### DATASHEET - DILEM-01(230V50/60HZ)



Contactor, 230 V 50/60 Hz, 3 pole, 380 V 400 V, 4 kW, Contacts N/C = Normally closed= 1 NC, Screw terminals, AC operation



Part no. DILEM-01(230V50/60HZ)
Catalog No. 051114
Alternate Catalog XTMC9A01G2

No

	gram

Delivery program			
Product range			Contactors
Application			Mini Contactors for Motors and Resistive Loads
Subrange			DILEM contactors
Utilization category			AC-1: Non-inductive or slightly inductive loads, resistance furnaces AC-3/AC-3e: Normal AC induction motors: Starting, switching off while running AC-4: Normal AC induction motors: starting, plugging, reversing, inching
			IE3 ✓
Notes			Also suitable for motors with efficiency class IE3. IE3-ready devices are identified by the logo on their packaging. Also tested according to AC-3e.
Connection technique			Screw terminals
Description			With auxiliary contact
Number of poles			3 pole
Rated operational current			
AC-3			
380 V 400 V	l <sub>e</sub>	Α	9
AC-1			
Conventional free air thermal current, 3 pole, 50 - 60 Hz			
Open			
at 40 °C	$I_{th} = I_e$	Α	22
Max. rating for three-phase motors, 50 - 60 Hz			
AC-3			
220 V 230 V	P	kW	2.2
380 V 400 V	Р	kW	4
660 V 690 V	Р	kW	4
AC-4			
220 V 230 V	Р	kW	1.5
380 V 400 V	Р	kW	3
660 V 690 V	Р	kW	3
Contacts			
N/C = Normally closed			1 NC
Contact sequence			$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
For use with			DILE
Actuating voltage			230 V 50/60 Hz
Voltage AC/DC			AC operation

#### **Technical data**

#### General

delicital			
Standards			IEC/EN 60947, VDE 0660, CSA, UL
Lifespan, mechanical; Coil 50/60 Hz	Operations	x 10 <sup>6</sup>	7
Lifespan, mechanical	Operations	x 10 <sup>6</sup>	10
Maximum operating frequency			

Mechanical		Ops./h	9000
electrical (Contactors without overload relay)	Operations/h	υμδ./11	Page 05/070
Climatic proofing	Operations/ii		Damp heat, constant, to IEC 60068-2-78
omitate proofing			Damp heat, cyclic, to IEC 60068-2-30
Ambient temperature			
Open		°C	-25 - +50
Enclosed		°C	- 25 - 40
Storage		°C	
Min. ambient temperature, storage		°C	- 40
Ambient temperature, storage max.		°C	+ 80
Mounting position			As required, except vertical with terminals A1/A2 at the bottom
Mounting position			
Mechanical shock resistance (IEC/EN 60068-2-27)			
Half-sinusoidal shock, 10 ms			
Basic unit without auxiliary contact module			
Main contacts, make contacts		g	10
Main contacts Make/break contacts		g	
Break contact		g	10
Basic unit with auxiliary contact module			
Main contacts make contact		g	
Make		g	10
Auxiliary contacts Make/break contacts		g	20 / 20
Degree of Protection			IP20
Protection against direct contact when actuated from front (EN 50274)			Finger and back-of-hand proof
Altitude		m	Max. 2000
Weight		kg	0.17
Terminal capacity of auxiliary and main contacts			
Screw terminals			
Solid		mm <sup>2</sup>	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)
Flexible with ferrule		mm <sup>2</sup>	1 x (0.75 - 1.5) 2 x (0.75 - 1.5)
Solid or stranded		AWG	18 - 14
Stripping length		mm	8
Terminal screw			M3.5
Pozidriv screwdriver		Size	2
Standard screwdriver		mm	0.8 x 5.5 1 x 6
Max. tightening torque		Nm	1.2
Main conducting paths			
Rated impulse withstand voltage	U <sub>imp</sub>	V AC	6000
Overvoltage category/pollution degree			111/3
Rated insulation voltage	Ui	V AC	690
Rated operational voltage	U <sub>e</sub>	V AC	690
Safe isolation to EN 61140			
between coil and contacts		V AC	300
between the contacts		V AC	300
Making capacity (cos φ to IEC/EN 60947)		Α	110

