



Sample image

## Datasheet

**Article number:** 70001945  
**Designation:** CA10.A178.EF  
**Description:** Switch

IEC 60947-3 EN 60947-3, VDE 0660 Teil 107						
<b>Rated insulation voltage <math>U_i</math></b>						
			Voltage (V) AC / DC			
			690 AC / DC			
<b>Rated impulse withstand voltage <math>U_{imp}</math></b>						
Voltage (kV)	Overvoltage category	Pollution degree	Supply system			Function
4 III		3	Valid for lines with grounded common neutral termination			Switch disconnecter
<b>Rated uninterrupted current <math>I_u</math>/Ith</b>						
Current (A)	Ambient temperature (°C)	Peak temperature (°C)	additional requirements			
20	55	60	Ambient temperature +55°C during 24 hours with peaks up to +60°C			
<b>Rated operational current <math>I_e</math></b>						
Utilization category			Voltage (V)		Current (A)	
AC-15			220 - 240		6	
AC-15			380 - 440		4	
<b>Rated operational power</b>						
Utilization category	Voltage (V)	No. of phases	No. of poles	Power (kW)		
AC-3	220 - 240	3	3	3		
AC-3	380 - 440	3	3	5,50		
AC-3	660 - 690	3	3	5,50		
AC-3	220 - 240	1	2	2,20		
AC-3	380 - 440	1	2	3		
AC-23A	220 - 240	3	3	3,70		
AC-23A	380 - 440	3	3	7,50		
AC-23A	660 - 690	3	3	7,50		
AC-23A	220 - 240	1	2	2,50		
AC-23A	380 - 440	1	2	3,70		
<b>Max. Fuse rating IEC</b>						
Fuse characteristic			No. of Fuses		Current (A)	
gG			1		25	
<b>UL60947-4-1 , UL508</b>						
<b>Nominal Voltage</b>						
			Voltage (V) AC / DC			
			300 AC / DC			
<b>Rated insulation voltage <math>U_i</math></b>						
			Voltage (V) AC / DC			
			300 AC			
<b>Rated thermal current</b>						
		Current (A)	Ambient temperature (°C)		Additional Text	
		20	0 - 40		--	
<b>Horsepower rating</b>						
Across-the-Line Motor Starting		Voltage (V)	No. of phases	No. of poles	Power (HP)	Ambient temperature [°C]
Reversing		110 - 120	1	2	0,17	40
Reversing		220 - 240	1	2	0,50	40
Reversing		277 - 277	1	2	0,60	40
Reversing		110 - 120	3	3	0,50	40
Reversing		220 - 240	3	3	1	40
DOL		110 - 120	1	2	0,50	40
DOL		220 - 240	1	2	1	40
DOL		277 - 277	1	2	2	40
DOL		110 - 120	3	3	1,50	40
DOL		220 - 240	3	3	3	40
<b>Pilot duty rating code</b>						
Duty Code						
A300						
<b>SCCR / Max. fuse rating</b>						
Conditions of acceptability						
These devices are suitable for use on circuits capable of delivering not more than 5000 rms symmetrical amperes, 600V ac max. when protected by Class RK1 fuses. Manual Motor Controllers when intended for use as a motor disconnecter are suitable for use on a circuit capable of delivering not more than 5000 rms symmetrical amperes, 600V ac max. when protected by 30A Class J time delay fuses.						
<b>Temp. rating of wire</b>						
		Temperature rating (°C)	Current (A)		Text	
		60 - 75			-- Use copper wire only	

