

en Installation instructions Plastic Enclosure for DOL and Reversing Starter
de Installationsanleitung
fr Notice d'installation
it Istruzioni per l'installazione
zh 安装说明
es Instrucciones de instalación
ru инструкция по установке
pt Instruções de instalação
ko 설치 매뉴얼

IEC / EN 62208
IEC / EN 60947-4-1
UL 60947-4-1
CAN/CSA C22.2, No. 60947-4-1

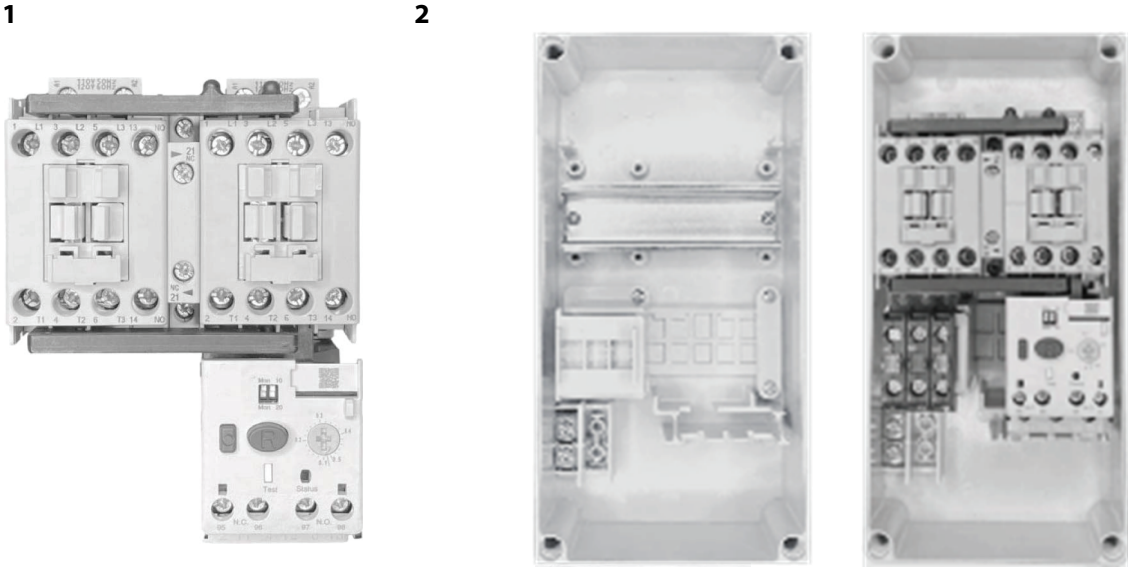



At the end of its life, this equipment should be collected separately from any unsorted municipal waste.


en **ATTENTION! HAZARDOUS VOLTAGE!**
The installation and the operation of this device and any maintenance must be carried out by a qualified person in accordance with specific local standards and safety regulations. Before installing this device, read these operating instructions carefully. Do not touch live parts. To avoid damages to persons and material the devices have to be replaced in case of mechanical and/or electrical damage.
(Follow NFPA 70E requirements).
de **ACHTUNG! GEFÄHRliche SPANNUNG!**
Die Installation und der Betrieb dieses Geräts sowie jegliche Wartung müssen von einer qualifizierten Person gemäß den spezifischen örtlichen Normen und Sicherheitsvorschriften durchgeführt werden. Lesen Sie vor der Installation des Geräts diese Betriebsanleitung sorgfältig durch. Aktive Teile dürfen nicht berührt werden. Um Schäden an Personen und Material zu vermeiden, müssen die Geräte bei mechanischen und/oder elektrischen Schäden und den Geräten ersetzt werden.
fr **ATTENTION! TENSION DANGEREUSE!**
L'installation, l'utilisation et la maintenance de ce dispositif doivent être réalisées par du personnel qualifié conformément aux normes et réglementations de sécurité locales. Avant d'installer le dispositif, lisez attentivement ces directives d'utilisation. Ne touchez pas les pièces sous tension. Afin d'éviter les dommages causés aux personnes et aux biens, les dispositifs doivent être remplacés en cas de dommage mécanique et/ou électrique. (Respectez les exigences NFPA 70E).
it **ATTENZIONE! PERICOLO TENSIONE!**
L'installazione e il funzionamento di questo dispositivo e qualsiasi manutenzione devono essere eseguiti da una persona qualificata in conformità con le norme locali e di sicurezza specifiche. Prima di installare questo dispositivo, leggere attentamente queste istruzioni per l'uso. Non toccare le parti in tensione. Per evitare danni a persone e materiali, i dispositivi devono essere sostituiti in caso di danni meccanici e/o elettrici.
zh **注意! 电压危险!**
本设备的安装和操作以及所有维护工作均必须由合格的人员按照当地的具体标准和安全守则进行。安装本设备前, 请仔细阅读这些操作说明。请勿触摸带电部分。为了避免人员伤害和材料损害, 如果在出现机械和/或电气损坏, 必须更换此设备。