Breaking capacity			
220 V 230 V		Α	90
380 V 400 V		Α	90
500 V		Α	64
660 V 690 V		Α	42
Short-circuit protection maximum fuse			
Type "2", 500 V	gL/gG	Α	10
Type "1", 500 V	gL/gG	Α	20
AC			
AC-1			
Rated operational current			
Conventional free air thermal current, 3 pole, 50 - 60 Hz			
Open			
at 40 °C	$I_{th} = I_e$	Α	22
at 50 °C	$I_{th} = I_e$	Α	20
at 55 °C	$I_{th} = I_e$	Α	19
enclosed	I <sub>th</sub>	Α	16
Notes			At maximum permissible ambient air temperature.
Conventional free air thermal current, 1 pole			
Notes			At maximum permissible ambient air temperature.
open	I <sub>th</sub>	Α	50
enclosed	I <sub>th</sub>	Α	40
AC-3	u.		
Rated operational current			
Open, 3-pole: 50 – 60 Hz			
Notes			At maximum permissible ambient temperature (open.) Also tested according to AC-3e.
220 V 230 V	I <sub>e</sub>	Α	9
240 V	I <sub>e</sub>	Α	9
380 V 400 V	I <sub>e</sub>	A	9
415 V	I <sub>e</sub>	A	9
440V		A	9
500 V	l <sub>e</sub>		
	l <sub>e</sub>	A	6.4
660 V 690 V	le	Α	4.8
Motor rating	P	kWh	
220 V 230 V	P	kW	2.2
240V	P	kW	2.5
380 V 400 V	P	kW	4
415 V	P	kW	4.3
440 V	P _	kW	4.6
500 V	P _	kW	4
660 V 690 V	Р	kW	4
AC-4			
Rated operational current			
Open, 3-pole: 50 – 60 Hz			
Notes			At maximum permissible ambient air temperature.
220 V 230 V	l <sub>e</sub>	Α	6.6
240 V	le	Α	6.6
380 V 400 V	l <sub>e</sub>	Α	6.6
415 V	le	Α	6.6
440 V	I <sub>e</sub>	Α	6.6
500 V	l <sub>e</sub>	Α	5
660 V 690 V	I <sub>e</sub>	Α	3.4
Motor rating	P	kWh	

