

Power/Brake Cable Descriptions (standard, non-flex)

Standard Cable Cat. No.	Description	Cable Configuration		Motor/Actuator Connector
		Motor/Actuator End	Drive End	
2090-CPBM7DF-xxAAxx	<ul style="list-style-type: none"> • Drive-end flying-leads (DF) • Power/brake wires (PB) 			SpeedTec DIN (M7)
2090-CPWM7DF-xxAAxx	<ul style="list-style-type: none"> • Drive-end flying-leads (DF) • Power wires only (PW) 			SpeedTec DIN (M7)
2090-XXNPMF-xxSxx	<ul style="list-style-type: none"> • Drive-end flying-leads • Power/brake wires 			Threaded DIN (M4)
2090-CPBM4E2-xxTR	<ul style="list-style-type: none"> • Drive-end bayonet (E2), transition (TR) cable ⁽¹⁾ • Motor-end threaded DIN (M4) • Power/brake wires (PB) 			Threaded DIN (M4)
2090-CPWM4E2-xxTR	<ul style="list-style-type: none"> • Drive-end bayonet (E2), transition (TR) cable ⁽¹⁾ • Motor-end threaded DIN (M4) • Power wires only (PW) 			Threaded DIN (M4)
2090-CPBM6DF-16AAxx	<ul style="list-style-type: none"> • Drive-end flying-leads (DF) • Power/brake wires (PB) 			Circular Plastic (M6)
2090-CPWM6DF-16AAxx	<ul style="list-style-type: none"> • Drive-end flying-leads (DF) • Power wires only (PW) 			Circular Plastic (M6)
2090-DANPT-16Sxx	<ul style="list-style-type: none"> • Drive-end flying-leads • Power wires only 			Rectangular Plastic
2090-DANBT-18Sxx	Drive-end flying-lead brake wires			Rectangular Plastic

(1) Threaded DIN connector (motor end) and bayonet connector for 2090-XXNFMP-Sxx cable. Refer to 2090-Series Motor Power and Feedback Transition Cables on [page 17](#).

Power/Brake Cable Descriptions (continuous-flex)

