Motor-starter combinations

Combining a motor protective circuit breaker or circuit breaker with a contactor results in a motor starter according to coordination type "1" or "2". Both types of coordination safely control short-circuit by switching it off. Coordination type "2" starters offer a high degree of operational continuity: after the cause of the short circuit has been removed, they can be switched back on immediately.

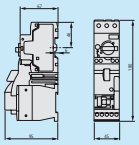
Motor-starter combination - motor starter up to 1400 A
Highest safety through proven combination in coordination type "1" or "2" +++ Approved combinations for export to North America

DOL starter and reversing starter MSC... – motor starter with motor-protective circuit-breaker PKZM0 up to 32A
Mounted starters minimize wiring time +++ Plug & Play with starters on busbar adapters +++ Attractive design for high-quality installations +++ Direct field bus connection through SmartWire-Darwin communication system via plug-in type protective module

DOL starter and reversing starter MSC-DE... – motor starter with electric motor-protective circuit-breaker PKE up to 32A
Increased safety through separate contact systems between switching and safety devices +++ Direct field bus connection through SmartWire-Darwin communication system via plug-in type protective module +++ Direct reading of motor current and state, transfer to subordinate control system through SmartWire-Darwin

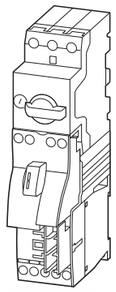
Conditions for fulfilling type of coordination
Coordination type: "1": Secure switching off of the entered short-circuit current I_q +++ No danger to personnel or installations in case of short-circuit +++ For further operation without repair and partial renewal, switch does not need to be suitable +++ Damage to the switch or individual components approved

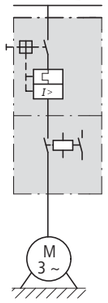
Coordination type: "2": Secure switching off of the entered short-circuit current I_q +++ No danger to personnel or installations in case of short-circuit +++ Switch remains suitable for further operation +++ No damage to switch, except to welds of protective contacts, when these can be easily separated without significant deformation

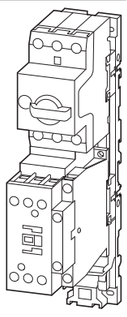


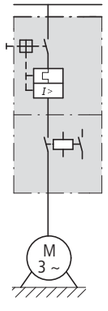
Ordering

Motor data				Setting range		Motor starters actuating voltage 230 V 50 Hz		Std. pack
Motor rating	Rated operational current	Rated short-circuit current		Overload trip	Short-circuit release	Part no. Article no.	Price See price list	
AC-3	AC-3	380 - 415 V	380 - 415 V					
380 V 400 V 415 V	400 V	Type "1" coordination	Type "2" coordination					
P kW	I_e A	I_q kA	I_q kA	I_r A	I_{rm} A			
Complete units MSC-D								
0.06	0.21	150	50	0.16 - 0.25	3.5	**MSC-D-0.25-M7(230V50HZ)**[1] 281925		1 off
0.09	0.31	150	50	0.25 - 0.4	5.6	**MSC-D-0.4-M7(230V50HZ)**[1] 281926		1 off
0.12 0.18	0.41 0.6	150	50	0.4 - 0.63	8.82	**MSC-D-0.63-M7(230V50HZ)**[1] 281927		1 off
0.25	0.8	150	50	0.63 - 1	14	**MSC-D-1-M7(230V50HZ)**[1] 281929		1 off
0.37 0.55	1.1 1.5	150	50	1 - 1.6	22.4	**MSC-D-1.6-M7(230V50HZ)**[1] 283140		1 off
0.75	1.9	150	50	1.6 - 2.5	35	**MSC-D-2.5-M7(230V50HZ)**[1] 283142		1 off
1.1 1.5	2.6 3.6	150	50	2.5 - 4	56	**MSC-D-4-M7(230V50HZ)**[1] 283143		1 off
2.2	5	150	50	4 - 6.3	88.2	**MSC-D-6.3-M7(230V50HZ)**[1] 283145		1 off
3	6.6	150	–	6.3 - 10	140	**MSC-D-10-M7(230V50HZ)** 283146		1 off
4	8.5	150	–	6.3 - 10	140	**MSC-D-10-M9(230V50HZ)** 283147		1 off
5.5	11.3	50	–	8 - 12	168	**MSC-D-12-M12(230V50HZ)** 283148		1 off
7.5	15.2	50	–	10 - 16	224	**MSC-D-16-M15(230V50HZ)** 100414		1 off
3 4	6.6 8.5	50	50	6.3 - 10	140	**MSC-D-10-M17(230V50HZ)** 101045		1 off
5.5	11.3	50	50	8 - 12	168	**MSC-D-12-M17(230V50HZ)** 101046		1 off
7.5	15.2	50	50	10 - 16	224	**MSC-D-16-M17(230V50HZ)**[1] 283150		1 off
11	21.7	50	50	20 - 25	350	**MSC-D-25-M25(230V50HZ)**[1] 283151		1 off
15	29.3	50	50	25 - 32	448	**MSC-D-32-M32(230V50HZ)**[1] 283152		1 off









Motor starters actuating voltage 24 V DC		Std. pack	Motor protective circuit breaker	Contactor	DOL starter wiring set	Notes
Part no. Article no.	Price See price list				Mechanical connection module and electrical contact module	
			Type	Type	Type	
MSC-D-0.25-M7(24VDC)[1] 283154		1 off	PKZM0-0,25	DILM7-10(...)	PKZM0-XDM12	The DOL starters (complete devices) consist of a motor protective circuit breaker PKZM0 and a contactor DILM. With the adapterless top-hat rail mounting of starters up to 15 A, only the motor-protective circuit-breaker on the top-hat rail requires an adapter. The contactors are provided with mechanical support via a mechanical connection element. Control wire guide with max. 6 conductors with up to 2.5 mm external diameter or 4 conductors up to 3.5 mm external diameter. From 16 A, the motor protective circuit breaker and contactors are mounted on the top-hat rail adapter plate. The connection of the main circuit between PKZ and contactor is established with electrical contact modules. When using auxiliary contacts DILA-XHIT… (→ 5/40) the electrical plugs can be pulled without having to remove the front mounting auxiliary contact. Cannot be combined with NHI-E-...-PKZ0-C standard auxiliary contact with spring-loaded terminal.
MSC-D-0.4-M7(24VDC)[1] 283155		1 off	PKZM0-0,4	DILM7-10(...)	PKZM0-XDM12	
MSC-D-0.63-M7(24VDC)[1] 283156		1 off	PKZM0-0,63	DILM7-10(...)	PKZM0-XDM12	
MSC-D-1-M7(24VDC)[1] 283158		1 off	PKZM0-1	DILM7-10(...)	PKZM0-XDM12	
MSC-D-1.6-M7(24VDC)[1] 283159		1 off	PKZM0-1,6	DILM7-10(...)	PKZM0-XDM12	
MSC-D-2.5-M7(24VDC)[1] 283161		1 off	PKZM0-2,5	DILM7-10(...)	PKZM0-XDM12	
MSC-D-4-M7(24VDC)[1] 283162		1 off	PKZM0-4	DILM7-10(...)	PKZM0-XDM12	
MSC-D-6.3-M7(24VDC)[1] 283164		1 off	PKZM0-6,3	DILM7-10(...)	PKZM0-XDM12	
MSC-D-10-M7(24VDC) 283165		1 off	PKZM0-10	DILM7-10(...)	PKZM0-XDM12	
MSC-D-10-M9(24VDC) 283166		1 off	PKZM0-10	DILM9-10(...)	PKZM0-XDM12	
MSC-D-12-M12(24VDC) 283167		1 off	PKZM0-12	DILM12-10(...)	PKZM0-XDM12	
MSC-D-16-M15(24VDC) 100415		1 off	PKZM0-16	DILM15-10(...)	PKZM0-XDM12	
MSC-D-10-M17(24VDC) 101047		1 off	PKZM0-10	DILM17-10(...)	PKZM0-XDM32	
MSC-D-12-M17(24VDC) 101048		1 off	PKZM0-12	DILM17-10(...)	PKZM0-XDM32	
MSC-D-16-M17(24VDC) 283168		1 off	PKZM0-16	DILM17-10(...)	PKZM0-XDM32	
MSC-D-25-M25(24VDC) 283169		1 off	PKZM0-25	DILM25-10(...)	PKZM0-XDM32	
MSC-D-32-M32(24VDC) 283170		1 off	PKZM0-32	DILM32-10(...)	PKZM0-XDM32	

Further information **Page**

Technical data PKZM0 → Chapter 7
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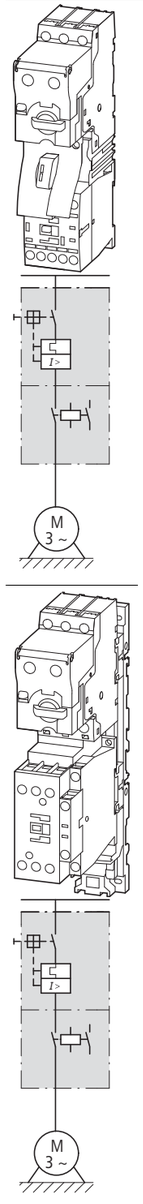
[1] To assemble Type F starters that conform with UL508, incoming terminals BK25/3-PKZ0-E and, if necessary, three-phase terminal blocks B3.../...-PKZ0 can be added to motor starter combinations. Type F starter → Page 8/34

Complete units MSC-US



Motor data			Setting range			Motor starters actuating voltage 230 V 50 Hz		Std. pack	Motor starters actuating voltage 24 V DC		Std. pack	Motor protective circuit breaker	Contactor	DOL starter wiring set	Notes
Rated operational power AC-3	Rated operational current AC-3	Rated short-circuit current	Overload trip	Short-circuit release	Type of coordination	Part no. Article no.	Price See price list		Part no. Article no.	Price See price list		Type	Type	Mechanical connection module and electrical contact module	
380 V 400 V 415 V	400 V	380 - 415 V													
P kW	I_e A	I_q kA	I_r A	I_{rm} A											
0.06	0.21	100	0.3 - 1.2	16.8	"1"	**MSC-DE-1.2-M7(230V50HZ)** 121735		1 off	**MSC-DE-1.2-M7(24VDC)** 121736		1 off	PKE12/XTU-1.2	DILM7-10(...)	PKZM0-XDM12	The DOL starters (complete devices) consist of a PKE motor protective circuit breaker and a DILM contactor. With the adapterless top-hat rail mounting of starters up to 15 A, only the motor protective circuit breaker on the top-hat rail requires an adapter. The contactors are provided with mechanical support via a mechanical connection element. Control wire guide with max. 6 conductors with up to 2.5 mm external diameter or 4 conductors up to 3.5 mm external diameter. From 16 A, the motor protective circuit breaker and contactor are mounted on the top-hat rail adapter plate. The connection of the main circuit between PKE and contactor is established with electrical contact modules. When using auxiliary contacts DILA-XHIT… (→ 5/40) the electrical plugs can be pulled without having to remove the front mounting auxiliary contact. Cannot be combined with standard auxiliary contact NHI-E-...-PKZ0-C with spring-loaded terminals.
0.09	0.31	100	0.3 - 1.2	16.8	"1"	**MSC-DE-1.2-M7(230V50HZ)** 121735		1 off	**MSC-DE-1.2-M7(24VDC)** 121736		1 off	PKE12/XTU-1.2	DILM7-10(...)	PKZM0-XDM12	
0.12	0.41	100	0.3 - 1.2	16.8	"1"	**MSC-DE-1.2-M7(230V50HZ)** 121735		1 off	**MSC-DE-1.2-M7(24VDC)** 121736		1 off	PKE12/XTU-1.2	DILM7-10(...)	PKZM0-XDM12	
0.18	0.6	100	0.3 - 1.2	16.8	"1"	**MSC-DE-1.2-M7(230V50HZ)** 121735		1 off	**MSC-DE-1.2-M7(24VDC)** 121736		1 off	PKE12/XTU-1.2	DILM7-10(...)	PKZM0-XDM12	
0.25	0.8	100	0.3 - 1.2	16.8	"1"	**MSC-DE-1.2-M7(230V50HZ)** 121735		1 off	**MSC-DE-1.2-M7(24VDC)** 121736		1 off	PKE12/XTU-1.2	DILM7-10(...)	PKZM0-XDM12	
0.37	1.1	100	0.3 - 1.2	16.8	"1"	**MSC-DE-1.2-M7(230V50HZ)** 121735		1 off	**MSC-DE-1.2-M7(24VDC)** 121736		1 off	PKE12/XTU-1.2	DILM7-10(...)	PKZM0-XDM12	
0.55	1.5	100	1 - 4	56	"1"	**MSC-DE-4-M7(230V50HZ)** 121737		1 off	**MSC-DE-4-M7(24VDC)** 121738		1 off	PKE12/XTU-4	DILM7-10(...)	PKZM0-XDM12	
0.75	1.9	100	1 - 4	56	"1"	**MSC-DE-4-M7(230V50HZ)** 121737		1 off	**MSC-DE-4-M7(24VDC)** 121738		1 off	PKE12/XTU-4	DILM7-10(...)	PKZM0-XDM12	
1.1	2.6	100	1 - 4	56	"1"	**MSC-DE-4-M7(230V50HZ)** 121737		1 off	**MSC-DE-4-M7(24VDC)** 121738		1 off	PKE12/XTU-4	DILM7-10(...)	PKZM0-XDM12	
1.5	3.6	100	1 - 4	56	"1"	**MSC-DE-4-M7(230V50HZ)** 121737		1 off	**MSC-DE-4-M7(24VDC)** 121738		1 off	PKE12/XTU-4	DILM7-10(...)	PKZM0-XDM12	
2.2	5	100	3 - 12	168	"1"	**MSC-DE-12-M7(230V50HZ)** 121739		1 off	**MSC-DE-12-M7(24VDC)** 121740		1 off	PKE12/XTU-12	DILM7-10(...)	PKZM0-XDM12	
3	6.6	100	3 - 12	168	"1"	**MSC-DE-12-M7(230V50HZ)** 121739		1 off	**MSC-DE-12-M7(24VDC)** 121740		1 off	PKE12/XTU-12	DILM7-10(...)	PKZM0-XDM12	
4	8.5	100	3 - 12	168	"1"	**MSC-DE-12-M9(230V50HZ)** 121741		1 off	**MSC-DE-12-M9(24VDC)** 121742		1 off	PKE12/XTU-12	DILM9-10(...)	PKZM0-XDM12	
5.5	11.3	100	3 - 12	168	"1"	**MSC-DE-12-M12(230V50HZ)** 121743		1 off	**MSC-DE-12-M12(24VDC)** 121744		1 off	PKE12/XTU-12	DILM12-10(...)	PKZM0-XDM12	
2.2	5	100	3 - 12	168	"1", "2"	**MSC-DE-12-M17(230V50HZ)** 121745		1 off	**MSC-DE-12-M17(24VDC)** 121746		1 off	PKE12/XTU-12	DILM17-10(...)	PKZM0-XDM32	
3	6.6	100	3 - 12	168	"1", "2"	**MSC-DE-12-M17(230V50HZ)** 121745		1 off	**MSC-DE-12-M17(24VDC)** 121746		1 off	PKE12/XTU-12	DILM17-10(...)	PKZM0-XDM32	
4	8.5	100	3 - 12	168	"1", "2"	**MSC-DE-12-M17(230V50HZ)** 121745		1 off	**MSC-DE-12-M17(24VDC)** 121746		1 off	PKE12/XTU-12	DILM17-10(...)	PKZM0-XDM32	
5.5	11.3	100	3 - 12	168	"1", "2"	**MSC-DE-12-M17(230V50HZ)** 121745		1 off	**MSC-DE-12-M17(24VDC)** 121746		1 off	PKE12/XTU-12	DILM17-10(...)	PKZM0-XDM32	
7.5	16.7	100	8 - 32	448	"1", "2"	**MSC-DE-32-M17(230V50HZ)** 121747		1 off	**MSC-DE-32-M17(24VDC)** 121748		1 off	PKE32/XTU-32	DILM17-10(...)	PKZM0-XDM32	
11	21.7	100	8 - 32	448	"1", "2"	**MSC-DE-32-M25(230V50HZ)** 121749		1 off	**MSC-DE-32-M25(24VDC)** 121750		1 off	PKE32/XTU-32	DILM25-10(...)	PKZM0-XDM32	
15	29.3	100	8 - 32	448	"1", "2"	**MSC-DE-32-M32(230V50HZ)** 121751		1 off	**MSC-DE-32-M32(24VDC)** 121752		1 off	PKE32/XTU-32	DILM32-10(...)	PKZM0-XDM32	

Further information

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Accessories PKE	→ 7/10
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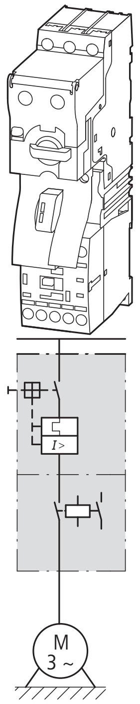
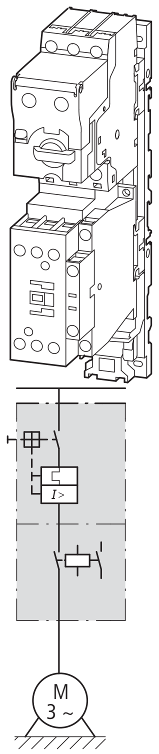
Complete units 400/415 V

MSC-DEA: PKE, DILM

HPL08006EN

Motor data			Setting range		
Rated operational power AC-3	Rated operational current AC-3	Rated short-circuit current	Overload trip	Short-circuit release	Type of coordination
380 V 400 V 415 V	400 V	380 - 415 V			
P	I_e	I_q	I_r	I_{rm}	
kW	A	kA	A	A	
Complete devices MSD-DEA					
0.06	0.21	100	0.3 - 1.2	16.8	"1"
0.09	0.31	100	0.3 - 1.2	16.8	"1"
0.12	0.41	100	0.3 - 1.2	16.8	"1"
0.18	0.6	100	0.3 - 1.2	16.8	"1"
0.25	0.8	100	0.3 - 1.2	16.8	"1"
0.37	1.1	100	0.3 - 1.2	16.8	"1"
0.55	1.5	100	1 - 4	56	"1"
0.75	1.9	100	1 - 4	56	"1"
1.1	2.6	100	1 - 4	56	"1"
1.5	3.6	100	1 - 4	56	"1"
2.2	5	100	3 - 12	168	"1"
3	6.6	100	3 - 12	168	"1"
4	8.5	100	3 - 12	168	"1"
5.5	11.3	100	3 - 12	168	"1"
2.2	5	100	3 - 12	168	"1", "2"
3	6.6	100	3 - 12	168	"1", "2"
4	8.5	100	3 - 12	168	"1", "2"
5.5	11.3	100	3 - 12	168	"1", "2"
7.5	16.7	100	8 - 32	448	"1", "2"
11	21.7	100	8 - 32	448	"1", "2"
15	29.3	100	8 - 32	448	"1", "2"