240 V 00 V 10 V 10 V 10 V 10 V 10 V 10 V	220 V 230 V	Р	kW	1.5
180				
Asi				
Add				
Book				
Section   Parameter   Parame				
Decinit organizational carrier topes				
Reader of presidential current opens		Р	kW	3
DC-1				
12   V				
1		1	٨	20
100 V				
110 V				
Majorite Systems   Majorite Ma		I <sub>e</sub>		
Monage to systems         Victage to brain race         AC apperated           AC apperated         Doel frequency coil 5000 Me         Pick-up         x U <sub>c</sub> 0.85 - 1.1           Power consumption         AC apperation         VX         30           Deal-frequency coil 5000 Me to st 50 Me         Pick-up         VX         30           Deal-frequency coil 5000 Me to st 50 Me         Sealing         VX         54           Deal-frequency coil 5000 Me at 50 Me         Sealing         VX         54           Deal-frequency coil 5000 Me at 50 Me         Sealing         VX         24           Deal-frequency coil 5000 Me at 50 Me         Pick-up         VX         29           Deal-frequency coil 5000 Me at 50 Me         Pick-up         VX         29           Deal-frequency coil 5000 Me at 50 Me         Pick-up         VX         29           Deal-frequency coil 5000 Me at 50 Me         Pick-up         VX         29           Deal-frequency coil 5000 Me at 50 Me         Pick-up         VX         29           Deal-frequency coil 5000 Me at 50 Me         Pick-up         VX         10           Deal-frequency coil 5000 Me at 50 Me         Pick-up         VX         10           Deal-frequency coil 5000 Me at 50 Me         Pick-up         V	110 V	I <sub>e</sub>	Α	
Voltage to terrance         AC operated           Dun-Integrancy col 58080 ft 2         Pick-up         x U <sub>e</sub> 0.85 - 1.1           AC operation         Dun-Integrancy col 58080 ft 2 at 50 ft 2         Pick-up         v         30           Dun-Integrancy col 58080 ft 2 at 50 ft 2         Pick-up         V         25           Dun-Integrancy col 58080 ft 2 at 50 ft 2         Sealing         VA         54           Dun-Integrancy col 58080 ft 2 at 50 ft 2         Sealing         VA         29           Dun-Integrancy col 58080 ft 2 at 50 ft 2         Pick-up         VA         29           Dun-Integrancy col 58080 ft 2 at 50 ft 2         Pick-up         VA         29           Dun-Integrancy col 58080 ft 2 at 50 ft 2         Sealing         VA         29           Dun-Integrancy col 58080 ft 2 at 50 ft 2         Sealing         VA         29           Dun-Integrancy col 58080 ft 2 at 50 ft 2         Sealing         VA         29           Dun-Integrancy col 58080 ft 2 at 50 ft 2         Sealing         VA         29           Dun-Integrancy col 58080 ft 2 at 50 ft 2         Sealing         VA         29           Dun-Integrancy col 58080 ft 2 at 50 ft 2         Sealing W         VB         18           Dun-Integrancy col 58080 ft 2 at 50 ft 2         Sea		l <sub>e</sub>	Α	20
AC operated   Dash-frequency col 50/80 ft/   Feb.   Pick up   VL   Dash-frequency col 50/80 ft at 50 ft   Pick up   VL   Dash-frequency col 50/80 ft at 50 ft   Pick up   VL   So   Dash-frequency col 50/80 ft at 50 ft   Pick up   VL   So   Dash-frequency col 50/80 ft at 50 ft   Pick up   VL   So   Dash-frequency col 50/80 ft at 50 ft   Pick up   VL   So   Dash-frequency col 50/80 ft at 50 ft   Pick up   VL   Dash-frequency col 50/80 ft at 50 ft   Pick up   VL   Dash-frequency col 50/80 ft at 50 ft   Pick up   VL   Dash-frequency col 50/80 ft at 50 ft   Pick up   VL   Dash-frequency col 50/80 ft at 50 ft   Pick up   VL   Dash-frequency col 50/80 ft at 50 ft   Pick up   VL   Dash-frequency col 50/80 ft at 50 ft   Pick up   VL   Dash-frequency col 50/80 ft at 50 ft   Pick up   VL   Dash-frequency col 50/80 ft at 50 ft   Pick up   VL   Dash-frequency col 50/80 ft at 50 ft   Pick up   VL   Dash-frequency col 50/80 ft at 50 ft   Pick up   VL   Dash-frequency col 50/80 ft at 50 ft   Pick up   VL   Dash-frequency col 50/80 ft at 50 ft   Pick up   VL   Dash-frequency col 50/80 ft at 50 ft   Pick up   VL   Dash-frequency col 50/80 ft at 50 ft   Pick up   VL   Dash-frequency col 50/80 ft at 50 ft   Pick up   VL   Dash-frequency col 50/80 ft at 50 ft   Pick up   VL   Dash-frequency col 50/80 ft at 50 ft   Pick up   VL   Dash-frequency col 50/80 ft at 50 ft   Pick up   VL   Dash-frequency col 50/80 ft   P				
Dual-frequency coil 5008 Mz   Pick-up   XU				
Power consumption		D: /		005.44
AC operation   Pick-up   VA   30		Pick-up	x U <sub>c</sub>	0.85 - 1.1
Dual-froquency coil 50/60 Hz at 50 Hz   Pick-up   VA   50				
Dual-frequency coil 50600 Hz at 50 Hz				
Dual-frequency coil 50/60 Hz at 50 Hz			VA	30
Dual-frequency coil 5080 Hz at 50 Hz			W	26
Dual-frequency coll 5000 Hz at 60 Hz     Dual-frequency coll 5000 Hz at 60 Hz at 60 Hz     Dual-frequency coll 5000	Dual-frequency coil 50/60 Hz at 50 Hz	Sealing	VA	5.4
Dual-frequency coil 50/60 Hz at 60 Hz         Pick-up         W         24           Dual-frequency coil 50/60 Hz at 60 Hz         Soaling         VA         3.9           Dual-frequency coil 50/60 Hz at 60 Hz         Soaling         W         1.8           Duty factor         WU         1.8         10           Switching times at 100 W U <sub>c</sub> W         Image: Closing delay Min.         Image: Closing Min.         Image: Closing Min.         Image: Closing Min.         Image: Closing Min.		Sealing	W	1.8
Dual-frequency coil 50/80 Hz at 60 Hz         Sealing         VA         39           Dualy-frequency coil 50/80 Hz at 60 Hz         Sealing         W         18           Dualy-frequency coil 50/80 Hz at 60 Hz         Sealing         W         10           Switching times at 100 % U <sub>c</sub> W         10           Closing delay         M         1           Closing delay min.         ms         14           Closing delay max.         ms         12           Opening delay max.         ms         18           Opening delay max.         ms         18           Closing delay with top mounting auxiliary contact         ms         18           Reversing contactors         ms         18           Changeover time at 10 % U <sub>c</sub> ms         12           Changeover time max.         ms         12           A Cring time at 850 V AC         ms         12           Changeover time at 10 % U <sub>c</sub> ms         12           Turnet heat losses (3- or 4-pole)         w         12           at I <sub>t</sub> to AC-3/400 V         y         12           Impedance per pole         w         12           Auxiliary contacts         w         12           Posting		Pick-up	VA	29
Dual-frequency coil 50/60 Hz at 60 Hz   Sealing   W   1.8	Dual-frequency coil 50/60 Hz at 60 Hz	Pick-up	W	24
Duty factor         % DF         100           Switching times at 100 % U <sub>c</sub>	Dual-frequency coil 50/60 Hz at 60 Hz	Sealing	VA	3.9
Switching times at 100 % U <sub>c</sub> ms           Make contact         ms           Closing delay         ms           Closing delay min.         ms           Closing delay max.         ms           Opening delay min.         ms           Opening delay min.         ms           Opening delay max.         ms           Closing delay with top mounting auxiliary contact         ms           Reversing contactors         ms           Changeover time at 110 % U <sub>c</sub> ms           Changeover time max.         ms           Aching time at 680 V AC         ms           Current heat losses (3- or 4-pole)         12           at I <sub>B</sub> , 50 °C         V           at I <sub>B</sub> , 50 °C         V           Impedance per pole         m0           Auxiliary contacts         V           Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module         V           Rated impulse withstand voltage         U <sub>imp</sub> V AC           Rated inpulse withstand voltage         U <sub>i</sub> V AC           Rated insulation voltage         U <sub>i</sub> V AC           Rated insulation voltage         U <sub>i</sub> V AC           Rated insulation voltage	Dual-frequency coil 50/60 Hz at 60 Hz	Sealing	W	1.8
Make contact         ms           Closing delay         ms           Closing delay min.         ms         14           Closing delay max.         ms         21           Opening delay min.         ms         8           Opening delay min.         ms         8           Opening delay max.         ms         18           Closing delay with top mounting auxiliary contact         ms         45           Reversing contactors         ms         45           Changeover time at 110 % U <sub>c</sub> ms         16           Changeover time min.         ms         16           Changeover time max.         ms         12           Arcing time at 890 VAC         ms         12           Current heat losses (3- or 4-pole)         W         5           at l <sub>0</sub> to AC-3/400 V         W         5           at l <sub>0</sub> to AC-3/400 V         W         12           Impedance per pole         MQ         9.18           Auxiliary contacts         Yes           Rated impulse withstand voltage         U <sub>mp</sub> VAC         6000           Overvoltage category/pollution degree         III/3         8           Rated operational voltage         U <sub>m</sub> <td< td=""><td>Duty factor</td><td></td><td>% DF</td><td>100</td></td<>	Duty factor		% DF	100