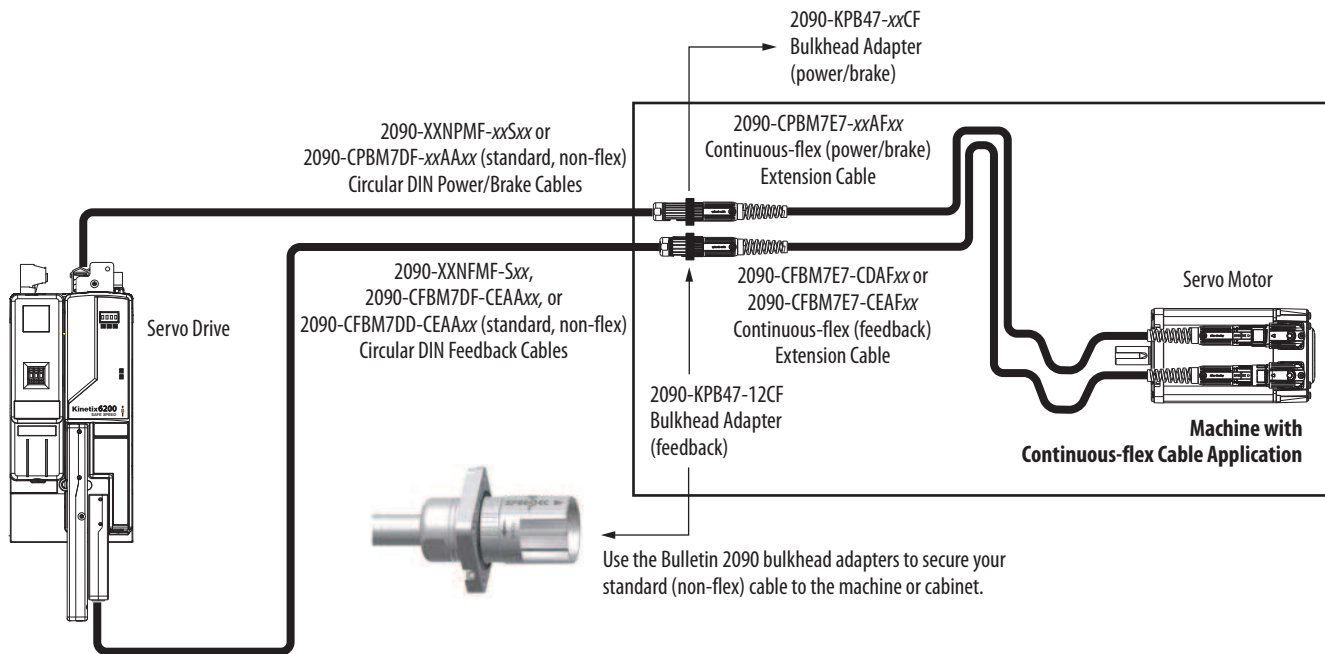
Continuous-flex Cable Cat. No.	Description	Cable Configuration		Motor/Actuator Connector
		Motor/Actuator End	Drive End	
2090-CPBM7DF-xxAFxx	<ul style="list-style-type: none"> • Drive-end flying-leads (DF) • Power/brake wires (PB) 			SpeedTec DIN (M7)
2090-CPWM7DF-xxAFxx	<ul style="list-style-type: none"> • Drive-end flying-leads (DF) • Power wires only (PW) 			SpeedTec DIN (M7)
2090-CPBM7E7-xxAFxx	<ul style="list-style-type: none"> • Drive-end (male) connector, extension (E7) ⁽¹⁾ • Motor-end SpeedTec DIN cable plug (M7) 			SpeedTec DIN (M7)
2090-CPBM4DF-xxAFxx	<ul style="list-style-type: none"> • Drive-end flying-leads (DF) • Power/brake wires (PB) 			Threaded DIN (M4)
2090-CPWM4DF-xxAFxx	<ul style="list-style-type: none"> • Drive-end flying-leads (DF) • Power wires only (PW) 			Threaded DIN (M4)

(1) SpeedTec DIN connector (motor end) and male connector for extending SpeedTec or threaded DIN cable. Refer to SpeedTec DIN Continuous-flex Extension Cables on [page 16](#).

SpeedTec DIN Continuous-flex Extension Cables

Motor power and feedback extension cables provide continuous-flex cable technology between your standard (non-flex) cable and the continuous-flex application. The IP rating for continuous-flex extension cables is consistent with the motor/actuator and cable combination they are extending. Extension cables are available in lengths up to 30 m (98.4 ft). Extension power cables are available in 16, 14, 10, and 8 AWG.

Typical Extension Cable Application with Bulkhead Adapter



Continuous-flex Extension Feedback Cables

Continuous-flex Cable Cat. No.	Description	Applications
2090-CFBM7E7-CDAFxx	Feedback extension cable, SpeedTec DIN (male/female) connectors	Intended for high-resolution or incremental encoder applications.
2090-CFBM7E7-CEAFxx		Intended for high-resolution encoder or resolver applications.

Continuous-flex Extension Power Cables

Continuous-flex Cable Cat. No.	Description
2090-CPBM7E7-16AFxx	Power/brake extension cable, SpeedTec DIN (male/female) connectors
2090-CPBM7E7-14AFxx	
2090-CPBM7E7-10AFxx	
2090-CPBM7E7-08AFxx	

Circular DIN Connector Compatibility Overview

Motors equipped with either threaded or SpeedTec circular DIN connectors are listed below. Circular DIN motor connectors rotate up to 180° and combine power and brake wires in the same connector.

