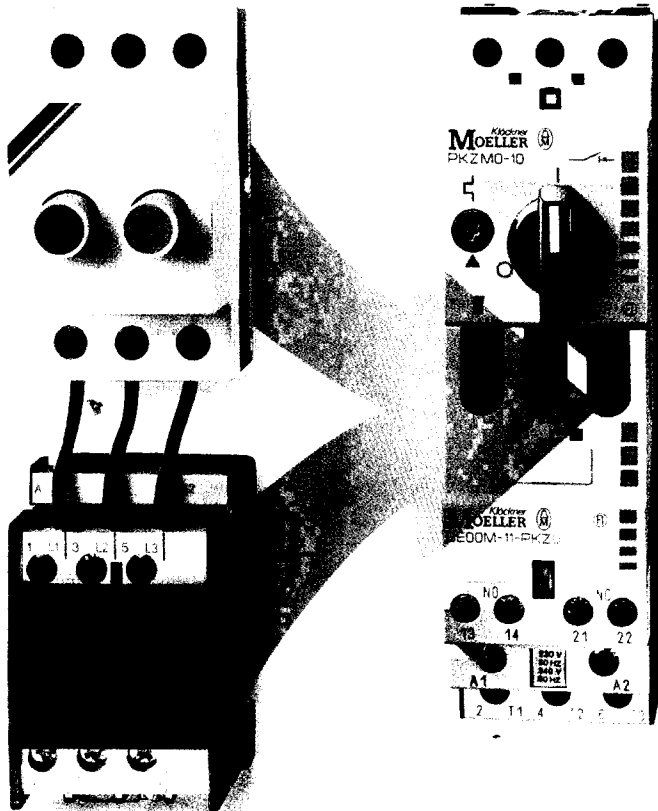


Switching with savings using the PKZ 0 System



Built and tested to IEC 947

The PKZ 0 system is a modular and flexible system which is tailor-made specifically for the large volume market of motors up to 4 kW/400 V. As easy operation and compact construction in addition to functional technology are required in this range, this is where the emphasis was placed in this new development, which was implemented according to the most up-to-date national and international standards (IEC 947, EN 60 947 and VDE 0660).

In order to achieve a solution which is both efficient and economical, whatever the performance profile of the motor starter required, the PKZ 0 system comes in two basic versions: the compact starter and the high-capacity compact starter.

Two in one

The compact starter consists of the PKZM 0 motor-protective circuit-breaker and the built-on SE 00-...-PKZ 0 contact module which has complementary dimensions. While the motor-protective circuit-breaker is responsible for the disconnection, short-circuit protection and overload protection functions, the contact module performs the operational switching of the motor current. The motor-protective circuit-breaker and the contact module are preassembled on a clip plate which allows the compact starter to be mounted on one or two DIN top-hat rails or allows separate mounting

by means of screw fixing. Compared with conventional motor starters, consisting of a motor-protective circuit-breaker and contactor, this extremely compact device offers the following advantages:

- only one device to select
- only one device to engineer
- only one device to order
- only one device to fit
- only one device to wire

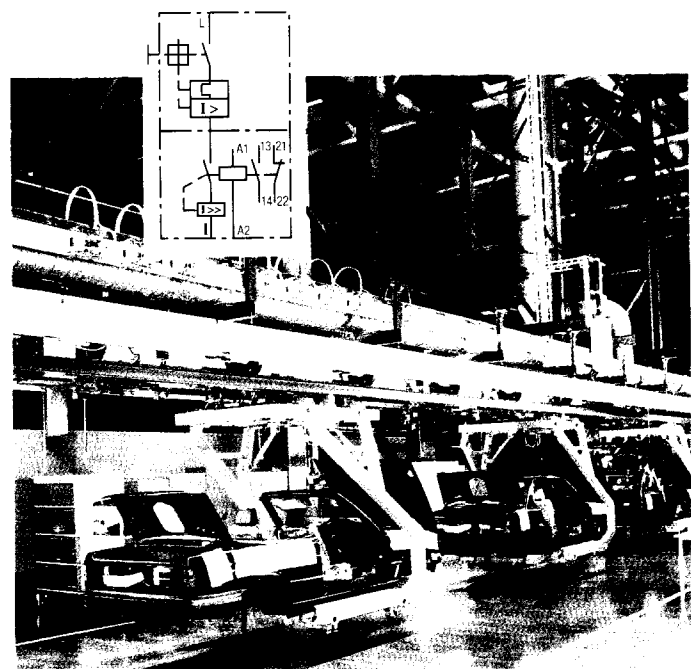
This provides handling advantages: the fitting and wiring time is reduced by up to 50 %, as there is only one device instead of two to fit, and there is no wiring to be carried out between the motor-protective circuit-breaker and the contactor in the starter (three cables to be prepared and six terminations).

Short-circuit calculations: No thank you!

Owing to the high switching capacity of the PKZM 0 motor-protective circuit-breaker, the compact starter controls short-circuit currents of up to 100 kA/400 V. There is therefore no need to carry out time-consuming short-circuit calculations in the engineering phase.

Minimizing downtimes

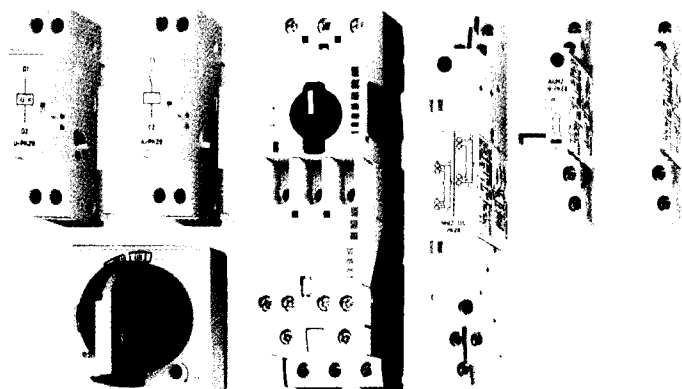
Whereas the compact starter is designed for standard tasks, the high-capacity compact starter provides the solution for particularly cost-intensive processes, where continuity in the power supply of motor circuits is essential. The high-capacity compact starter differs from the compact starter solely in its behaviour under short-circuit conditions. It is ready to start directly after a short-circuit of up to 100 kA/400 V – and that is guaranteed. Costly downtimes can thus be reduced to a minimum. This is effected technically by an



additional impact armature system in the high-capacity contact module which prevents the main contacts from welding in the event of a short-circuit.

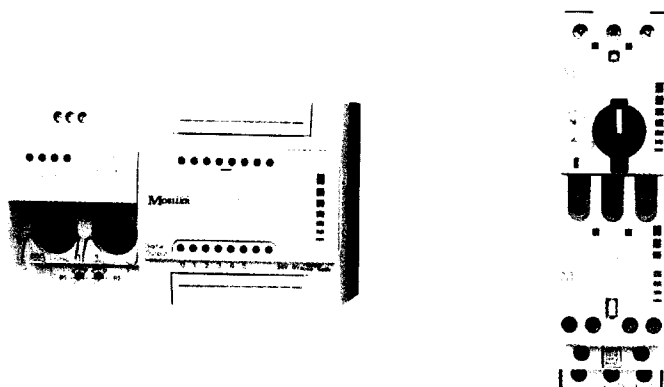
Systematic motor protection

The PKZ 0 system is a modular and flexible system and is complemented by a uniform range of accessories. Shunt releases and undervoltage releases are available for the supply voltages in common use worldwide. Fail-safe auxiliary contacts with different contact combinations allow an optimum flow of information concerning the operational states of the (high-capacity) compact starter to the upstream programmable controller. This includes information concerning "On/Off" on the protective switch, "On/Off" on the (high-capacity) contact module and the differential message "tripped", due to short-circuit or overload. The trip-indicating auxiliary contact module also has a red short-circuit indicator for the visual on-site indication of a short-circuit. Both voltage releases and auxiliary contacts can be built on to the basic unit without the need for tools.



Direct actuation from the PLC

With its low-consumption coils, the (high-capacity) contact modules can be actuated directly from the semiconductor outputs of a programmable controller – without coupling elements. Integral suppressor circuits in the coils are standard to the range.



Fitting and wiring made easy

A door coupling handle is available for the external operation of the compact starter and allows it to be used either as a main switch or as an emergency-stop switch, depending on

the application. The compact starter can thus be operated without the control panel door, the enclosure cover or the front of the motor control centre having to be opened.

Various wiring aids, such as three-phase commoning links, contribute to space and time saving. They enable several compact starters fitted side by side to be supplied rapidly at the same time. Side mounted auxiliary contact modules or voltage releases are also allowed for.

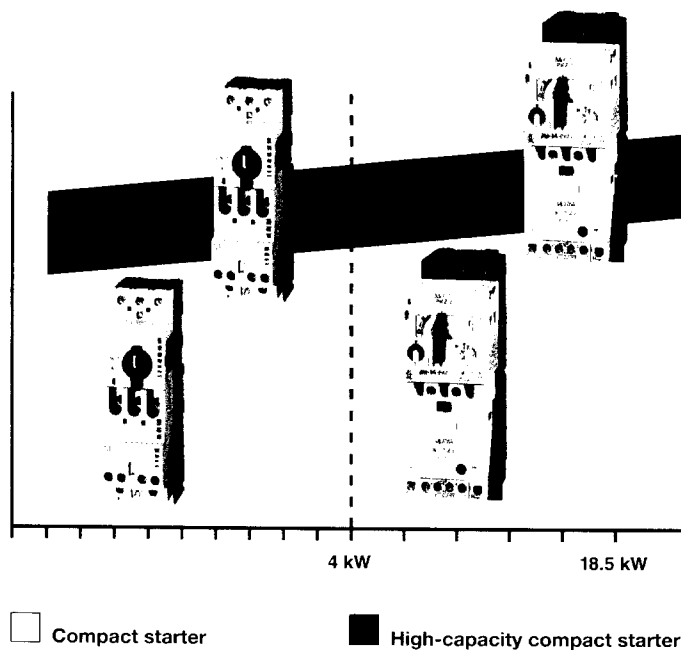
Due to the flexibility of the PKZ 0 system, the PKZM 0 motor-protective circuit-breaker can also be used as a stand-alone unit. In order to take account of different fitting methods, flush mounting and surface mounting enclosures have been developed for IP 41 and IP 54 degrees of protection.

Thanks to the fact that the (high-capacity) contact modules can be mounted separately, reversing starter combinations, for example, can be built and then fitted with a mechanical interlock.

Motor protection up to 18.5 kW

For motor ratings above 4 kW/400 V, the tried and tested PKZ 2 system is available. Analogous to the PKZ 0 system, this range too has the compact starter and the high-capacity compact starter, also with uniform accessories.

The PKZ 2 system covers a range of 0.06...18.5 kW/400 V (0.6...40 A). Compared with the PKZ 0 range, it offers the following additional technical features: exchangeable plug-fit trip blocks with the functions "short-circuit protection" or "short-circuit protection and overload protection for motors" or "short-circuit protection and overload protection for systems" or "short-circuit protection and overload protection with overload relay function" and the electronic RE and RS-PKZ 2 remote operators for the remote actuation of the protective switch.



For physical reasons (dimensions and weights of low-voltage switchgear), it is not practical to follow the compact starter philosophy for motor ratings beyond 18.5 kW/400 V. For this reason, the NZM circuit-breakers and the DIL contactors cover this range.