Closing delay min.	Switching times at 100 % U <sub>c</sub>			
Closing delay min.  Closing delay max.  Opening delay  Opening delay min.  Ins 8  8  Closing delay win.  Ins 9  8  Closing delay min.  Ins 9  In	Make contact		ms	
Closing delay max.  Opening delay min.  Opening delay min.  Opening delay max.  Mis 8  Closing delay max.  Mis 18  Closing delay with top mounting auxiliary contact  Reversing contactors  Changeover time at 110 % U <sub>c</sub> Changeover time min.  Changeover time max.  Arcing time at 690 V AC  Current heat losses (3- or 4-pole)  at I <sub>th</sub> , 50 °C  W 5.9  at I <sub>c</sub> to AC-3/400 V  Impedance per pole  Auxiliary contacts  Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module  Rated impulse withstand voltage  U <sub>imp</sub> V AC  Rated operational voltage  U <sub>i</sub> V AC  Roo  Rated operational voltage  U <sub>i</sub> V AC  Rated operational voltage  U <sub>i</sub> V AC  Rated operational voltage  U <sub>i</sub> V AC  Rated operational voltage	Closing delay		ms	
Opening delay min. Opening delay max.  Closing delay with top mounting auxiliary contact  Reversing contactors Changeover time at 110 % U <sub>c</sub> Changeover time min. Changeover time max. Arcing time at 690 V AC  Current heat losses (3- or 4-pole)  at I <sub>th</sub> , 50 °C  Auxiliary contacts  Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module Rated inpulse withstand voltage  Rated insulation voltage  Rated operational voltage  Verently a voltage of the v	Closing delay min.		ms	14
Opening delay min. Opening delay max. Closing delay with top mounting auxiliary contact  Reversing contactors Changeover time at 110 % U <sub>c</sub> Changeover time min. Changeover time max. Arcing time at 690 V AC  Current heat losses (3- or 4-pole)  at I <sub>th</sub> , 50 °C  at I <sub>e</sub> to AC-3/400 V  Impedance per pole Auxiliary contacts  Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module  Auxiliary contacts  Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module  Quinpub Auxiliary contacts  Rated impulse withstand voltage  Ui VAC  Rated operational voltage  Rated operational voltage  Rated operational voltage  VAC  600  Rated operational voltage  VAC  600  VAC  600	Closing delay max.		ms	21
Opening delay max.  Closing delay with top mounting auxiliary contact  Reversing contactors Changeover time at 110 % U <sub>c</sub> Changeover time min.  Changeover time max. Arcing time at 590 V AC  Current heat losses (3- or 4-pole)  at I <sub>th</sub> , 50 °C  at I <sub>e</sub> to AC-3/400 V  Impedance per pole  Auxiliary contacts  Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module  Overvoltage category/pollution degree  Rated insulation voltage  Rated operational voltage  Ve VAC 6000  Rated operational voltage  Ve VAC 6000  Rated operational voltage Ve VAC 6000	Opening delay		ms	
Closing delay with top mounting auxiliary contact  Reversing contactors  Changeover time at 110 % U <sub>c</sub> Changeover time at 110 % U <sub>c</sub> Ms 16  Changeover time max.  Arcing time at 890 V AC  Current heat losses (3- or 4-pole)  at l <sub>th</sub> , 50 °C  at l <sub>q</sub> to AC-3/400 V  Impedance per pole  Auxiliary contacts  Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module  Rated impulse withstand voltage  Overvoltage category/pollution degree  Rated operational voltage  VaC  VaC  600  Rated operational voltage  VaC  600  Rated operational voltage  VaC  600  Rated operational voltage  VaC  600	Opening delay min.		ms	8
Reversing contactors  Changeover time at 110 % U <sub>c</sub> Changeover time min.  Changeover time max.  Arcing time at 690 V AC  Current heat losses (3- or 4-pole)  at I <sub>th</sub> , 50 °C  At I <sub>g</sub> to AC-3/400 V  Impedance per pole  Auxiliary contacts  Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module  Rated impulse withstand voltage  Overvoltage category/pollution degree  Rated insulation voltage  Rated operational voltage  Ve  VAC  600  Rated operational voltage  Ve  VAC  600  Rated operational voltage	Opening delay max.		ms	18
Changeover time at 110 % U <sub>c</sub> Changeover time min.  Changeover time max.  Arcing time at 690 V AC  Current heat losses (3- or 4-pole)  at I <sub>th</sub> , 50 °C  At I <sub>e</sub> to AC-3/400 V  Impedance per pole  Auxiliary contacts  Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module  Rated impulse withstand voltage  Queryoltage category/pollution degree  Rated operational voltage  Rated operational voltage  Rated operational voltage  U <sub>e</sub> V AC  600  Rated operational voltage  U <sub>e</sub> V AC  600  Rated operational voltage  U <sub>e</sub> V AC  600	Closing delay with top mounting auxiliary contact		ms	45
Changeover time min. Changeover time max. Arcing time at 690 V AC  Current heat losses (3- or 4-pole)  at I <sub>th</sub> , 50 °C  at I <sub>e</sub> to AC-3/400 V  Impedance per pole Auxiliary contacts  Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module  Rated impulse withstand voltage  Overvoltage category/pollution degree  Rated operational voltage  Rated operational voltage  U <sub>e</sub> V AC  Mms 21  Expendix Ps.  9.9  4.0  4.0  4.0  4.0  4.0  4.0  4.	Reversing contactors			
Changeover time max.  Arcing time at 690 V AC  Current heat losses (3- or 4-pole)  at I <sub>th</sub> , 50 °C  at I <sub>g</sub> to AC-3/400 V  Impedance per pole  Auxiliary contacts  Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module  Rated impulse withstand voltage  Uimp  V AC  6000  Rated operational voltage  Ui  V AC  690  Rated operational voltage  Ue  V AC  600	Changeover time at 110 % $\mathrm{U_{c}}$			
Arcing time at 690 V AC  Current heat losses (3- or 4-pole)  at I <sub>th</sub> , 50 °C	Changeover time min.		ms	16
Current heat losses (3- or 4-pole)  at I <sub>th</sub> , 50 °C  at I <sub>e</sub> to AC-3/400 V  Impedance per pole  Auxiliary contacts  Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module  Rated impulse withstand voltage  Overvoltage category/pollution degree  Rated operational voltage  U <sub>i</sub> V AC 600  Rated operational voltage  U <sub>e</sub> V AC 600	Changeover time max.		ms	21
at I <sub>th</sub> , 50 °C  at I <sub>e</sub> to AC-3/400 V  Impedance per pole  Auxiliary contacts  Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module  Rated impulse withstand voltage  Overvoltage category/pollution degree  Rated operational voltage  U <sub>i</sub> V AC  600  Rated operational voltage  U <sub>e</sub> V AC  600			ms	12
at I <sub>e</sub> to AC-3/400 V  Impedance per pole  Auxiliary contacts  Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module  Rated impulse withstand voltage  Uimp  V AC  6000  Overvoltage category/pollution degree  Rated operational voltage  Ui V AC  600  Rated operational voltage  Ue V AC  600				
Impedance per pole  Auxiliary contacts  Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module  Rated impulse withstand voltage  Uimp  V AC  6000  Overvoltage category/pollution degree  Rated insulation voltage  Ui  V AC  690  Rated operational voltage  Ue  V AC  600				
Auxiliary contacts  Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module  Rated impulse withstand voltage  Overvoltage category/pollution degree  Rated insulation voltage  Ui  V AC  600  Rated operational voltage  Ue  V AC  600			W	1.2
Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module  Rated impulse withstand voltage  Uimp  V AC  6000  Overvoltage category/pollution degree  Rated insulation voltage  Ui  V AC  690  Rated operational voltage  Ue  V AC  600			mΩ	9.18
module Rated impulse withstand voltage  Overvoltage category/pollution degree  Rated insulation voltage  Ui VAC 6000  III/3  Rated operational voltage  Ue VAC 600				V <sub>r</sub> -
Overvoltage category/pollution degree III/3  Rated insulation voltage U <sub>i</sub> V AC 690  Rated operational voltage U <sub>e</sub> V AC 600				Yes
Rated insulation voltage  U <sub>i</sub> V AC 690  Rated operational voltage  U <sub>e</sub> V AC 600	Rated impulse withstand voltage	U <sub>imp</sub>	V AC	6000
Rated operational voltage U <sub>e</sub> V AC 600	Overvoltage category/pollution degree			III/3
	Rated insulation voltage	Ui	V AC	690
Safe isolation to EN 61140	Rated operational voltage	U <sub>e</sub>	V AC	600
	Safe isolation to EN 61140			

