)	
-S66	Drive/Bypass (B1, if present) Disable Mushroom Push button	

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