Connecting instructions						
<b>Markings</b>						
When intended for use as a motor disconnecter the device shall be provided with a method of being locked in the OFF-position.						
<b>General Use</b>						
AC / DC	Voltage (V)	Current (A)	No. of phases	No. of poles	No. of contacts in series	
AC	300	20	1	2	1	
AC	300	20	3	3	1	
<b>CSA</b>						
<b>Nominal Voltage</b>						
				Voltage (V)	AC / DC	
				300 AC		
<b>Rated insulation voltage Ui</b>						
				Voltage (V)	AC / DC	
				300 AC		
<b>Rated thermal current</b>						
		Current (A)	Ambient temperature (°C)		Additional Text	
		20	0 - 40		-	
<b>Horsepower rating</b>						
<i>Across-the-Line Motor Starting</i>						
	Voltage (V)	No. of phases	No. of poles	Power (HP)	Ambient temperature [°C]	
DOL	110 - 120	1	2	0,50	40	
DOL	220 - 240	1	2	1	40	
DOL	277 - 277	1	2	2	40	
DOL	110 - 120	3	3	1,50	40	
DOL	220 - 240	3	3	3	40	
<b>Pilot duty rating code</b>						
<i>Duty Code</i>						
A300						
<b>Temp. rating of wire</b>						
		Temperature rating (°C)	Current (A)		Text	
		75			- only	
<b>General Use</b>						
AC / DC	Voltage (V)	Current (A)	No. of phases	No. of poles	No. of contacts in series	
AC	300	20	1	1	1	
<b>GENERAL TECHNICAL INFORMATION</b>						
<b>Size of conductor</b>						
<i>composition of conductor</i>	<i>Min. / Max. value</i>	<i>No. of conductor per terminal</i>		<i>Cross section (mm<sup>2</sup>) or (AWG/kcmil)</i>	<i>Material of the wire</i>	
Solid wire	Min.	1		0.5mm <sup>2</sup>	Copper	
Solid wire	Min.	2		0.5mm <sup>2</sup>	Copper	
Flexible wire	Min.	1		0.75mm <sup>2</sup>	Copper	
Flexible wire	Min.	2		0.75mm <sup>2</sup>	Copper	
Flexible wire	Max.	2		2.5mm <sup>2</sup>	Copper	
Flexible wire	Max.	2		AWG 14	Copper	
Single-core or stranded wire	Max.	2		AWG 12	Copper	
Single-core or stranded wire	Max.	2		2.5mm <sup>2</sup>	Copper	
Flexible wire with ferrule according to DIN 46228	Min.	1		0.5mm <sup>2</sup>	Copper	
Flexible wire with ferrule according to DIN 46228	Max.	2		2.5mm <sup>2</sup>	Copper	
Flexible wire with ferrule according to DIN 46228	Min.	2		0.5mm <sup>2</sup>	Copper	
<b>Stripping length</b>						
				Length (mm)	-	
						
<b>Recommended screw driver</b>						
<i>Type of screw driver</i>				<i>Value</i>		
Cross Screwdriver				PH1		
Slot screwdriver according to DIN 5264				0,8x4		
<b>Tightening torque of screws</b>						
				tightening torque (Nm)	tightening torque (lb-in)	
				0,60	5	
<b>Approbations</b>						
<i>Specification</i>						<i>Marking</i>
CE marking						
UK Directives						
CSA C.22.2 No.14						
<b>General Information</b>						
<i>Text</i>						
- Alleen koperleidingen met of zonder vertinde/verzilverde draden (per draad) gebruiken. Het nadien vertinnen van de uiteinden is niet toegestaan.						
- DC switching capacity applies to ON/OFF switches.						
- Terminals with factory fitted jumper links are tightened during production for loss prevention. When opening the terminal clamps, make sure that no factory fitted links get lost and that all wire connections are properly seated.						
- After wiring, ALL terminal screws must be tightened to the specified torque values.						
- Het gebruik van een extra apparaat kan de beschermingsklasse van de gekozen bouwvorm beïnvloeden.						


### General Information

**Text**

- Do not lubricate or treat contacts.
- Switches may only be mounted, connected and set into operation by qualified persons according to the accepted rules of technology.
- After installation of the switches the spacings between the terminals must be sufficient to fulfill the requirement of the applicable standards.


### Waste Electrical & Electronic Equipment (WEEE)

Picture name Description

 Do not throw in the trash as care must be taken to ensure environmentally sound disposal and recycling. Please either use an environmentally friendly waste disposal company; return to the supplier for disposal; or return direct to the manufacturer, Kraus & Naimer. You can find local Kraus & Naimer offices at [www.krausnaimer.com](http://www.krausnaimer.com)

### Proposition 65

Picture name Description

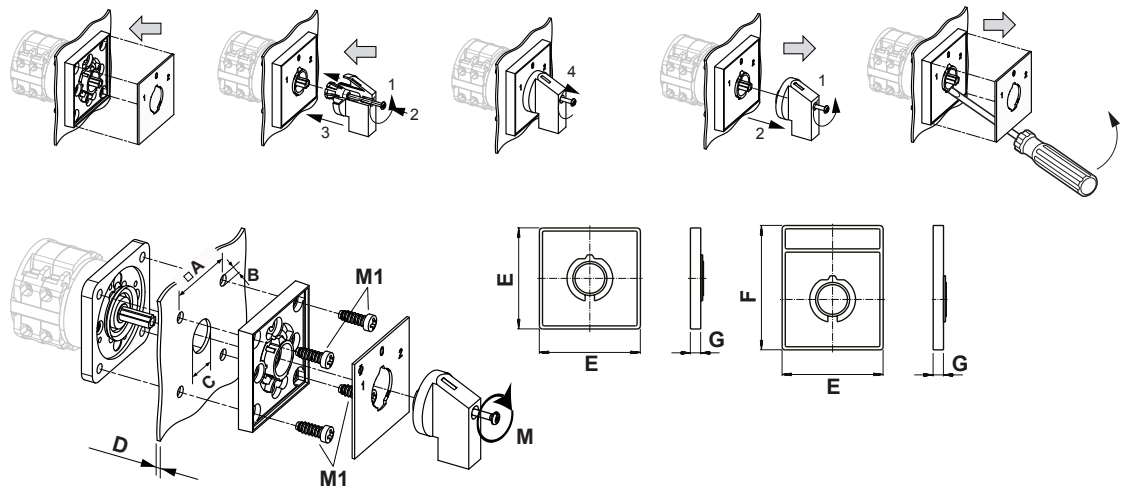
 **WARNING:** This product can expose you to chemicals including nickel and lead, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Classification Contact: Rigid contact bridge