			***
between coil and auxiliary contacts		V AC	300
between the auxiliary contacts		V AC	300
Rated operational current			
AC-15			
220 V 240 V	l <sub>e</sub>	Α	6
380 V 415 V	l <sub>e</sub>	Α	3
500 V	l <sub>e</sub>	Α	1.5
DC L/R ≦ 15 ms			
Contacts in series:		Α	
1	24 V	Α	2.5
2	60 V	Α	2.5
3	100 V	A	1.5
3	220 V	Α	0.5
Conv. thermal current	I <sub>th</sub>	A	10
Control circuit reliability	Failure rate	λ	$<10^{-8}, <$ one failure at 100 million operations (at Ue = 24 V DC, Umin = 17 V, Imin = 5.4 mA)
Component lifespan at $U_e = 240 \text{ V}$			
AC-15	Operations	x 10 <sup>6</sup>	0.2
DC current			
$L/R = 50$ ms: 2 contacts in series at $I_e = 0.5$ A	Operations	x 10 <sup>6</sup>	0.15
Notes			Switch-on and switch-off conditions based on DC-13, time constant as specified
Short-circuit rating without welding			
Maximum overcurrent protective device			
Short-circuit protection only			PKZM0-4
Short-circuit protection maximum fuse			
500 V		A gG/gL	6
500 V		A fast	10
Current heat loss at a load of I <sub>th</sub> per contact		W	1.1
Rating data for approved types			
Switching capacity			
Maximum motor rating			
Three-phase			
200 V 208 V		HP	2
230 V 240 V		НР	3
460 V 480 V		НР	5
575 V 600 V		HP	5
Single-phase			
115 V 120 V		НР	0.5
230 V 240 V		HP	1.5
General use		Α	15
Auxiliary contacts			
Pilot Duty			
AC operated			A600
DC operated			P300
General Use			
AC		V	600
AC		A	10
DC		V	250
DC Short Circuit Current Poting		A	0.5
Short Circuit Current Rating		SCCR	
Basic Rating			