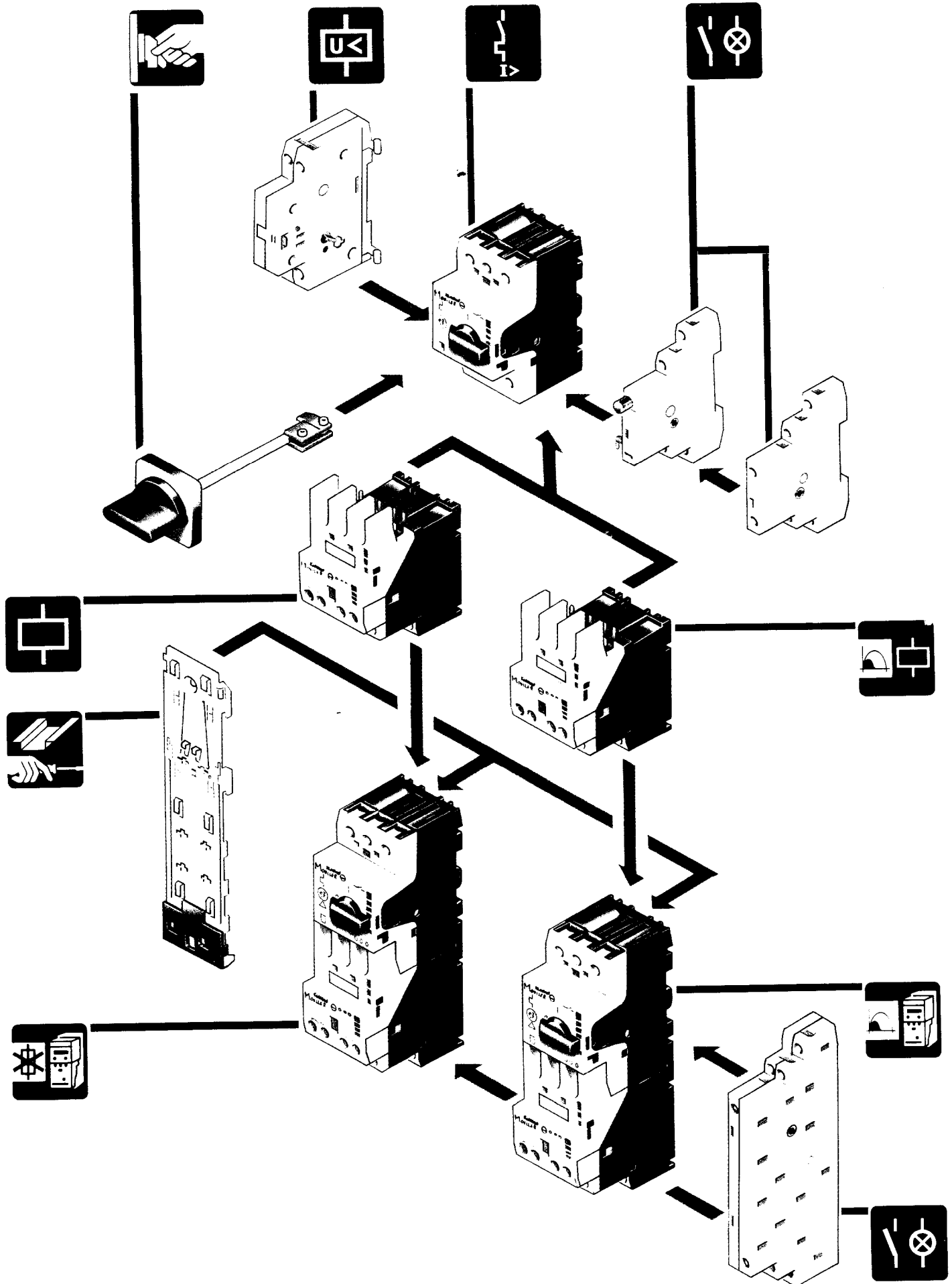
Specimen Text for Tenders

Item	Quantity	Description	Price each	Total																														
		<p>Compact starters</p> <p>Coordination type "1" to IEC 947-4-1 Comprising motor-protective circuit-breaker and contact module Rated operational voltage $U_e = 690$ V Rated uninterrupted current $I_u = 10$ A (nearest standard motor: 4 kW/400 V) Tripping devices: Non-delayed short-circuit release, fixed at $14 \times I_u$ Inverse time-delayed overload release $0.6...1 \times I_u$</p> <p>Single-phasing sensitivity to IEC 947-4-1 Rated conditional short-circuit current I_c:</p> <table border="0"> <tr> <td>220 V/230 V/240 V</td> <td>100 kA</td> </tr> <tr> <td>380 V/400 V/415 V</td> <td>100 kA</td> </tr> <tr> <td>440 V</td> <td>Please enquire</td> </tr> <tr> <td>500 V</td> <td>Please enquire</td> </tr> <tr> <td>660 V/690 V</td> <td>Please enquire</td> </tr> </table> <p>Electrical lifespan (400 V): Motor-protective circuit-breaker (AC-3): 0.1×10^6 operations Contact module (100% AC-3): 0.5×10^6 operations</p> <p>High-capacity compact starter</p> <p>To IEC 947-6-2 Comprising motor-protective circuit-breaker and high-capacity contact module Rated operational voltage $U_e = 690$ v Rated uninterrupted current $I_u = 10$ A (nearest standard motor: 4 kW/400 V) Tripping devices: Non-delayed short-circuit release, fixed at $14 \times I_u$ Inverse time-delayed overload release $0.6...1 \times I_u$</p> <p>Single-phasing sensitivity to IEC 947-4-1 Rated operational short-circuit breaking capacity I_{cs}:</p> <table border="0"> <tr> <td>220 V/230 V/240 V</td> <td>100 kA</td> </tr> <tr> <td>380 V/400 V/415 V</td> <td>100 kA</td> </tr> <tr> <td>440 V</td> <td>Please enquire</td> </tr> <tr> <td>500 V</td> <td>Please enquire</td> </tr> <tr> <td>660 V/690 V</td> <td>Please enquire</td> </tr> </table> <p>Electrical lifespan (400 V): Motor-protective circuit-breaker (AC-3): 0.1×10^6 operations Contact module (100% AC-3): 0.5×10^6 operations</p> <p>Motor-protective circuit-breaker</p> <p>To IEC 947-4-1 Rated operational voltage $U_e = 690$ V Rated uninterrupted current $I_u = 10$ A (nearest standard motor: 4 kW/400 V) $I_u = 25$ A Please enquire Tripping devices: Non-delayed short-circuit release, fixed at $14 \times I_u$ Inverse time-delayed overload release $0.6...1 \times I_u$</p> <p>Single-phasing sensitivity to IEC 947-4-1 Rated operational short-circuit breaking capacity I_{cs} (to IEC 947-2):</p> <table border="0"> <tr> <td>220 V/230 V/240 V</td> <td>15 kA</td> </tr> <tr> <td>380 V/400 V/415 V</td> <td>15 kA</td> </tr> <tr> <td>440 V</td> <td>Please enquire</td> </tr> <tr> <td>500 V</td> <td>Please enquire</td> </tr> <tr> <td>660 V/690 V</td> <td>Please enquire</td> </tr> </table> <p>Electrical lifespan (AC-3, 400 V): 0.1×10^6 operations</p>	220 V/230 V/240 V	100 kA	380 V/400 V/415 V	100 kA	440 V	Please enquire	500 V	Please enquire	660 V/690 V	Please enquire	220 V/230 V/240 V	100 kA	380 V/400 V/415 V	100 kA	440 V	Please enquire	500 V	Please enquire	660 V/690 V	Please enquire	220 V/230 V/240 V	15 kA	380 V/400 V/415 V	15 kA	440 V	Please enquire	500 V	Please enquire	660 V/690 V	Please enquire		
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500 V	Please enquire																																	
660 V/690 V	Please enquire																																	

Item	Quantity	Description	Price each	Total
		<p>Accessories</p> <p>Contact module</p> <p>To IEC 947-4-1</p> <ul style="list-style-type: none"> ■ For fitting to motor-protective circuit-breaker, profiles match ■ For operational switching (100% AC-3, 4 kW/400 V) ■ Integral auxiliary contacts (1M/1B or 2M) for remote On/Off indication of the contact module ■ 24 V D.C. version can be directly actuated from a PLC semi-conductor output <p>High capacity contact module</p> <p>To IEC 947-4-1</p> <ul style="list-style-type: none"> ■ For fitting to motor-protective circuit-breaker, profiles match ■ For operational switching (100% AC-3, 4 kW/400 V) ■ When used in combination with a motor-protective circuit-breaker, weld-free to IEC 947-6-2 ■ Integral auxiliary contacts (1M/1B or 2M) for remote On/Off indication of the contact module ■ 24 V D.C. can be directly actuated from a PLC semi-conductor output <p>Voltage releases</p> <ul style="list-style-type: none"> ■ Undervoltage release ■ Undervoltage release with 2 integral early-make auxiliary contacts ■ Shunt release <p>Auxiliary contacts</p> <p>Signalling of</p> <ul style="list-style-type: none"> ■ On/Off for motor-protective circuit-breaker by means of standard auxiliary contact ■ On/Off (high-capacity) contact module by means of standard auxiliary contact ■ Short-circuit by means of trip-indicating auxiliary contact ■ Tripped by means of trip-indicating auxiliary contact <p>Early-make auxiliary contact integrated in undervoltage release (UHI-PKZ 0)</p> <p>Enclosures</p> <ul style="list-style-type: none"> ■ Surface and flush mounting enclosures for motor-protective circuit-breakers with accessories ■ Surface mounting enclosure for (high-capacity) compact starter with accessories <p>Door coupling handle</p>		

Klockner-Moeller Energy Control

PKZ 0 Motor Protection





Compact starter

- Rated operational current 10 A, 4 kW/400 V
- Switching capacity 100 kA/400 V
- Fixed short-circuit release $14 \times I_n$
- Overload release, adjustable $0.6 \dots 1 \times I_n$
- Single-phasing sensitivity



Compact starter



High-capacity compact starter, weld-free

- Rated operational current 10 A, 4 kW/400 V
- Switching capacity 100 kA/400 V, weld-free
- Fixed short-circuit release
- Overload release, adjustable $0.6 \dots 1 \times I_n$
- Single-phasing sensitivity



High-capacity compact starter



Motor-protective circuit-breaker

- Rated operational current 10 A
- Switching capacity 100 kA/400 V, (PKZ 0-ZM-...)
- Fixed short-circuit release $14 \times I_n$
- Overload release, adjustable $0.6 \dots 1 \times I_n$
- Single-phasing sensitivity



Motor-protective circuit breaker



Contact module

- Function and characteristics of a contactor
- For fitting to protective switches, profiles match
- Integral auxiliary contacts 1 M, 1 B or 2 M
- Separately mounted contact module



Contact module



Separately mounted contact module



High-capacity contact module

- Function and characteristics of a contactor
- Weld-free contact system
- For fitting to protective switches, profiles match
- Integral auxiliary contacts: 1 M, 1 B or 2 M
- Separately mounted high-capacity contact module



High-capacity contact module



Separately mounted high-capacity contact module



Auxiliary contacts

- On/Off indication
- Differential fault indication of overload/short-circuit tripping
- On/Off for contact module
- On/Off for starter combination
- All auxiliary contacts are suitable for use with electronic devices



Standard auxiliary contacts



Trip-indicating auxiliary contacts



Standard auxiliary contacts



Voltage releases

- Undervoltage release with or without early-make auxiliary contacts
- Shunt release



Undervoltage release



Shunt release



Mounting/Wiring

- Clip plate for PKZ 0 (high-capacity) compact starter can be snap fitted onto a rail to EN 50 022 (35 mm width)
- Three-phase commoning link for series mounting in control panels and service distribution boards



Clip plate



Three-phase commoning link



Door coupling handle

- Indication of switch position: On/Off/Tripped
- Lockable by means of 3 padlocks
- Integral door/cover interlock
- Handle latched in switch positions
- Degree of protection IP 54



Main switch



Emergency-stop/main switch



Insulated enclosures

- Surface mounting enclosures, IP 41, IP 54 and IP 65
- Flush mounting enclosures, front, IP 41 and IP 54



Flush mounting enclosure






Surface mounting enclosure









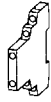








Overview of Combinations

The possible combinations of compact starters or protective switches with enclosures or modules are indicated by ● within a shaded line


Type	Enclosures		Degree of protection	Modules		
	Type			Standard auxiliary contacts	Standard auxil. contact for compact starter	Trip-indicating auxiliary contacts
				NHI21-PKZ 0 NHI12-PKZ 0 NHI11-PKZ 0	NHI2-11S-PKZ 0	AGM 2-10-PKZ 0 AGM 2-01-PKZ 0
Compact starter High-capacity compact starter 	PKZM 0-.../S(E)00	-	IP 20	●	-	●
		-	IP 20	-	●	-
	PKZM 0-.../S(E) 00	CI 23 E-125	IP 65	●	-	●
		CI 23 E-150	IP 65	-	●	-
Motor-protective circuit-breaker 	PKZM 0-...	-	IP 20	●	-	●
	PKZM 0-...	- E-PKZ 0	Front	●	-	●
			IP 41	-	-	-
	PKZM 0-...	E-PKZ 0-G(R)	Front	●	-	●
		IP 54	-	-	-	
PKZM 0-...	CI-PKZ 0	IP 41	●	-	●	
			-	-	-	
PKZM 0-...	CI-PKZ 0-G(R)	IP 54	●	-	●	
			-	-	-	

PKZ 0 System


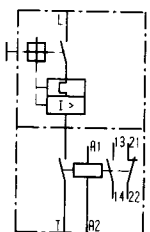
(High-capacity) contact modules	Undervoltage releases	Shunt release	Door coupling handles	Indicator light	Neutral terminal	2 
						4
SE 00-PKZ 0 S 00-PKZ 0	U-PKZ 0 UHI-PKZ 0	A-PKZ 0	H-PKZ 0 RH-PKZ 0	L-PKZM 1	N-PKZM 1	PKZ 0
-	●	or	●	●	-	12 
-	●	or	●	●	-	18 
-	●	or	●	● IP 54	●	20 
-	●	or	●	● IP 54	●	22 
●	●	or	●	●	-	24 
-	-	or	-	-	●	28 
-	●	or	●	-	●	32 
-	-	or	-	-	●	38 
-	●	or	●	-	●	
-	-	or	-	-	●	
-	●	or	●	-	●	
-	-	or	-	-	●	
-	●	or	●	-	●	

Compact Starters, for standard applications

Devices for world markets IEC Δ UL/CSA

1	2	3	4	5	6	7	8
Max. AC-3 rating	Rated uninter- rupted current I_u	Overload release setting range I_r	Short- circuit release I_{rm}		Type with 1 M/1 B auxiliary contact built into the contact module	Price	Std. pack
220 V 380 V 440 V 500 V 660 V 230 V 400 V 240 V 415 V					One of the following actuating voltages should be added to the type reference 		
kW kW kW kW kW	A	A	A				

Compact starters

		0.16	0.1...0.16	2.2		PKZM0-0,16/SE00-11 (...)	1
0.06		0.25	0.16...0.25	3.5		PKZM0-0,25/SE00-11 (...)	1
0.06 0.09		0.4	0.25...0.4	5.6		PKZM0-0,4/SE00-11 (...)	1
0.09 0.12		0.63	0.4...0.63	8.8		PKZM0-0,63/SE00-11 (...)	1
0.12 0.25	Please enquire	1	0.63...1.0	14		PKZM0-1/SE00-11 (...)	1
0.25 0.55		1.6	1.0...1.6	22		PKZM0-1,6/SE00-11 (...)	1
0.37 0.75		2.5	1.6...2.5	35		PKZM0-2,5/SE00-11 (...)	1
0.75 1.5	4	2.5...4.0	56	PKZM0-4/SE00-11 (...)		1	
1.1 2.2	6.3	4.0...6.3	88	PKZM0-6,3/SE00-11 (...)		1	
2.2 4	10	6.3...10.0	140	PKZM0-10/SE00-11 (...)	1		

Actuating voltages of the contact module:

The figures which are highlighted () indicate the voltage and frequency combinations possible with one coil.