Complete units 400/415 V

MSC-DEA: PKE, DILM

HPL08007EN

Motor starters actuating voltage 24 V DC Part no. Article no.	Price See price list	Std. pack	Motor protective circuit breaker Type	Contactor Type	DOL starter wiring set Mechanical connection module and electrical contact module Type
MSC-DEA-1.2-M7(24VDC) 121753		1 off	PKE12/XTUA-1.2	DILM7-10(...)	PKZM0-XDM12
MSC-DEA-1.2-M7(24VDC) 121753		1 off	PKE12/XTUA-1.2	DILM7-10(...)	PKZM0-XDM12
MSC-DEA-1.2-M7(24VDC) 121753		1 off	PKE12/XTUA-1.2	DILM7-10(...)	PKZM0-XDM12
MSC-DEA-1.2-M7(24VDC) 121753		1 off	PKE12/XTUA-1.2	DILM7-10(...)	PKZM0-XDM12
MSC-DEA-1.2-M7(24VDC) 121753		1 off	PKE12/XTUA-1.2	DILM7-10(...)	PKZM0-XDM12
MSC-DEA-1.2-M7(24VDC) 121753		1 off	PKE12/XTUA-1.2	DILM7-10(...)	PKZM0-XDM12
MSC-DEA-4-M7(24VDC) 121754		1 off	PKE12/XTUA-4	DILM7-10(...)	PKZM0-XDM12
MSC-DEA-4-M7(24VDC) 121754		1 off	PKE12/XTUA-4	DILM7-10(...)	PKZM0-XDM12
MSC-DEA-4-M7(24VDC) 121754		1 off	PKE12/XTUA-4	DILM7-10(...)	PKZM0-XDM12
MSC-DEA-4-M7(24VDC) 121754		1 off	PKE12/XTUA-4	DILM7-10(...)	PKZM0-XDM12
MSC-DEA-12-M7(24VDC) 121755		1 off	PKE12/XTUA-12	DILM7-10(...)	PKZM0-XDM12
MSC-DEA-12-M7(24VDC) 121755		1 off	PKE12/XTUA-12	DILM7-10(...)	PKZM0-XDM12
MSC-DEA-12-M9(24VDC) 121756		1 off	PKE12/XTUA-12	DILM9-10(...)	PKZM0-XDM12
MSC-DEA-12-M12(24VDC) 121757		1 off	PKE12/XTUA-12	DILM12-10(...)	PKZM0-XDM12
MSC-DEA-12-M17(24VDC) 121758		1 off	PKE12/XTUA-12	DILM17-10(...)	PKZM0-XDM32
MSC-DEA-12-M17(24VDC) 121758		1 off	PKE12/XTUA-12	DILM17-10(...)	PKZM0-XDM32
MSC-DEA-12-M17(24VDC) 121758		1 off	PKE12/XTUA-12	DILM17-10(...)	PKZM0-XDM32
MSC-DEA-12-M17(24VDC) 121758		1 off	PKE12/XTUA-12	DILM17-10(...)	PKZM0-XDM32
MSC-DEA-32-M17(24VDC) 121759		1 off	PKE32/XTUA-32	DILM17-10(...)	PKZM0-XDM32
MSC-DEA-32-M25(24VDC) 121760		1 off	PKE32/XTUA-32	DILM25-10(...)	PKZM0-XDM32
MSC-DEA-32-M32(24VDC) 121761		1 off	PKE32/XTUA-32	DILM32-10(...)	PKZM0-XDM32

Notes

The DOL starters (complete devices) consist of a PKE motor protective circuit breaker and a DILM contactor.
With the adapterless top-hat rail mounting of starters up to 15 A, only the motor protective circuit breaker on the top-hat rail requires an adapter.
The contactors are provided with mechanical support via a mechanical connection element.
Control wire guide with max. 6 conductors with up to 2.5 mm external diameter or 4 conductors up to 3.5 mm external diameter.
From 16 A, the motor protective circuit breaker and contactor are mounted on the top-hat rail adapter plate.
The connection of the main circuit between PKE and contactor is established with electrical contact modules.
When using auxiliary contacts DILA-XHIT…
(→ 5/40) the electrical plugs can be pulled without having to remove the front mounting auxiliary contact.
Cannot be combined with standard auxiliary contact NHI-E-...-PKZ0-C with spring-loaded terminals.
The DOL starters MSC-DEA... are prepared for communication via SmartWire-Darwin. For this the SWD-PKE communication must be added.

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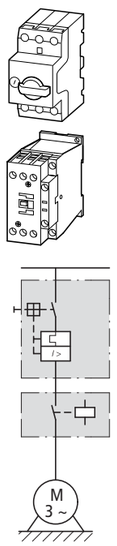
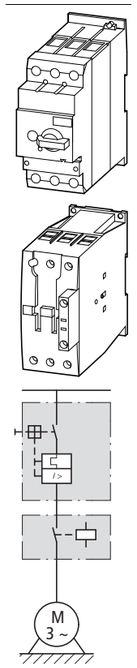
Motor data						Setting range				
Rated operational power		Rated operational current		Rated short-circuit current		Overload trip	Short-circuit release	Type of coordination	Part no. Article no.	Price See price list	Std. pack	Notes
AC-3		AC-3										
380 V 400 V 415 V	500 V	400 V	500 V	380 - 415 V	500 V							
P kW	P kW	I_e A	I_e A	I_q kA	I_q kA	I_r A	I_{rm} A					
Compact starter PKZ2												
0.18 0.25	0.25 0.37	0.8	0.6 0.9	100	100	0.6 - 1	8 - 14	"1"	**PKZ2/ZM-1/SE1A/11(230V50HZ,240V60HZ** 063364		1 off	The compact starters consist of a motor protective circuit breaker, which features a plug-in trip block and an attached contact module with matching profile. The devices are prefitted to a clip plate and can be snap fitted as a unit, centrally onto one or two IEC/EN 60715 top-hat rails. They conform with IEC/EN 60947-4-1 or VDE 0660 Part 102. I_q = rated conditional short-circuit current
0.37 0.55	0.55 0.75	1.1 1.5	1.2 1.5	100	100	1 - 1.6	14 - 22		**PKZ2/ZM-1.6/SE1A/11(230V50HZ,240V60** 063372			
0.75	1.1	1.9	2.1	100	100	1.6 - 2.4	20 - 35		**PKZ2/ZM-2.4/SE1A/11(230V50HZ,240V60** 063382			
1.1 1.5	1.5	2.65 3.6	2.9	100	100	2.4 - 4	35 - 55		**PKZ2/ZM-4/SE1A/11(230V50HZ,240V60HZ** 063392			
2.2	2.2 3	5	4 5.3	100	100	4 - 6	50 - 80		**PKZ2/ZM-6/SE1A/11(230V50HZ,240V60HZ** 063402			
3 4	4 5.5	6.6 8.5	6.8 9	100	7	6 - 10	80 - 140		**PKZ2/ZM-10/SE1A/11(230V50HZ,240V60)** 063412			
5.5 7.5	7.5	11.3 15.2	12.1	100	7	10 - 16	130 - 220		**PKZ2/ZM-16/SE1A/11(230V50HZ,240V60)** 063422			
11	11 15	21.7	17.4 23.4	30	7	16 - 25	200 - 350		**PKZ2/ZM-25/SE1A/11(230V50HZ,240V60)** 063432			
15	18.5	29.3	28.9	30	7	24 - 32	275 - 425		**PKZ2/ZM-32/SE1A/11(230V50HZ,240V60)** 063442			
18.5	22	36	33	30	7	32 - 40	350 - 500		**PKZ2/ZM-40/SE1A/11(230V50HZ,240V60)** 063452			
High-capacity compact starter PKZ2												
0.18 0.25	0.25 0.37	0.8	0.6 0.9	100	100	0.6 - 1	8 - 14	"2"	**PKZ2/ZM-1/S(230V50HZ,240V60HZ)** 063472		1 off	The high-capacity compact starters consist of a motor protective circuit breaker and an attached contact module with matching profile. The devices are prefitted to a clip plate and can be snap fitted as a unit, centrally onto one or two IEC/EN 60715 top-hat rails. They conform with IEC/EN 60947-4-1 or VDE 0660 Part 102. I_q = rated conditional short-circuit current
0.37 0.55	0.55 0.75	1.1 1.5	1.2 1.5	100	100	1 - 1.6	14 - 22		**PKZ2/ZM-1.6/S(230V50HZ,240V60HZ)** 063482			
0.75	1.1	1.9	2.1	100	100	1.6 - 2.4	20 - 35		**PKZ2/ZM-2.4/S(230V50HZ,240V60HZ)** 063492			
1.1 1.5	1.5	2.6 3.6	2.9	100	100	2.4 - 4	35 - 55		**PKZ2/ZM-4/S(230V50HZ,240V60HZ)** 063502			
2.2	2.2 3	5	4 5.3	100	100	4 - 6	50 - 80		**PKZ2/ZM-6/S(230V50HZ,240V60HZ)** 063512			
3 4	4 5.5	6.6	6.8 9	100	100	6 - 10	80 - 140		**PKZ2/ZM-10/S(230V50HZ,240V60HZ)** 063522			
5.5 7.5	7.5	11.3 15.2	12.1	100	100	10 - 16	130 - 220		**PKZ2/ZM-16/S(230V50HZ,240V60HZ)** 063532			
11	11 15	21.7	17.4 23.4	100	100	16 - 25	200 - 350		**PKZ2/ZM-25/S(230V50HZ,240V60HZ)** 063542			
15	18.5	29.3	28.9	100	100	24 - 32	275 - 425		**PKZ2/ZM-32/S(230V50HZ,240V60HZ)** 063552			
18.5	22	36	33	100	100	32 - 40	350 - 500		**PKZ2/ZM-40/S(230V50HZ,240V60HZ)** 063562			

Motor data				Setting range	
Rated operational power	Rated operational current	Rated short-circuit current		Overload trip	Short-circuit release
AC-3	AC-3	380 - 415 V	380 - 415 V		
380 V 400 V 415 V	400 V	Type “1” coordination	Type “2” coordination		
P	I_e	I_q	I_q	I_r	I_{rm}
kW	A	kA	kA	A	A
Modules PKZM0 and DILM					
0.06	0.21	150	50	0.16 - 0.25	3.5
0.09	0.31	150	50	0.25 - 0.4	5.6
0.12	0.41	150	50	0.4 - 0.63	8.82
0.18	0.6	150	50	0.4 - 0.63	8.82
0.25	0.8	150	50	0.63 - 1	14
0.37	1.1	150	50	1 - 1.6	22.4
0.55	1.5	150	50	1 - 1.6	22.4
0.75	1.9	150	50	1.6 - 2.5	35
1.1	2.6	150	50	2.5 - 4	56
1.5	3.6	150	50	2.5 - 4	56
2.2	5	150	50	4 - 6.3	88.2
3	6.6	150	50	6.3 - 10	140
4	8.5	150	50	6.3 - 10	140
5.5	11.3	50	50	8 - 12	168
7.5	15.2	50	50	10 - 16	224
11	21.7	50	50	20 - 25	350
15	29.3	50	50	25 - 32	448



Modules PKZM4 and DILM

5.5	11.3	50	50	10 - 16	224
7.5	15.2	50	50	10 - 16	224
11	21.7	50	50	20 - 25	350
15	29.3	50	50	25 - 32	448
18.5	36	50	50	32 - 40	560
22	41	50	50	40 - 50	700
30	55	50	50	50 - 58	812
34	63	50	50	55 - 65	882



Motor protective circuit breaker	Contactor	Contactor	Notes
	Type “1” coordination	Type “2” coordination	
Type	**Type**	**Type**	
PKZM0-0,25	DILM7-...(...)	DILM7-...(...)	The motor-starter combinations consist of the motor protective circuit breaker or a circuit breaker and a contactor. They conform with IEC/EN 60947-4-1 or VDE 0660 Part 102. I_q = conditional rated current
PKZM0-0,4	DILM7-...(...)	DILM7-...(...)	
PKZM0-0,63	DILM7-...(...)	DILM7-...(...)	
PKZM0-0,63	DILM7-...(...)	DILM7-...(...)	
PKZM0-1	DILM7-...(...)	DILM7-...(...)	
PKZM0-1,6	DILM7-...(...)	DILM7-...(...)	
PKZM0-1,6	DILM7-...(...)	DILM7-...(...)	
PKZM0-2,5	DILM7-...(...)	DILM7-...(...)	
PKZM0-4	DILM7-...(...)	DILM7-...(...)	
PKZM0-4	DILM7-...(...)	DILM7-...(...)	
PKZM0-6,3	DILM7-...(...)	DILM7-...(...)	
PKZM0-10	DILM7-...(...)	DILM17-...(...)	
PKZM0-10	DILM9-...(...)	DILM17-...(...)	
PKZM0-12	DILM12-...(...)	DILM17-...(...)	
PKZM0-16	DILM15-...(...)	DILM17-...(...)	
PKZM0-25	DILM25-...(...)	DILM25-...(...)	
PKZM0-32	DILM32-...(...)	DILM32-...(...)	

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PKZM4-16	DILM17-...(...)	DILM17-...(...)	The motor-starter combinations consist of the motor protective circuit breaker or a circuit breaker and a contactor. They conform with IEC/EN 60947-4-1 or VDE 0660 Part 102. I_q = conditional rated current
PKZM4-16	DILM17-...(...)	DILM17-...(...)	
PKZM4-25	DILM25-...(...)	DILM25-...(...)	
PKZM4-32	DILM32-...(...)	DILM32-...(...)	
PKZM4-40	DILM40(...)	DILM40(...)	
PKZM4-50	DILM50(...)	DILM50(...)	
PKZM4-58	DILM65(...)	DILM65(...)	
PKZM4-63	DILM65(...)	DILM65(...)	

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Motor data				Setting range	
Rated operational power	Rated operational current	Rated short-circuit current		Overload trip	Short-circuit release
AC-3	AC-3	500 V	500 V		
500 V	500 V	Type “1” coordination	Type “2” coordination		
P	I_e	I_q	I_q	I_r	I_{rm}
kW	A	kA	kA	A	A
Modules PKZM0 and DILM					
0.06	0.17	100	50	0.16 - 0.25	3.5
0.09	0.25	100	50	0.25 - 0.4	5.6
0.12	0.33	100	50	0.25 - 0.4	5.6
0.18	0.48	100	50	0.4 - 0.63	8.8
0.25	0.7	100	50	0.63 - 1	14
0.37	0.9	100	50	0.63 - 1	14
0.55	1.2	100	50	1 - 1.6	22
0.75	1.5	100	50	1 - 1.6	22
1.1	2.1	100	50	1.6 - 2.5	35
1.5	2.9	100	50	2.5 - 4	56
2.2	4	42	18	4 - 6.3	88
2.2	4	–	50	4 - 6.3	88
3	5.3	42	18	4 - 6.3	88
3	5.3	–	50	4 - 6.3	88
4	6.8	42	18	6.3 - 10	140
4	6.8	–	50	6.3 - 10	140
5.5	9	42	18	6.3 - 10	140
5.5	9	–	50	6.3 - 10	140
6.5	10.6	42	18	8 - 12	168
6.5	10.6	–	50	8 - 12	168
7.5	12.1	15	18	10 - 16	224
7.5	12.1	–	50	10 - 16	224
11	17.4	6	–	16 - 20	280
11	17.4	15	–	16 - 20	280
15	23.4	6	–	20 - 25	350
15	23.4	15	–	20 - 25	350
18.5	28.9	6	–	25 - 32	448
18.5	28.9	15	–	25 - 32	448
Modules PKZM4 and DILM					
11	17.4	50	50	16 - 25	350
15	23.4	50	50	16 - 25	350
18.5	28.9	50	50	25 - 32	448
22	33	50	50	32 - 40	560
30	44	50	50	40 - 50	700
37	54	50	50	50 - 58	812
45	65	50	50	55 - 65	882

Motor protective circuit breaker	Contactor	Contactor	Current limiter	Notes
	Type “1” coordination	Type “2” coordination		
Type	**Type**	**Type**	**Type**	
PKZM0-0,25	DILM7-...(...)	DILM7-...(...)	–	The motor-starter combinations consist of the motor protective circuit breaker or a circuit breaker and a contactor. They conform with IEC/EN 60947-4-1 or VDE 0660 Part 102. I_q = rated conditional short-circuit current.
PKZM0-0,4	DILM7-...(...)	DILM7-...(...)	–	
PKZM0-0,4	DILM7-...(...)	DILM7-...(...)	–	
PKZM0-0,63	DILM7-...(...)	DILM7-...(...)	–	
PKZM0-1	DILM7-...(...)	DILM7-...(...)	–	
PKZM0-1	DILM7-...(...)	DILM7-...(...)	–	
PKZM0-1,6	DILM7-...(...)	DILM7-...(...)	–	
PKZM0-1,6	DILM7-...(...)	DILM7-...(...)	–	
PKZM0-2,5	DILM7-...(...)	DILM17-...(...)	–	
PKZM0-4	DILM7-...(...)	DILM17-...(...)	–	
PKZM0-6,3	DILM7-...(...)	DILM17-...(...)	–	
PKZM0-6,3	–	DILM17-...(...)	CL-PKZ0	
PKZM0-6,3	DILM7-...(...)	DILM17-...(...)	–	
PKZM0-6,3	–	DILM17-...(...)	CL-PKZ0	
PKZM0-10	DILM9-...(...)	DILM17-...(...)	–	
PKZM0-10	–	DILM17-...(...)	CL-PKZ0	
PKZM0-10	DILM9-...(...)	DILM17-...(...)	–	
PKZM0-10	–	DILM17-...(...)	CL-PKZ0	
PKZM0-12	DILM12-...(...)	DILM17-...(...)	–	
PKZM0-12	–	DILM17-...(...)	CL-PKZ0	
PKZM0-16	DILM17-...(...)	DILM17-...(...)	–	
PKZM0-16	–	DILM17-...(...)	CL-PKZ0	
PKZM0-20	DILM25-...(...)	–	–	
PKZM0-20	DILM25-...(...)	–	CL-PKZ0	
PKZM0-25	DILM25-...(...)	–	–	
PKZM0-25	DILM25-...(...)	–	CL-PKZ0	
PKZM0-32	DILM32-...(...)	–	–	
PKZM0-32	DILM32-...(...)	–	CL-PKZ0	