SCCR	kA	5
max. Fuse	А	45

# Design verification as per IEC/EN 61439

boolgh vormoution do por 120, 211 or 100			
Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	9
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	0.4
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	1.2
Static heat dissipation, non-current-dependent	P <sub>vs</sub>	W	1.8
Heat dissipation capacity	P <sub>diss</sub>	W	0
Operating ambient temperature min.	uiss	°C	-25
Operating ambient temperature max.		°C	50
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures			Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat			Meets the product standard's requirements.
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects			Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation			Meets the product standard's requirements.
10.2.5 Lifting			Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact			Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions			Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES			Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances			Meets the product standard's requirements.
10.5 Protection against electric shock			Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components			Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections			Is the panel builder's responsibility.
10.8 Connections for external conductors			Is the panel builder's responsibility.
10.9 Insulation properties			
10.9.2 Power-frequency electric strength			Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage			Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material			Is the panel builder's responsibility.
10.10 Temperature rise			The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating			Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.12 Electromagnetic compatibility			Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.13 Mechanical function			The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

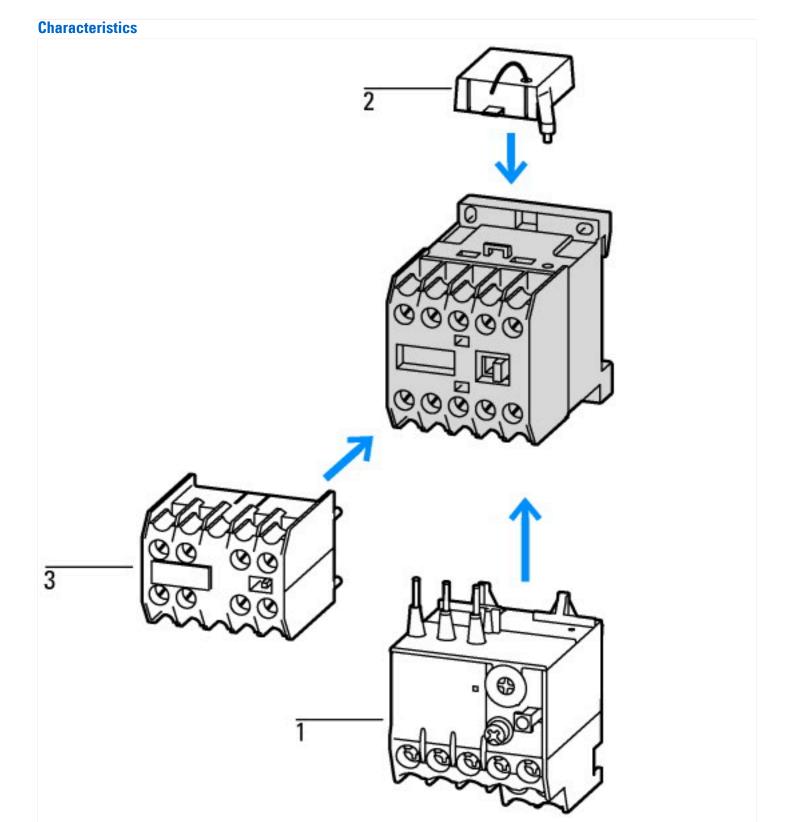
# **Technical data ETIM 7.0**

Low-voltage industrial components (EG000017) / Power contactor, AC switching (EC000066)				
Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Power contactor, AC switching (ecl@ss10.0.1-27-37-10-03 [AAB718015])				
Rated control supply voltage Us at AC 50HZ	V	230 - 230		
Rated control supply voltage Us at AC 60HZ	V	230 - 230		
Rated control supply voltage Us at DC	V	0 - 0		
Voltage type for actuating		AC		
Rated operation current le at AC-1, 400 V	А	22		
Rated operation current le at AC-3, 400 V	А	9		
Rated operation power at AC-3, 400 V	kW	4		
Rated operation current le at AC-4, 400 V	А	6.6		
Rated operation power at AC-4, 400 V	kW	3		
Rated operation power NEMA	kW	3.7		
Modular version		No		
Number of auxiliary contacts as normally open contact		0		