es **¡ATENCIÓN! ¡VOLTAJE PELIGROSO!**
La instalación y operación de este dispositivo, así como cualquier mantenimiento, debe ser realizado por una persona cualificada de acuerdo con estándares locales y reglamentos de seguridad específicos. Antes de instalar este dispositivo, lea atentamente las instrucciones de uso. No toque piezas bajo tensión. Para evitar daños personales y materiales, los dispositivos deben reemplazarse en caso de fallo mecánico o eléctrico. (Siga los requisitos NFPA 70E).
ru **ВНИМАНИЕ! ОПАСНОЕ НАПРЯЖЕНИЕ!**
Установка и эксплуатация этого устройства, а также любое техническое обслуживание и ремонт должны выполняться квалифицированным специалистом согласно соответствующим местным стандартам и нормам техники безопасности. Перед установкой данного устройства внимательно прочтите настоящую инструкцию по эксплуатации. Не прикасайтесь к токоведущим частям. В случае возникновения механических и/или электрических повреждений необходимо заменить устройства во избежание травматизма персонала и повреждения материальной части.
pt **ATENÇÃO! TENSÃO PERIGOSA!**
A instalação e operação deste dispositivo e qualquer manutenção devem ser feitas por pessoal qualificado, de acordo com as normas locais e regulamentações de segurança. Antes de instalar este dispositivo, leia com atenção as instruções de operação. Não toque em peças energizadas. Para evitar danos a pessoas e materiais, os dispositivos devem ser substituídos em caso de dano mecânico e/ou elétrico.
ko **주의! 위험한 전압!**
이 장치의 설치 및 작동과 유지 보수는 유자격 직원이 지역 표준 및 안전 규정에 따라 수행해야 합니다. 이 장치를 설치하기 전에 사용자 매뉴얼을 주의 깊게 읽으십시오. 작동 중인 부품에 손을 대지 마십시오. 인적 및 물적 피해를 방지할 수 있도록 기계적 및/또는 전기적 손상이 발생하는 경우에 장치를 교체해야 합니다.