Motor Connector/Cable Plug Compatibility

Motor/Actuator Cat. No.	Connector Type	Power-only or Power/Brake Cables	Feedback Cables
MPL-A/B15xxx and MPL-A/B2xxx MPL-A/B3xxx, MPL-A/B4xxx, MPL-A/B45xxx, MPL-A/B5xxx MPL-B6xxx, MPL-B8xxx, and MPL-B9xxx MPM-A/Bxxxx MPF-A/Bxxxx RDB-Bxxxx ⁽¹⁾ LDAT-Sxxxxxx-xDx and LDAT-Sxxxxxx-xBx ⁽¹⁾ MPAS-A/Bxxxx and MPMA-A/Bxxxx ⁽¹⁾ MPAR-A/Bxxxx MPAI-A/Bxxxx LDC-Cxxxxxx and LDL-xxxxxx ⁽¹⁾	SpeedTec-ready DIN	2090-CPxM7DF-xxAAxx 2090-CPxM7DF-xxAFxx	2090-CFBM7DF-CEAAxx 2090-CFBM7DD-CEAAxx 2090-CFBM7DF-CEAFxx 2090-CFBM7DD-CEAFxx 2090-CFBM7DF-CDAFxx
MPS-A/Bxxxx	SpeedTec-ready DIN with 3 m (9.8 ft) cable extensions		
HPK-B/Exxxxx	SpeedTec-ready DIN	Customer supplied	2090-CFBM7DF-CEAAxx 2090-CFBM7DD-CEAAxx 2090-CFBM7DF-CEAFxx 2090-CFBM7DD-CEAFxx

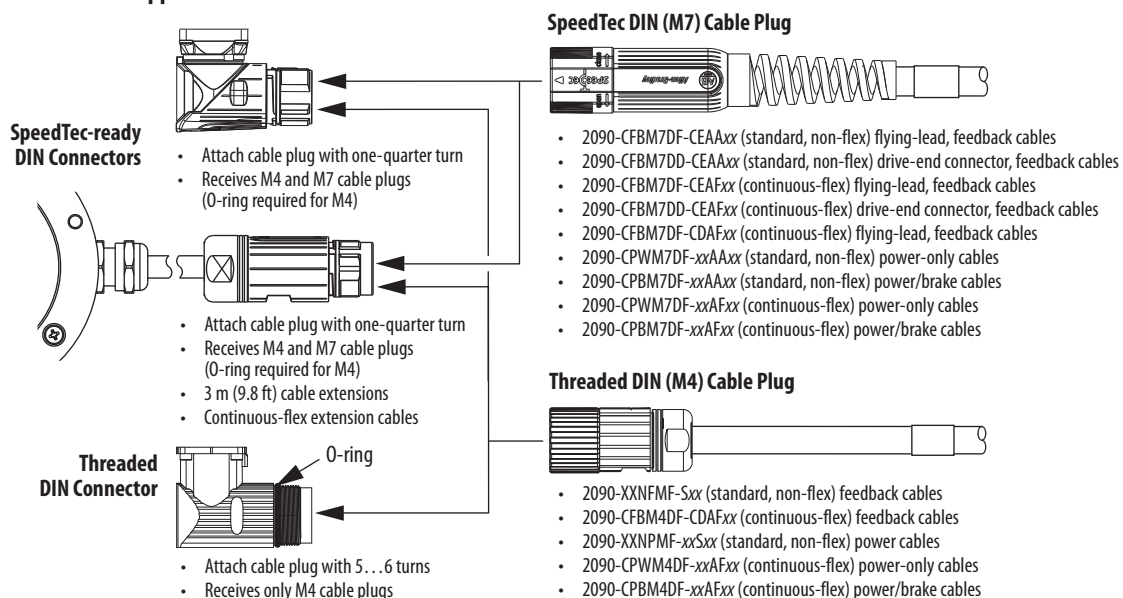
(1) The LDC-Series™ and LDL-Series™ linear motors, LDAT-Sxxxxxx-xBx linear thrusters, Bulletin MPAS and MPMA linear stages (direct-drive only), and Bulletin RDB direct-drive motors have SpeedTec-ready DIN (M7) motor connectors, but require the additional conductors included with 2090-CFBM7DF-CDAFxx (continuous-flex) and 2090-XXNFMF-Sxx standard (non-flex) cables.

