### DATASHEET - DILER-22(110V50/60HZ)



Contactor relay, 110 V 50/60 Hz, N/O = Normally open: 2 N/O, N/C = Normally closed: 2 NC, Screw terminals, AC operation



Part no. Catalog No. Alternate Catalog No.

DILER-22(110V50/60HZ) 021871 log XTRM10A22E2

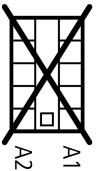
Similar to illustration

#### **Delivery program**

Donitory program			
Product range			DILER Mini-contactors
Application			Contactor relays
Description			with interlocked opposing contacts
Connection technique			Screw terminals
Rated operational current			
Conventional free air thermal current, 1 pole			
Open			
at 50 °C	$I_{th} = I_e$	А	10
AC-15			
220 V 230 V 240 V	le	А	6
380 V 400 V 415 V	le	А	3
Contacts			
N/O = Normally open			2 N/O
N/C = Normally closed			2 NC
Contact sequence			$\begin{array}{c} A^{1} \\ A^{2} \\$
Code number and version of combination			
Distinctive number			22E
For use with			DILE
Actuating voltage			110 V 50/60 Hz
Voltage AC/DC			AC operation
Instructions			Contact numbers to EN 50011 Coil terminal markings to EN 50005

### **Technical data**

General			
Standards			IEC/EN 60947, EN 60947-5-1, VDE 0660, UL, CSA
Lifespan, mechanical			
AC operated	Operations	x 10 <sup>6</sup>	10
Maximum operating frequency	Operations/h		9000
Climatic proofing			Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Ambient temperature			
Open		°C	-25 - +50
Enclosed		°C	- 25 - 40
Mounting position			
Mounting position			As required, except vertical with terminals A1/A2 at the bottom



			A A 1
Mechanical shock resistance (IEC/EN 60068-2-27)			
Half-sinusoidal shock, 10 ms			
Basic unit with auxiliary contact module		g	
N/O contact		g	10
N/C contact		g	8
Degree of Protection		-	IP20
Protection against direct contact when actuated from front (EN 50274)			Finger and back-of-hand proof
Weight			
AC operated		kg	0.17
Terminal capacities		mm <sup>2</sup>	
Screw terminals			
Solid		mm <sup>2</sup>	1 x (0.75 - 2.5)
		11111	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 1 x (18 - 14) 2 x (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
Contacts			
Interlocked opposing contacts to ZH 1/457, including auxiliary contact module			Yes
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	600
Safe isolation to EN 61140			
between coil and auxiliary contacts		V AC	300
between the auxiliary contacts		V AC	300
Rated operational current		A	
Conventional free air thermal current, 1 pole			
Open			
at 50 °C	I <sub>th</sub> =I <sub>e</sub>	A	10
AC-15			
220 V 230 V 240 V	l <sub>e</sub>	A	6
380 V 400 V 415 V	le	А	3
500 V	Ie	А	1.5
DC current			
Notes			Switch-on and switch-off conditions based on DC-13, time constant as specified.
DC L/R ≦ 15 ms			
Contacts in series:		А	
1	24 V	А	2.5
2	60 V	А	2.5