A.C.			D.C.	
24 V 50 Hz	24 V 60 Hz	36 V 50 Hz, 42 V 60 Hz	24 V 50/60 Hz	12 V DC
48 V 50 Hz	110 V 60 Hz	42 V 50 Hz, 48 V 60 Hz	42 V 50/60 Hz	24 V DC
240 V 50 Hz	115 V 60 Hz	110 V 50 Hz, 120 V 60 Hz	48 V 50/60 Hz	48 V DC
500 V 50 Hz	600 V 60 Hz	190 V 50 Hz, 220 V 60 Hz	110 V 50/60 Hz	60 V DC
		220 V 50 Hz, 240 V 60 Hz	115 V 50/60 Hz	110 V DC
		230 V 50 Hz, 240 V 60 Hz	220 V 50/60 Hz	220 V DC
		380 V 50 Hz, 440 V 60 Hz	380 V 50/60 Hz	
		400 V 50 Hz, 440 V 60 Hz	500 V 50/60 Hz	
		415 V 50 Hz, 480 V 60 Hz		

9	10	11	12	13	14	2	
		Price	Std. pack	Application notes	Add-on modules		
Type with 2M auxiliary contact built into the contact module							
One of the following actuating voltages should be added to the type reference						4	
						Page	
	PKZM0-0,16/SE00-20 (...)	1	Can be snap fitted onto a 7.5/10/15 mm top-hat rail to EN 50 022 (35 mm width) or onto two top-hat rails with distances of 75/100/125 mm between centres			PKZ 0 12	
	PKZM0-0,25/SE00-20 (...)	1					
	PKZM0-0,4/SE00-20 (...)	1					18
	PKZM0-0,63/SE00-20 (...)	1					
	PKZM0-1/SE00-20 (...)	1					20
	PKZM0-1,6/SE00-20 (...)	1					
	PKZM0-2,5/SE00-20 (...)	1					22
	PKZM0-4/SE00-20 (...)	1			24		
	PKZM0-6,3/SE00-20 (...)	1					
	PKZM0-10/SE00-20 (...)	1					

Ordering example:

Compact starter 10 A (4 kW/400 V) with 1 Break/1 Make contact; contact system 230 V 50 Hz

Type: PKZM0-10/SE00-11(230V50Hz)

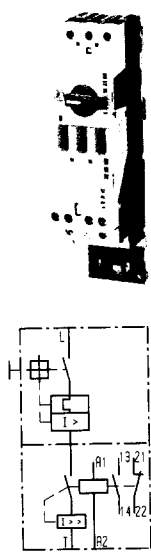
A compact starter for actuating voltages of 230 V 50 Hz **and** 240 V 60 Hz is supplied, mounted on a clip plate and ready for operation

High-Capacity Compact Starters, weld-free

Devices for world markets IEC Δ UL/CSA

1	2	3	4	5	6	7	8
Max. AC-3 rating	Rated uninter- rupted current I_c	Overload release setting range I_r	Short- circuit release I_{rm}		Type with 1M/1B auxiliary contact built into the contact module	Price	Std. pack
220 V 380 V 440 V 500 V 230 V 400 V 240 V 415 V	660 V 690 V				One of the following actuating voltages should be added to the type reference		
kW kW kW kW kW	A	A	A				


Compact starters

				0.16	0.1...0.16	2.2		PKZM0-0,16/S00-11 (...)	1
	0.06			0.25	0.16...0.25	3.5		PKZM0-0,25/S00-11 (...)	1
0.06	0.09			0.4	0.25...0.4	5.6		PKZM0-0,4/S00-11 (...)	1
0.09	0.12			0.63	0.4...0.63	8.8		PKZM0-0,63/S00-11 (...)	1
0.12	0.25	Please enquire		1	0.63...1.0	14		PKZM0-1/S00-11 (...)	1
0.25	0.55		1.6	1.0...1.6	22	PKZM0-1,6/S00-11 (...)		1	
0.37	0.75			2.5	1.6...2.5	35		PKZM0-2,5/S00-11 (...)	1
0.75	1.5			4	2.5...4.0	56		PKZM0-4/S00-11 (...)	1
1.1	2.2			6.3	4.0...6.3	88		PKZM0-6,3/S00-11 (...)	1
2.2	4			10	6.3...10.0	140		PKZM0-10/S00-11 (...)	1

Actuating voltages of the high-capacity contact module:

The figures which are highlighted () indicate the voltage and frequency combinations possible with one coil.

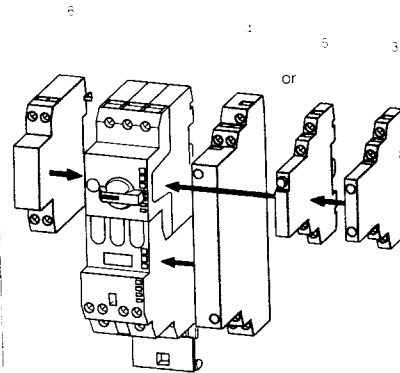
A.C.				D.C.
24 V 50 Hz	24 V 60 Hz	36 V 50 Hz, 42 V 60 Hz	24 V 50/60 Hz	12 V DC
48 V 50 Hz	110 V 60 Hz	42 V 50 Hz, 48 V 60 Hz	42 V 50/60 Hz	24 V DC
240 V 50 Hz	115 V 60 Hz	110 V 50 Hz, 120 V 60 Hz	48 V 50/60 Hz	48 V DC
500 V 50 Hz	600 V 60 Hz	190 V 50 Hz, 220 V 60 Hz	110 V 50/60 Hz	60 V DC
		220 V 50 Hz, 240 V 60 Hz	115 V 50/60 Hz	110 V DC
		230 V 50 Hz, 240 V 60 Hz	220 V 50/60 Hz	220 V DC
		380 V 50 Hz, 440 V 60 Hz	380 V 50/60 Hz	
		400 V 50 Hz, 440 V 60 Hz	500 V 50/60 Hz	
		415 V 50 Hz, 480 V 60 Hz		

9	10	11	12	13	14	2
Type	Price	Std. pack	Application notes	Add-on modules		
<p>Type with 2M auxiliary contact built into the contact module</p> <p>One of the following actuating voltages should be added to the type reference</p>						
					Page	4



PKZM0-0,16/S00-20 (...)	1
PKZM0-0,25/S00-20 (...)	1
PKZM0-0,4/S00-20 (...)	1
PKZM0-0,63/S00-20 (...)	1
PKZM0-1/S00-20 (...)	1
PKZM0-1,6/S00-20 (...)	1
PKZM0-2,5/S00-20 (...)	1
PKZM0-4/S00-20 (...)	1
PKZM0-6,3/S00-20 (...)	1
PKZM0-10/S00-20 (...)	1

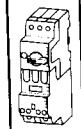
Can be snap fitted onto a 7.5/10/15 mm top-hat rail to EN 50 022 (35 mm width) or onto two top-hat rails with distances of 75/100/125 mm between centres



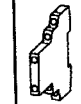
3	Standard auxiliary contact	18
4	Standard auxiliary contact for compact starter	18
5	Trip-indicating auxiliary contact	18
6	Shunt release Undervoltage release	20
	Accessories	24

PKZ 0

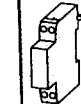
12



18



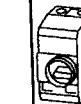
20



22



24



28



32



38



Ordering example:

High-capacity compact starter 10 A (4 kW/400 V) with 1 Break/1 Make contact; contact system 230 V 50 Hz

Type: PKZM0-10/S00-11(230V50Hz)


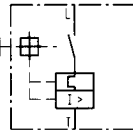
A high-capacity compact starter for actuating voltages of 230 V 50 Hz and 240 V 60 Hz is supplied, mounted on a clip plate and ready for operation

Motor-Protective Circuit-Breakers

Devices for world markets IEC Δ UL/CSA

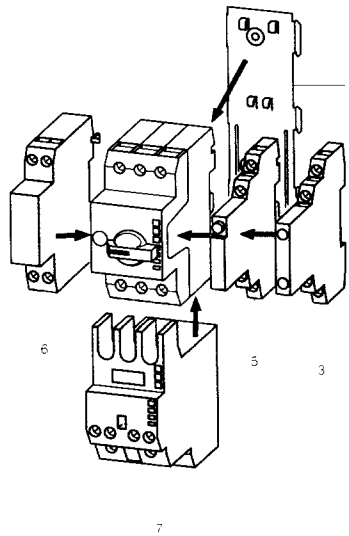
1	2					3	4	5	6	7	8
Max. AC-3 rating	Rated uninter- rupted current I_n					Overload release setting range I_r	Short-circuit release I_m		Type	Price	Std. pack
220 V 380 V 230 V 400 V 240 V 415 V	440 V	500 V	660 V	690 V							
kW	kW	kW	kW	kW	A	A	A				

Motor-protective circuit-breakers

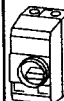
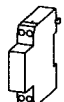
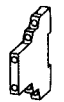
					0.16	0.1...0.16	2.2		PKZM0-0,16	1
	0.06				0.25	0.16...0.25	3.5		PKZM0-0,25	1
0.06	0.09				0.4	0.25...0.4	5.6		PKZM0-0,4	1
0.09	0.12				0.63	0.4...0.63	8.8		PKZM0-0,63	1
0.12	0.25				1	0.63...1.0	14		PKZM0-1	1
0.25	0.55				1,6	1.0...1.6	22		PKZM0-1,6	1
0.37	0.75				2.5	1.6...2.5	35		PKZM0-2,5	1
0.75	1.5	Please enquire			4	2.5...4.0	56		PKZM0-4	1
1.1	2.2				6.3	4.0...6.3	88		PKZM0-6,3	1
2.2	4				10	6.3...10.0	140		PKZM0-10	1
4	7.5				16	10...16	224		PKZM0-16	Please enquire
5.5	9				20	16...20	280		PKZM0-20	Please enquire
7.5	12.5				25	20...25	350		PKZM0-25	Please enquire



Can be snap fitted onto a 7.5/10/15 mm top-hat rail to EN 50 022 (35 mm width)



3	Standard auxiliary contact	18
5	Trip-indicating auxiliary contact	18
6	Shunt release Undervoltage release	20
7	Contact module High-capacity contact module	22
8	Clip plate	25
Accessories		24



Auxiliary Contacts, Trip-Indicating Auxiliary Contacts

1	2	3	4	5
	Contact sequence	Auxiliary contacts M = Make B = Break		Type suffix When fitted to basic device

Standard auxiliary contacts

For (high-capacity) compact starters and protective switches

	1M 1B			+NHI11-PKZO
	1M 2B			+NHI12-PKZO
	2M 1B			+NHI21-PKZO
	2 x 1M 1B	Differential status indication of the main contacts of the protective switch and the (high-capacity) contact module		+NHI2-11S-PKZO

Trip-indicating auxiliary contacts

For (high-capacity) compact starters and protective switches

	2 x 1M	Differential indication a) General trip indication (overload) b) Short-circuit trip		+AGM2-10-PKZO
	2 x 1B	Local short-circuit indication by red indicator, can be reset manually		+AGM2-01-PKZO

6	7	8	9	10	11	2
Type	Price	Std. pack	Application notes	Combinations		

When ordered separately



Page

NHI11-PKZ0

1

Can be fitted to the right of:
(high-capacity) compact starter, motor-protective circuit-breaker

NHI12-PKZ0

1

Can be combined with:
trip-indicating auxiliary contact AGM

Cannot be combined with:
Standard auxiliary contact NHI 2-11 S-PKZ 0

NHI21-PKZ0

1

NHI2-11S-PKZ0

1

Can be fitted to the right of:
(high-capacity) compact starter
Cannot be combined with:
Standard auxiliary contacts NHI 11-PKZ 0
NHI 12-PKZ 0
NHI 21-PKZ 0
Trip-indicating auxiliary contact AGM 2-...-PKZ 0

AGM2-10-PKZ0

1

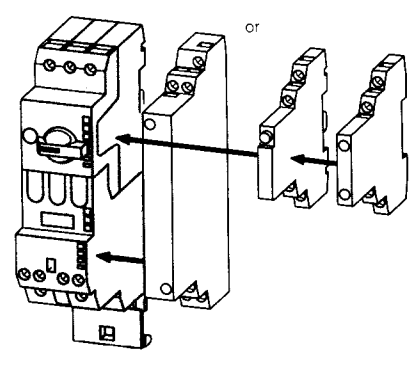
Can be fitted to the right of:
(high-capacity) compact starter, motor-protective circuit-breaker

Can be combined with:
Standard auxiliary contacts NHI 11-PKZ 0
NHI 12-PKZ 0
NHI 21-PKZ 0

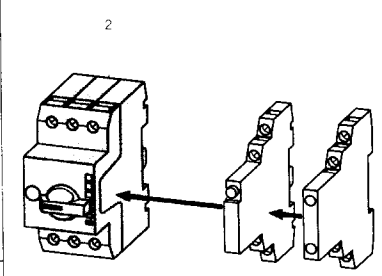
AGM2-01-PKZ0

1

Cannot be combined with:
Standard auxiliary contact NHI 2-11 S-PKZ 0

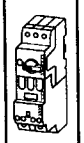


- 1 Compact starter 12
- High-capacity compact starter 14
- Accessories 24

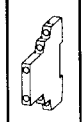


- 2 Motor-protective circuit-breaker 16
- Accessories 24

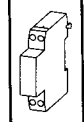
PKZ 0
12



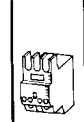
18



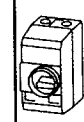
20



22



24



28



32



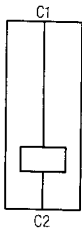
38



Shunt Release, Undervoltage Releases

1	2	3	4	5
Actuating voltage			Type suffix When fitted to basic unit The actuating voltage should be added to the type reference ↓	

Shunt release



For d.c. and a.c.