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PKZM4-25	DILM40(...)	DILM40(...)	–	The motor-starter combinations consist of the motor protective circuit breaker or a circuit breaker and a contactor. They conform with IEC/EN 60947-4-1 or VDE 0660 Part 102. I_q = rated conditional short-circuit current.
PKZM4-25	DILM40(...)	DILM40(...)	–	
PKZM4-32	DILM40(...)	DILM40(...)	–	
PKZM4-40	DILM40(...)	DILM40(...)	–	
PKZM4-50	DILM50(...)	DILM50(...)	–	
PKZM4-58	DILM65(...)	DILM65(...)	–	
PKZM4-63	DILM65(...)	DILM65(...)	–	

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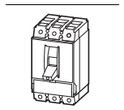
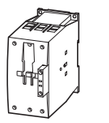
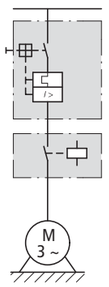
Motor data			Setting range		Circuit-breaker	Contactor Type “1” coordination	Contactor Type “2” coordination	Notes
Rated operational power	Rated operational current	Rated short-circuit current	Overload trip	Short-circuit release				
AC-3	AC-3							
380 V 400 V 415 V	400 V	400/415 V						
P	I_e	I_q	I_r	I_{rm}	Type	Type	Type	
kW	A	kA	A	A				
Modules NZMN and DILM								
18.5	36	50	32 - 40	320 - 560	NZMN1-M40	DILM40(…)	DILM80(…)	The motor-starter combinations consist of the motor protective circuit breaker or a circuit breaker and a contactor. They conform with IEC/EN 60947-4-1 or VDE 0660 Part 102. I_q = conditional rated current
22	41	50	40 - 50	400 - 700	NZMN1-M50	DILM50(…)	DILM80(…)	
30	55	50	50 - 63	504 - 882	NZMN1-M63	DILM65(…)	DILM80(…)	
37	68	50	63 - 80	640 - 1120	NZMN1-M80	DILM80(…)	DILM80(…)	
45	81	50	80 - 100	800 - 1250	NZMN1-M100	DILM95(…)	DILM95(…)	
55	99	50	80 - 100	800 - 1250	NZMN1-M100	DILM115(…)	DILM115(…)	
75	134	50	125 - 160	1280 - 2240	NZMN2-M160	DILM150(…)	DILM150(…)	
90	161	50	160 - 200	1600 - 2500	NZMN2-M200	DILM185A/22(…)	DILM185A/22(…)	
110	196	50	160 - 200	1600 - 2500	NZMN2-M200	DILM225A/22(…)	DILM225A/22(…)	
132	231	50	175 - 350	350 - 4900	NZMN3-ME350	DILM250/22(…)	DILM250/22(…)	
160	279	50	175 - 350	350 - 4900	NZMN3-ME350	DILM300A/22(…)	DILM300A/22(…)	
200	349	50	175 - 350	350 - 4900	NZMN3-ME350	DILM400/22(…)	DILM400/22(…)	
250	437	50	225 - 450	450 - 6300	NZMN3-ME450	DILM500/22(…)	DILM500/22(…)	
315	544	50	275 - 550	550 - 7700	NZMN4-ME550	DILM580/22(…)	–	
400	683	50	438 - 875	875 - 12250	NZMN4-ME875	DILM650/22(…)	–	
450	750	50	438 - 875	875 - 12250	NZMN4-ME875	DILM750/22(…)	–	
500	820	50	438 - 875	875 - 12250	NZMN4-ME875	DILM820/22(…)	–	
560	947	50	700 - 1400	1400 - 19600	NZMN4-ME1400	DILM1000/22(…)	–	
Modules NZMH and DILM								
22	41	100	40 - 50	400 - 700	NZMH2-M50	DILM80(…)	DILM80(…)	The motor-starter combinations consist of the motor protective circuit breaker or a circuit breaker and a contactor. They conform with IEC/EN 60947-4-1 or VDE 0660 Part 102. I_q = conditional rated current
30	55	100	50 - 63	504 - 882	NZMH2-M63	DILM80(…)	DILM80(…)	
37	68	100	63 - 80	640 - 1120	NZMH2-M80	DILM80(…)	DILM80(…)	
45	81	100	80 - 100	800 - 1250	NZMH2-M100	DILM95(…)	DILM95(…)	
55	100	100	100 - 125	1000 - 1750	NZMH2-M125	DILM115(…)	DILM115(…)	
75	134	100	125 - 160	1280 - 2240	NZMH2-M160	DILM150(…)	DILM150(…)	
30	55	100	45 - 90	90 - 1260	NZMH2-ME90	DILM80(…)	DILM80(…)	
37	68	100	45 - 90	90 - 1260	NZMH2-ME90	DILM80(…)	DILM80(…)	
45	81	100	45 - 90	90 - 1260	NZMH2-ME90	DILM95(…)	DILM95(…)	
55	100	100	70 - 140	140 - 1960	NZMH2-ME140	DILM115(…)	DILM115(…)	
75	134	100	70 - 140	140 - 1960	NZMH2-ME140	DILM150(…)	DILM150(…)	
90	161	100	110 - 120	220 - 3080	NZMH2-ME220	DILM185A/22(…)	DILM185A/22(…)	
110	196	100	110 - 120	220 - 3080	NZMH2-ME220	DILM225A/22(…)	DILM225A/22(…)	
132	231	100	175 - 350	350 - 4900	NZMH3-ME350	DILM250/22(…)	DILM250/22(…)	
160	279	100	175 - 350	350 - 4900	NZMH3-ME350	DILM300A/22(…)	DILM300A/22(…)	
200	349	100	175 - 350	350 - 4900	NZMH3-ME350	DILM400/22(…)	DILM400/22(…)	

Motor data				Setting range	
Rated operational power	Rated operational current		Rated short-circuit current	Overload trip	Short-circuit release
AC-3					
500 V 525 V	500 V	525 V	500/525 V		
P	I_e	I_e	I_q	I_r	I_{rm}
kW	A	A	kA	A	A
Modules NZMH and DILM					
11	17.4	17	50	16 - 20	350 - 350
15	23.4	22.5	50	20 - 25	350 - 350
18.5	28.9	28	50	25 - 32	320 - 448
22	33	32	50	32 - 40	320 - 560
30	44	43	50	40 - 50	400 - 700
37	54	54	50	50 - 63	504 - 882
45	65	64	50	63 - 80	640 - 1120
55	79	78	50	63 - 80	640 - 1120
75	107	106	50	100 - 125	1000 - 1750
90	129	127	50	125 - 160	1280 - 2240
30	44	43	50	45 - 90	90 - 1260
37	54	54	50	45 - 90	90 - 1260
45	65	64	50	45 - 90	90 - 1260
55	79	78	50	45 - 90	90 - 1260
75	107	106	50	70 - 140	140 - 1960
90	129	127	50	70 - 140	140 - 1960







Circuit-breaker	Contactor	Contactor	Notes
	Type “1” coordination	Type “2” coordination	
Type	Type	Type	
NZMH2-M20	DILM40(…)	DILM80(…)	The motor-starter combinations consist of the motor protective circuit breaker or a circuit breaker and a contactor. They conform with IEC/EN 60947-4-1 or VDE 0660 Part 102. I_q = conditional rated current
NZMH2-M25	DILM40(…)	DILM80(…)	
NZMH2-M32	DILM40(…)	DILM80(…)	
NZMH2-M40	DILM40(…)	DILM80(…)	
NZMH2-M50	DILM80(…)	DILM80(…)	
NZMH2-M63	DILM80(…)	DILM80(…)	
NZMH2-M80	DILM80(…)	DILM80(…)	
NZMH2-M80	DILM80(…)	DILM80(…)	
NZMH2-M125	DILM115(…)	DILM115(…)	
NZMH2-M160	DILM150(…)	DILM150(…)	
NZMH2-ME90	DILM80(…)	DILM80(…)	
NZMH2-ME90	DILM80(…)	DILM80(…)	
NZMH2-ME90	DILM80(…)	DILM80(…)	
NZMH2-ME90	DILM80(…)	DILM80(…)	
NZMH2-ME140	DILM115(…)	DILM115(…)	
NZMH2-ME140	DILM150(…)	DILM150(…)	

PKZM0, DILM, ZB; NZMN1, DILM, ZB, ZEV

HPL08018EN

Motor data			Setting range		Basic unit
Rated operational power	Rated operational current	Rated short-circuit current	Overload trip	Short-circuit release	
AC-3	AC-3				
380 V 400 V 415 V	400 V	380 - 415 V			
P	I_e	I_q	I_r	I_{rm}	Type
kW	A	kA	A	A	
Modules PKM0, DILM and ZB with and without automatic reset					
0.06	0.21	100	0.16 - 0.24	3.5	PKM0-0,25
0.09	0.31	100	0.24 - 0.4	5.6	PKM0-0,4
0.12	0.41	100	0.4 - 0.6	8.82	PKM0-0,63
0.18	0.6	100	0.4 - 0.6	8.82	PKM0-0,63
0.25	0.8	100	0.6 - 1	14	PKM0-1
0.37	1.1	100	1 - 1.6	22.4	PKM0-1,6
0.55	1.5	100	1 - 1.6	22.4	PKM0-1,6
0.75	1.9	100	1.6 - 2.4	35	PKM0-2,5
1.1	2.6	100	2.4 - 4	56	PKM0-4
1.5	3.6	100	2.4 - 4	56	PKM0-4
2.2	5	100	4 - 6	88.2	PKM0-6,3
3	6.6	100	6 - 10	140	PKM0-10
4	8.5	100	6 - 10	140	PKM0-10
5.5	11.3	50	8 - 12	168	PKM0-12
5.5	11.3	50	10 - 16	168	PKM0-12
7.5	15.2	50	10 - 16	224	PKM0-16
11	21.7	50	16 - 24	350	PKM0-25
15	29.3	50	20 - 32	448	PKM0-32
Modules NZMN1, DILM and Z...					
18.5	36	50	24 - 40	320 - 560	NZMN1-S40
18.5	36	50	3 - 65	320 - 560	NZMN1-S40
22	41	50	40 - 57	400 - 700	NZMN1-S50
22	41	50	3 - 65	400 - 700	NZMN1-S50
30	55	50	40 - 57	504 - 882	NZMN1-S63
30	55	50	3 - 65	504 - 882	NZMN1-S63
37	68	50	50 - 70	640 - 1120	NZMN1-S80
37	68	50	10 - 145	640 - 1120	NZMN1-S80
45	81	50	70 - 100	800 - 1250	NZMN1-S100
45	81	50	10 - 145	800 - 1250	NZMN1-S100
55	99	50	70 - 100	800 - 1250	NZMN1-S100
55	99	50	10 - 145	800 - 1250	NZMN1-S100

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PKZM0, DILM, ZB; NZMN1, DILM, ZB, ZEV

Contactor	Overload relay	Contactor	Overload relay	Current sensor	Notes
Type "1" coordination	Type "1" coordination	Type "2" coordination	Type "2" coordination		
Type	Type	Type	Type	Type	
DILM7-...(...)	ZB12-0,24	DILM7-...(...)	ZB12-0,24	–	The motor-starter combinations consist of the motor protective circuit breaker (without overload function), a contactor and overload relay modules. They conform with IEC/EN 60947-4-1 or VDE 0660 Part 102. I_q = conditional rated current The combinations can be operated with or without manual reset. In the Manual position, the combination is blocked against automatic restarting and must be reset locally. In the Auto position, the combination automatically switches on again after the bimetallic elements have cooled down.
DILM7-...(...)	ZB12-0,4	DILM7-...(...)	ZB12-0,4	–	
DILM7-...(...)	ZB12-0,6	DILM7-...(...)	ZB12-0,6	–	
DILM7-...(...)	ZB12-0,6	DILM7-...(...)	ZB12-0,6	–	
DILM7-...(...)	ZB12-1	DILM7-...(...)	ZB12-1	–	
DILM7-...(...)	ZB12-1,6	DILM7-...(...)	ZB12-1,6	–	
DILM7-...(...)	ZB12-1,6	DILM7-...(...)	ZB12-1,6	–	
DILM7-...(...)	ZB12-2,4	DILM7-...(...)	ZB12-2,4	–	
DILM7-...(...)	ZB12-4	DILM7-...(...)	ZB12-4	–	
DILM7-...(...)	ZB12-4	DILM7-...(...)	ZB12-4	–	
DILM7-...(...)	ZB12-6	DILM17-...(...)	ZB32-6	–	
DILM9-...(...)	ZB12-10	DILM17-...(...)	ZB32-10	–	
DILM9-...(...)	ZB12-10	DILM17-...(...)	ZB32-10	–	
DILM12-...(...)	ZB12-12	–	–	–	
–	–	DILM17-...(...)	ZB32-16	–	
DILM17-...(...)	ZB32-16	DILM17-...(...)	ZB32-16	–	
DILM25-...(...)	ZB32-24	DILM25-...(...)	ZB32-24	–	
DILM32-...(...)	ZB32-32	DILM32-...(...)	ZB32-32	–	

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DILM40(...)	ZB65-40	–	–	–	The motor-starter combinations consist of the circuit-breaker (without overload function), contactor and overload relay module. They conform with IEC/EN 60947-4-1 or VDE 0660 Part 102. I_q = conditional rated current The combinations can be operated with or without manual reset. In the Manual position, the combination is blocked against automatic restarting and must be reset locally. In the Auto position, the combination automatically switches on again after the bimetallic elements have cooled down. Maximum tripping tolerance CLASS10.
–	–	DILM40(...)	ZEV	ZEV-XSW-65	
DILM50(...)	ZB65-57	–	–	–	
–	–	DILM50(...)	ZEV	ZEV-XSW-65	
DILM65(...)	ZB65-57	–	–	–	
–	–	DILM65(...)	ZEV	ZEV-XSW-65	
DILM80(...)	ZB150-70	–	–	–	
–	–	DILM80(...)	ZEV	ZEV-XSW-145	
DILM95(...)	ZB150-100	–	–	–	
–	–	DILM95(...)	ZEV	ZEV-XSW-145	
DILM115(...)	ZB150-100	–	–	–	
–	–	DILM115(...)	ZEV	ZEV-XSW-145	

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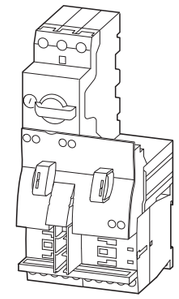
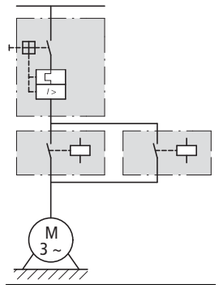
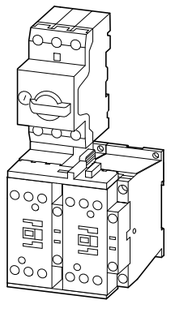
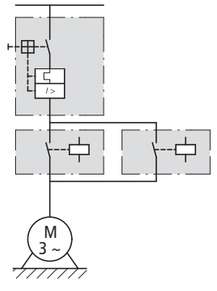
Motor data				Setting range		Motor starters actuating voltage 230 V 50 Hz **Part no.** Article no.	Price See price list	Motor starters actuating voltage 24 V DC **Part no.** Article no.	Price See price list	Std. pack	Motor protective circuit breaker	Contactor	Reversing starter wiring set Mechanical connection module, electrical contact module and reversing connector	Notes
Rated operational power AC-3 380 V 400 V 415 V	Rated operational current AC-3 400 V	Rated short-circuit current 380 - 415 V Type "1" coordination	Rated short-circuit current 380 - 415 V Type "2" coordination	Overload trip	Short-circuit releases									
P kW	I_e A	I_q kA	I_q kA	I_r A	I_{rm} A						Type	Type	Type	
Complete units MSC-R														
0.06	0.21	150	50	0.16 - 0.25	3.5	**MSC-R-0.25-M7(230V50HZ)** 283171		**MSC-R-0.25-M7(24VDC)** 283190		1 off	PKZM0-0,25	DILM7-01(...)	PKZM0-XRM12	The reversing starters (complete devices) consist of a PKZM0 motor protective circuit breaker and two contactors DILM. With the adapterless top-hat rail mounting of starters up to 12 A, only the motor-protective circuit-breaker on the top-hat rail requires an adapter. The contactors are provided with mechanical support via a mechanical connection element. Control wire guide with max. 6 conductors with up to 2.5 mm external diameter or 4 conductors up to 3.5 mm external diameter. From 16 A, the motor protective circuit breaker and contactors are mounted on the top-hat rail adapter plate. The connection of the main circuit between PKZ and contactor is established with electrical contact modules. Complete units with mechanical interlock, starters up to 12 A also with electrical interlock. When using auxiliary contacts DILA-XHIT… (→ 5/40) the electrical plugs can be pulled without having to remove the front mounting auxiliary contact. Cannot be combined with standard auxiliary contact NHI-E-...-PKZ0-C with spring-loaded terminal.
0.09	0.31	150	50	0.25 - 0.4	5.6	**MSC-R-0.4-M7(230V50HZ)** 283172		**MSC-R-0.4-M7(24VDC)** 283191			PKZM0-0,4	DILM7-01(...)	PKZM0-XRM12	
0.12 0.18	0.41 0.6	150	50	0.4 - 0.63	8.82	**MSC-R-0.63-M7(230V50HZ)** 283173		**MSC-R-0.63-M7(24VDC)** 283192			PKZM0-0,63	DILM7-01(...)	PKZM0-XRM12	
0.25	0.8	150	50	0.63 - 1	14	**MSC-R-1-M7(230V50HZ)** 283175		**MSC-R-1-M7(24VDC)** 283194			PKZM0-1	DILM7-01(...)	PKZM0-XRM12	
0.37 0.55	1.1 1.5	150	50	1 - 1.6	22.4	**MSC-R-1.6-M7(230V50HZ)** 283176		**MSC-R-1.6-M7(24VDC)** 283195			PKZM0-1,6	DILM7-01(...)	PKZM0-XRM12	
0.75	1.9	150	50	1.6 - 2.5	35	**MSC-R-2.5-M7(230V50HZ)** 283178		**MSC-R-2.5-M7(24VDC)** 283197			PKZM0-2,5	DILM7-01(...)	PKZM0-XRM12	
1.1 1.5	2.6 3.6	150	50	2.5 - 4	56	**MSC-R-4-M7(230V50HZ)** 283179		**MSC-R-4-M7(24VDC)** 283198			PKZM0-4	DILM7-01(...)	PKZM0-XRM12	
2.2	5	150	50	4 - 6.3	88.2	**MSC-R-6.3-M7(230V50HZ)** 283181		**MSC-R-6.3-M7(24VDC)** 283200			PKZM0-6,3	DILM7-01(...)	PKZM0-XRM12	
3	6.6	150	–	6.3 - 10	140	**MSC-R-10-M7(230V50HZ)** 283182		**MSC-R-10-M7(24VDC)** 283201			PKZM0-10	DILM7-01(...)	PKZM0-XRM12	
4	8.5	150	–	6.3 - 10	140	**MSC-R-10-M9(230V50HZ)** 283183		**MSC-R-10-M9(24VDC)** 283202			PKZM0-10	DILM9-01(...)	PKZM0-XRM12	
5.5	11.3	50	–	8 - 12	168	**MSC-R-12-M12(230V50HZ)** 283184		**MSC-R-12-M12(24VDC)** 283203			PKZM0-12	DILM12-01(...)	PKZM0-XRM12	
3	6.6	50	50	6.3 - 10	140	**MSC-R-10-M17(230V50HZ)** 101049		**MSC-R-10-M17(24VDC)** 101051			PKZM0-10	DILM17-01(...)	PKZM0-XRM32	
4	11.3	50	50	8 - 12	168	**MSC-R-12-M17(230V50HZ)** 101050		**MSC-R-12-M17(24VDC)** 101052			PKZM0-12	DILM17-01(...)	PKZM0-XRM32	
7.5	15.2	50	50	10 - 16	224	**MSC-R-16-M17(230V50HZ)** 283186		**MSC-R-16-M17(24VDC)** 283204			PKZM0-16	DILM17-01(...)	PKZM0-XRM32	
11	21.7	50	50	20 - 25	350	**MSC-R-25-M25(230V50HZ)** 283187		**MSC-R-25-M25(24VDC)** 283205			PKZM0-25	DILM25-01(...)	PKZM0-XRM32	
15	29.3	50	50	25 - 32	448	**MSC-R-32-M32(230V50HZ)** 283188		**MSC-R-32-M32(24VDC)** 283206			PKZM0-32	DILM32-01(...)	PKZM0-XRM32	