Classification Contact Mat: Silver

Classification Terminal: Screw terminal

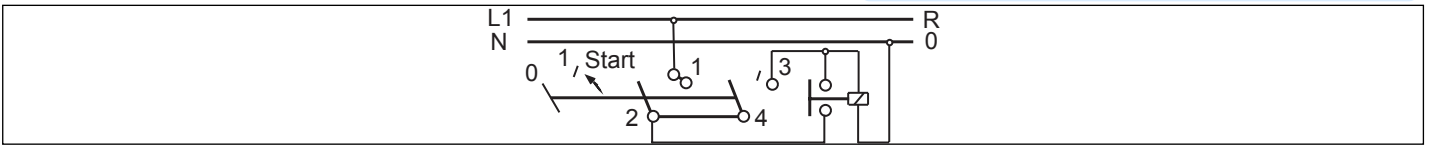
### Mounting-EF



IP - Code front side	IP66, IP67, IP69k
Stages	1,00 - 12,00
A	□ 36,00 mm
B	∅ 5,00 mm
C	∅ 15,00 - 19,00 mm
D	H ≤ 4,00 mm
E	H 48,00 mm
F	H 59,00 mm
G	H 6,70 mm
M	↺ 0,50 Nm
M1	↺ 0,90 Nm


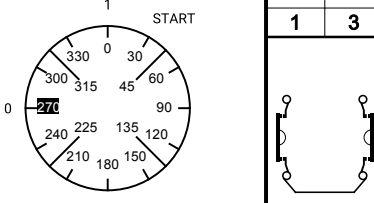

## Wiring diagram

CA10.A178.EF



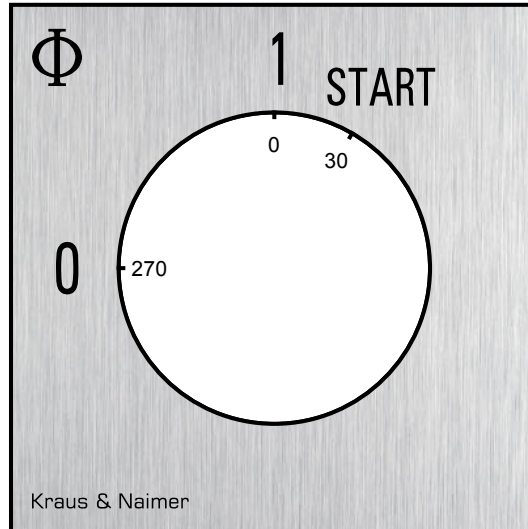
## Switch program

CA10.A178.EF

 Kraus & Naimer		CA10				A178				Page 1 of 1			
		1	3	5	7	9	11	13	15	17	19	21	23
<b>Face Plate</b> 													
Switching Angle <input type="text" value="90"/> Total switching Angle <input type="text" value="120"/>		2	4	6	8	10	12	14	16	18	20	22	24
	0	270											
		285											
		300											
		315											
		330											
		345											
	1	0											
		15											
	START	30											
		45											
		60											
		75											
		90											
		105											
		120											
		135											
		150											
	165												
	180												
	195												
	210												
	225												
	240												
	255												
		<b>Jumpers</b> 1 ● ● 3 4 ○ — 2 5 ○ ○ 7 8 ○ ○ 6 9 ○ ○ 11 12 ○ ○ 10 13 ○ ○ 15 16 ○ ○ 14 17 ○ ○ 19 20 ○ ○ 18 21 ○ ○ 23 24 ○ ○ 22 25 ○ ○ 27 28 ○ ○ 26 29 ○ ○ 31 32 ○ ○ 30 33 ○ ○ 35 36 ○ ○ 34 37 ○ ○ 39 40 ○ ○ 38 41 ○ ○ 43 44 ○ ○ 42 45 ○ ○ 47 48 ○ ○ 46											
		Version: 131											

**Face plate**

S0.F119/A1B.PEL



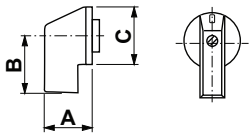
## HANDLES

**Designation:** SOC.G251  
**Handle colour:** "1" black

### GENERAL TECHNICAL INFORMATION

#### Recommended screw driver

Type of screw driver	Value
Cross Screwdriver	PH1
Slot screwdriver according to DIN 5264	0,8x4



A	22,00 mm	B	23,80 mm	C	27,60 mm
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