IMPORTANT

Motors equipped with SpeedTec-ready DIN (M7) connectors are fully compatible with threaded DIN (M4) cable plugs.

- SpeedTec-ready DIN motor connectors are also compatible with SpeedTec DIN (M7/E7) extension cable plugs.
- Motors equipped with threaded DIN (M4) connectors are compatible with only threaded DIN (M4) cable plugs.

Typical Circular DIN Cable Applications



Technical Specifications - 2090-Series Motor/Actuator Cables

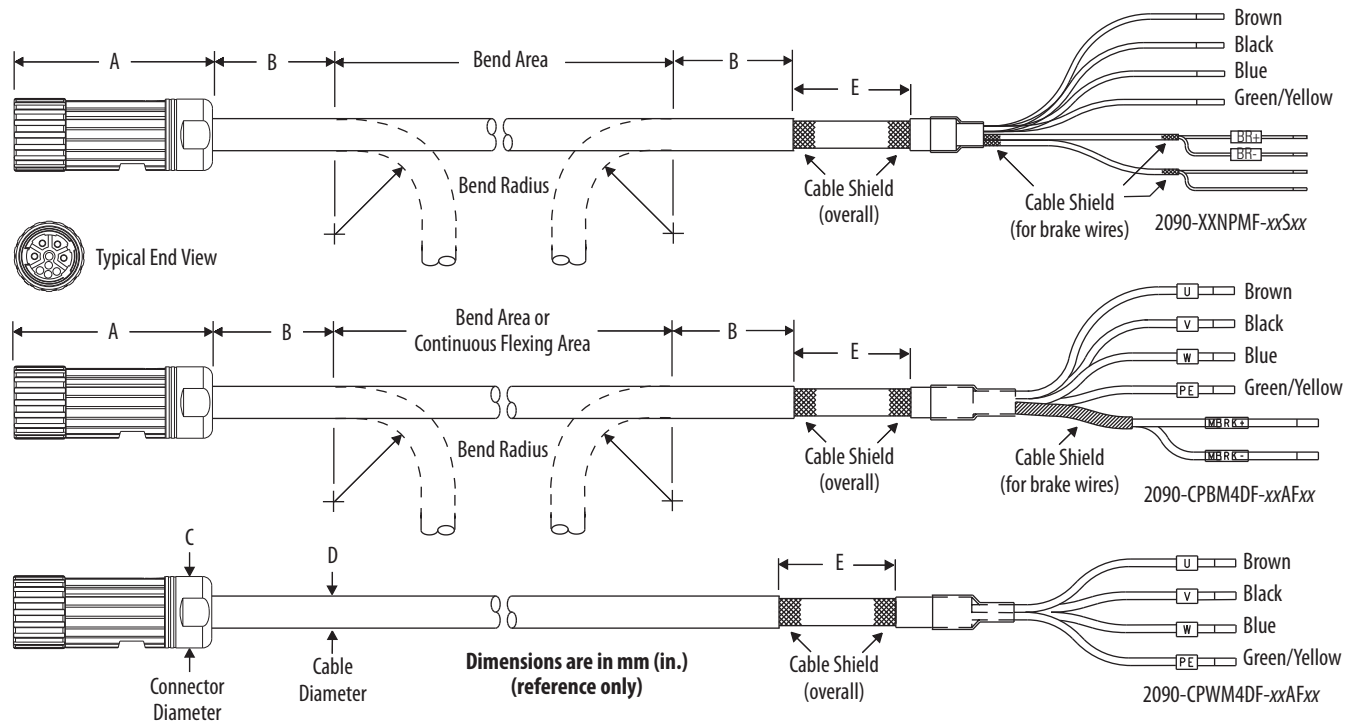
Power Cable Specifications

Power Cables ⁽¹⁾ Cat. No.	Cable Type/ Jacket Color	Description	Wire Size AWG	Weight, approx kg/m (lb/ft)	Standard Cable Lengths m (ft)	
2090-XXNPMF-16Sxx	Standard (non-flex) cable, Industrial TPE, Black	Four conductor, 600V, shielded cable for three-phase power with additional four conductors, 18 AWG, shielded, for motor brake and spares.	16	0.276 (0.186)	01 (3.2) 07 (22.9) 25 (82.0) 02 (6.5) 09 (29.5) 30 (98.4) 03 (9.8) 12 (39.4) 40 (131.2) 04 (13.1) 15 (49.2) 60 (196.8) 05 (16.4) 20 (65.6) 90 (295.3)	
2090-XXNPMF-14Sxx			14	0.315 (0.212)		
2090-CPBM7DF-16AAxx	Standard (non-flex) cable, Industrial TPE, Orange (DESINA, RAL 2003)	Four conductor, 600V, shielded cable for three-phase power with additional two conductors 18 AWG for motor brake.	16	0.212 (0.143)		
2090-CPBM7DF-14AAxx			14	0.261 (0.175)		
2090-CPBM7DF-12AAxx			12	0.349 (0.235)		
2090-CPBM7DF-10AAxx			10	0.492 (0.331)		
2090-CPBM7DF-08AAxx			8	0.708 (0.476)		
2090-CPBM7DF-06AAxx			6	1.038 (0.698)		
2090-CPBM7DF-04AAxx ⁽²⁾			4	1.549 (1.041)		
2090-CPBM7DF-02AAxx ⁽²⁾			2	2.166 (1.455)		
2090-CPWM7DF-16AAxx			Four conductor, 600V, shielded cable for three-phase power.	16		0.136 (0.091)