320VA6Control circuit reliabilityFilmer at (a d a control circuit reliability)Filmer at (a d a control circuit reliability)Filmer at (a d a control circuit reliability)Short-circuit reliabilityFilmer at (a d a control circuit reliability)Filmer at (a d a control circuit reliability)Maximum overcurrent protective deviceFilmer at (a d a control circuit reliability)Filmer at (a d a control circuit protection maximum fuse300 \ 400 V415 \ 1Filmer at (a d a d a control circuit protection maximum fuseFilmer at (a d a d a control circuit protection maximum fuse500 \ 1Filmer at (a d a d a control circuit protection maximum fuseFilmer at (a d a d a control circuit protection maximum fuse500 \ 1Filmer at (a d a d a d a control circuit protection maximum fuseFilmer at (a d a d a control circuit protection maximum fuse500 \ 1Filmer at (a d a d a control circuit protection maximum fuseFilmer at (a d a d a control circuit protection maximum fuse500 \ 1Filmer at (a d a d a control circuit protection maximum fuseFilmer at (a d a d a control circuit protection maximum fuse600 \ 1Filmer at (a d a d a control circuit protection protecti	2	110 V	А	15
Anticipation operations oper	3			1.5
Shir-Guiden where w				
Maximu novecurant protocologiesImage: statusImage: status280 V200 V15 V0644380 V400 V15 V1666580 V1666580 V1666580 V1666580 V1780 V166600 v100 V15 V100 V15 V100 V100 V100 V100 V10	Control circuit reliability	Failure rate	λ	<10 <sup>-8</sup> , < one failure at 100 million operations (at U <sub>e</sub> = 24 V DC, U <sub>min</sub> = 17 V, I <sub>min</sub> = 5.4 mA)
20 V20 V20 V20 V40 V415 VPKZM04380 V40 V415 V64Short-icruit protection maximum fuseFKZM04500 VA fast6500 VA fast10Current heat loss at lyM10AC oporatedMW1.1AC oporatedMK10Mignet SystemsMK10Single-vtage coll 500 K2 and dua-votage coll 50 K2 K0 K2Pick-upKL10Dual-frequency coll 500 K1Pick-upKL10Dual-frequency coll 500 K1Pick-upKL10Dual-frequency coll 500 K1Pick-upKL10Dual-frequency coll 500 K1/2Pick-upKL10Dual-frequency coll 500 K1/2Pick-upKL10Dual-frequency coll 500 K1/2Pick-upKL10Dual-frequency coll 500 K1/2Pick-upKL10Dual-frequency coll 500 K1/2Pick-upKL10AC oporated W0 musclisory coll 500 K1/2Pick-upKL10AC oporated W0 musclisory coll 500 K1/2Pick-upRE10AC oporated W0 musclisory coll 500 K1/2Pick-upRE10AC oporated W0 musclisory coll 500 K1/2Pick-upRE10AC oporated W0 musclisory coll 500 K1/2Pick-upPick-up10AC oporated W0 musclisory coll 500 K1/2Pick-upPick-up10AC oporated W0 musclisory coll 500 K1/2Pick-upPick-up10AC oporated W0 musclisory coll 5	Short-circuit rating without welding			
380 V0 415 V     PK2M     4.0       500 V     500 V     500 V     500 V       500 V     500 V     6.0     6.0       500 V     6.0     6.0     6.0       500 V     6.0     7.0     7.0       500 V     0.0     1.0     7.0       Corrent heat loss at lun     0.0     1.0     7.0       A Coperated     0.0     8.1.1     7.0       A Coperation     7.0     7.0     7.0       Power consumption     7.0     8.0     8.5.1.1       Power consumption     7.0     7.0     7.0       A Coperation     7.0     7.0     7.0       Dual-frequency coi 50/60 Hz     7.0     7.0     7.0       A Coperated Holosing delay     6.0     8.0     7.0       A Coperated Holosing delay     7.0	Maximum overcurrent protective device			
Sour-circuit protection maximum fuseA regionA region	220 V 230 V 240 V		PKZM0	4
SolvSo	380 V 400 V 415 V		PKZM0	4
BOVAnd And And And 	Short-circuit protection maximum fuse			