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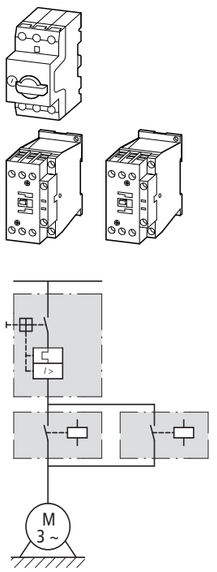
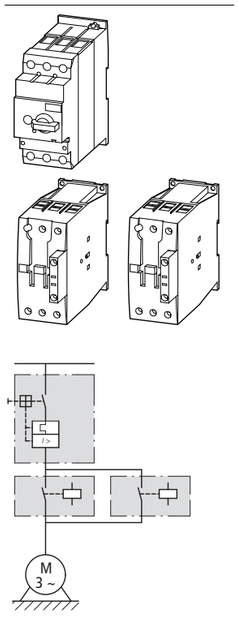
Motor data				Setting range		Motor protective circuit breaker		Contactor		Contactor	Notes
Rated operational power	Rated operational current	Rated short-circuit current		Overload trip	Short-circuit release			Type “1” coordination		Type “2” coordination	
400 V	AC-3	380 - 415 V	380 - 415 V								
	400 V	Type “1” coordination	Type “2” coordination								
P	I_e	I_q	I_q	I_r	I_{rm}	**Type**		**Type**		**Type**	
kW	A	kA	kA	A	A						
Modules PKZM0 and DILM											
0.06	0.21	150	50	0.16 - 0.25	3.5	PKZM0-0,25	2 x	DILM7-...(...)	2 x	DILM7-...(...)	The motor-starter combinations consist of the motor protective circuit breaker or a circuit breaker and a contactor. They conform with IEC/EN 60947-4-1 or VDE 0660 Part 102. I_q = conditional rated current
0.09	0.31	150	50	0.25 - 0.4	5.6	PKZM0-0,4		DILM7-...(...)		DILM7-...(...)	
0.12	0.41	150	50	0.4 - 0.63	8.82	PKZM0-0,63		DILM7-...(...)		DILM7-...(...)	
0.18	0.6	150	50	0.4 - 0.63	8.82	PKZM0-0,63		DILM7-...(...)		DILM7-...(...)	
0.25	0.8	150	50	0.63 - 1	14	PKZM0-1		DILM7-...(...)		DILM7-...(...)	
0.37	1.1	150	50	1 - 1.6	22.4	PKZM0-1,6		DILM7-...(...)		DILM7-...(...)	
0.55	1.5	150	50	1 - 1.6	22.4	PKZM0-1,6		DILM7-...(...)		DILM7-...(...)	
0.75	1.9	150	50	1.6 - 2.5	35	PKZM0-2,5		DILM7-...(...)		DILM7-...(...)	
1.1	2.6	150	50	2.5 - 4	56	PKZM0-4		DILM7-...(...)		DILM7-...(...)	
1.5	3.6	150	50	2.5 - 4	56	PKZM0-4		DILM7-...(...)		DILM7-...(...)	
2.2	5	150	50	4 - 6.3	88.2	PKZM0-6,3		DILM7-...(...)		DILM7-...(...)	
3	6.6	150	50	6.3 - 10	140	PKZM0-10		DILM9-...(...)		DILM17-...(...)	
4	8.5	150	50	6.3 - 10	140	PKZM0-10		DILM9-...(...)		DILM17-...(...)	
5.5	11.3	50	50	8 - 12	168	PKZM0-12		DILM12-...(...)		DILM17-...(...)	
7.5	15.2	50	50	10 - 16	224	PKZM0-16		DILM17-...(...)		DILM17-...(...)	
11	21.7	50	50	20 - 25	350	PKZM0-25		DILM25-...(...)		DILM25-...(...)	
15	29.3	50	50	25 - 32	448	PKZM0-32		DILM32-...(...)		DILM32-...(...)	
Modules PKZM4 and DILM											
5.5	11.3	50	50	10 - 16	224	PKZM4-16	2 x	DILM17-...(...)	2 x	DILM17-...(...)	The motor-starter combinations consist of the motor protective circuit breaker or a circuit breaker and a contactor. They conform with IEC/EN 60947-4-1 or VDE 0660 Part 102. I_q = rated conditional short-circuit current.
7.5	15.2	50	50	10 - 16	224	PKZM4-16		DILM17-...(...)		DILM17-...(...)	
11	21.7	50	50	20 - 25	350	PKZM4-25		DILM25-...(...)		DILM25-...(...)	
15	29.3	50	50	25 - 32	448	PKZM4-32		DILM32-...(...)		DILM32-...(...)	
18.5	36	50	50	32 - 40	560	PKZM4-40		DILM40(...)		DILM40(...)	
22	41	50	50	40 - 50	700	PKZM4-50		DILM50(...)		DILM50(...)	
30	55	50	50	50 - 58	812	PKZM4-58		DILM65(...)		DILM65(...)	
34	63	50	50	55 - 65	882	PKZM4-63		DILM65(...)		DILM65(...)	





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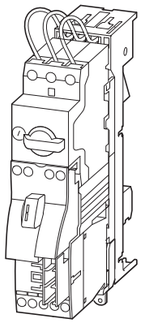
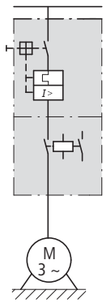
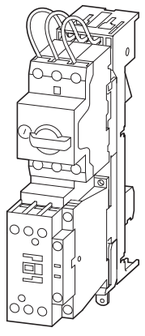
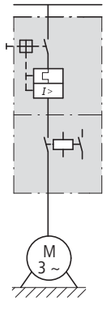
Motor data			Setting range		Circuit-breaker		Contactor		Contactor	Notes
Rated operational power	Rated operational current	Rated short-circuit current	Overload trip	Short-circuit release			Type "1" coordination		Type "2" coordination	
AC-3	AC-3									
380 V 400 V 415 V	400 V	400/415 V								
P	I_e	I_q	I_r	I_{rm}	Type		Type		Type	
kW	A	kA	A	A						
Modules NZMN and DILM										
15	29.3	50	25 - 32	320 - 448	NZMN1-M32	2 x	DILM40(…)	2 x	DILM80(…)	The motor starter combinations consist of the motor protective circuit-breaker and a contactor. They comply with IEC/EN 60947-4-1 and VDE 0660 Part 102. I_q = conditional rated current.
18.5	36	50	32 - 40	320 - 560	NZMN1-M40	2 x	DILM40(…)	2 x	DILM80(…)	
22	41	50	40 - 50	400 - 700	NZMN1-M50	2 x	DILM50(…)	2 x	DILM80(…)	
30	55	50	50 - 63	504 - 882	NZMN1-M63	2 x	DILM65(…)	2 x	DILM80(…)	
37	68	50	63 - 80	640 - 1120	NZMN1-M80	2 x	DILM80(…)	2 x	DILM80(…)	
45	81	50	80 - 100	800 - 1250	NZMN1-M100	2 x	DILM95(…)	2 x	DILM95(…)	
55	99	50	80 - 100	800 - 1250	NZMN1-M100	2 x	DILM115(…)	2 x	DILM115(…)	
75	134	50	125 - 160	1280 - 2240	NZMN2-M160	2 x	DILM150(…)	2 x	DILM150(…)	
90	161	50	160 - 200	1600 - 2500	NZMN2-M200	2 x	DILM185A/22(…)	2 x	DILM185A/22(…)	
110	196	50	160 - 200	1600 - 2500	NZMN2-M200	2 x	DILM225A/22(…)	2 x	DILM225A/22(…)	
132	231	50	175 - 350	350 - 4900	NZMN3-ME350	2 x	DILM250/22(…)	2 x	DILM250/22(…)	
160	279	50	175 - 350	350 - 4900	NZMN3-ME350	2 x	DILM300A/22(…)	2 x	DILM300A/22(…)	
200	349	50	175 - 350	350 - 4900	NZMN3-ME350	2 x	DILM400/22(…)	2 x	DILM400/22(…)	
250	437	50	225 - 450	450 - 6300	NZMN3-ME450	2 x	DILM500/22(…)	2 x	DILM500/22(…)	
315	544	50	275 - 550	550 - 7700	NZMN4-ME550	2 x	DILM580/22(…)	2 x	–	
400	683	50	438 - 875	875 - 12250	NZMN4-ME875	2 x	DILM650/22(…)	2 x	–	
450	750	50	438 - 875	875 - 12250	NZMN4-ME875	2 x	DILM750/22(…)	2 x	–	
500	820	50	438 - 875	875 - 12250	NZMN4-ME875	2 x	DILM820/22(…)	2 x	–	
560	947	50	700 - 1400	1400 - 19600	NZMN4-ME1400	2 x	DILM1000/22(…)	2 x	–	
Modules NZMH and DILM										
22	41	100	40 - 50	400 - 700	NZMH2-M50	2 x	DILM80(…)	2 x	DILM80(…)	The motor-starter combinations consist of the motor protective circuit breaker or a circuit breaker and a contactor. They conform with IEC/EN 60947-4-1 or VDE 0660 Part 102. I_q = rated conditional short-circuit current.
30	55	100	50 - 63	504 - 882	NZMH2-M63	2 x	DILM80(…)	2 x	DILM80(…)	
37	68	100	63 - 80	640 - 1120	NZMH2-M80	2 x	DILM80(…)	2 x	DILM80(…)	
55	81	100	80 - 100	800 - 1250	NZMH2-M100	2 x	DILM95(…)	2 x	DILM95(…)	
55	100	100	100 - 125	1000 - 1750	NZMH2-M125	2 x	DILM115(…)	2 x	DILM115(…)	
75	134	100	125 - 160	1280 - 2240	NZMH2-M160	2 x	DILM150(…)	2 x	DILM150(…)	
30	55	100	45 - 90	90 - 1260	NZMH2-ME90	2 x	DILM80(…)	2 x	DILM80(…)	
37	68	100	45 - 90	90 - 1260	NZMH2-ME90	2 x	DILM80(…)	2 x	DILM80(…)	
45	81	100	45 - 90	90 - 1260	NZMH2-ME90	2 x	DILM95(…)	2 x	DILM95(…)	
55	100	100	70 - 140	140 - 1960	NZMH2-ME140	2 x	DILM115(…)	2 x	DILM115(…)	
75	134	100	70 - 140	140 - 1960	NZMH2-ME140	2 x	DILM150(…)	2 x	DILM150(…)	
90	161	100	110 - 120	220 - 3080	NZMH2-ME220	2 x	DILM185A/22(…)	2 x	DILM185A/22(…)	
110	196	100	110 - 120	220 - 3080	NZMH2-ME220	2 x	DILM225A/22(…)	2 x	DILM225A/22(…)	
132	231	100	175 - 350	350 - 4900	NZMH3-ME350	2 x	DILM250/22(…)	2 x	DILM250/22(…)	
160	279	100	175 - 350	350 - 4900	NZMH3-ME350	2 x	DILM300A/22(…)	2 x	DILM300A/22(…)	
200	349	100	175 - 350	350 - 4900	NZMH3-ME350	2 x	DILM400/22(…)	2 x	DILM400/22(…)	

Complete devices PKZ and DIL on BBA









Motor data: Motor rating	Motor data: Rated operational current	Rated short-circuit current: 380 - 415 V	Rated short-circuit current: 380 - 415 V	Setting range: Overload trip	Setting range: Short-circuit release	Motor starters actuating voltage 230 V 50 Hz **Part no.** Article no.	Price See price list	Std. pack
AC-3	AC-3	380 - 415 V	380 - 415 V					
380 V 400 V 415 V	400 V	Type "1" coordination	Type "2" coordination					
P kW	I_e A	I_q kA	I_q kA	I_r A	I_{rm} A			
0.06	0.21	100	50	0.16 - 0.25	3.5	**MSC-D-0.25-M7(230V50HZ)/BBA**[1] 102737		1 off
0.09	0.31	100	50	0.25 - 0.4	5.6	**MSC-D-0.4-M7(230V50HZ)/BBA**[1] 102738		
0.12 0.18	0.41 0.6	100	50	0.4 - 0.63	8.82	**MSC-D-0.63-M7(230V50HZ)/BBA**[1] 102739		
0.25	0.8	100	50	0.63 - 1	14	**MSC-D-1-M7(230V50HZ)/BBA**[1] 102950		
0.37 0.55	1.1 1.5	100	50	1 - 1.6	22.4	**MSC-D-1.6-M7(230V50HZ)/BBA**[1] 102951		
0.75	1.9	100	50	1.6 - 2.5	35	**MSC-D-2.5-M7(230V50HZ)/BBA**[1] 102952		
1.1 1.5	2.6 3.6	100	50	2.5 - 4	56	**MSC-D-4-M7(230V50HZ)/BBA**[1] 102953		
2.2	5	100	50	4 - 6.3	88.2	**MSC-D-6.3-M7(230V50HZ)/BBA**[1] 102954		
3	6.6	100	–	6.3 - 10	140	**MSC-D-10-M7(230V50HZ)/BBA** 102955		
4	8.5	100	–	6.3 - 10	140	**MSC-D-10-M9(230V50HZ)/BBA** 102956		
5.5	11.3	100	–	8 - 12	168	**MSC-D-12-M12(230V50HZ)/BBA** 102957		
7.5	15.2	50	–	10 - 16	224	**MSC-D-16-M15(230V50HZ)/BBA** 102958		
3 4	6.6 8.5	100	50	6.3 - 10	140	**MSC-D-10-M17(230V50HZ)/BBA** 102959		
5.5	11.3	100	50	8 - 12	168	**MSC-D-12-M17(230V50HZ)/BBA** 102960		
7.5	15.2	50	50	10 - 16	224	**MSC-D-16-M17(230V50HZ)/BBA**[1] 102961		
11	21.7	50	50	20 - 25	350	**MSC-D-25-M25(230V50HZ)/BBA**[1] 102962		
15	29.3	50	50	25 - 32	448	**MSC-D-32-M32(230V50HZ)/BBA**[1] 102963		

Motor starters actuating voltage 24 V DC **Part no.** Article no.	Price See price list	Std. pack	Motor protective circuit breaker **Type**	Contactor **Type**	DOL starter wiring set Mechanical connection module and electrical contact module **Type**	Busbar adapter **Type**	Notes
MSC-D-0.25-M7(24VDC)/BBA[1] 102964		1 off	PKZM0-0,25	DILM7-10(...)	PKZM0-XDM12	BBA0-25	The DOL starters (complete devices) consist of a motor protective circuit breaker PKZM0 and a contactor DILM. These combinations are mounted on busbars. The connection of the main circuit between PKZ and contactor is established with electrical contact modules. Cannot be combined with standard auxiliary contact NHI-E-...-PKZ0-C with spring-loaded terminal.
MSC-D-0.4-M7(24VDC)/BBA[1] 102965			PKZM0-0,4	DILM7-10(...)	PKZM0-XDM12		
MSC-D-0.63-M7(24VDC)/BBA[1] 102966			PKZM0-0,63	DILM7-10(...)	PKZM0-XDM12		
MSC-D-1-M7(24VDC)/BBA[1] 102967			PKZM0-1	DILM7-10(...)	PKZM0-XDM12		
MSC-D-1.6-M7(24VDC)/BBA[1] 102968			PKZM0-1,6	DILM7-10(...)	PKZM0-XDM12		
MSC-D-2.5-M7(24VDC)/BBA[1] 102969			PKZM0-2,5	DILM7-10(...)	PKZM0-XDM12		
MSC-D-4-M7(24VDC)/BBA[1] 102970			PKZM0-4	DILM7-10(...)	PKZM0-XDM12		
MSC-D-6.3-M7(24VDC)/BBA 102971			PKZM0-6,3	DILM7-10(...)	PKZM0-XDM12		
MSC-D-10-M7(24VDC)/BBA 102972			PKZM0-10	DILM7-10(...)	PKZM0-XDM12		
MSC-D-10-M9(24VDC)/BBA 102973			PKZM0-10	DILM9-10(...)	PKZM0-XDM12		
MSC-D-12-M12(24VDC)/BBA 102974			PKZM0-12	DILM12-10(...)	PKZM0-XDM12		
MSC-D-16-M15(24VDC)/BBA 102975			PKZM0-16	DILM15-10(...)	PKZM0-XDM12		
MSC-D-10-M17(24VDC)/BBA 102976			PKZM0-10	DILM17-10(...)	PKZM0-XM32DE	BBA0-32	
MSC-D-12-M17(24VDC)/BBA 102977			PKZM0-12	DILM17-10(...)	PKZM0-XM32DE		
MSC-D-16-M17(24VDC)/BBA 102978			PKZM0-16	DILM17-10(...)	PKZM0-XM32DE		
MSC-D-25-M25(24VDC)/BBA 102979			PKZM0-25	DILM25-10(...)	PKZM0-XM32DE		
MSC-D-32-M32(24VDC)/BBA 102980			PKZM0-32	DILM32-10(...)	PKZM0-XM32DE		