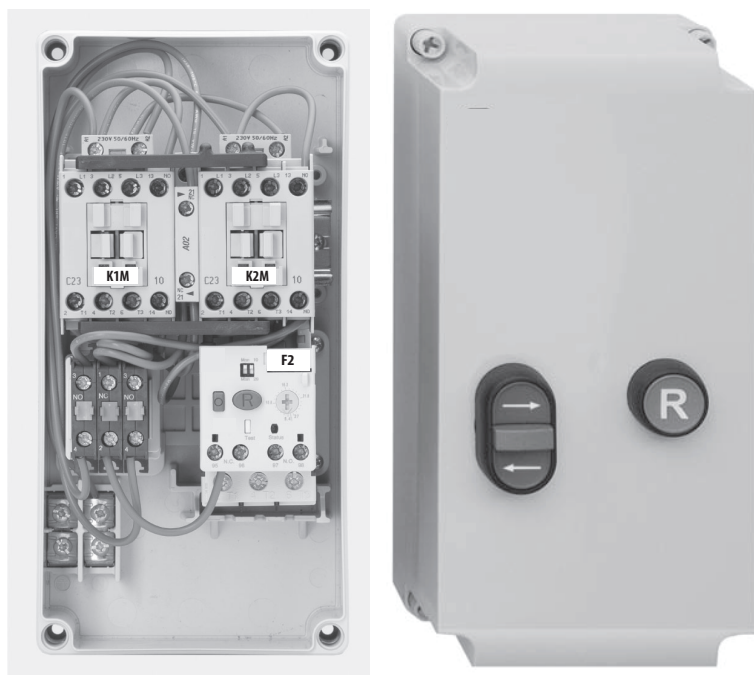
Assembly of Reversing Starters



- Assemble the reversing starter:
- Place the mechanical interlock between contactors
 - Insert the dovetail connector from rear side
 - Attach the parallel connection on line side
 - Attach the reversing connection and the overload relay on load side

- Snap the starter combination onto the metal hat rail in the enclosure base.
- Snap the D7-B contact blocks onto the device support:
- Pos. 1 (left): N.O. contact
 - Pos. 2 (center): N.C. contact
 - Pos. 3 (left): N.O. contact

3



Do the control wiring according the wiring diagram / wiring table.
Mount the D7 push button operators into the cover.

Component Selection for Three-Phase Reversing Starters

Contactors CA7 and OverloadRelays CEP7-1

Current Range		230V 50Hz	400V 50Hz	500V 50Hz	690V 50Hz	200V 60Hz	230V 60Hz	460V 60Hz	575V 60Hz	100kA, 690V	100kA, 600V	Components	
Min [A]	Max [A]	[kW]	[kW]	[kW]	[kW]	[HP]	[HP]	[HP]	[HP]	DIN Fuses Type gL/gG	Max. Fuse Class CC, J	Contactor *	Overload Relay ⊗
0.10	0.50	0.06...0.09	0.06...0.12	0.06...0.12	0.06...0.18					2	3	CA7-9-10-⊗	CEP7-1E*AB
0.20	1.0	0.12	0.18...0.25	0.18...0.37	0.18...0.55			1/4...1/3	1/4...1/2	4	6	CA7-9-10-⊗	CEP7-1E*BB
1.0	5.0	0.18...1.1	0.37...1.5	0.55...2.2	0.75...3.0	1/4...3/4	1/4...1	1/2...2	3/4...3	16	20	CA7-9-10-⊗	CEP7-1E*CB
3.2	11.3	1.5...3	2.2...4	3.0...4	4	1...2	1 1/2...2	3...5	5...7 1/2	20	20	CA7-9-10-⊗	CEP7-1E*DB
3.2	15	4	5.5	5.5	5.5	3	3	7 1/2	10	25	20	CA7-12-10-⊗	CEP7-1E*DB
3.2	16.0		7.5	7.5	7.5	3	3	7 1/2	10	32	30	CA7-16-10-⊗	CEP7-1E*DB
5.7	20.0	5.5				5	5	10	15	35	40	CA7-16-10-⊗	CEP7-1E*EB
5.7	26.5	7.5	10...11	10...13	10	5	7 1/2	15	15	40	40	CA7-23-10-⊗	CEP7-1E*EB

* To complete the cat. no., please replace ⊗ with a coil voltage code.