Current heat loss at l <sub>b</sub> .     Image: loss at l <sub>b</sub> .       A C operated     W     1       Buel-frequency coli 50 Hz and dual-voltage coli 50 Hz, 60 Hz     Vec.     8×1.1       Power consumption     KUc     8×1.1       A C operation     Vec.     8×1.1       Dual-frequency coli 5060 Hz     Power consumption     New       A C operation     Vec.     8×1.1       Dual-frequency coli 5060 Hz     Power consumption     New       Dual-frequency coli 5060 Hz     Sealing     Va     3/2       Dual-frequency coli 5060 Hz     Sealing     No     1       A C operated NUC contact opening delay     No     1     1       A C operated NUC contact opening delay     No     1     1       A C operated NUC contact opening delay     No     1     1       A C operated NUC contact opening delay     No     1     1       Polo Loug	500 V		A gG/gL	6
AC operated   N   N   N     AC operated   N   N   N     AC operated   N   N   N   N     Non-Frequency coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz   Pick-up   X Lo   N	500 V		A fast	10
Nates     Notes       Voltage tolkrance     Image: Statume     Image: Statume       AC operated     Image: Statume     Image: Statume     Image: Statume       Single-voltage coil 50 Hz and dual-voltage coil 50 Hz. 60 Hz     Pick-up     X Le     0.8.1.1       Dual-frequency coil 5060 Hz     Pick-up     X Le     0.8.1.1       AC operation     Image: Statume     Image: Statume     Image: Statume       Dual-frequency coil 5060 Hz     Hold     X Le     Statume       Dual-frequency coil 5060 Hz     Fore     N Le     Statume       Actoure     N Le     Statume     Statume       Actoure     N Le     Statume     Statume       Actoure     N Le     N Le     Statume       Actoure     N Le     N Le     Statume	Current heat loss at I <sub>th</sub>			
Notage to leave to the second secon	AC operated		W	1.1
AC operated   Pick-up   Nu     Single-voltage coil 50 Hz, and dual-voltage coil 50 Hz, 60 Hz   Pick-up   Nu   Sin14     Dual-frequency coil 50/60 Hz   Pick-up   Nu   Sin14     Power consumption   Pick-up   Nu   Sin14     Dual-frequency coil 50/60 Hz   Hold   Nu   Sin34     Dual-frequency coil 50/60 Hz   Hold   Nu   Sin34     duty factor   Sealing   Nu   Sin34     duty factor   Sealing   Nu   Sin34     AC operated losing delay   Nu   Sin34   Sin34     AC operated N/0 contact opening delay   Nu   Sin34   Sin34     AC operated N/0 contact opening delay   Nu   Sin34   Sin34     Pick Duty   Mu   Sin34   Sin34   Sin34     AC operated N/0 contact nodule Max. closing delay   Nu   Sin34   Sin34     Pick Duty   Mu   Sin34   Sin34   Sin34     Pick Duty   Mu   Sin34   Sin34   Sin34     AC operated N/0 contact opening delay   Mu   Sin34   Sin34     Pick Duty   Mu	Magnet systems			
Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 HzPick-up¥ Uc8a 1.1Dual-frequency coil 50,60 HzPick-up¥ Uc85 - 1.1AC operationHoldVa3.3Dual-frequency coil 50,60 HzHoldVa3.3Dual-frequency coil 50,60 HzSeaingVa3.3duty factorSeaing% De1.3duty factorSeaing% De1.3AC operated losing delaySeaing% De1.4AC operated N/0 contact opening delaySeaing% De1.4AC operated With auxiliary contact module Max. closing delayNa8.18AC operated With auxiliary contact module Max. closing delaySeaing% DePick DutySeaingMolSeaingAC operated Seaing delaySeaing% DePick DutySeaingSeaingPick DutySeaing% DeAC operated Seaing delaySeaingAC operated Seaing delaySeaingPick DutySeaing% DeAc operated Seaing delaySeaingAC operated Se	Voltage tolerance			
Polai-frequency oil 50/60 HzPick-upx Up x Up x Up x UpS5 - 1AC operationNoNoNoDual-frequency oil 50/60 HzNoSalingNoDual-frequency oil 50/60 HzSalingNoSalingDual-frequency oil 50/60 HzSalingNoSalingduy lactorSalingNoSalingduy lactorSalingNoSalingduy lactorSalingNoSalingduy lactorSalingNoSalingduy lactorSalingNoSalingduy lactorSalingNoSalingduy lactorNoSalingNoAC operated N/O contact module Max. closing delayNoSalingAC operated N/O contact module Max. closing delayNoSalingPilot DuyNoSalingSalingAC operated SalingNoSalingPilot DuyNoSalingA CoperatedNoSalingA Coperated NetworkNoSalingA Coperated SalingNoSalingA Coperate	AC operated			