Further information

	Page
Technical data PKZM0	→ Chapter 7
Accessories PKZ	→ 7/10
Technical data DILM	→ Chapter 5
DILM accessories	→ 5/54

[1] To assemble Type F starters that conform with UL508, incoming terminals BK25/3-PKZ0-E and, if necessary, three-phase terminal blocks B3.../...-PKZ0 can be added to motor starter combinations.
Type F starter → Page 8/34

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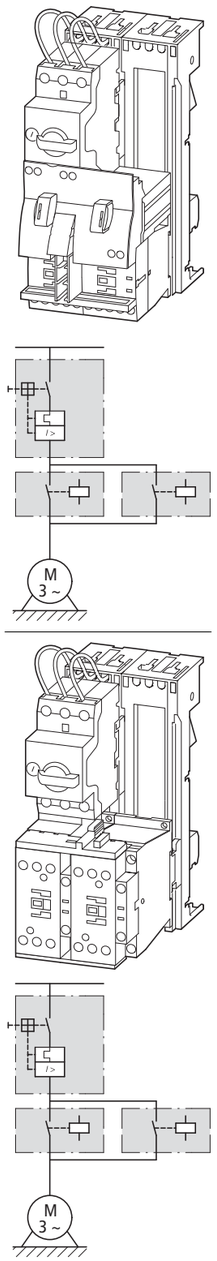
Motor data				Setting range		Motor starters actuating voltage 230 V 50 Hz	Price See price list
Motor rating	Rated operational current	Rated short-circuit current		Overload trip	Short-circuit release	Part no. Article no.	
AC-3	AC-3	380 - 415 V	380 - 415 V				
380 V 400 V 415 V	400 V	Type "1" coordination	Type "2" coordination				
P	I_e	I_q	I_q	I_r	I_{rm}		
kW	A	kA	kA	A	A		
Complete devices PKZ and DILM on BBA for reversing starters							
0.06	0.21	100	50	0.16 - 0.25	3.5	**MSC-R-0.25-M7(230V50HZ)/BBA** 102981	
0.09	0.31	100	50	0.25 - 0.4	5.6	**MSC-R-0.4-M7(230V50HZ)/BBA** 102982	
0.12 0.18	0.41 0.6	100	50	0.4 - 0.63	8.82	**MSC-R-0.63-M7(230V50HZ)/BBA** 102983	
0.25	0.8	100	50	0.63 - 1	14	**MSC-R-1-M7(230V50HZ)/BBA** 102984	
0.37 0.55	1.1 1.5	100	50	1 - 1.6	22.4	**MSC-R-1.6-M7(230V50HZ)/BBA** 102985	
0.75	1.9	100	50	1.6 - 2.5	35	**MSC-R-2.5-M7(230V50HZ)/BBA** 102986	
1.1 1.5	2.6 3.6	100	50	2.5 - 4	56	**MSC-R-4-M7(230V50HZ)/BBA** 102987	
2.2	5	100	50	4 - 6.3	88.2	**MSC-R-6.3-M7(230V50HZ)/BBA** 102988	
3	6.6	100	–	6.3 - 10	140	**MSC-R-10-M7(230V50HZ)/BBA** 102989	
4	8.5	100	–	6.3 - 10	140	**MSC-R-10-M9(230V50HZ)/BBA** 102990	
5.5	11.3	100	–	8 - 12	168	**MSC-R-12-M12(230V50HZ)/BBA** 102991	
3 4	6.6 8.5	100	50	6.3 - 10	140	**MSC-R-10-M17(230V50HZ)/BBA** 102992	
5.5	11.3	100	50	8 - 12	168	**MSC-R-12-M17(230V50HZ)/BBA** 102993	
7.5	15.2	50	50	10 - 16	224	**MSC-R-16-M17(230V50HZ)/BBA** 102994	
11	21.7	50	50	20 - 25	350	**MSC-R-25-M25(230V50HZ)/BBA** 102995	
15	29.3	50	50	25 - 32	448	**MSC-R-32-M32(230V50HZ)/BBA** 102996	



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Motor starters actuating voltage 24 V DC	Price See price list	Std. pack	Motor protective circuit breaker		Contactor	Wiring set Reversing starters	Busbar adapter	Notes
Part no. Article no.			Type		Type	Mechanical connection module, electrical contact module and reversing connector Type	Type	
MSC-R-0.25-M7(24VDC)/BBA 102997		1 off	PKZM0-0,25	2 x	DILM7-01(...)	PKZM0-XRM12	BBA0R-25	The reversing starters (complete devices) consist of a PKZM0 motor protective circuit breaker and two contactors DILM. These combinations are mounted on busbars. The connection of the main circuit between PKZ and contactor is established with electrical contact modules. Complete units with mechanical interlock, starters up to 12 A also with electrical interlock.
MSC-R-0.4-M7(24VDC)/BBA 102998			PKZM0-0,4	2 x	DILM7-01(...)	PKZM0-XRM12		
MSC-R-0.63-M7(24VDC)/BBA 102999			PKZM0-0,63	2 x	DILM7-01(...)	PKZM0-XRM12		
MSC-R-1-M7(24VDC)/BBA 103000			PKZM0-1	2 x	DILM7-01(...)	PKZM0-XRM12		
MSC-R-1.6-M7(24VDC)/BBA 103001			PKZM0-1,6	2 x	DILM7-01(...)	PKZM0-XRM12		
MSC-R-2.5-M7(24VDC)/BBA 103002			PKZM0-2,5	2 x	DILM7-01(...)	PKZM0-XRM12		
MSC-R-4-M7(24VDC)/BBA 103003			PKZM0-4	2 x	DILM7-01(...)	PKZM0-XRM12		
MSC-R-6.3-M7(24VDC)/BBA 103004			PKZM0-6,3	2 x	DILM7-01(...)	PKZM0-XRM12		
MSC-R-10-M7(24VDC)/BBA 103005			PKZM0-10	2 x	DILM7-01(...)	PKZM0-XRM12		
MSC-R-10-M9(24VDC)/BBA 103006			PKZM0-10	2 x	DILM9-01(...)	PKZM0-XRM12		
MSC-R-12-M12(24VDC)/BBA 103007			PKZM0-12	2 x	DILM12-01(...)	PKZM0-XRM12		
MSC-R-10-M17(24VDC)/BBA 103008			PKZM0-10	2 x	DILM17-01(...)	PKZM0-XM32DE+ DILM32-XRL	BBA0R-32	
MSC-R-12-M17(24VDC)/BBA 103009			PKZM0-12	2 x	DILM17-01(...)	PKZM0-XM32DE+ DILM32-XRL		
MSC-R-16-M17(24VDC)/BBA 103010			PKZM0-16	2 x	DILM17-01(...)	PKZM0-XM32DE+ DILM32-XRL		
MSC-R-25-M25(24VDC)/BBA 103011			PKZM0-25	2 x	DILM25-01(...)	PKZM0-XM32DE+ DILM32-XRL		
MSC-R-32-M32(24VDC)/BBA 103012			PKZM0-32	2 x	DILM32-01(...)	PKZM0-XM32DE+ DILM32-XRL		

Further information **Page**
Technical data PKZM0 → Chapter 7
Accessories PKZ → 7/10
Technical data DILM → Chapter 5
DILM accessories → 5/54

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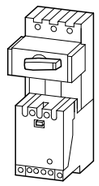
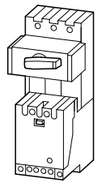
Maximum motor rating				Setting range					Basic unit	Trip block	Price Total of module prices	Std. pack	Notes
Alternating current HP				Overload trip	Short-circuit release	Rated short-circuit breaking capacity			Type	Type	Euro DG		
200 V 208 V	230 V 240 V	460 V 480 V	575 V 600 V			240 V	480 Y 277 V	600 Y 347 V					
HP	HP	HP	HP	I_r A	I_{rm} A	kA	kA	kA					
Modules PKZ2/S-SP and trip blocks ZMR with overload relay function													
													
1)				0.4 - 0.6	5 - 8	100	65	42	**PKZ2/S-SP(110V50HZ,120V60HZ)** 050940	**ZMR-0.6-PKZ2** 033943		1 off	For use with networks with grounded star point — Up to 27 A — 600 Y/347 V AC; 480 Y/277 V AC; 27 – 42 A — 480 Y/277 V AC
		½	½	0.6 - 1	8 - 14	100	65	42	**PKZ2/S-SP(110V50HZ,120V60HZ)** 050940	**ZMR-1-PKZ2** 033950		1 off	
		¾	1	1 - 1.6	14 - 22	100	65	42	**PKZ2/S-SP(110V50HZ,120V60HZ)** 050940	**ZMR-1.6-PKZ2** 033952		1 off	
½	½	1	1½	1.6 - 2.4	20 - 35	100	65	42	**PKZ2/S-SP(110V50HZ,120V60HZ)** 050940	**ZMR-2.4-PKZ2** 033955		1 off	
1	1	2	3	2.4 - 4	35 - 55	100	65	42	**PKZ2/S-SP(110V50HZ,120V60HZ)** 050940	**ZMR-4-PKZ2** 033957		1 off	Service factor (SF) — Set value Ir on the current scale, depending on the load factor
1½	1½	3	5	4 - 6	50 - 80	100	65	42	**PKZ2/S-SP(110V50HZ,120V60HZ)** 050940	**ZMR-6-PKZ2** 033966		1 off	SF = 1.15 → $I_r = 1 \times I_{n\,mot}$
2	3	5	7½	6 - 10	80 - 140	100	65	42	**PKZ2/S-SP(110V50HZ,120V60HZ)** 050940	**ZMR-10-PKZ2** 033967		1 off	SF = 1 → $I_r = 0.9 \times I_{n\,mot}$
3	5	10	10	10 - 16	130 - 220	100	65	42	**PKZ2/S-SP(110V50HZ,120V60HZ)** 050940	**ZMR-16-PKZ2** 033968		1 off	Terminal capacity of high-capacity compact starters PKZ2/ZM…/S Main terminals Cables Cu 75 °C, min. AWG 14, max. AWG 6 Torque 1.8 Nm Control circuit terminals Cables min. AWG 20, max. AWG 16 (0.5–1 mm²) With insulated/uninsulated blade terminal, nominal size 2.8
7½	7½	20	25	16 - 27	200 - 350	100	65	42	**PKZ2/S-SP(110V50HZ,120V60HZ)** 050940	**ZMR-25-PKZ2** 033969		1 off	
10	10	20	30	24 - 32	275 - 425	100	65	–	**PKZ2/S-SP(110V50HZ,120V60HZ)** 050940	**ZMR-32-PKZ2** 033973		1 off	
10	15	30	30	32 - 42	350 - 500	100	65	–	**PKZ2/S-SP(110V50HZ,120V60HZ)** 050940	**ZMR-40-PKZ2** 033975		1 off	
Modules PKZ2/S-SP and trip blocks ZM													
													
1)				0.4 - 0.6	5 - 8	100	65	42	**PKZ2/S-SP(110V50HZ,120V60HZ)** 050940	**ZM-0.6-PKZ2** 024232		1 off	
		½	½	0.6 - 1	8 - 14	100	65	42	**PKZ2/S-SP(110V50HZ,120V60HZ)** 050940	**ZM-1-PKZ2** 028979		1 off	
		¾	1	1 - 1.6	14 - 22	100	65	42	**PKZ2/S-SP(110V50HZ,120V60HZ)** 050940	**ZM-1.6-PKZ2** 031352		1 off	
½	½	1	1½	1.6 - 2.4	20 - 35	100	65	42	**PKZ2/S-SP(110V50HZ,120V60HZ)** 050940	**ZM-2.4-PKZ2** 033725		1 off	
1	1	2	3	2.4 - 4	35 - 55	100	65	42	**PKZ2/S-SP(110V50HZ,120V60HZ)** 050940	**ZM-4-PKZ2** 036098		1 off	
1½	1½	3	5	4 - 6	55 - 80	100	65	42	**PKZ2/S-SP(110V50HZ,120V60HZ)** 050940	**ZM-6-PKZ2** 038471		1 off	
2	3	5	7½	6 - 10	80 - 140	100	65	42	**PKZ2/S-SP(110V50HZ,120V60HZ)** 050940	**ZM-10-PKZ2** 040844		1 off	
3	5	10	10	10 - 16	130 - 220	100	65	42	**PKZ2/S-SP(110V50HZ,120V60HZ)** 050940	**ZM-16-PKZ2** 043217		1 off	
7½	7½	20	25	16 - 27	200 - 350	100	65	42	**PKZ2/S-SP(110V50HZ,120V60HZ)** 050940	**ZM-25-PKZ2** 045590		1 off	
10	10	20	30	24 - 32	275 - 425	100	65	–	**PKZ2/S-SP(110V50HZ,120V60HZ)** 050940	**ZM-32-PKZ2** 047963		1 off	
10	15	30	30	32 - 42	350 - 500	100	65	–	**PKZ2/S-SP(110V50HZ,120V60HZ)** 050940	**ZM-40-PKZ2** 050336		1 off	

Notes 1) Calculate motor power in this range according to the rated operational current. Stated values to NEC Table 430 … 150

PKZ2-SP, ZMR, ZM

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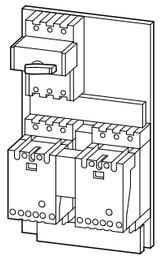
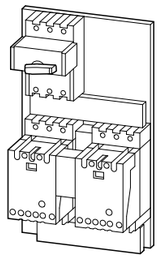
Maximum motor rating				Setting range		Rated short-circuit breaking capacity I_{cn}		
Alternating current HP				Overload trip	Short-circuit release	240 V	480 Y 277 V	600 Y 347 V
200 V 208 V	230 V 240 V	460 V 480 V	575 V 600 V					
HP	HP	HP	HP	I_r A	I_{rm} A	kA	kA	kA
Modules PKZ2/S-SP and trip blocks ZMR with overload relay function								
								
[1]				0.4 - 0.6	5 - 8	100	65	42
		½	½	0.6 - 1	8 - 14	100	65	42
		¾	1	1 - 1.6	14 - 22	100	65	42
½	½	1	1½	1.6 - 2.4	20 - 35	100	65	42
1	1	2	3	2.4 - 4	35 - 55	100	65	42
1½	1½	3	5	4 - 6	50 - 80	100	65	42
2	3	5	7½	6 - 10	80 - 140	100	65	42
3	5	10	10	10 - 16	130 - 220	100	65	42
7½	7½	20	25	16 - 25	200 - 350	100	65	42
10	10	20	–	24 - 32	275 - 425	100	65	–
10	15	30	–	32 - 40	350 - 500	100	65	–
Modules PKZ2/S-SP and trip blocks ZM								
								
[1]				0.4 - 0.6	5 - 8	100	65	42
		½	½	0.6 - 1	8 - 14	100	65	42
		¾	1	1 - 1.6	14 - 22	100	65	42
½	½	1	1½	1.6 - 2.4	20 - 35	100	65	42
1	1	2	3	2.4 - 4	35 - 55	100	65	42
1½	1½	3	5	4 - 6	50 - 80	100	65	42
2	3	5	7½	6 - 10	80 - 140	100	65	42
3	5	10	10	10 - 16	130 - 220	100	65	42
7½	7½	20	25	16 - 25	200 - 350	100	65	42
10	10	20	–	24 - 32	275 - 425	100	65	–
10	15	30	–	32 - 40	350 - 500	100	65	–

Notes

[1] Calculate motor power in this range according to the rated operational current. Stated values to NEC Table 430 … 150

[2] Specify actuating voltage in the range 24 – 600 V 50 or 60 Hz.

HPL08033EN

PKZ2-SP, ZMR, ZM

Basic unit	Trip block	Price Total of module prices	Std. pack	Notes
Type[2]	Type	Euro DG		
PKZ2-SP-FVR(*V*HZ) 925109	**ZMR-0.6-PKZ2** 033943		1 off	For use with networks with grounded star point: Up to 27 A: 600 Y/347 V AC; 480 Y/277 V AC. 27 – 42 A: 480 Y/277 V AC
PKZ2-SP-FVR(*V*HZ) 925109	**ZMR-1-PKZ2** 033950		1 off	
PKZ2-SP-FVR(*V*HZ) 925109	**ZMR-1.6-PKZ2** 033952		1 off	
PKZ2-SP-FVR(*V*HZ) 925109	**ZMR-2.4-PKZ2** 033955		1 off	
PKZ2-SP-FVR(*V*HZ) 925109	**ZMR-4-PKZ2** 033957		1 off	
PKZ2-SP-FVR(*V*HZ) 925109	**ZMR-6-PKZ2** 033966		1 off	
PKZ2-SP-FVR(*V*HZ) 925109	**ZMR-10-PKZ2** 033967		1 off	
PKZ2-SP-FVR(*V*HZ) 925109	**ZMR-16-PKZ2** 033968		1 off	
PKZ2-SP-FVR(*V*HZ) 925109	**ZMR-25-PKZ2** 033969		1 off	
PKZ2-SP-FVR(*V*HZ) 925109	**ZMR-32-PKZ2** 033973		1 off	
PKZ2-SP-FVR(*V*HZ) 925109	**ZMR-40-PKZ2** 033975		1 off	
PKZ2-SP-FVR(*V*HZ) 925109	**ZM-0.6-PKZ2** 024232		1 off	Service factor (SF): Set value Ir on the current scale, depending on the load factor. SF = 1.15 → I_r = 1 x $I_{n\,mot}$. SF = 1 → I_r = 0.9 x $I_{n\,mot}$. Terminal capacity of high-capacity compact starters PKZ2/ZM…/S. Main terminals: Cables Cu 75 °C, min. AWG 14, max. AWG 6. Torque 1.8 Nm. Control circuit terminals: Cables min. AWG 20, max. AWG 16 (0.5–1 mm²). With insulated/uninsulated blade terminal, nominal size 2.8
PKZ2-SP-FVR(*V*HZ) 925109	**ZM-1-PKZ2** 028979		1 off	
PKZ2-SP-FVR(*V*HZ) 925109	**ZM-1.6-PKZ2** 031352		1 off	
PKZ2-SP-FVR(*V*HZ) 925109	**ZM-2.4-PKZ2** 033725		1 off	
PKZ2-SP-FVR(*V*HZ) 925109	**ZM-4-PKZ2** 036098		1 off	
PKZ2-SP-FVR(*V*HZ) 925109	**ZM-6-PKZ2** 038471		1 off	
PKZ2-SP-FVR(*V*HZ) 925109	**ZM-10-PKZ2** 040844		1 off	
PKZ2-SP-FVR(*V*HZ) 925109	**ZM-16-PKZ2** 043217		1 off	
PKZ2-SP-FVR(*V*HZ) 925109	**ZM-25-PKZ2** 045590		1 off	
PKZ2-SP-FVR(*V*HZ) 925109	**ZM-32-PKZ2** 047963		1 off	
PKZ2-SP-FVR(*V*HZ) 925109	**ZM-40-PKZ2** 050336		1 off	

PKZM0, DILM, BK...