D.C.: intermittent operation 5 s

A.C.

D.C.

24 V 50 Hz	100 V 60 Hz	24 V DC
42 V 50 Hz	110 V 60 Hz	48 V DC
48 V 50 Hz	120 V 60 Hz	60 V DC
110 V 50 Hz	127 V 60 Hz	110 V DC
127 V 50 Hz	208 V 60 Hz	125 V DC
220 V 50 Hz	240 V 60 Hz	220 V DC
230 V 50 Hz	480 V 60 Hz	250 V DC
240 V 50 Hz		
380 V 50 Hz		
400 V 50 Hz		
415 V 50 Hz		
440 V 50 Hz		
480 V 50 Hz		



+A-PKZ0 (...)

Undervoltage releases



For a.c.

Suitable for emergency-stop disconnection in accordance with IEC 204

Ordering example:

Undervoltage release 230 V 50 Hz

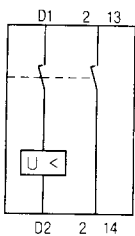
Type: **U-PKZ0 (230V 50Hz)**



+U-PKZ0 (...)

Undervoltage releases

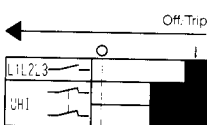
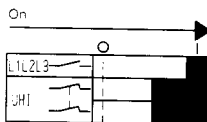
With auxiliary contacts



For a.c.



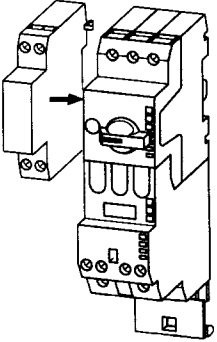

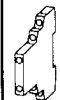

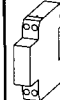


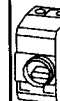




Two integral early-make auxiliary contacts

Suitable for emergency-stop disconnection in accordance with IEC 204




+UHI-PKZ0 (...)

PKZ 0 System Accessories

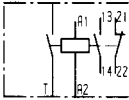

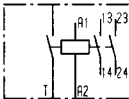
6	7	8	9	10	11	2
	Type When ordered separately One of the following actuating voltages should be added to the type reference. ↓	Price	Std. pack	Application notes	Combinations	 Page
	A-PKZ0 (...)		1	Can be fitted to the left of: (high-capacity) compact starter, motor-protective circuit-breaker DC: intermittent operation 5 s Cannot be combined with: U-PKZ 0 UHI-PKZ 0 undervoltage release		PKZ 0 12  18 
	U-PKZ0 (...)		1	Can be fitted to the left of: (high-capacity) compact starter, motor-protective circuit-breaker Cannot be combined with: A-PKZ 0 shunt release	1 Compact starter 12 High-capacity compact starter 14 Accessories 24	20  22 
	UHI-PKZ0 (...)		1	Can be fitted to the left of: (high-capacity) compact starter, motor-protective circuit-breaker Cannot be combined with: A-PKZ 0 shunt release	2 Motor-protective circuit-breaker 16 Accessories 24	24  28   32  38 

Contact Modules, Auxiliary Contacts, Separate Mounting

1	2	3	4	5	6	7	8
	Max. AC-3 rating		Conv. Auxiliary thermal contacts		Type	Price	Std. pack
	220 V 380 V 440 V 500 V 660 V		current M = Make		The actuating voltage should be added to the type reference 		
	230 V 400 V		690 V I _{tr} = I _e B = Break				
	240 V 415 V		AC-1				
	kW kW kW kW kW		A				

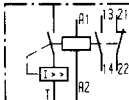

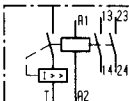
Contact module

A.C. or d.c. operated

	2.2	4	Please enquire	20	1M/1B		SE00-11-PKZ0 (...)	1
	2.2	4		20	2M		SE00-20-PKZ0 (...)	1

High-capacity contact module with current-limiting contact system

A.C. or d.c. operated


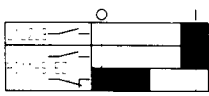
	2.2	4	Please enquire	20	1M/1B		S00-11-PKZ0 (...)	1
	2.2	4		20	2M		S00-20-PKZ0 (...)	1

Actuating voltage of the (high-capacity) contact module:

The figures highlighted () indicate the voltage and frequency combinations possible with one coil.

A.C.				D.C.
24 V 50 Hz	24 V 60 Hz	36 V 50 Hz, 42 V 60 Hz	24 V 50/60 Hz	12 V DC
48 V 50 Hz	110 V 60 Hz	42 V 50 Hz, 48 V 60 Hz	42 V 50/60 Hz	24 V DC
240 V 50 Hz	115 V 60 Hz	110 V 50 Hz, 120 V 60 Hz	48 V 50/60 Hz	48 V DC
500 V 50 Hz	600 V 60 Hz	190 V 50 Hz, 220 V 60 Hz	110 V 50/60 Hz	60 V DC
		220 V 50 Hz, 240 V 60 Hz	115 V 50/60 Hz	110 V DC
		230 V 50 Hz, 240 V 60 Hz	220 V 50/60 Hz	220 V DC
		380 V 50 Hz, 440 V 60 Hz	380 V 50/60 Hz	
		400 V 50 Hz, 440 V 60 Hz	500 V 50/60 Hz	
		415 V 50 Hz, 480 V 60 Hz		

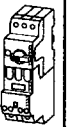
Auxiliary contacts for (high-capacity) contact module

	1M/1B		HI11-S/EZ-PKZ0	1
---	-------	---	-----------------------	---

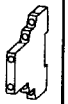
9	10	11	12	13	14	2
Type		Price	Std. pack	Application notes	Combinations	
<p>The actuating voltage should be added to the type reference </p>						Page
	SE00-11/EZ-PKZ0 (...)		1	<p>(High-capacity) contact module with the same dimensions as the motor-protective circuit-breaker can be fitted. Separately mounted (high-capacity) contact module can be snap fitted onto a 7.5/10/15 mm top-hat rail to EN 50 022 (35 mm width). Can be used in reversing contactor or star-delta combination by means of a mechanical interlock.</p>		4
	SE00-20/EZ-PKZ0 (...)		1			16
	S00-11/EZ-PKZ0 (...)		1			18
	S00-20/EZ-PKZ0 (...)		1			20
<p>Ordering example: High-capacity contact module (1 Make, 1 Break: 230 V 50 Hz) Type: S00-11-PKZ0(230V50Hz)</p> <p>A high-capacity contact module for the actuating voltages 230 V 50 Hz and 240 V 60 Hz is supplied</p>				<p>2 Motor-protective circuit-breaker</p> <p>4 Standard auxiliary contact</p> <p>8 Clip plate</p> <p>Accessories</p>	<p>16</p> <p>18</p> <p>25</p> <p>24</p>	<p>PKZ 0</p> <p>12</p> <p>18</p> <p>20</p> <p>22</p> <p>24</p> <p>28</p>
	+HI11-S/EZ-PKZ0		1	<p>Cannot be combined with: (High-capacity) compact starter with NHI 11-PKZ 0 NHI 12-PKZ 0 NHI 21-PKZ 0 AGM 2-10-PKZ 0 AGM 2-01-PKZ 0</p>		<p>32</p> <p>38</p>



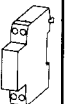
PKZ 0
12



18



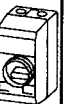
20



22



24



28



32



38




Insulated Enclosures



1	2	3	4	5	6	7	8
	Degree of protection		For use with		Type	Price	Std. pack

Insulated enclosures for surface mounting

For (high-capacity) compact starters



Door coupling handle (R)H-PKZ 0 (IP 54) can be fitted	IP 65	Mounting depth 125 mm, additional M3-CI23 mounting plate required	PKZM 0-.../S(E)00 +NHI } or NHI...S +AGM } +U(HI) or A +AKN or R(H) +L-PKZM 1 (2 off)		CI23E-125		1
Door coupling handle (R)H-PKZ 0 (IP 54) can be fitted	IP 65	Mounting depth 150 mm, additional M3-CI23 mounting plate required	PKZM 0-.../S(E)00 +NHI } or NHI...S +AGM } +U(HI) or A +AKN or R(H) +L-PKZM 1 (2 off)		CI23E-150		1
Mounting plate Galvanized steel, 3 mm		Mounting plate for CI23E-... enclosure including fixing screws			M3-CI23		1


For motor-protective circuit-breakers













Cover with aperture dimensioned to accommodate front of breaker, including closure strips	IP 41	Integral terminal for PE(N) connection, 2 Pg 16 cable entry knockouts above and below	PKZM 0-... +NHI or U(HI) or A +AGM or U(HI) or A +AKN +L-PKZM 1 (2 off)		CI-PKZ0		1
With black/grey locking collar, lockable with 3 padlocks, 3...6 mm	IP 54				CI-PKZ0-G		1
With red/yellow locking collar, lockable with 3 padlocks, 3...6 mm	IP 54				CI-PKZ0-GR		1

Insulated enclosures for flush mounting

For motor-protective circuit-breakers

Cover with aperture dimensioned to accommodate front of breaker, including closure strips	IP 41	Integral terminal for PE(N) connection, 2 Pg 16 cable entry and below	PKZM 0-... +NHI } or U(HI) or A +AGM } +AKN +L-PKZM 1 (2 off)		E-PKZ0		1
With black/grey locking collar, lockable with 3 padlocks, 3...6 mm	IP 54				E-PKZ0-G		1
With red/yellow locking collar, lockable with 3 padlocks, 3...6 mm	IP 54				E-PKZ0-GR		1

Neutral conductor terminal	Connection of 5th conductor	in CI-PKZ 0(-G) and E-PKZ 0(-G)			N-PKZM1		20
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1	2	3	4	5	6	2
Application	Combinations		Type	Price	Std. pack	
(see Page 10 also)						
Door coupling handle For main switch. Colour: grey. Switch position ON/OFF and "+" (tripped). IP 54 degree of protection, lockable using 3 padlocks, 4...8 mm, lockable in the ON position	(High-capacity) compact starter, motor-protective circuit-breaker in all enclosures		 H-PKZ0		1	4
For main switch with emergency-stop function Colour: red/yellow. As for H-PKZ 0, but cannot be locked in the ON position			 RH-PKZ0		1	12
Plug-in extension shaft for door coupling handle Can be cut to length as required for mounting depths up to 300 mm			 A-H-PKZ0		1	18
Lockable rotary handle Permits the protective switch to be locked by means of a padlock, hasp thickness 5 mm	(H-) compact starter motor-protective circuit-breaker		 AKN-PKZ0			20
Clip plate Permits snap fitting or screw fixing of compact starter, can be snap fitted to one 15 mm or two 10 mm top-hat rails to EN 50 022 (35 mm width) or secured using screws	(High-capacity) compact starter		 C-PKZ0		1	22
Adapter plate Permits PKZM 0 motor-protective circuit-breakers and DIL0(0)(A)M contactor combination/direct-on-line starter. Contactor and motor-protective circuit-breaker to be snap fitted one above the other. Combination for snap fitting onto top-hat rail to EN 50 022 (35 mm width)	-Motor-protective circuit-breaker		 C-CP-PKZM1		1	24
Base for separate mounting of the contact module For retrofitting the contact module to a stand-alone switching device. Can be snap fitted onto a top-hat rail to EN 50 022 (35 mm width).	S(E)00-PKZ 0(...) HI 11-S/EZ-PKZ 0		 EZ-PKZ0		1	28
Mechanical interlock For mechanically interlocking two separately mounted (high-capacity) contact modules or two (high-capacity) compact starters.	S(E)00-PKZ 0(...) (High-capacity) compact starters		 MV-PKZ 0		1	32
Indicator lights with neon bulb Colour: white Voltages: 110-230 V 230-400 V 415-500 V	CI23E-... CI-PKZ 0-... E-PKZ 0-... and other enclosures		 L-PKZM1(230V) L-PKZM1(400V) L-PKZM1(500V)		10 10 10	38
Colour: green Voltages: 110-230 V 230-400 V 415-500 V			 L-PKZM1-GN(230V) L-PKZM1-GN(400V) L-PKZM1-GN(500V)		5 5 5	
Colour: red Voltages: 110-230 V 230-400 V 415-500 V			 L-PKZM1-RT(230V) L-PKZM1-RT(400V) L-PKZM1-RT(500V)		5 5 5	

General

Specifications	IEC 947, (BS) EN 60 947, DIN VDE 0660 UL 508, CSA C 22.2 No. 14 PTB, GL, LRS, RU, PRS DET NORSKE Veritas, RINA, GUS			} applied for
Climatic proofing	Damp heat, constant, to IEC 68 Part 2-3 Damp heat, cyclic, to IEC 68 Part 2-30			
Ambient temperature	Storage	Max./Min. °C	-25...+70	
	Open	Max./Min. °C	-25...+55	
	Enclosed	Max./Min. °C	-25...+40	
Mounting position				
Direction of incoming supply	As required			
Degree of protection to VDE 0106 Part 100	IP 20			
Shock resistance (20 ms to DIN IEC 68)	g	30		
Altitude	m	3000		
Terminal capacities				
1 conductor: solid,	mm ²	1...6		
flexible with ferrule	mm ²	1...4		
2 conductors: solid,	mm ²	1...2.5		
flexible with ferrule	mm ²	1...2.5		
	AWG	18...10		