2090-CPWM7DF-14AAxx				14		0.185 (0.124)
2090-CPWM7DF-12AAxx	12	0.248 (0.167)				
2090-CPWM7DF-10AAxx	10	0.418 (0.281)				
2090-CPWM7DF-08AAxx	8	0.644 (0.433)				
2090-CPWM6DF-16AAxx	Standard (non-flex) cable, Industrial TPE, Black	Four conductor, 600V, shielded cable for three-phase power.		16		0.138 (0.093)
2090-DANPT-16Sxx			16			
2090-CPBM6DF-16AAxx	Continuous-flex cable Industrial TPE, Orange (DESINA, RAL 2003)	Four conductor, 600V, shielded cable for three-phase power with additional two conductors 18 AWG for motor brake.	16	0.180 (0.121)		
2090-CPBM4DF-16AFxx			16	0.228 (0.153)		
2090-CPBM7DF-16AFxx			16			
2090-CPBM7DF-14AFxx			14	0.289 (0.194)		
2090-CPBM7DF-10AFxx		10	0.513 (0.345)			
2090-CPBM7DF-08AFxx		8	0.697 (0.468)			
2090-CPWM4DF-16AFxx		Four conductor, 600V, shielded cable for three-phase power.	16	0.154 (0.104)		
2090-CPWM7DF-16AFxx			16			
2090-CPWM7DF-14AFxx			14	0.196 (0.132)		
2090-CPWM7DF-10AFxx			10	0.452 (0.304)		
2090-CPWM7DF-08AFxx			8	0.666 (0.448)		

(1) 2090-CPxM4DF-xxAxxx and 2090-CPxM7DF-xxAxxx power cables are UL Listed, bulk cable, type TC-ER.

(2) For this cable, the 01 and 02 m (3.2 and 6.5 ft) standard lengths do not apply.

Power Cable Dimensions (threaded DIN connector)



Power Cable Dimensions (standard, non-flex)

Power Cable Cat. No.	A mm (in.)	B ⁽¹⁾ mm (in.)	C mm (in.)	D mm (in.)	E mm (in.)
2090-XXNPMF-16Sxx	75 (2.9)	98.0 (3.8)	28.0 (1.1)	14.0 (0.55)	150 (5.9)
2090-XXNPMF-14Sxx		105 (4.1)		15.0 (0.59)	
2090-XXNPMF-10Sxx	96 (3.8)	133 (5.2)	45.0 (1.8)	19.0 (0.75)	

(1) Dimension B (static bend radius) is based on the cable diameter. Refer to Motor Power and Feedback Cable Bend Radius Definitions on page 32 for more information.