Maximum motor rating				Setting range		Rated short-circuit breaking capacity I_{cn}			Extension terminal	Motor protective circuit breaker	Contactor
Alternating current HP				Overload trip	Short-circuit release	240 V	480 Y 277 V [2]	600 Y 347 V [2]			
200 V 208 V	230 V 240 V	460 V 480 V	575 V 600 V						Type	Type	Type
HP	HP	HP	HP	I_r A	I_{rm} A	kA	kA	kA			
Modules PKZM0, DIL, BK											
[1]				0.1 - 0.16	2.2	65	65	50	BK25/3-PKZ0	PKZM0-0,16	DILEM…(…)
				0.1 - 0.16	2.2	65	65	50	BK25/3-PKZ0	PKZM0-0,16	DILM7-…(…)
				0.16 - 0.25	3.4	65	65	50	BK25/3-PKZ0	PKZM0-0,25	DILEM…(…)
				0.16 - 0.25	3.4	65	65	50	BK25/3-PKZ0	PKZM0-0,25	DILM7-…(…)
				0.25 - 0.4	5.6	65	65	50	BK25/3-PKZ0	PKZM0-0,4	DILEM…(…)
				0.25 - 0.4	5.6	65	65	50	BK25/3-PKZ0	PKZM0-0,4	DILM7-…(…)
				0.4 - 0.63	8.8	65	65	50	BK25/3-PKZ0	PKZM0-0,63	DILEM…(…)
				0.4 - 0.63	8.8	65	65	50	BK25/3-PKZ0	PKZM0-0,63	DILM7-…(…)
		½	½	0.63 - 1	14	65	65	50	BK25/3-PKZ0	PKZM0-1	DILEM…(…)
		½	½	0.63 - 1	14	65	65	50	BK25/3-PKZ0	PKZM0-1	DILM7-…(…)
		¾	1	1 - 1.6	22	65	65	50	BK25/3-PKZ0	PKZM0-1,6	DILEM…(…)
		¾	1	1 - 1.6	22	65	65	50	BK25/3-PKZ0	PKZM0-1,6	DILM7-…(…)
½	½	1	1½	1.6 - 2.5	35	65	65	50	BK25/3-PKZ0	PKZM0-2,5	DILEM…(…)
½	½	1	1½	1.6 - 2.5	35	65	65	50	BK25/3-PKZ0	PKZM0-2,5	DILM7-…(…)
1	1	2	3	2.5 - 4	56	65	65	50	BK25/3-PKZ0	PKZM0-4	DILEM…(…)
1	1	2	3	2.5 - 4	56	65	65	50	BK25/3-PKZ0	PKZM0-4	DILM7-…(…)
1½	1½	3	5	4 - 6.3	88	65	65	50	BK25/3-PKZ0	PKZM0-6,3	DILEM…(…)
1½	1½	3	5	4 - 6.3	88	65	65	50	BK25/3-PKZ0	PKZM0-6,3	DILM7-…(…)
3	3	7½	10	6.3 - 11	140	65	65	50	BK25/3-PKZ0	PKZM0-10	DILM9-…(…)
3	3	7½	–	9 - 12	168	65	65	50	BK25/3-PKZ0	PKZM0-12	DILM12-…(…)
3	5	10	–	10 - 16	224	50	50	–	BK50/3-PKZ4-E	PKZM0-16	DILM17-…(…)
3	5	10	–	10 - 16	224	18	18	–	BK50/3-PKZ4-E	PKZM0-16	DILM17-…(…)
5	5	10	–	16 - 20	280	18	18	–	BK50/3-PKZ4-E	PKZM0-20	DILM25-…(…)
5	7½	15	–	20 - 25	350	18	18	–	BK50/3-PKZ4-E	PKZM0-25	DILM25-…(…)
7½	10	20	–	25 - 32	448	18	18	–	BK50/3-PKZ4-E	PKZM0-32	DILM32-…(…)
Modules PKZM4, DIL, BK											
3	5	10	15	10 - 16	224	65	65	50	BK50/3-PKZ4-E	PKZM4-16	DILM17-…(…)
5	7½	15	20	16 - 27	350	65	65	50	BK50/3-PKZ4-E	PKZM4-25	DILM25-…(…)
7½	10	25	30	24 - 34	448	65	65	50	BK50/3-PKZ4-E	PKZM4-32	DILM32-…(…)
10	15	30	30	32 - 40	560	65	65	50	BK50/3-PKZ4-E	PKZM4-40	DILM40(…)
10	15	30	–	40 - 52	700	65	65	–	BK50/3-PKZ4-E	PKZM4-50	DILM50(…)
15	15	40	–	50 - 56	812	65	65	–	BK50/3-PKZ4-E	PKZM4-58	DILM65(…)
15	15	40	–	52 - 58	882	65	65	–	BK50/3-PKZ4-E	PKZM4-63	DILM65(…)

Notes

Device for world markets IEC ≙ UL/CSA
Service factor (SF)
Set value I_r on the current scale, depending on the load factor
SF=1.15 -> $I_r = 1 \times I_{n\ mot}$
SF=1.0 -> $I_r = 0.9 \times I_{n\ mot}$
[1] Calculate motor power in this range according to the rated operational current. Stated values to NEC Table 430 - 150.
[2] Suitable for networks with grounded star-point
Type F starter combinations do not need an upstream protective device.
For use in Canada, the switch must be fitted with an AK-PKZ0.

Rating data for approved types[1]				Max. rated motor current	Contactor	Overload relay	Maximum short-circuit protective device for North America		
Maximum motor rating							Fuse CEC or NEC	Circuit-breaker[2]	
Alternating current HP								Continuous current	Short-circuit release
200 V 208 V	230 V 240 V	460 V 480 V	575 V 600 V		Type	Type [3]			
HP	HP	HP	HP	A				A	A
Modules DIL, Z									
–	–	½	½	1	DILEM-…(…)	ZE-1.0	3	15	–
–	–	¾	1	1.4	DILEM-…(…)	ZE-1.6	6	15	–
½	½	1	1½	2.3	DILEM-…(…)	ZE-2.4	6	15	–
–	1	2	3	3.9	DILEM-…(…)	ZE-4	15	15	–
1½	1½	3	–	6	DILEM-…(…)	ZE-6	20	15	–
–	2	–	–	6.8	DILEM-…(…)	ZE-9	35	15	–
2	2	5	5	7.8	DILEM-…(…)	ZE-9	35	15	–
2	3	5	5	9.6	DILEM-…(…)	ZE-12	45	–	–
–	–	½	½	1	DILM7…(…)	ZB12-1	3	25	200
–	–	¾	1	1.4	DILM7…(…)	ZB12-1,6	6	25	200
½	½	1	1½	2.3	DILM7…(…)	ZB12-2,4	6	25	200
1	1	2	3	3.9	DILM7…(…)	ZB12-4	15	25	200
1½	½	3	–	6	DILM7…(…)	ZB12-6	20	25	200
–	–	–	7½	9	DILM9…(…)	ZB12-10	25	25	200
–	3	5	7½	9.6	DILM12…(…)	ZE-12	25	25	200
–	–	7½	10	11	DILM12…(…)	ZB12-12	45	25	200
–	5	10	–	15.2	DILM15…(…)	ZB12-16	60	40	320
–	–	½	½	1	DILM17…(…)	ZB32-1	3	25	200
–	–	¾	1	1.4	DILM17…(…)	278447	6	25	200
½	½	1	1½	2.3	DILM17…(…)	ZB32-2,4	6	25	200
1	1	2	3	3.9	DILM17…(…)	ZB32-4	15	25	200
½	1½	3	–	6	DILM17…(…)	ZB32-6	20	25	200
–	3	5	7½	9.6	DILM17…(…)	ZB32-10	25	25	200
–	–	7½	10	11	DILM17…(…)	ZB32-16	40	30	320
–	5	10	–	15.2	DILM17…(…)	ZB32-16	40	30	320
–	7½	15	20	22	DILM25…(…)	ZB32-24	90	100	1200
–	10	20	25	32.2	DILM32…(…)	ZB32-32	125	125	1200
–	3	5	7½	9.6	DILM40(…)	ZB65-10	40	40	380
–	5	10	10	15.2	DILM40(…)	ZB65-16	60	60	760
–	7½	20	25	32.2	DILM40(…)	ZB65-24	90	90	1200
–	10	20	30	34	DILM40(…)	ZB65-40	125	125	1200
–	20	40	50	54	DILM50(…)	ZB65-57	200	150	2000
–	20	50	50	63	DILM65(…)	ZB65-65	200	160	2000
–	25	50	60	68	DILM80(…)	ZB150-70	250	250	2500
–	30	75	100	99	DILM95(…)	ZB150-100	400	400	3200
–	40	100	100	124	DILM115(…)	ZB150-125	500	500	4000
–	60	125	125	156	DILM150(…)	ZB150-150	600	600	4800
50	60	125	150	156	DILM185A/22(…)	Z5-160/FF225A	600 CLASS J	600	7200
60	75	150	200	192	DILM225A/22(…)	Z5-220/FF225A	800 CLASS J	800	16000
75	100	200	250	248	DILM250/22(…)	Z5-250/FF250	700 CLASS J	600	–
100	125	250	300	312	DILM300A/22(…)	ZW7-400	1000	1000	–
125	150	300	400	382	DILM400/22(…)	ZW7-400	1000	1000	–
150	200	400	500	480	DILM500/22(…)	ZW7-540	1000	600	–

Notes

[1] Devices for world markets IEC ≙ UL/CSA
[2] Circuit-breaker -> Chapter 17
[3] The electronic overload relay ZEV can alternatively be used on request.

NZMH...-S...-CNA, DILM..., ZB, Z5, ZW7

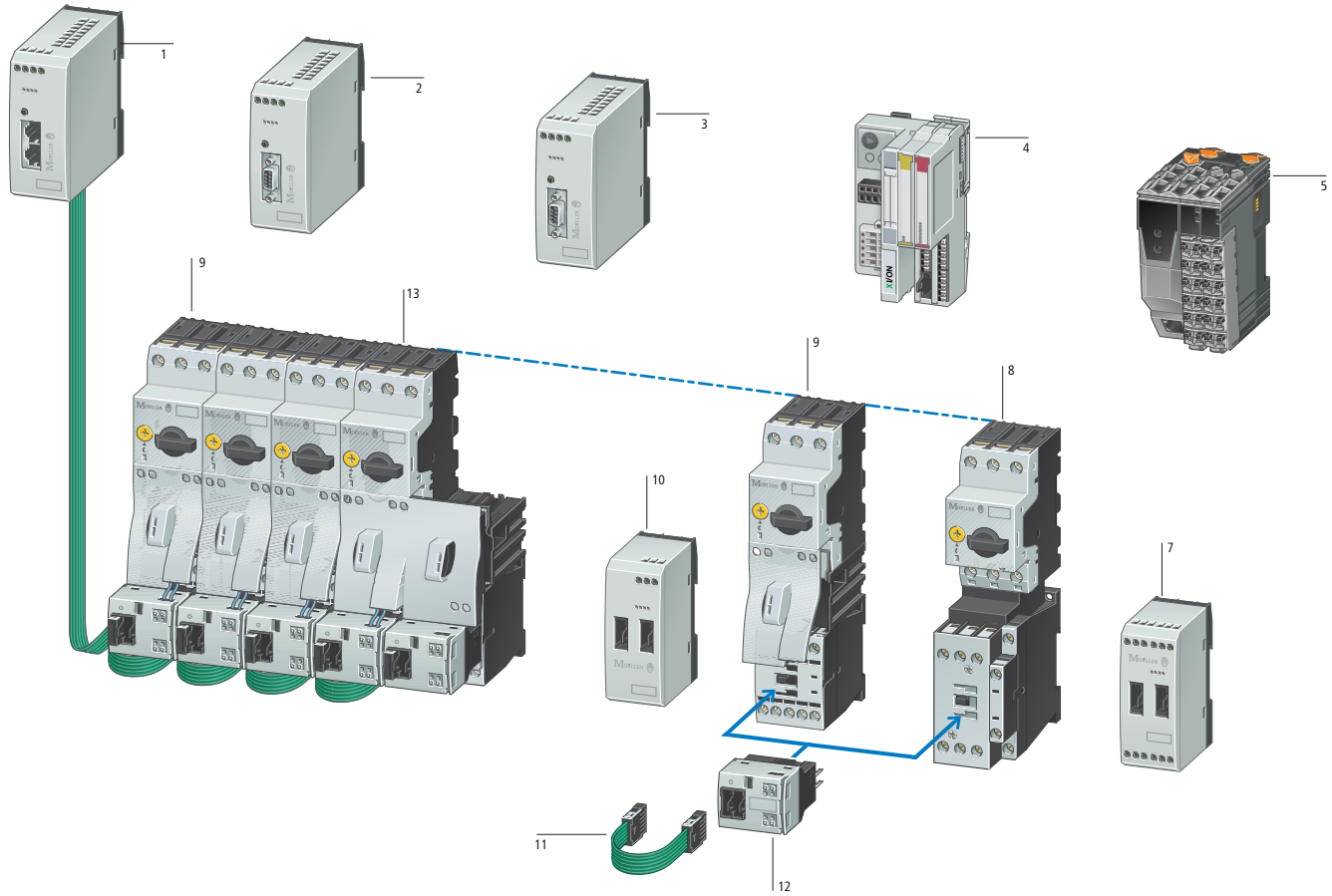
HPL08036EN

Rating data for approved types								Setting range		Circuit-breaker	Contactor	Overload relay	Minimum enclosure volume
Maximum motor rating Alternating current HP				Max. rated motor current	Rated short-circuit breaking capacity			Overload trip	Short-circuit releases				
200 V 208 V	230 V 240 V	460 V 480 V	575 V 600 V		480 V	600 Y 347 V[1]	600 V			Type	Type	Type	
HP	HP	HP	HP	A	kA	kA	kA	I_r A	I_{rm} A				cm^3
Module NZMH...-S...-CNA, DILM, Z													
–	–	–	½	0.9	100	50	–	0.6 - 1	12.8 - 22.5	NZMH2-S1.6-CNA	DILM17-...(...)	ZB32-1	81.5
–	–	½	¾	1.3	100	50	–	1 - 1.6	12.8 - 22.5	NZMH2-S1.6-CNA	DILM17-...(...)	ZB32-1,6	81.5
–	–	¾	–	1.6	100	50	–	1 - 1.6	19.2 - 33.6	NZMH2-S2.4-CNA	DILM17-...(...)	ZB32-1,6	81.5
–	–	1	1	2.1	100	50	–	1.6 - 2.4	19.2 - 33.6	NZMH2-S2.4-CNA	DILM17-...(...)	ZB32-2,4	81.5
–	½	–	1½	2.4	100	50	–	1.6 - 2.4	32 - 56	NZMH2-S5-CNA	DILM17-...(...)	ZB32-2,4	81.5
¾	¾	2	3	3.9	100	50	–	2.4 - 4	32 - 56	NZMH2-S5-CNA	DILM17-...(...)	ZB32-4	81.5
–	1	–	–	4.2	100	50	–	4 - 6	32 - 56	NZMH2-S5-CNA	DILM17-...(...)	ZB32-6	81.5
1	1½	3	–	6	100	50	–	4 - 6	48 - 84	NZMH2-S8-CNA	DILM17-...(...)	ZB32-6	81.5
1½	2	–	5	6.9	100	50	–	6 - 10	48 - 84	NZMH2-S8-CNA	DILM17-...(...)	ZB32-10	81.5
2	3	5	7½	9.6	100	50	–	6 - 10	80 - 140	NZMH2-S12-CNA	DILM17-...(...)	ZB32-10	81.5
3	5	10	10	15.2	100	50	–	10 - 16	128 - 224	NZMH2-S18-CNA	DILM17-...(...)	ZB32-16	81.5
5	–	–	15	17.5	100	50	–	16 - 24	200 - 350	NZMH2-S26-CNA	DILM17-...(...)	ZB32-24	81.5
–	7½	15	20	22	100	50	–	16 - 24	200 - 350	NZMH2-S26-CNA	DILM25-...(...)	ZB32-24	81.5
7½	–	–	–	25.3	100	50	–	24 - 32	256 - 448	NZMH2-S33-CNA	DILM25-...(...)	ZB32-32	81.5
–	10	20	25	28	100	50	–	24 - 32	256 - 448	NZMH2-S33-CNA	DILM32-...(...)	ZB32-32	81.5
10	–	–	–	32.2	100	50	–	24 - 32	320 - 560	NZMH2-S40-CNA	DILM32-...(...)	ZB32-32	81.5
–	–	25	30	34	100	50	–	32 - 40	320 - 560	NZMH2-S40-CNA	DILM40(...)	ZB65-40	81.5
–	–	30	–	40	100	50	–	32 - 40	400 - 700	NZMH2-S50-CNA	DILM40(...)	ZB65-40	81.5
–	15	–	40	42	100	50	–	40 - 57	400 - 700	NZMH2-S50-CNA	DILM40(...)	ZB65-57	81.5
15	20	40	50	54	100	50	–	40 - 57	504 - 882	NZMH2-S63-CNA	DILM50(...)	ZB65-57	81.5
20	–	50	60	65	100	50	–	57 - 65	640 - 1120	NZMH2-S80-CNA	DILM65(...)	ZB65-65	81.5
–	25	–	–	68	100	50	–	50 - 70	640 - 1120	NZMH2-S80-CNA	DILM80(...)	ZB150-70	163
25	30	60	75	80	100	50	–	70 - 100	800 - 1400	NZMH2-S100-CNA	DILM80(...)	ZB150-100	163
–	40	75	100	104	100	50	–	70 - 100	1000 - 1750	NZMH2-S125-CNA	DILM95(...)	ZB150-100	163
30	–	–	–	92	100	50	–	70 - 100	1000 - 1750	NZMH2-S125-CNA	DILM115(...)	ZB150-100	163
40	–	100	125	125	100	50	–	100 - 125	1280 - 2240	NZMH2-S160-CNA	DILM115(...)	ZB150-125	163
–	50	–	–	130	100	50	–	125 - 150	1280 - 2240	NZMH2-S160-CNA	DILM115(...)	ZB150-150	163
–	–	125	–	156	100	50	–	125 - 150	1600 - 2500	NZMH2-S200-CNA	DILM150(...)	ZB150-150	265
50	60	–	150	154	100	50	–	120 - 160	1600 - 2500	NZMH2-S200-CNA	DILM185/22(...)	Z5-160/FF250	265
60	75	150	200	192	100	50	–	160 - 220	220 - 3080	NZMH2-SE220-CNA	DILM225/22(...)	Z5-220/FF250	265
75	100	200	250	248	100	50	50	160 - 220	350 - 4900	NZMH3-SE350-CNA	DILM250/22(...)	Z5-220/FF250	306
100	–	–	300	289	100	50	50	190 - 290	350 - 4900	NZMH3-SE350-CNA	DILM300/22(...)	ZW7-290	306
–	125	250	–	302	100	50	50	270 - 400	450 - 6300	NZMH3-SE450-CNA	DILM300/22(...)	ZW7-400	306
125	150	300	400	382	100	50	50	270 - 400	450 - 6300	NZMH3-SE450-CNA	DILM400/22(...)	ZW7-400	306

Notes [1] Suitable for networks with grounded star-point

SWIRE-…

Description



1 Gateway easyNET/CANopen
2 Gateway PROFIBUS-DP
3 Gateway MODBUS
4 Coupling unit XI/ON with SmartWire Interface card MicroInnovation AG, www.microinnovation.com
5 Interface module B & R CS1011 for X20 system, www.br-automation.com
6 SmartWire I/O module
7 DOL starter MSC-D up to 32 A
8 DOL starter MSC-D up to 15.5 A
9 SmartWire power module
10 Connection cable
11 SmartWire module for DILM
12 Reversing starter MSC-R up to 12 A

System description

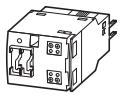
With the SmartWire connection system, switchgear can be connected to a programmable logic controller without the need for complex control wiring. Plug-in SmartWire cards for DILM and a preassembled connection cable replace the control wiring, dramatically reducing wiring complexity and completely eliminating wiring errors. SmartWire also cuts the time needed for installation, commissioning and troubleshooting.
The PLC's inputs and outputs are replaced by the SmartWire module for DILM, and no control wiring terminals are required.
Connection to the various fieldbus systems is through third-party gateways or interface modules.