⊗ The electronic overload relay **CEP7-1EF** or the **CEP7-1EE** can be taken

Additional components

Description	Required Quantity	Cat. No.
Mechanical / Electrical Interlock	1	CM7-02
Power Wiring Kit for Reversing Starters	1	CAUT7-PW23
Neutral Terminal	¥ 1	KS7-PNT

Control Components required for Impulse Control

Multi-Function Push Button Operator, 3 Functions, without Markings	‡§	1	D7P-U3F3F34
Base Mounted Contact Block 1 N.C.		1	D7-BX01
Base Mounted Contact Block 1 N.O.		2	D7-BX10
Reset Push Button Operator, Marking "R"		1	D7P-F611

Control Components required for Maintained Control

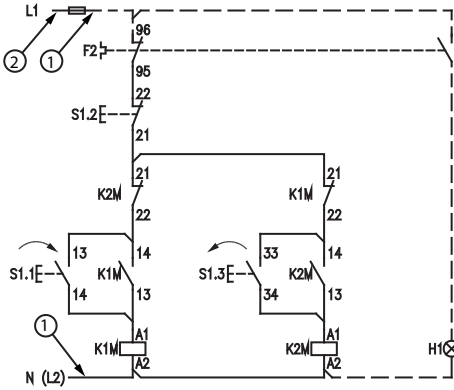
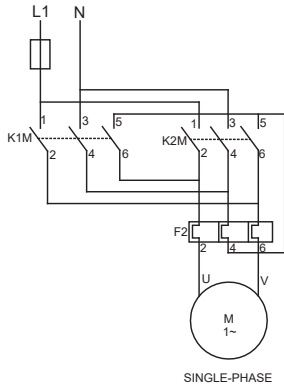
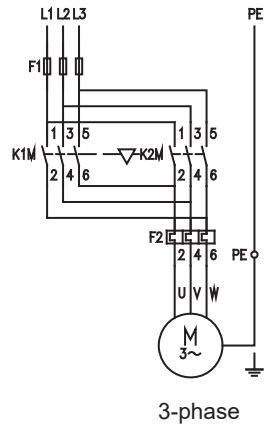
Selector Switch Operator, non-illuminated, 3-position	§	1	D7P-SM32
Base Mounted Contact Block 1 N.O.		2	D7-BX10
Reset Push Button Operator, Marking "R"		1	D7P-F611

‡ For button caps with text or symbols, order the operator without cap (cat. no. **D7P-U3X**). Caps are to be ordered separately.

§ For legend plates and frames, please see catalog H73.

¥ For UL applications.

Schematic Diagram for Reversing Starters



- ① - For separate control, remove this wire.
- For 230V coil:
- This starter is wired for incoming 400V line and 230V coil, with wire connection from K1M-A2 to N.
 - For common control with incoming 230V line and 230V coil, remove wire connection from K1M-A2 to N and add wire connection from K1M-L2 to K1M-A2.



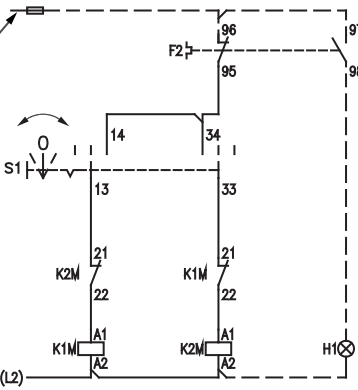
WARNING: Bonding between metallic conduits must be provided. Device is not suitable for use with rigid metal conduit for UL application.

AVERTISSEMENT: Une liaison électrique doit être assurée entre les conduits métalliques. Le dispositif ne peut être utilisé avec des conduits métalliques rigides dans les applications UL.

SUPPLY CONDUCTOR SIZE (AWG)	BONDING CONDUCTOR	
	QTY.	SIZE
14	1	14
12	1	12
10	2	12

FOR USE WITH SPRECHER + SCHUH
GROUNDING ADAPTER KIT, CAT. NO. KS7-GR1

SEE APPLICABLE CODES AND LAW
FOR GROUNDING REQUIREMENTS



- ② L1 Control voltage supplied from external source.