Power Cable Dimensions (continuous-flex rated)

Power Cable Cat. No.	A mm (in.)	B ⁽¹⁾ mm (in.)	Continuous Bend Radius ⁽¹⁾ mm (in.)	C mm (in.)	D mm (in.)	E mm (in.)
2090-CPBM4DF-16AFxx	75 (2.9)	87.5 (3.4)	150 (5.9)	28.0 (1.1)	12.5 (0.49)	150 (5.9)
2090-CPWM4DF-16AFxx		67.9 (2.7)	116 (4.6)		9.7 (0.38)	

(1) Dimension B (static bend radius) and Continuous Bend Radius are based on the cable diameter. Refer to Motor Power and Feedback Cable Bend Radius Definitions on page 32 for more information.

2090-Series Bulkhead Adapter Kits

These bulkhead adapter kits let you secure your cables as they pass through the cabinet. Adapter kits apply to 2090-Series motor/actuator cables and 2090-Series integrated drive-motor hybrid cables.

2090-Series Motor/Actuator Power Cable Compatibility

Bulkhead Adapter Cat. No.	Standard (non-flex) Power Cable Cat. No.	Continuous-flex Power Cable Cat. No.	Description		Connector Diameter mm (in.)	
2090-KPB47-12CF	2090-CPWM7DF-16AAxx	2090-CPWM7DF-16AFxx	Power only	SpeedTec DIN	28.0 (1.1)	
	2090-CPWM7DF-14AAxx	2090-CPWM7DF-14AFxx				
	2090-CPWM7DF-12AAxx	N/A				
	2090-CPBM7DF-16AAxx	2090-CPBM7DF-16AFxx	Power/brake			
	2090-CPBM7DF-14AAxx	2090-CPBM7DF-14AFxx				
	2090-CPBM7DF-12AAxx	N/A				
	N/A	2090-CPBM7E7-16AAxx				
	N/A	2090-CPBM7E7-14AAxx	Power only			
	N/A	2090-CPWM4DF-16AFxx	Power/brake			Threaded DIN
	N/A	2090-CPBM4DF-16AFxx				
	2090-XXNPMF-16Sxx	N/A				
2090-KPB47-06CF	2090-CPWM7DF-10AAxx	2090-CPWM7DF-10AFxx	Power only	SpeedTec DIN	45.0 (1.8)	
	2090-CPWM7DF-08AAxx	2090-CPWM7DF-08AFxx	Power/brake			
	2090-CPBM7DF-10AAxx	2090-CPBM7DF-10AFxx				
	2090-CPBM7DF-08AAxx	2090-CPBM7DF-08AFxx				
	2090-CPBM7DF-06AAxx	N/A				

2090-Series Motor/Actuator Feedback Cable Compatibility

Bulkhead Adapter Cat. No.	Standard (non-flex) Feedback Cable Cat. No.	Continuous-flex Feedback Cable Cat. No.	Description		Connector Diameter mm (in.)
2090-KPB47-12CF	2090-CFBM7DF-CEAAxx	2090-CFBM7DF-CEAFxx	Feedback	SpeedTec DIN	28.0 (1.1)
	2090-CFBM7DD-CEAAxx	2090-CFBM7DD-CEAFxx			
	N/A	2090-CFBM7DF-CDAFxx			
	N/A	2090-CFBM7E7-CDAFxx			
	N/A	2090-CFBM7E7-CEAFxx			
2090-KFB47-CF	2090-CFBM4DF-CEAAxx	N/A		Threaded DIN	26.0 (1.0)
	N/A	2090-CFBM4DF-CDAFxx			
	2090-XXNFMF-Sxx	N/A			

2090-Series Integrated Motor-Drive Hybrid Cable Compatibility

Bulkhead Adapter Cat. No.	Hybrid Cable Cat. No.	Description		Connector Diameter mm (in.)
2090-KPB47-12CF	2090-CHBIFS8-12AAxx	Hybrid	SpeedTec	25.4 (1.0)
	2090-CHBP8S8-12AAxx			