Features

- Gateway
  - Connects the SmartWire cards with the fieldbus
  - Supports the fieldbus standards PROFIBUS-DP, MODBUS, CANopen and easy-NET
  - Supplies the control voltage for the motor starter or contactor
  - Supplies the supply voltage for the SmartWire connection system
  - Configuration button for automatic addressing of the SmartWire modules for DILM
  - Supports max. 16 SmartWire modules for DILM
- Interface of third-party manufacturers, e.g. for the XI/ON I/O system, X20 system CS1011 interface module
  - Connection to the field buses PROFIBUS-DP, MODBUS, CANopen and DeviceNET
- SmartWire module for DILM
  - Pluggable on contactors
  - Suitable for contactors DILM7 to DILM32 (24 V DC), DILMC7 to DILMC32 (24 V DC), DILMP20 (24 V DC) or motor starter MSC-... (24 V DC)
  - Use the standard switchgear of the xStart range
  - Suitable for DOL and reversing starters
  - The accessories of the contactor series can be used
  - Suitable for contactor combinations with PKZ or with Z relays
  - Integrated switch position monitoring of the contactors
  - Integrated mechanical switch position display
  - Actuation of the contactors
  - Scanning of a potential-free contact, e.g. NHI-E-10-PKZ0
  - Electrical interlocking, e.g. possible with reversing starters
  - LED for status and diagnostic display
  - Connection to gateway or interface from third party devices
- SmartWire I/O module
  - 4 digital inputs for connection of potential-free contacts
  - Power supply for the digital inputs comes from the device
  - 2 relay outputs 250 V AC
- SmartWire power module
  - Supply of the 24 V DC control voltage for actuation of contactors DILM
  - Assembly of Emergency Off groups
  - Increases the control voltage power in the SmartWire line
- Safety engineering
  - Emergency switching off disconnection as per IEC/EN 954-1, Switching Category 3
  - Central switch off of control voltage at the gateway or SmartWire power module
  - Combination with safety-relevant switchgear possible

SWIRE-… HPL08038EN

Ordering

	Description	Part no. Article no.	Price See price list	Std. pack	Notes
Gateway					
PROFIBUS-DP					
	Gateway with integrated supply for the SmartWire module and control voltage for the switchgear. - Connection to PROFIBUS-DP as slave. - Transmission rate: 9.6 Kbits/s to 12 MBit/s. - 9 pole SUB-D socket. - Address range 1…126. - Connection to SmartWire module as master. - Supports 16 SmartWire modules.	**SWIRE-GW-DP** 107027		1 off	–
MODBUS					
	Gateway with integrated supply for the SmartWire module and control voltage for the switchgear. - Connection to MODBUS-RTU as slave. - Transmission rate: 9.6 to 57.6 Kbits/s. - 9 pole SUB-D socket RS232/RS485. - Address range 1…31. - Connection to SmartWire module as master. - Supports 16 SmartWire modules.	**SWIRE-GW-MB** 118562		1 off	–
Modules					
SmartWire module for DILM					
	SmartWire module to assemble on the contactors DILM(C)7…DILM(C)38, DILA…, DILMP20 - One module is necessary per contactor. - Connection to SmartWire gateway as slave. - Max. 16 SmartWire modules per line. - 1 digital input for floating contact. - Signaling contactor switch position.	**SWIRE-DIL** 107028		5 off	• Take account of the max. current consumption of the contactor coils per SmartWire line. • Length of connection cable at the input and the electrical interlock < 2.8 m. • The A2 connection of the contactors must not be linked. • Electrical interlocking only possible via the terminals on the module for DILM. • Wiring sets DILM 12-XRL and PKZM0-XRM12 cannot be used. • Connection terminals for electrical interlocking are not suitable for safety technology.
SmartWire power module					
	Power module for suppling the control voltage. - Connection on SmartWire gateway as interactive station (no address).	**SWIRE-PF** 107029		1 off	Max. 4 power modules per SmartWire line.
SmartWire I/O module					
	4 digital inputs 2 digital relay outputs	**SWIRE-4DI-2DO-R** 107030		1 off	Max. 4 SmartWire I/O modules per line.

Information relevant for export to North America

Product Standards	IEC/EN 60947-4-1; UL 508; CSA-C22.2 No. 14-05; CE marking
UL File No.	E29184
UL CCN	NKCR
CSA File No.	012528
CSA Class No.	2252-01
NA Certification	UL Listed, CSA certified

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SWIRE-…

	Description	Part no. Article no.	Price See price list	Std. pack	Notes
Accessory					
SmartWire connection cable[1)]					
Length: 85 mm		**SWIRE-CAB-008** 107032		25 off	Cable lengths: Engineering → A8/40
Length: 110 mm		**SWIRE-CAB-011** 107033			
Length: 150 mm		**SWIRE-CAB-015** 107034		5 off	
Length: 250 mm		**SWIRE-CAB-025** 107035			
Length: 500 mm		**SWIRE-CAB-050** 112027		1 off	
Length: 1000 mm		**SWIRE-CAB-100** 107036			
Length: 2000 mm		**SWIRE-CAB-200** 107037			
Termination connector[1)]					
–	Termination plug for last SmartWire card, 6 pole, no electrical function.	**SWIRE-CAB-000** 107031		25 off	–
Data cable[1)]					
–	6-core, ribbon cable, length: 100 m.	**SWIRE-CAB-100M** 107038		1 off	Preassembly of cable only possible with special tool.
Plug[1)]					
–	6-pin plug for ribbon cable.	**SWIRE-CAB-CON** 107039		50 off	For use with SWIRE-CAB-100M.
NHI-E with cable[1)]					
–	NHI-E-10-PKZ0 with connection cable AWG18 blue, for connection to SmartWire module for DILM.	**NHI-E-10L-PKZ0** 107040		5 off	–
Plug-in reversing bridge[2)]					
–	For assembling reversing starters with tool-less plug connection	**DILM12-XR** 110099		20 off	For use with DILM7…DILM15, without A2 link.

Information relevant for export to North America

1)

Product Standards	IEC/EN 60947-4-1; UL 508; CSA-C22.2 No. 14-05; CE marking
UL File No.	E29184
UL CCN	NKCR
CSA File No.	012528
CSA Class No.	2252-01
NA Certification	UL Listed, CSA certified

2)

Product Standards	IEC/EN 60947-4-1; UL 508; CSA-C22.2 No. 14-05; CE marking
UL File No.	E36332
UL CCN	NLRV
CSA File No.	012528
CSA Class No.	3211-05
NA Certification	UL Listed, CSA certified

SWIRE-…

Engineering

Cable lengths

For connection between motor starters and contactors DILM, the cable lengths depend on the combination and assembly of the devices.

Applications	PKZ accessories	from	to	Cable length
Contactors DILM	None (45 grid)	DILM7-…15	DILM7-…15	85 mm
		DILM17-…38	DILM17-…38	85 mm
		DILM7-…38	DILM17-…38	110 mm
		DILM17-…38	DILM7-…15	110 mm
	PKZM0 with U-/A…/NHI…/AGM…	DILM7-…15	DILM7-…15	110 mm
		DILM17-…32	DILM17-…32	110 mm
		DILM7-…15	DILM17-…32	110 mm
		DILM17-…32	DILM7-…15	110 mm
Motor starters MSC	None (45 grid)	DILM7-…15	DILM7-…15	85 mm
		DILM17-…32	DILM17-…32	85 mm
		DILM7-…15	DILM17-…32	110 mm
		DILM17-…32	DILM7-…15	110 mm
	PKZM0 with U-/A…/NHI…/AGM…	DILM7-…15	DILM7-…15	110 mm
		DILM17-…32	DILM17-…32	110 mm
		DILM7-…15	DILM17-…32	150 mm
		DILM17-…32	DILM7-…15	150 mm

The cable lengths for connecting SmartWire devices depend on the combination and assembly of the devices.

Applications	Cable length
Connection from power module to SWIRE-DIL with mounting beside PKZ	250 mm
Connection from power module to SWIRE-DIL with mounting beside DILM	150 mm
Connection from gateway to SWIRE-DIL with mounting beside PKZ	250 mm
Connection from coupling unit to SWIRE-DIL with mounting beside DILM	250 mm

Magnet systems

The number of motor starters or contactors DILM that can be connected is dependant on the power consumption of the magnet systems per SmartWire line. To increase the number of SmartWire modules that can be connected, power modules can be used.

24 V DC		DILM7	DILM 9	DILM12	DILM15	DILM17	DILM25	DILM32/38
Pick-up power	W	3	3	4.5	12 at 24 V	12 at 24 V	12 at 24 V	12 at 24 V
Holding power	W	3	3	4.5	0.5 at 24 V	0.5 at 24 V	0.5 at 24 V	0.5 at 24 V

SWIRE-…

Technical data

				SWIRE-GW-DP	SWIRE-PF	SWIRE-DIL
General						
Standards						
General				IEC/EN 60947 EN 55011 EN 55022 IEC/EN 61000-4 IEC/EN 60068-2-27		
Profibus-DP				IEC 61158	–	–
Mounting				Top-hat rail IEC/EN 60715 (35mm) or screw fixing with fixing brackets ZB4-101-GF1 (accessories)		on DILM7…DILM38
Dimensions (w x d x h)			mm	35 x 90 x 109	35 x 90 x 74	45 x 44 x 81
Weight			kg	0.15	0.1	0.04
Terminal capacity						
Solid			mm^2	0.34…1.5	0.34…1.5	0.34…1.5
Flexible with ferrule			mm^2	0.34…1.5	0.34…1.5	0.34…1.5
Solid or stranded			AWG	22…16	22…16	22…16
Flat-blade screwdriver			mm	3.5 x 0.8	3.5 x 0.8	3.5 x 0.8
Max. tightening torque			Nm	0.6	0.6	0.5
Ambient climatic conditions						
Ambient temperature	Operation		°C	-25 - +55	-25 - +55	-25 - +60
	Storage		°C	-25 - +70	-25 - +70	-25 - +70
Condensation				Prevent condensation by means of suitable measures		
Relative humidity, non-condensing (IEC/EN 60068-2-30)			%	5 - 95	5 - 95	5 - 95
Air pressure (in operation)			hPa	795 - 1080	795 - 1080	795 - 1080
Ambient mechanical conditions						
Protection type (IEC/EN 60529)				IP20	IP20	IP20
Pollution degree				2	2	2
Mounting position				Vertical	Vertical	As per DILM7 to DILM38
Electromagnetic compatibility (EMC)						
Electrostatic discharge (IEC EN 61000-4-2, Level 3, ESD)						
Air discharge			kV	8	8	8
Contact discharge			kV	–	–	–
Electromagnetic fields (IEC/EN 61000-4-3, RFI)		V/m		10	10	10
Radio interference suppression (EN 55011, EN 55022)				Class A	Class A	Class A
Burst pulses (IEC/EN 61000-4-4, level 3)						
Supply cables			kV	2	2	2
Signal cables			kV	2	2	2
High-energy pulses (surge) (IEC/EN 61000-4-5, level 2)			kV	0.5 (supply cables, symmetrical)		
Emitted RFI (IEC/EN 61000-4-6)			V	10	10	10
Insulation resistance						
Clearances and creepage distances				EN 50178, EN 60947-1, UL 508, CSA C22.2 No 142		
Insulation resistance				EN 50178, EN 60947-1		
Supply voltage, gateway electronics and SmartWire station electronics $U_{gateway}$						
Rated operational voltage $U_{gateway}$			V DC	24, -15 %, +20 %	–	–
Permissible range				20.4...28.8	20.4...28.8	Supply from gateway or power module
Ripple			%	≦ 5	–	–
Maximum coupling unit power consumption at 24 V DC			mA	500 (typically 100 for gateway + typically 25 per SmartWire module)	–	–
Voltage dips (IEC/EN 61131-2)			ms	10	–	–
Heat dissipation at 24 V DC			W	Normally 6	Normally 1	Normally 0.6
Protection against polarity reversal				Yes		
Short-circuit protection, SmartWire side				Yes	–	–

SWIRE-…

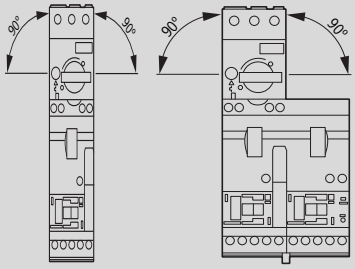
			SWIRE-GW-DP	SWIRE-PF	SWIRE-DIL
General					
Supply voltage U_{AUX} (supply voltage for switching SmartWire elements, e.g. contactor coils)					
Rated operational voltage U_{AUX}		V DC	24, -15 %, +20 % (Derating from > 40 °C)	24, -15 %, +20 % (Derating from > 40 °C)	Supply from gateway or power module
Permissible range		V DC	20.4…28.8, at 45 °C: 21…28.8, at 50 °C: 21.6…28.8, at 55 °C: 22.2…27.6	20.4…28.8, at 45 °C: 21…28.8, at 50 °C: 21.6…28.8, at 55 °C: 22.2…27.6	Supply from gateway or power module
Input current U_{AUX} at 24 V DC		A	Normally 3	Normally 3	–
Ripple		%	≦ 5	≦ 5	–
Voltage dips (IEC/EN 61131-2)		ms	10	10	–
Protection against polarity reversal					
Short-circuit protection, SmartWire side			No, external fuse 3 A or FAZ-Z3	No, external fuse 3 A or FAZ-Z3	–
LED indicators					
Operational			Ready: green	–	Ready: green
Power supply, SmartWire contactors			U_{Aux}: green	U_{Aux}: green	–
PROFIBUS-DP status			PROFIBUS-DP: green	–	–
SmartWire status			SmartWire: green	–	above Ready
Output status			–	–	–
Connection floating contacts					
Number			–	–	1
Rated voltage (internal supply)	U_e	V DC	–	–	17
Input current at "1" signal, typically		mA	–	–	5
Potential isolation			–	–	No
Max. cable length		m	–	–	< 2.8
PROFIBUS-DP					
Terminal type			SUB-D 9-pole, socket	–	–
Station address			1 … 125	–	–
Address setting			DIP switches	–	–
Potential isolation					
From U_{AUX} power supply			Yes		
From $U_{Gateway}$ power supply			Yes		
To SmartWire			Yes		
Function			PROFIBUS-DP slave	–	–
Bus protocol			PROFIBUS-DP	–	–
Bus Terminating Resistors			can be connected via plug	–	–
Baud rate			Automatic, up to 12 Mbits/s	–	–
SmartWire					
Terminal type			Plug, 6-pole	Plug, 6-pole	Plug, 6-pole
Data/power cable			6-core ribbon cable	6-core ribbon cable	6-core ribbon cable
Maximum cable length, SmartWire system		m	Max. 4	Max. 4	Max. 4
Bus termination			No	Plug connectors	Plug connectors
Station address			Automatic assignment	None	1…16
Station			max. 126 PROFIBUS stations	Max. 4 SmartWire cards per line	Max. 16 SmartWire cards per line
Address setting			None	None	automatically via SmartWire
Potential isolation					
From U_{AUX} power supply			No	No	No
From $U_{Gateway}$ power supply			No	No	No
Function			SmartWire master	no SmartWire station	SmartWire slave
Data transfer time, SmartWire system					
Write switch			–	–	Normally 20 ms for all stations
Read status information			–	–	Normally 10 ms per station