Main contacts

Rated impulse withstand voltage U_{imp}	kV	6	
Rated operational voltage U_e	V A.C.	690	
Overvoltage category/pollution degree		III/3	
Rated uninterrupted current I_u = rated operational current I_e	A	10 or setting current of overload release	
Rated frequency	Hz	40...60	
Number of poles		3	
Current heat losses	3-pole at operational temperature	W	Compact starter: 9.5
Mechanical lifespan		S	Protective switch: 6
Electrical lifespan	100 % AC-3/400 V	S	Compact starter: 5.0×10^6
Max. operating frequency		Ops./hour	Protective switch: 0.1×10^6
Motor switching capacity	AC-3	V A.C.	Compact starter: 0.5×10^6
	DC-5	V D.C.	Protective switch: 0.1×10^6
		A	Compact starter: characteristic Page 37
			Protective switch: 40
			max. 690
			max. 250
			Please enquire

Trip blocks

Temperature compensation			
- IEC 947	°C	-5...+40	
- Operating range	°C	-25...+55	
Temperature compensation residual error to IEC 947	%/K	$\leq 0.25...0.4$	
Adjustable overload releases		$0.6...1 \times I_u$	
Fixed short-circuit releases		$14 \times I_u$	
Short-circuit release tolerance	%	± 20	
Single-phasing sensitivity		IEC 947-4-1, EN 60 947-4-1	

Technical Data

PKZ 0 System

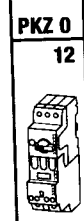
Rated short-circuit breaking capacity I_{cn}

PKZM 0-.../SE 00 compact starter, coordination type "1" to IEC 947-4-1

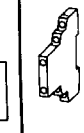
Rated uninter- rupted current I_u	Conditional rated short-circuit current I_q					Back-up fuse aM, gL, required when the fault current exceeds the rated short-circuit breaking capacity of the PKZ 0 compact starter $I_{cc} > I_{cn}$					
	220 V~ 230 V~ 240 V~	380 V~ 400 V~ 415 V~	440 V~	500 V~	660 V~ 690 V~	220 V~ 230 V~ 240 V~	380 V~ 400 V~ 415 V~	440 V~	500 V~	660 V~ 690 V~	
A	kA	kA	kA	kA	kA	A	A	A	A	A	
0.16 0.25 0.4 0.63 1 1.6 2.5 4 6.3 10	No protective device required, inherently short-circuit-proof range (100 kA)	No protective device required, inherently short-circuit-proof range (100 kA)	For values, please enquire			No protective device required, inherently short-circuit-proof range (100 kA)	No protective device required, inherently short-circuit-proof range (100 kA)	For values, please enquire			



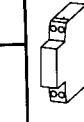
2
4



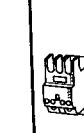
PKZ 0
12



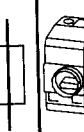
18
20



22



24



28



32



38



PKZM 0-.../S 00 high-capacity compact starter to IEC 947-6-2

Rated uninter- rupted current I_u	Rated service short-circuit breaking capacity I_{cs}					Back-up fuse aM, gL, required when the fault current exceeds the rated short-circuit breaking capacity of the PKZ 0 high-capacity compact starter. $I_{cc} > I_{cn}$					
	220 V~ 230 V~ 240 V~	380 V~ 400 V~ 415 V~	440 V~	500 V~	660 V~ 690 V~	220 V~ 230 V~ 240 V~	380 V~ 400 V~ 415 V~	440 V~	500 V~	660 V~ 690 V~	
A	kA	kA	kA	kA	kA	A	A	A	A	A	
0.16 0.25 0.4 0.63 1 1.6 2.5 4 6.3 10	No protective device required, inherently short-circuit-proof range (100 kA)	No protective device required, inherently short-circuit-proof range (100 kA)	For values, please enquire			No protective device required, inherently short-circuit-proof range (100 kA)	No protective device required, inherently short-circuit-proof range (100 kA)	For values, please enquire			

PKZM 0-... motor-protective circuit-breaker (switching capacity to IEC 947-2)

Rated uninter- rupted current I_u	Rated ultimate short-circuit breaking capacity I_{cu} / rated service short-circuit breaking capacity I_{cs}					Back-up fuse aM, gL, required when the fault current exceeds the rated short-circuit breaking capacity of the PKZ M 0 motor-protective circuit-breaker. $I_{cc} > I_{cn}$					
	220 V~ 230 V~ 240 V~	380 V~ 400 V~ 415 V~	440 V~	500 V~	660 V~ 690 V~	220 V~ 230 V~ 240 V~	380 V~ 400 V~ 415 V~	440 V~	500 V~	660 V~ 690 V~	
A	kA	kA	kA	kA	kA	A	A	A	A	A	
0.16 0.25 0.4 0.63 1 1.6 2.5 4 6.3 10 16 20 25	No protective device required, inherently short-circuit-proof range (100 kA)	No protective device required, inherently short-circuit-proof range (100 kA)	For values, please enquire			No protective device required, inherently short-circuit-proof range (100 kA)	No protective device required, inherently short-circuit-proof range (100 kA)	For values, please enquire			
	For values, please enquire					For values, please enquire					
	For values, please enquire					For values, please enquire					
	For values, please enquire					For values, please enquire					

S 00-PKZ 0 high-capacity contact module
SE 00-PKZ 0 contact module

A.C. operation

Rated control supply voltage U_s		V~		24...600
Operating range				
Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz	Pick-up	$\times U_s$		0.85...1.1
	Drop-out	$\times U_s$		0.4...0.6
Dual-frequency coil ...V 50/60 Hz	Pick-up	$\times U_s$		0.85...1.1
	Drop-out	$\times U_s$		0.25...0.5
Power consumption				
Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz	Pick-up	VA/W		25/22
	Seal	VA/W		4.6/1.3
Dual-frequency coil ...V 50/60 Hz at 50 Hz	Pick-up	VA/W		30/26
	Seal	VA/W		5.6/1.6
...V 50/60 Hz at 60 Hz	Pick-up	VA/W		29/24
	Seal	VA/W		3.9/1.1
Operating times at 100 % U_s (main contacts)				
	Closing delay	ms		14...21
	Opening delay	ms		8...18

D.C. operation

Rated control supply voltage U_s		V DC		12...220
Operating range	Pick-up	$\times U_s$		0.85...1.1
	Drop-out	$\times U_s$		0.2...0.5
Power consumption	Pick-up = Seal	W		2.6
Operating times at 100 % U_s (main contacts)				
	Closing delay	ms		26...35
	Opening delay	ms		15...20
Duty factor		% DF		100
Rated making capacity	$\cos \varphi = 0.45$	A		110
Rated breaking capacity	$\cos \varphi = 0.45$ at 230...690 V	A		90...40

Rated operational current I_o

A.C. voltage 40...60 Hz

			AC-1	AC-3	AC-4
Enclosed, open	230 V~	A	10	8.7	6.0
	400 V~	A	10	8.5	6.6
	440 V~	A	10	7.7	6.0
	500 V~	A	10	6.4	5.0
	690 V~	A	10	4.8	3.4


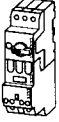
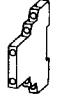
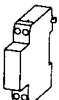





D.C. voltage

			DC-1	DC-3	DC-5
Enclosed, open	12 V DC	A	Please enquire	Please enquire	Please enquire
	24 V DC	A			
	60 V DC	A			
	110 V DC	A			
	220 V DC	A			

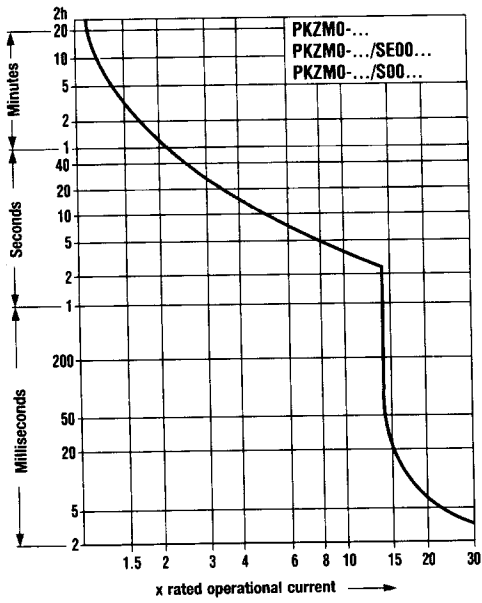
Component lifespan Operations Lifespan characteristics Page 37

Terminal capacities
 1 conductor or 2 conductors
 solid or flexible with ferrule

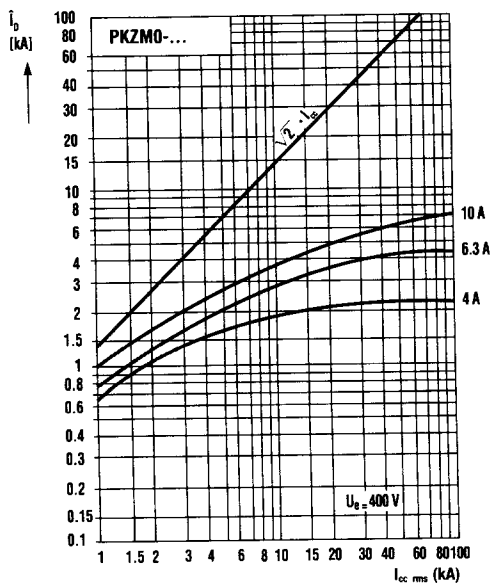
mm ²	1...2.5
AWG	18...14

Auxiliary contacts					2	
Rated impulse withstand voltage U_{imp}		kV	6			
Overvoltage category/pollution degree			III/3			
Rated operational voltage U_e	AC (50/60 Hz)	V~	500			
	DC	V DC	250			
<i>Safe insulation</i> to DIN VDE 0106 Part 101 and Part 101 A1 between auxiliary contacts and main contacts				V~	690	4
Rated operational current I_e						PKZ 0
AC-15	220...240 V	A	3.5			12
	380...415 V	A	2			
	440...500 V	A	1			
DC-13 (L/R ≤ 300 ms)	24 V	A	2			
	60 V	A	1.5			
	110 V	A	1			
	220 V	A	0.25			
Component lifespan	mechanical	S	NHI	0.1×10^6		18
			AGM	0.01×10^6		
			(U)HI	0.01×10^6		
			NHI...S, HI	5×10^6		
	electrical	S	NHI	0.05×10^6		
			AGM	5×10^3		
			(U)HI	5×10^3		
			NHI...S, HI	1×10^6		
Contact stability						
Fault probability in rated operational voltage 24 V DC						
Voltage, current and tolerance to DIN 19 240						
Short-circuit rating without welding:						20
Fuseless		A		Please enquire		
Fuse (gL)		A		10		
Terminal capacities						
1 conductor or 2 conductors						
solid or flexible with ferrule		mm ²	0.75...2.5			22
		AWG	18...14			
Voltage releases						
Rated operational voltage U_e	AC (50/60 Hz)	V~	24...480			
Shunt release	DC	V DC	24...250			
Terminal capacities						24
1 conductor or 2 conductors						
solid or flexible with ferrule		mm ²	0.75...2.5			
		AWG	18...14			
Shunt releases						
Operating range a.c.			$0.7...1.1 \times U_s$			28
d.c. (intermittent operation: 5 s)			$0.7...1.1 \times U_s$			
Power consumption Pick-up a.c.		VA	5			
Sealing a.c.		VA	3			
Pick-up d.c.		W	3			
Sealing d.c.		W	0.3			
Undervoltage releases						
Drop-out voltage			$0.7...0.35 \times U_s$			32
Power consumption Pick-up a.c.		VA	5			
Sealing a.c.		VA	3			
						
						38
						

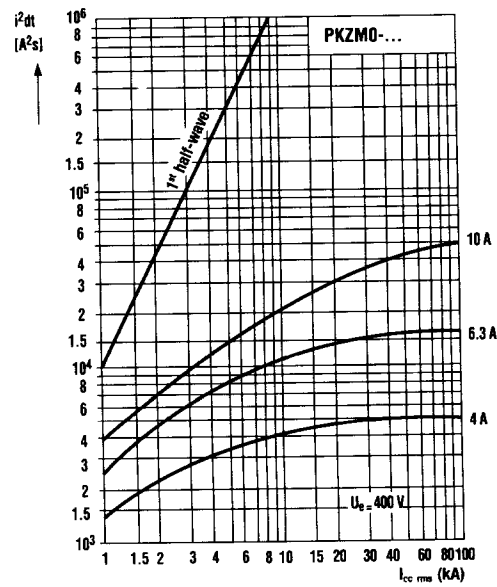
Tripping characteristics (high-capacity) compact starters, motor-protective circuit-breakers



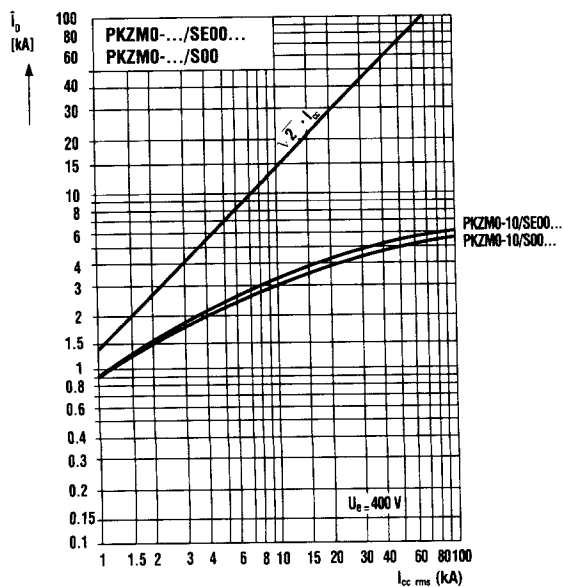
Let-through characteristics, motor-protective circuit-breakers