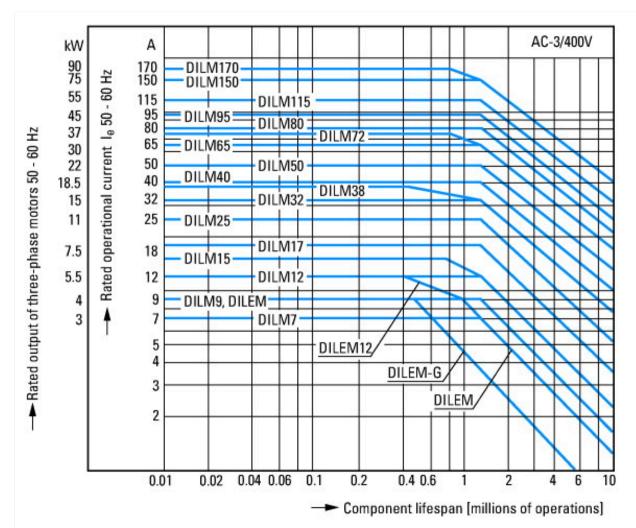
Number of auxiliary contacts as normally closed contact	1
Type of electrical connection of main circuit	Screw connection
Number of normally closed contacts as main contact	0
Number of main contacts as normally open contact	3

# **Approvals**

Product Standards	IEC/EN 60947-4-1; UL 508; CSA-C22.2 No. 14-05; CE marking
UL File No.	E29096
UL Category Control No.	NLDX
CSA File No.	012528
CSA Class No.	3211-04
North America Certification	UL listed, CSA certified
Specially designed for North America	No



- 1: Overload relay 2: Suppressor 3: Auxiliary contact modules Enclosure totally insulated



Normal AC induction motor Operating characteristics Switch on: from stop Switch off: during run Electrical characteristics: Switch on: up to 6 x Rated motor current Switch off: up to 1 x Rated motor current Utility category 100 % AC-3 Typical Applications

Compressors

Lifts

Mixers Pumps

Escalators

Agitators

fan

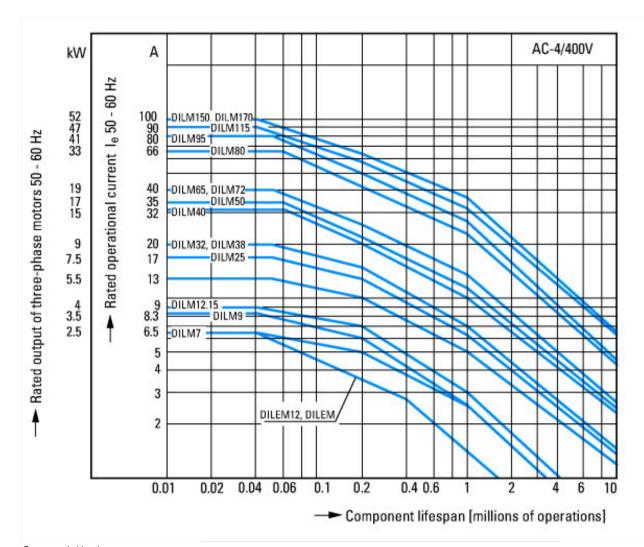
Conveyor belts Centrifuges

Hinged flaps

Bucket-elevator

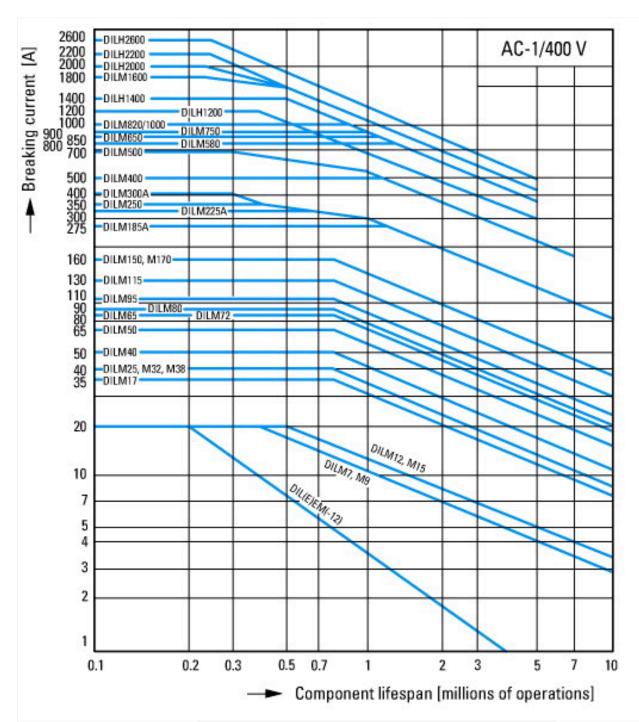
Air-conditioning systems

General drives for manufacturing and processing machines



Extreme switching duty
Squirrel-cage motor
Operating characteristics
Inching, plugging, reversing
Electrical characteristics
Make: up to 6 x rated motor current
Break: up to 6 x rated motor current
Utilization category
100 % AC-4
Typical applications
Printing presses
Wire-drawing machines
Centrifuges