SWIRE-…

			SWIRE-4DI-2DO-R	SWIRE-GW-MB
General				
Standards				
General			IEC/EN 60947, EN 55011, EN 55022, IEC/EN 61000-4, IEC/EN 60068-2-27	
Mounting			Tophat rail IEC/EN 60715 (35 mm) or screw fixing with fixing brackets ZB4-101-GF1 (accessories)	
Dimensions (w x d x h)		mm	35 x 90 x 74	35 x 90 x 109
Weight		kg	0.12	0.15
Terminal capacity				
Solid		mm^2	0.5…1.5	0.5…1.5
Flexible with ferrule		mm^2	0.5…1.5	0.5…1.5
Solid or stranded		AWG	22…16	22…16
Flat-blade screwdriver		mm	3.5 x 0.8	3.5 x 0.8
Max. tightening torque		Nm	0.6	0.6
Ambient climatic conditions				
Ambient temperature Operation		°C	-25 - +55	-25 - +55
Storage		°C	-25 - +70	-25 - +70
Condensation			Prevent condensation by means of suitable measures	
Relative humidity, non-condensing (IEC/EN 60068-2-30)		%	5 - 95	5 - 95
Air pressure (in operation)		hPa	795 - 1080	795 - 1080
Ambient mechanical conditions				
Protection type (IEC/EN 60529, EN50178, VBG 4)			IP20	IP20
Pollution degree			2	2
Mounting position			Vertical	Vertical
Electromagnetic compatibility (EMC)				
Electrostatic discharge (IEC/EN 61000-4-2, Level 3, ESD)				
Air discharge		kV	8	8
Contact discharge		kV	–	–
Electromagnetic fields (IEC/EN 61000-4-3, RFI)	V/m		10	10
Radio interference suppression (EN 55011, EN 55022)			Class A	Class A
Burst pulses (IEC/EN 61000-4-4, level 3)				
Supply cables		kV	2	2
Signal cables		kV	–	2
power pulses (surge) (IEC/EN 61000-4-5, level 2)		kV	0.5 (supply cables, symmetrical)	
Emitted RFI (IEC/EN 61000-4-6)		V	10	10
Insulation resistance				
Clearances and creepage distances			EN 50178, EN 60947-1, UL 508, CSA C22.2 No 142	
Insulation resistance			EN 50178, EN 60947-1	
Supply voltage, gateway electronics and SmartWire station electronics $U_{gateway}$				
Rated operational voltage $U_{gateway}$		V DC	–	24, -15 %, +20 %
Permissible range			Supply from gateway or power module	20.4...28.8
Ripple		%	–	≦ 5
Maximum gateway current consumption at 24 V DC		mA	–	500 (normally 100 coupling unit + normally 25 per SmartWire card)
Voltage dips (IEC/EN 61131-2)		ms	–	10
Heat dissipation at 24 V DC		W	–	Normally 6
Protection against polarity reversal				Yes
Short-circuit protection, SmartWire side			–	Yes
Power supply U_{AUX} (power supply for switching the SmartWire slaves, e.g. contactor coils)				
Rated operational voltage U_{AUX}		V DC	–	24, -15 %, +20 % (Derating from > 40 °C)
Permissible range		V DC	–	20.4…28.8, at 45 °C: 21…28.8, at 50 °C: 21.6…28.8, at 55 °C: 22.2…27.6
Input current U_{AUX} at 24 V DC		A	–	Normally 3
Ripple		%	–	≦ 5
Voltage dips (IEC/EN 61131-2)		ms	–	10
Protection against polarity reversal				Yes
Voltage	U_s	V	–	Yes
Short-circuit protection, SmartWire side			–	No, external 3 A fuse or FAZ-Z3

SWIRE-…

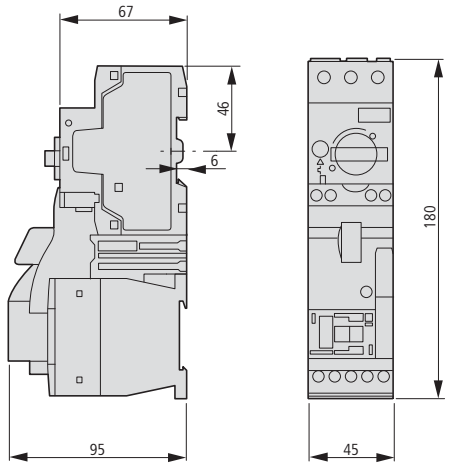
			SWIRE-4DI-2DO-R	SWIRE-GW-MB
LED indicators				
Operational			Ready: green	Ready: green
Power supply, SmartWire contactors			–	U_{Aux}: green
MODBUS status			–	MODBUS: yellow
SmartWire status			–	SmartWire: green
Output status			Q1, Q2: green	–
Connection floating contacts				
Number			4	–
Rated voltage (internal supply)	U_e	V DC	17	–
Input current at "1" signal, typically		mA	5	–
Potential isolation			–	Yes
Max. cable length		m	< 2.8	–
MODBUS				
Terminal type			–	SUB-D, 9 pole, socket RS232/RS485
Station address			–	1 … 31
Address setting			–	DIP switches
Potential isolation				
From U_{AUX} power supply			–	Yes
From $U_{Gateway}$ power supply			–	Yes
To SmartWire			–	Yes
Function			–	MODBUS-RTU Slave
Bus protocol			–	MODBUS-RTU
Bus Terminating Resistors			–	can be connected via plug
Baud rate			–	Adjustable up to 57.6 (9.6/19.2/38.4) kbit/s
SmartWire				
Terminal type			Plug, 6-pole	Plug, 6-pole
Data/power cable			6-core ribbon cable	6-core ribbon cable
Maximum cable length, SmartWire system		m	Max. 4	Max. 4
Bus termination			Plug connectors	No
Station address			1…16	Automatic assignment
Station			Max. 4 SmartWire modules per line.	Max. 16
Address setting			automatically via SmartWire	None
Potential isolation				
From U_{AUX} power supply			No	No
From $U_{Gateway}$ power supply			No	No
Function			SmartWire slave	SmartWire master
Data transfer time, SmartWire system				
Write switch			Normally 20 ms for all stations	–
Read status information			Normally 10 ms per station	–
Relay outputs				
Rated impulse withstand voltage	U_{imp}	V AC	4000	–
Overvoltage category/pollution degree			III/3	
Rated insulation voltage	U_i	V	250	–
Rated operating voltage	U_e	V	250	–
Making capacity		A	30	–
Breaking capacity	380/400 V	A	10	–
Rated operational current				
AC-15, 250 V	I_e	A	3	–
DC-12, 30 V	I_e	A	3	–
Conventional thermal current	I_{th}	A	6	6
Short-circuit rating without welding				
max. fuse		A gG/gL	10	–

General	**Standards**			IEC/EN 60947-4-1, VDE 0660 UL 508 (please enquire) CSA C 22.2 No. 14 (please enquire)
	Mounting position			
Main contacts	**Rated impulse withstand voltage**	U_{imp}	V AC	6000
	Overvoltage category/pollution degree			III/3
	Rated operating voltage	U_e	V	230 - 415
Further technical data	**Motor protective circuit breaker PKZM0, PKE**			→ Chapter 7
	Contactors DILM			→ Chapter 5

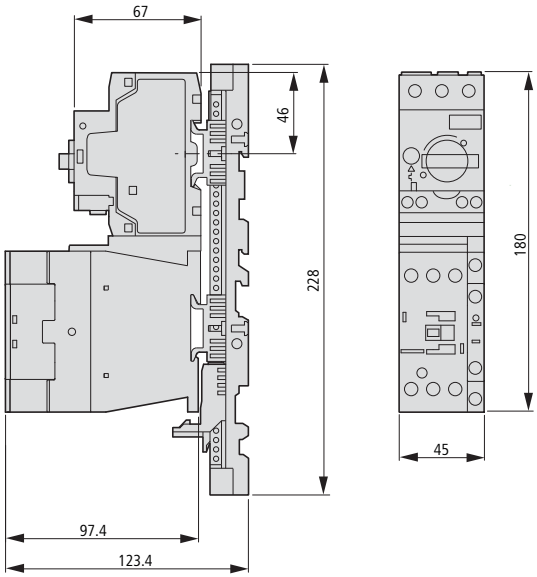
Dimensions

DOL starters

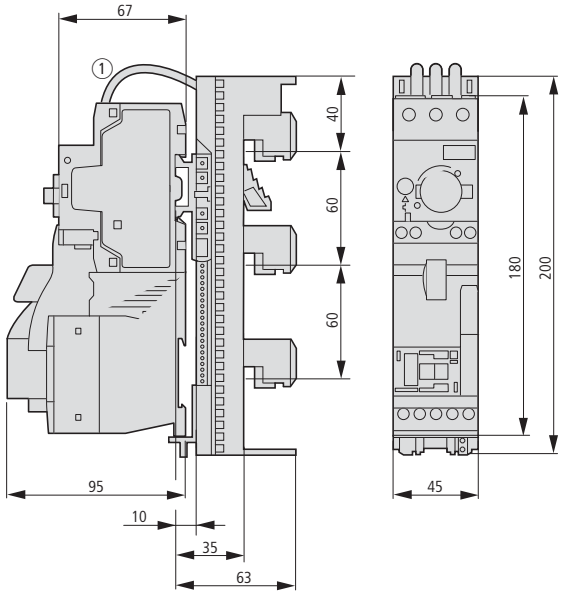
MSC-D-…-M7[…15]…



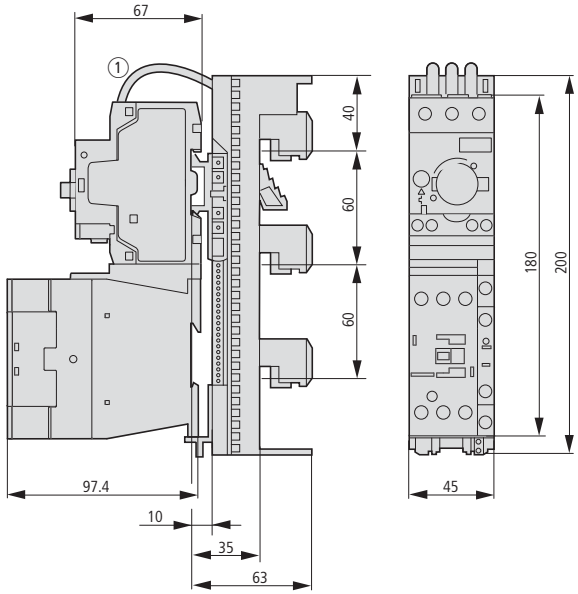
MSC-D-…-M17[…32]…



MSC-D-…-M7[…15]BBA…

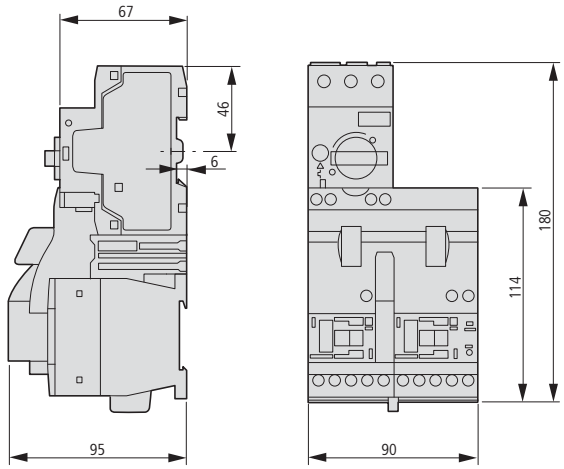


MSC-D-…-M17[…32]BBA…

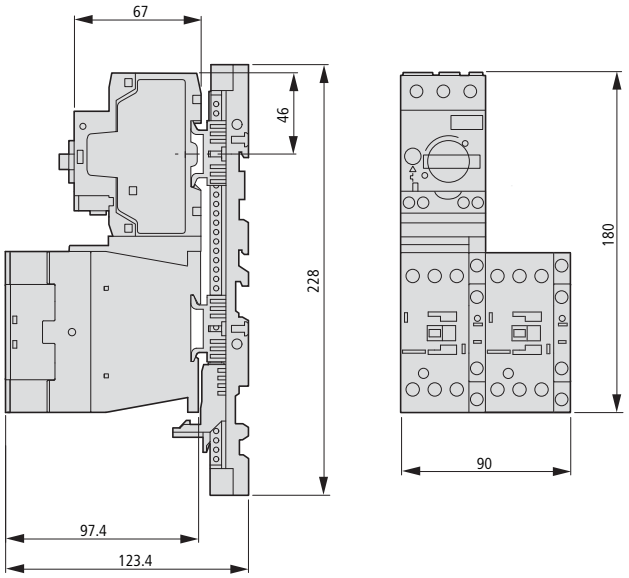


Reversing starters

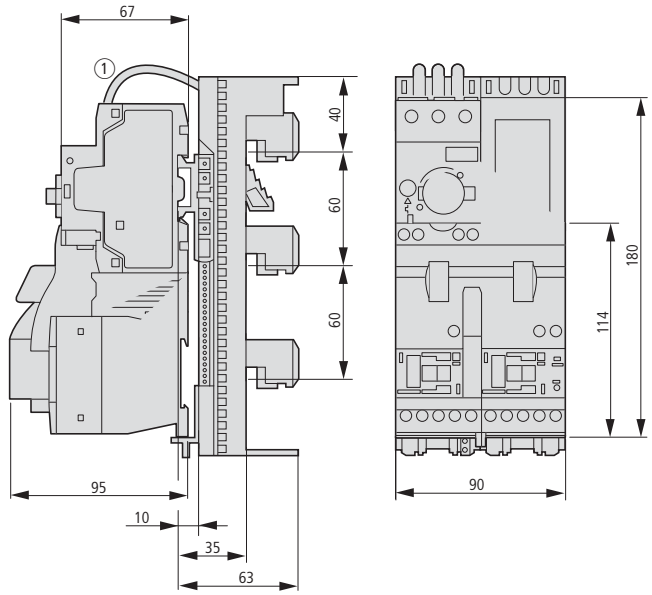
MSC-R-...-M7[...12]...



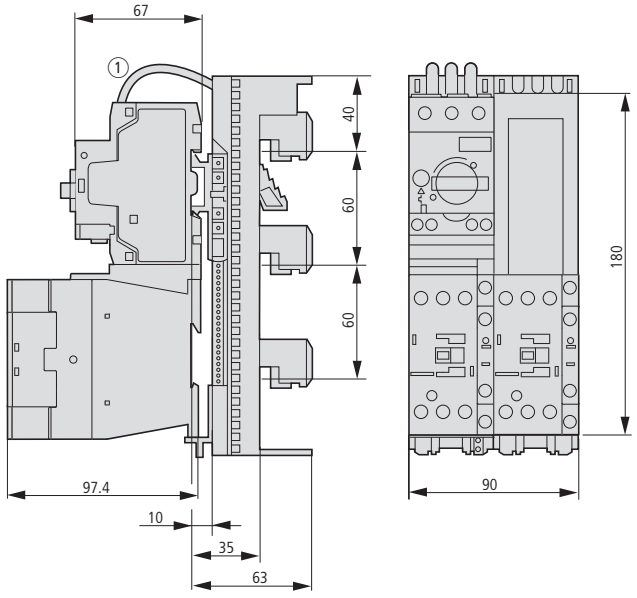
MSC-R-...-M17[...32]...



MSC-R-...-M7[...12]BBA...

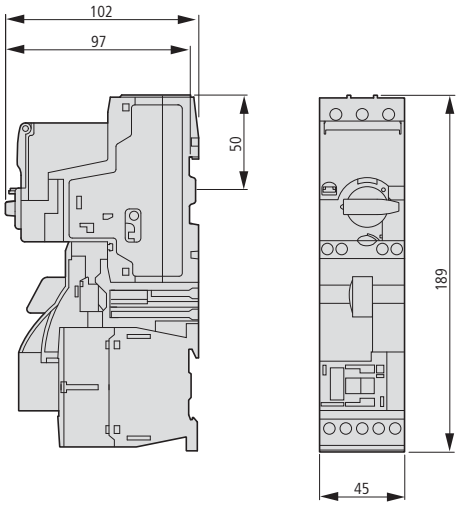


MSC-R-...-M17[...32]BBA...

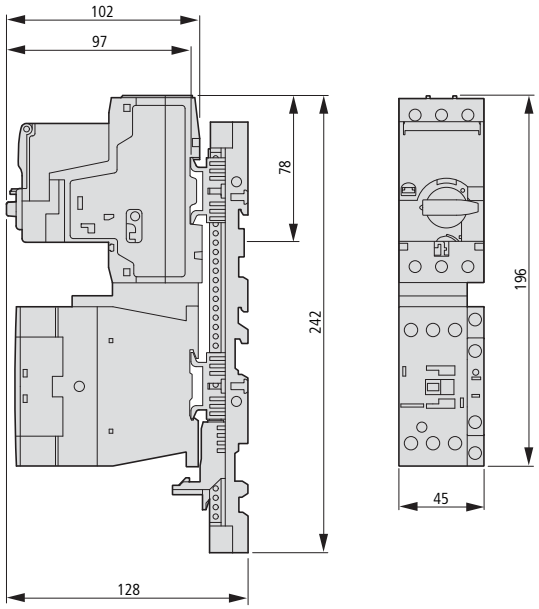


DOL starters

MSC-DE(A)-...-M7[...12]...



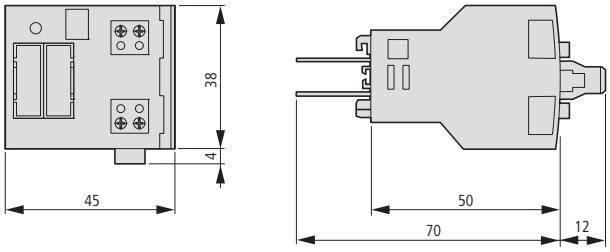
MSC-DE(A)-...-M17[...32]...



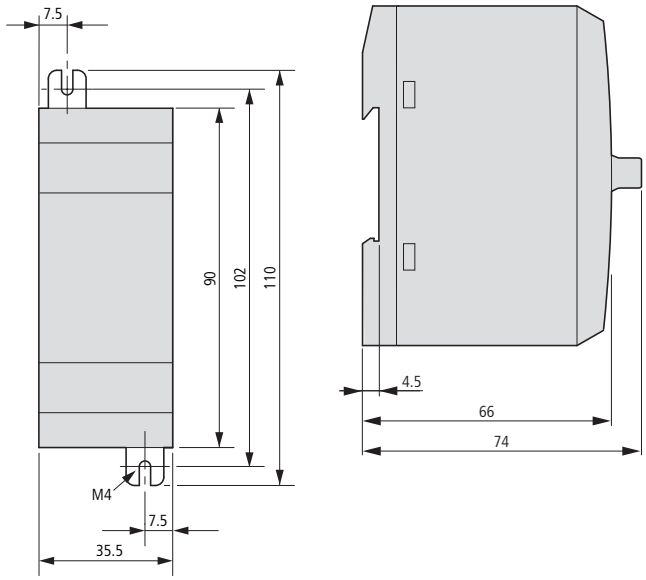
SWIRE-…

Modules

SWIRE-DIL



SWIRE-PF , SWIRE-4DI-2DO-R



Gateways

SWIRE-GW-DP..., SWIRE-GW-MB