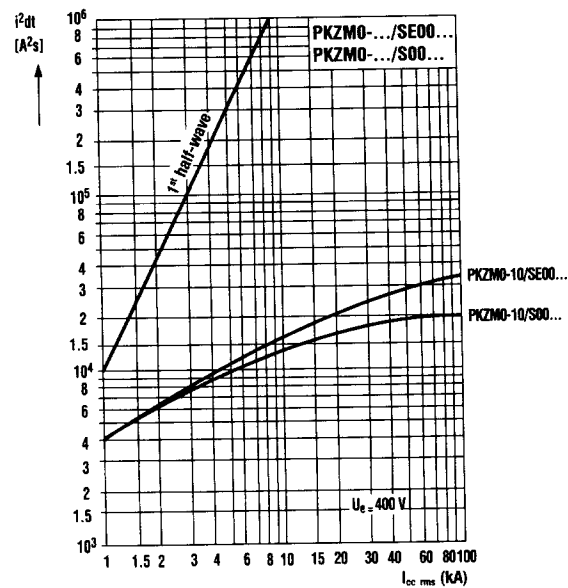
Let-through characteristics, motor-protective circuit-breakers



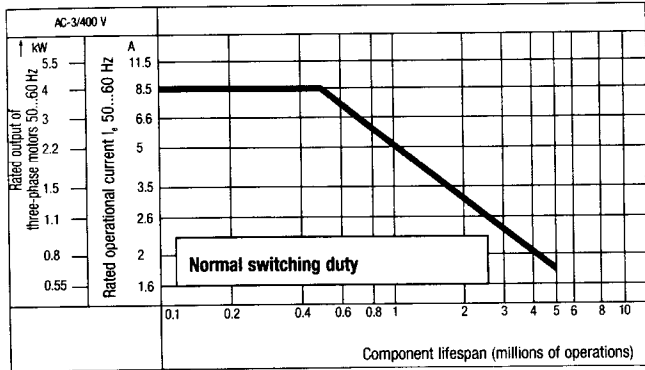
Let-through characteristics, (high-capacity) compact starters



Let-through characteristics, (high-capacity) compact starters



S 00-PKZ 0 High-capacity contact module
SE 00-PKZ 0 Contact module
Normal switching duty



For squirrel-cage motors

Operating characteristics: Starting: from rest
 Stopping: after attaining full running speed

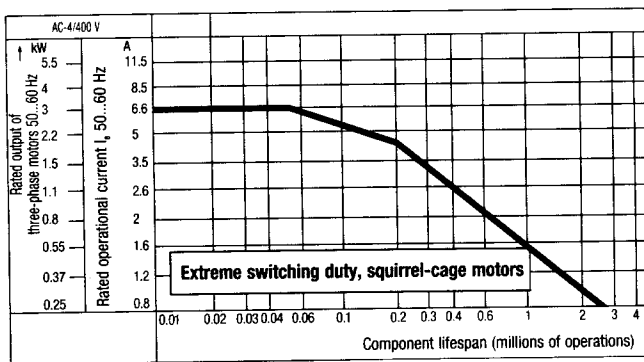
Typical applications: Compressors, Lifts, Mixers
 Pumps, Escalators, Agitators
 Fans, Conveyors, Centrifuges
 Valves, Bucket-elevators, Air-conditioning systems

Drives in general for manufacturing and processing machines

Electrical characteristics: Make: up to 6 × motor rated current
 Break: 1 × motor rated current

Utilization category: 100 % AC-3

Extreme switching duty



For squirrel-cage motors

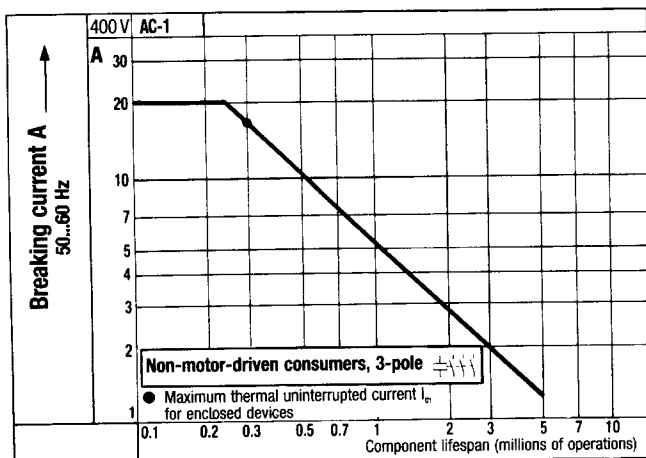
Operating characteristics: Inching, plugging, reversing

Typical applications: Printing machines
 Wire-drawing machines
 Centrifuges
 Special drives for manufacturing and processing machines

Electrical characteristics: Make: 6 × motor rated current
 Break: 6 × motor rated current

Utilization category: 100 % AC-4

Light switching duty



Non-motor-driven loads

Operating characteristics: Non-inductive or slightly-inductive load

Typical application: Electric heat

Electrical characteristics: Make: up to 1.5 × rated current
 Break: 1 × rated current

Utilization category: 100 % AC-1

2



4

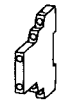


PKZ 0

12



18



20



22



24



28



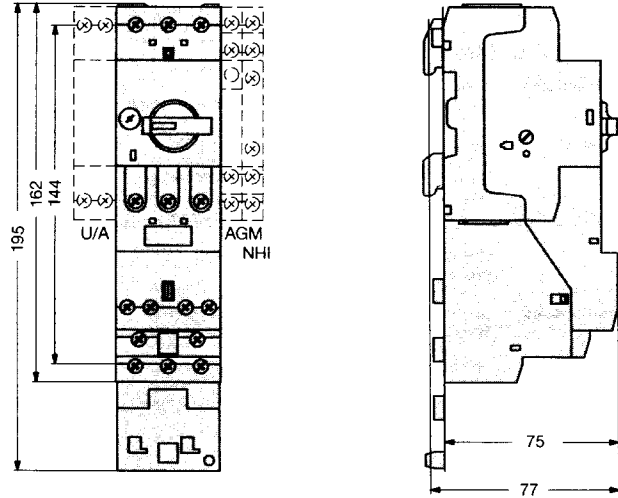
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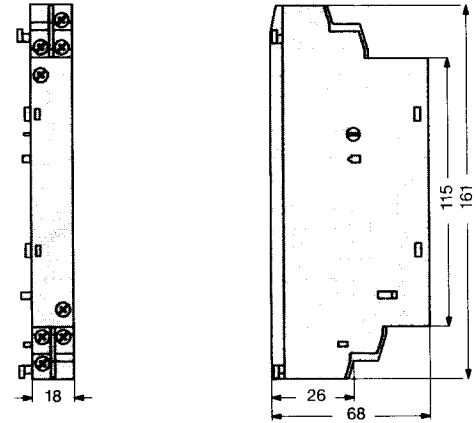
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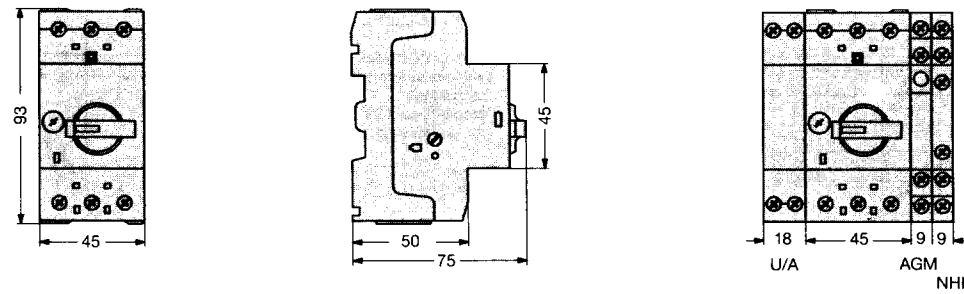
(High-capacity) compact starters
PKZM 0-.../S(E)00



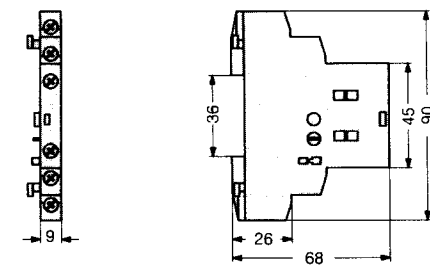
Standard auxiliary contacts for (H) compact starters
NHI 2-11S-PKZ 0



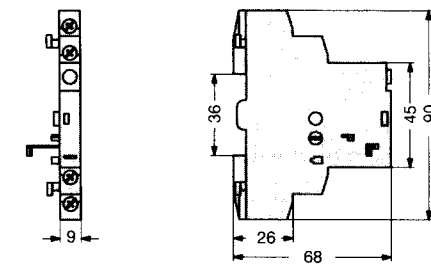
Protective switch
PKZM 0-...



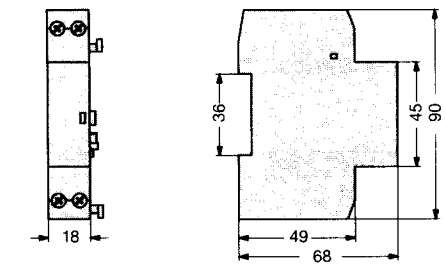
Standard auxiliary contact
NHI...-PKZ 0



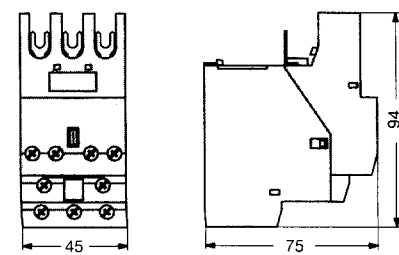
Trip-indicating auxiliary contact
AGM 2-...-PKZ 0



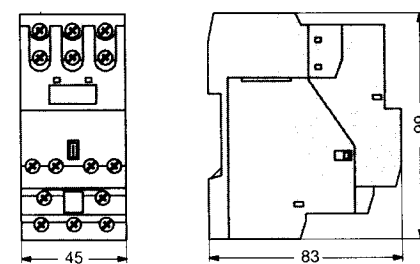
Voltage releases
U/A-PKZ 0



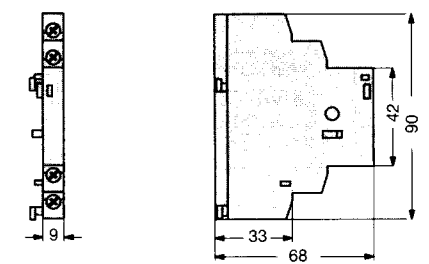
(High-capacity) contact module
S(E)00-PKZ 0



Separate mounting
EZ-PKZ 0

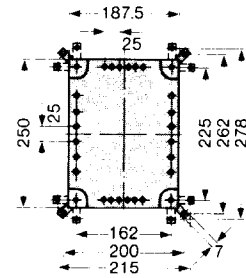


Auxiliary contact for contact module
HI 11-S/EZ-PKZ 0

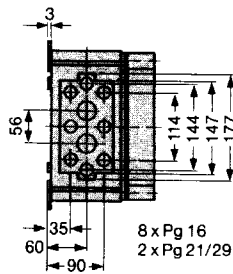


CI enclosures

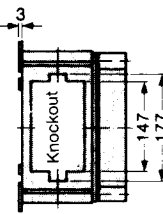
CI23E IP 65



CI23E...

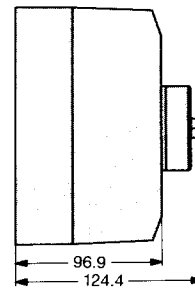
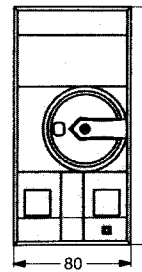


CI 23-...

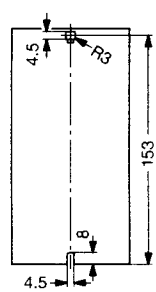


CI-PKZ 0
CI-PKZ 0-G(R)

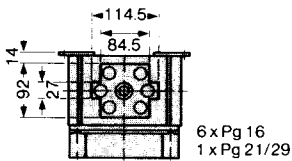
IP 41
IP 54



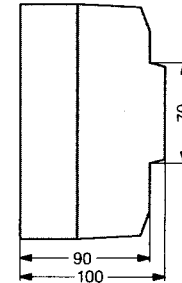
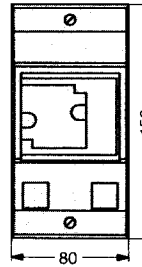
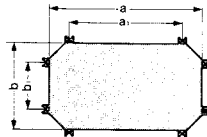
Drilling dimensions:



CI 23 E-...