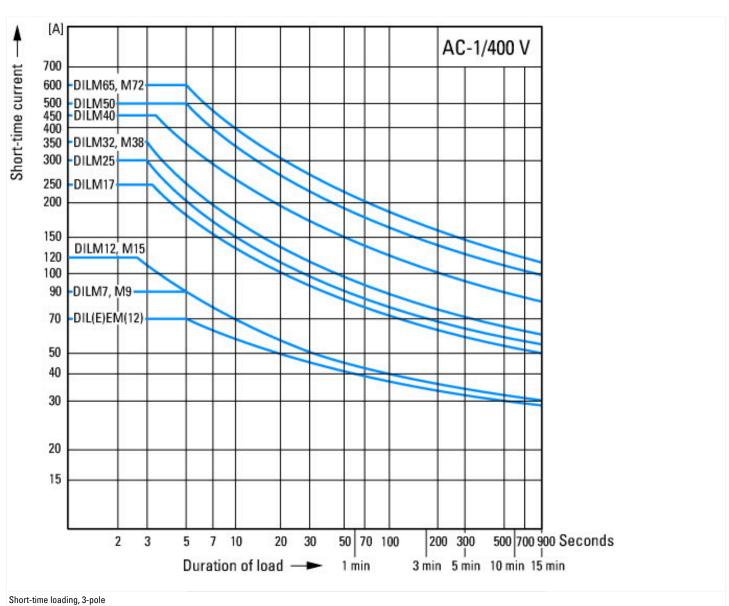
Special drives for manufacturing and processing machines



Switching duty for non-motor loads, 3-pole, 4-pole Operating characteristics
Non-inductive or slightly inductive loads
Electrical characteristics
Make: 1 x rated current
Break: 1 x rated current
Utilization category
100 % AC-1

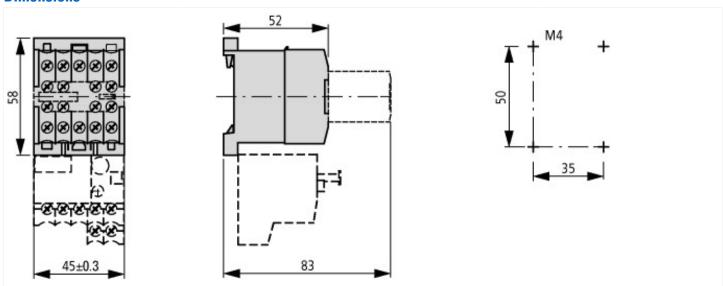
Typical applications Electric heat

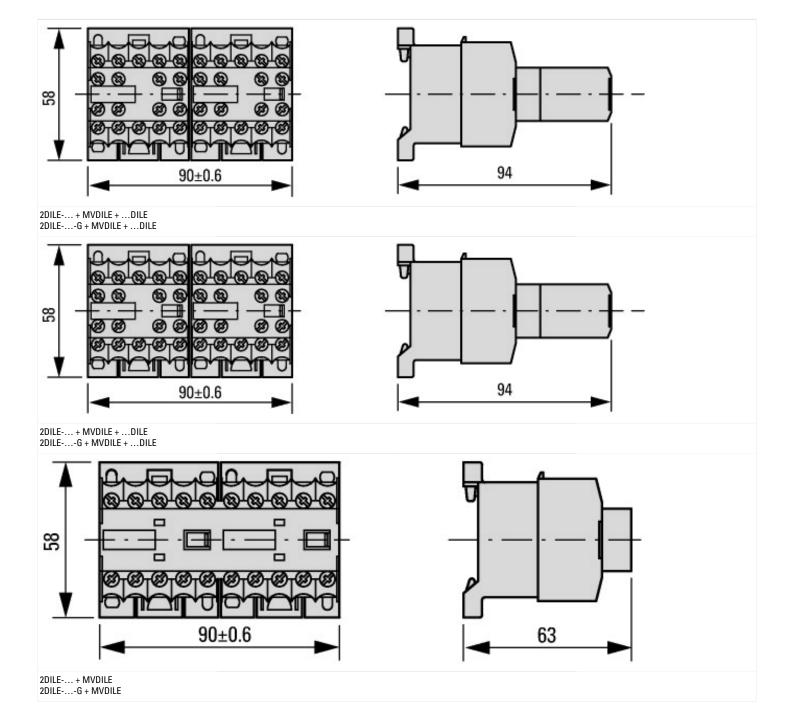
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Time interval between two loading cycles: 15 minutes

#### **Dimensions**





### **Additional product information (links)**

IL03407009Z (AWA2100-0882) mini contactor relay

IL03407009Z (AWA2100-0882) mini contactor relay

https://es-assets.eaton.com/DOCUMENTATION/AWA\_INSTRUCTIONS/IL03407009Z2020\_05.pdf