Wiring Tables

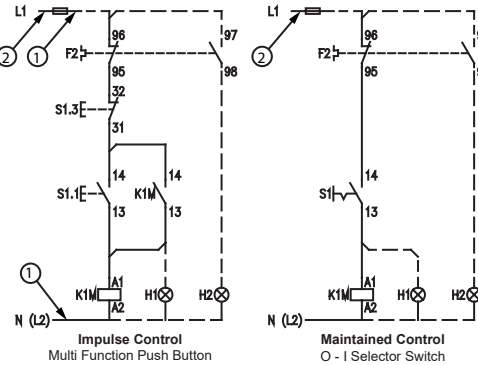
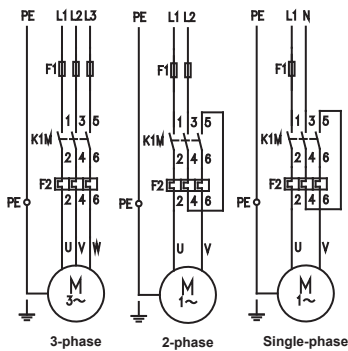
Impulse Control

From	To	Length mm
K1M - A2	K2M - A2	100
K1M - A1	K1M - 14	100
	S1 - 14	300
K2M - A1	K2M - 14	100
	S1 - 34	280
K2M - 22	K1M - 22	300
	S1 - 22	140
K2M - 21	K1M - 13	100
	S1 - 13	140
K2M - 13	K1M - 21	300
	S1 - 33	140
Q1 - 14	S1 - 21	180

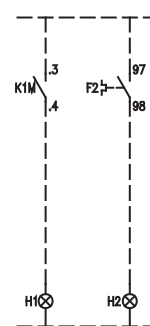
Maintained Control

From	To	Length mm
K1M - A2	K2M - A2	100
K1M - A1	K2M - 22	300
	K1M - 22	100
K1M - 21	S1 - 34	300
	S1 - 14	100
S1 - 13	S1 - 33	100
	Q1 - 14	180

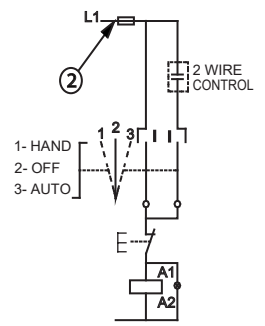
Schematic Diagram for Direct On-line Starters



- ① Add wires for common control. Remove if separate control is required.
② L1 Control voltage supplied from external source.



- ① When E-STOP is used



WARNING: Bonding between metallic conduits must be provided. Device is not suitable for use with rigid metal conduit for UL application.

AVERTISSEMENT: Une liaison électrique doit être assurée entre les conduits métalliques. Le dispositif ne peut être utilisé avec des conduits métalliques rigides dans les applications UL.

SUPPLY CONDUCTOR SIZE (AWG)	BONDING CONDUCTOR	
	QTY.	SIZE
14	1	14
12	1	12
10	2	12

FOR USE WITH SPRECHER + SCHUH
GROUNDING ADAPTER KIT, CAT. NO. KS7-GR1

SEE APPLICABLE CODES AND LAW
FOR GROUNDING REQUIREMENTS

Wiring Tables

Impulse Control

From	To	Length mm
K1M - A2	K2M - A2	100
K1M - A1	K1M - 14	100
	S1 - 14	300
K2M - A1	K2M - 14	100
	S1 - 34	280
K2M - 22	K1M - 22	300
	S1 - 22	140
K2M - 21	K1M - 13	100
	S1 - 13	140
K2M - 13	K1M - 21	300
	S1 - 33	140
Q1 - 14	S1 - 21	180

Maintained Control

From	To	Length mm
K1M - A2	K2M - A2	100
K1M - A1	K2M - 22	300
	K1M - 22	100
K1M - 21	S1 - 34	300
	S1 - 14	100
S1 - 13	S1 - 33	100
	Q1 - 14	180

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DIR 10000753238 (Version 01)
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