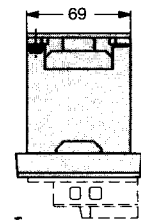
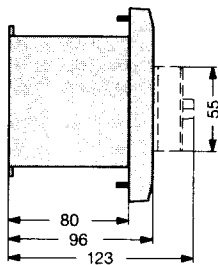
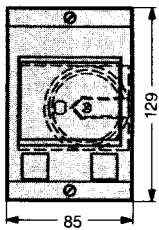


Mounting plate
M 3-CI 23

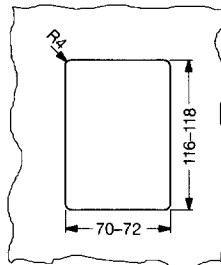


Flush-mounting enclosures

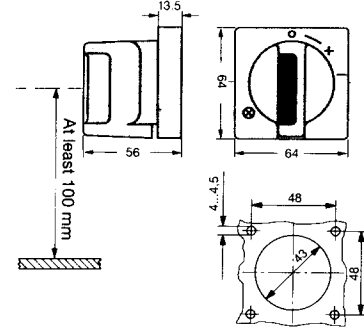
E-PKZ 0 Front IP 41
E-PKZ 0-G(R) Front IP 54



Mounting aperture for
2-6 mm panel thickness

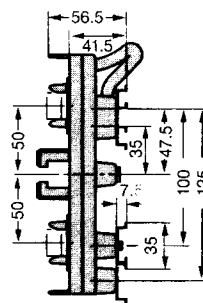
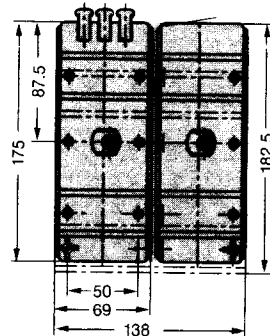
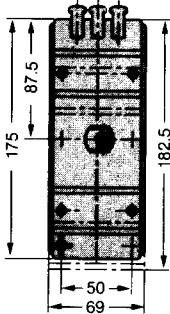


Door coupling handle
(R)H-PKZ 0



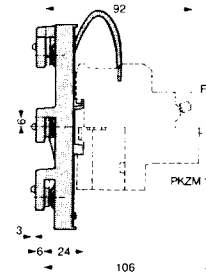
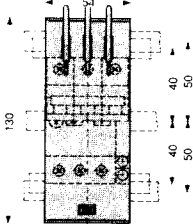
Busbar adapters

AD 25-1, AD 25-2

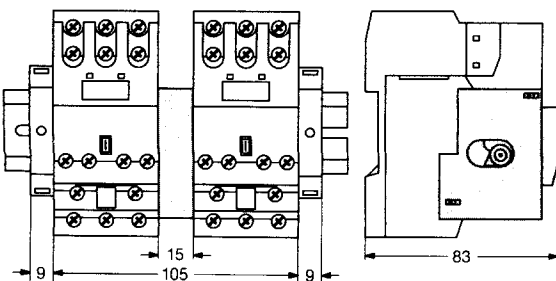


Busbar adapters

SP-PKZM 1

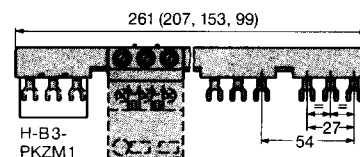


Mechanical interlock for contact module MV-PKZ 0



Three-phase
commoning links

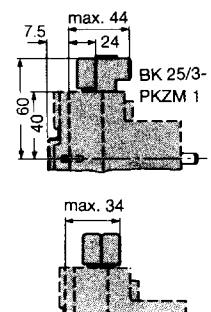
B 3.1/5-PKZM 1
(B 3.1/4; B 3.1/3; B 3.1/2)



Terminals

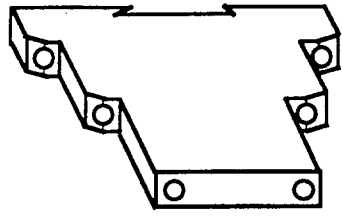
BK 25/3-PKZM 1

Shroud for
unused terminals

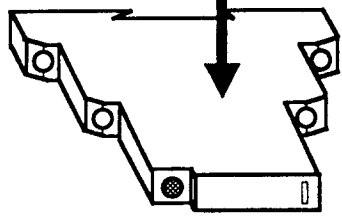


2	
4	
PKZ 0	
12	
18	
20	
22	
24	
28	
32	
38	

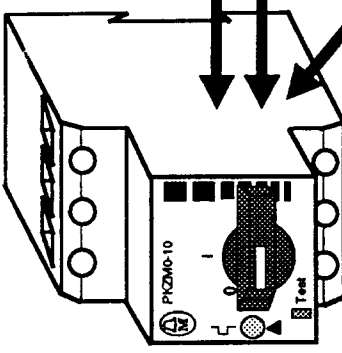
Standard Auxiliary Contacts



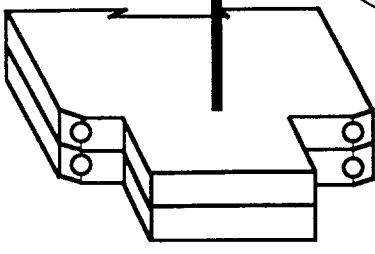
Trip Indicator



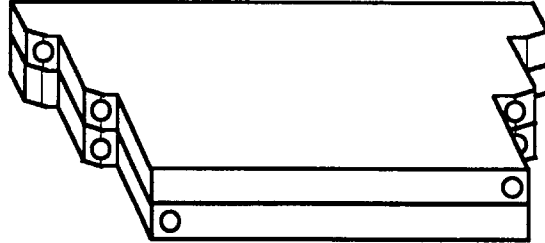
Protective Switch



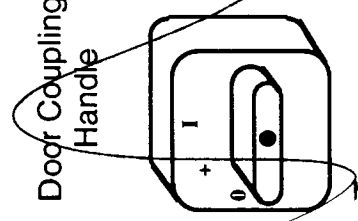
Voltage Release



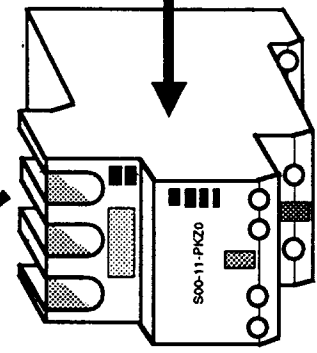
Standard Auxiliary Contacts for Combinations



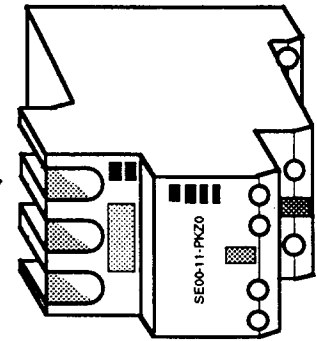
Door Coupling Handle



High Performance Contactor Module



Contactor Module





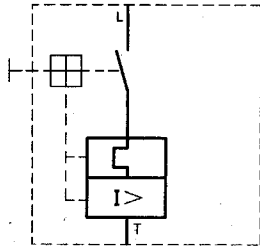
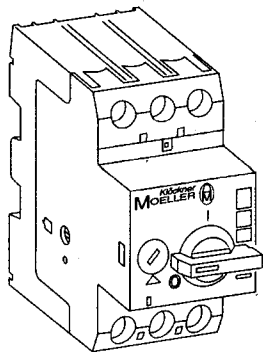
System PKZ 0

6 / 93 AWA 121-1321

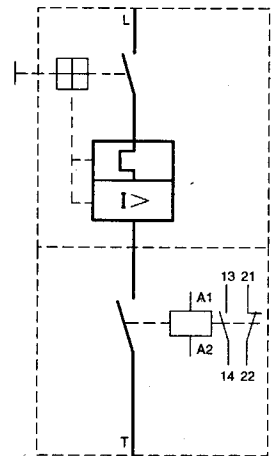
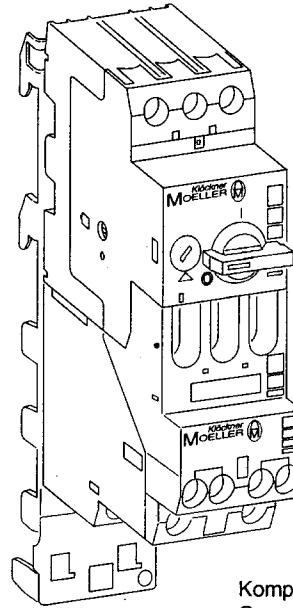
Schutzschalter
Protective switch
Appareil de protection

handbetätigt
 hand-operated
 à commande manuelle

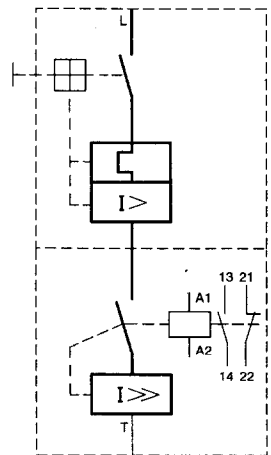
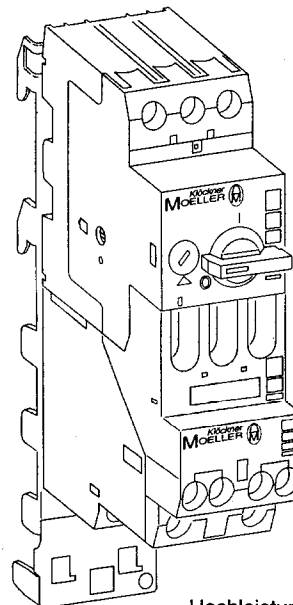
Starter-Kombination
Combi protective switch
Appareil de protection à commande automatique



Motorschutzschalter
 Motorstarter
 Disjoncteur-Moteur

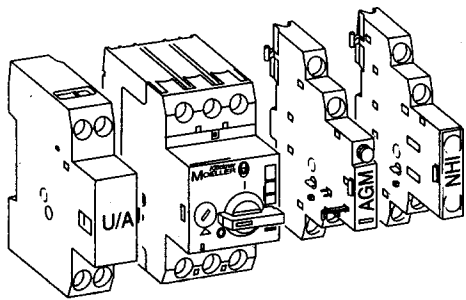


Kompaktstarter
 Compact starter
 Disjoncteur compact



Hochleistungs Kompaktstarter
 High-capacity compact starter
 Disjoncteur compact a haute pouvoir de coupure

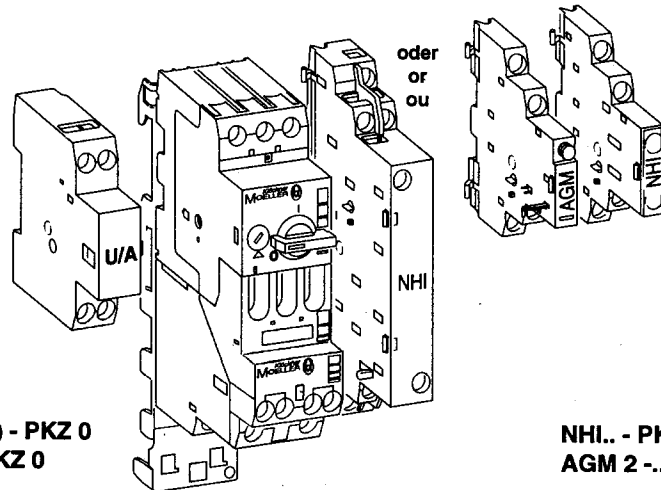
System PKZ 0



U (HI) - PKZ 0
A - PKZ 0

PKZM 0

NHI.. -PKZ 0
AGM 2.. -PKZ 0



U (HI) - PKZ 0
A - PKZ 0

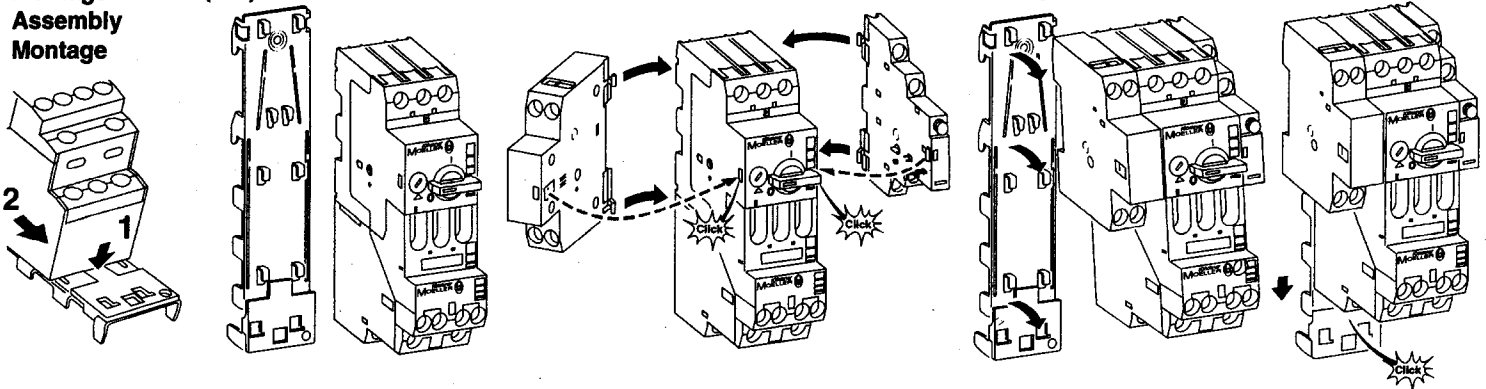
PKZM 0 -... / SE00 - 11
PKZM 0 -... / S00 - 11

NHI 2 - 11S - PKZ 0

NHI.. - PKZ 0
AGM 2.. - PKZ 0

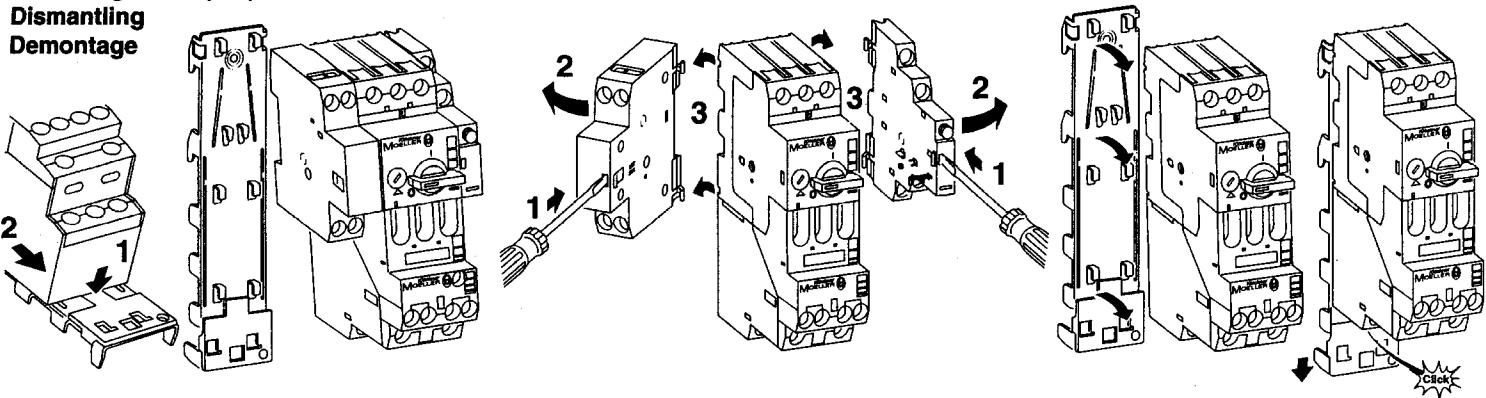
Montage Assembly Montage

U (HI) - PKZ 0 / A - PKZ 0 / AGM 2..-PKZ 0 / NHI..-PKZ 0 / NHI 2 - 11S - PKZ 0

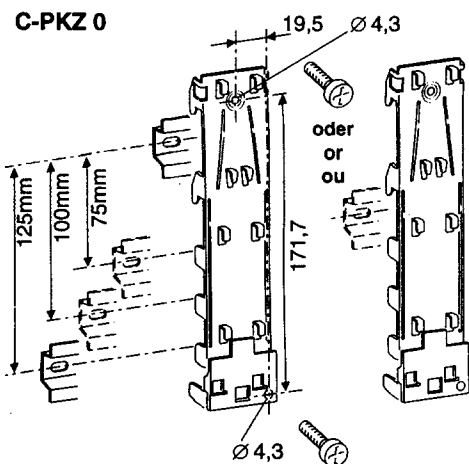


Demontage Dismantling Demontage

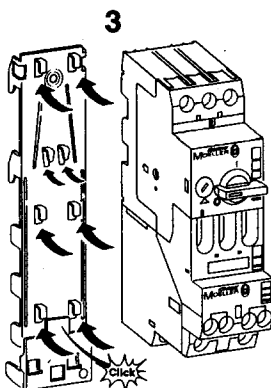
U (HI) - PKZ 0 / A - PKZ 0 / AGM 2..-PKZ 0 / NHI..-PKZ 0 / NHI 2 - 11S - PKZ 0



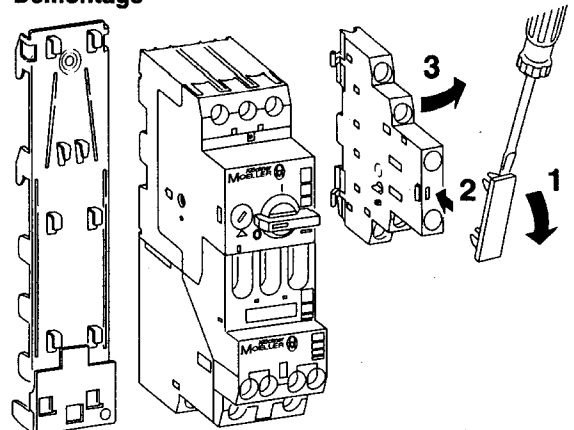
C-PKZ 0



A 7,5 / 10 / 15 mm



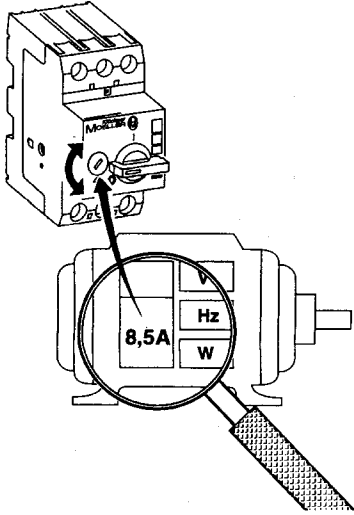
Demontage NHI 12 - PKZ 0 / NHI 21 - PKZ 0 Dismantling Demontage



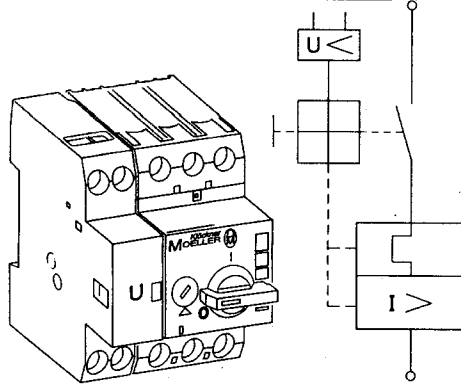
Schnappfestigung auf Hutschiene EN 50022
Snap-fitting on top hat rail to EN 50022
Fixation par encliquetage sur profile chapeau selon EN 50022

System PKZ 0

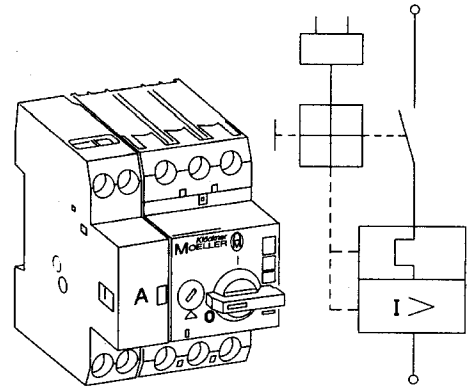
Achtung
Attention
Attention



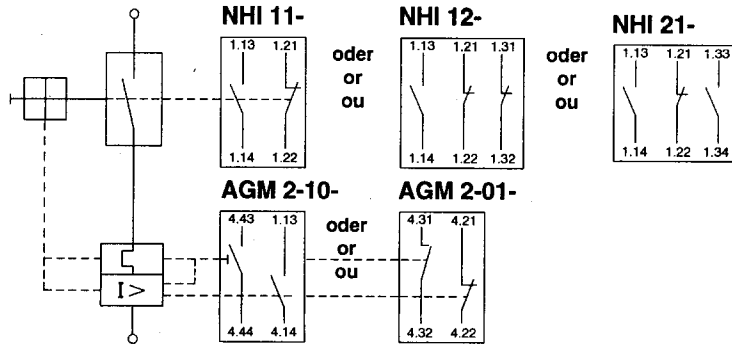
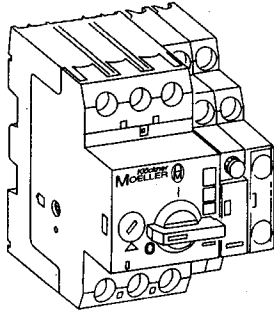
Schutzschalter
+ Unterspannungsauslöser
Protective switch
+ undervoltage release
Disjoncteur
+ déclencheur à minimum de tension



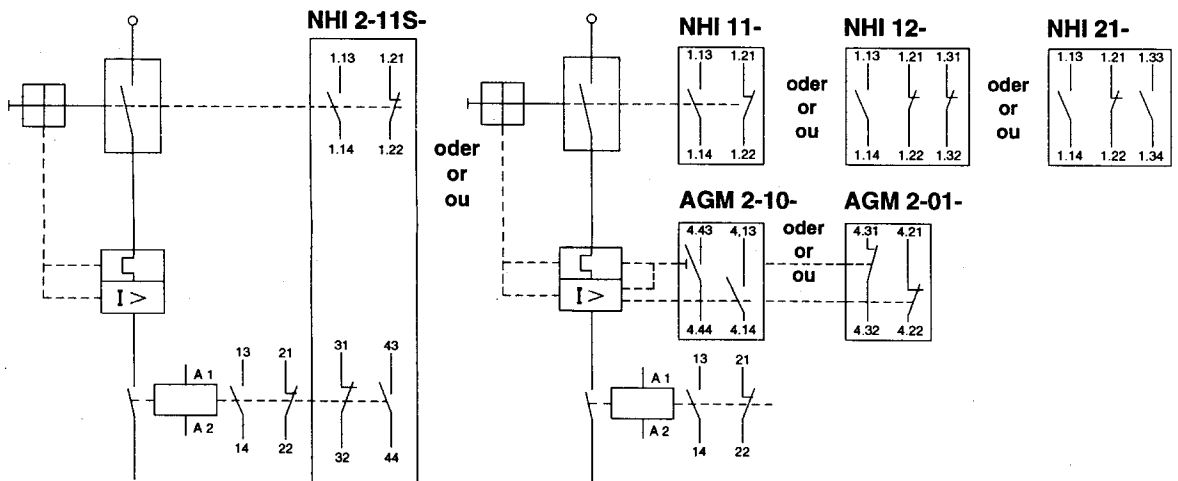
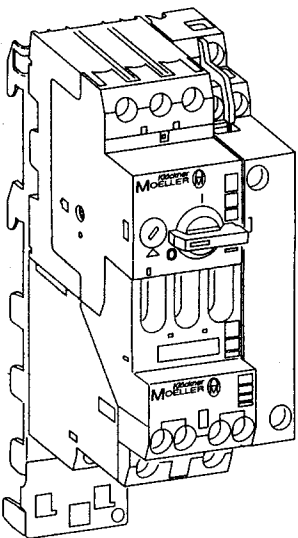
Schutzschalter + Arbeitsstromauslöser
Protective switch + shunt release
Disjoncteur + déclencheur émission de tension



Signalisation
Signalling
Signaler

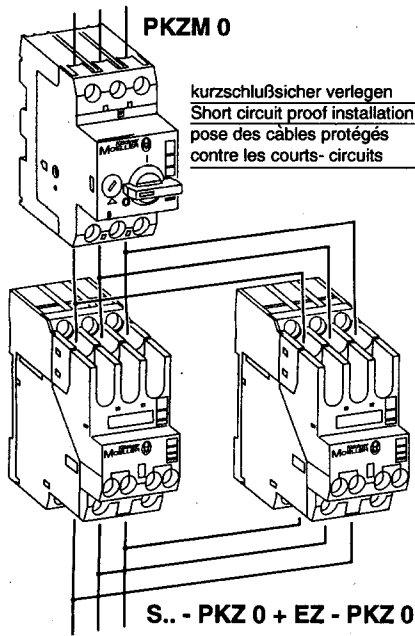


Kompaktstarter + Hochleistungskompaktstarter
Compactstarter + High capacity compact starter
Disjoncteur compact + Disjoncteur compact a haute pouvoir de coupure



System PKZ 0

Wendebetrieb
Reversing operation
Exploitation inversent



<u>Motor - Leistung</u> <u>Rating</u> <u>Puissance moteur</u>								<u>Motorschutz-</u> <u>Leistungsschalter</u> <u>Manual motor starter</u> <u>Disjoncteur moteur</u>	<u>Kompaktstarter</u> <u>Compactstarter</u> <u>Starter compact</u>
220 V	380V	440V	500V	690V	I_u	I_r	I_{rm}	Typ	
240 V	415V			A	A	A			
kW	kW	kW	kW	kW					
	0,06	0,06	0,09	0,09	0,16	0,1...0,16	2,2	PKZM 0 - 0,16	PKZM 0 - 0,16 / SE00 -...(....)
0,06	0,09	0,12	0,12	0,12	0,25	0,16...0,25	3,5	PKZM 0 - 0,25	PKZM 0 - 0,25 / SE00 -...(....)
0,09	0,12	0,18	0,25	0,25	0,4	0,25...0,4	5,6	PKZM 0 - 0,4	PKZM 0 - 0,4 / SE00 -...(....)
0,12	0,25	0,25	0,37	0,55	0,63	0,4...0,63	8,8	PKZM 0 - 0,63	PKZM 0 - 0,63 / SE00 -...(....)
0,25	0,55	0,55	0,8	1,1	1	0,63...1,0	14	PKZM 0 - 1	PKZM 0 - 1 / SE00 -...(....)
0,37	0,75	1,1	1,1	1,5	1,6	1,0...1,6	22	PKZM 0 - 1,6	PKZM 0 - 1,6 / SE00 -...(....)
0,75	1,5	1,5	2,2	3	2,5	1,6...2,5	35	PKZM 0 - 2,5	PKZM 0 - 2,5 / SE00 -...(....)
1,1	2,2	3	3	4	4	2,5...4,0	56	PKZM 0 - 4	PKZM 0 - 4 / SE00 -...(....)
2,2	4	4			6,3	4,0...6,3	88	PKZM 0 - 6,3	PKZM 0 - 6,3 / SE00 -...(....)
					10	6,3...10	140	PKZM 0 - 10	PKZM 0 - 10 / SE00 -...(....)
220 V	380V	440V	500V	690V	I_u	I_r	I_{rm}	<u>Hochleistungskompaktstarter</u> <u>High capacity compact starter</u> <u>Disjoncteur compact a haute puissance de coupure</u>	
240 V	415V				A	A	A	Typ	
kW	kW	kW	kW	kW					
	0,06	0,06	0,09	0,09	0,16	0,1...0,16	2,2	PKZM 0 - 0,16 / S00 -...(....)	
0,06	0,09	0,12	0,12	0,12	0,25	0,16...0,25	3,5	PKZM 0 - 0,25 / S00 -...(....)	
0,09	0,12	0,18	0,25	0,25	0,4	0,25...0,4	5,6	PKZM 0 - 0,4 / S00 -...(....)	
0,12	0,25	0,25	0,37	0,55	0,63	0,4...0,63	8,8	PKZM 0 - 0,63 / S00 -...(....)	
0,25	0,55	0,55	0,8	1,1	1	0,63...1,0	14	PKZM 0 - 1 / S00 -...(....)	
0,37	0,75	1,1	1,1	1,5	1,6	1,0...1,6	22	PKZM 0 - 1,6 / S00 -...(....)	
0,75	1,5	1,5	2,2	3	2,5	1,6...2,5	35	PKZM 0 - 2,5 / S00 -...(....)	
1,1	2,2	3	3	4	4	2,5...4,0	56	PKZM 0 - 4 / S00 -...(....)	
2,2	4	4			6,3	4,0...6,3	88	PKZM 0 - 6,3 / S00 -...(....)	
					10	6,3...10	140	PKZM 0 - 10 / S00 -...(....)	