Power consumption	Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz	Pick-up	x U <sub>c</sub>	0.8 - 1.1
AC operation   Image: Constraint of the second of the se	Dual-frequency coil 50/60 Hz	Pick-up	x U <sub>c</sub>	0.85 - 1.1
Dual-frequency coil 50/60 Hz     Hold     VA     5/3       Dual-frequency coil 50/60 Hz     Sealing     VA     5/3       Dual-frequency coil 50/60 Hz     Sealing     VA     5/3       duty factor     Sealing     VA     5/3       duty factor     P     P     10       Changeover time at 100 % Ug (recommended value)     MA     7     10       AC operated losing delay     Na     8-18     10       AC operated N/D contact opening delay     Na     8-18     10       AC operated N/D contact opening delay     Na     8-18     10       AC operated N/D contact opening delay     Na     8-18     10       AC operated N/D contact opening delay     Na     8-18     10       AC operated Searce     Na     5     10     10       Pilot Duty     AC operated     Na     5     10     10     10     10     10     10     10     10     10     10     10     10     10     10     10     10     10     10     10	Power consumption			
Lander of the second	AC operation			
duty fact   % PF   10     duty factor   % DF   ·     Changeover time at 100 % Us (recommended value)   ms   14-21     A Coperated closing delay   ms   8-18     A Coperated N/O contact opening delay   ms   8-18     A Coperated With auxiliary contact module Max. closing delay   ms   8-18     Rating data for approved types   ms   9-10     Rating data for approved types   ms   8-18     Rating data for approved types   ms   9-10     Rating data for approved types   ms<	Dual-frequency coil 50/60 Hz	Hold	VA	
Changeover time at 100 % Ug (recommended value) Image: Margin M	Dual-frequency coil 50/60 Hz	Sealing	W	
AC operated losing delayImage: Note of the section of th	duty factor		% DF	100
AC operated N/O contact opening delay   ms   8-18     AC operated With auxiliary contact module Max. closing delay   ms   45     Rating data for approved types	Changeover time at 100 $\%~\text{U}_{S}$ (recommended value)			
AC operated With auxiliary contact module Max. closing delay ms 45   Rating data for approved types Image: State Sta	AC operated closing delay		ms	14 - 21
Rating data for approved types     Auxiliary contacts   Image: Section of the sect	AC operated N/O contact opening delay		ms	8 - 18
Auxiliary contactsImage: Big Pice Pice Pice Pice Pice Pice Pice Pice	AC operated With auxiliary contact module Max. closing delay		ms	45
Pilot DutyImage: Pilot DutyImage: Pilot DutyImage: Pilot DutyImage: Pilot DutyAC operatedImage: Pilot DutyP300General UseImage: Pilot DutyImage: Pilot DutyACImage: Pilot DutyImage: Pilot DutyACImage: Pilot DutyImage: Pilot DutyACImage: Pilot DutyImage: Pilot DutyDCImage: Pilot DutyImage: Pilot DutyDCImage: Pilot DutyImage: Pilot Duty<	Rating data for approved types			
AC operatedAC operate	Auxiliary contacts			
DC operatedP300General UseIACVACACDCVDCVDCVDCV	-			
General UseImage: Constraint of the second seco				
ACV600ACA10DCV250	DC operated			P300
AC A 10 DC V 250	General Use			
DC V 250	AC		V	600
	AC		А	10
DC A 0.5	DC		V	250
	DC		А	0.5

# Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I <sub>n</sub>	А	6
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	0.4
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	0
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.		°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.
Ũ	
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**

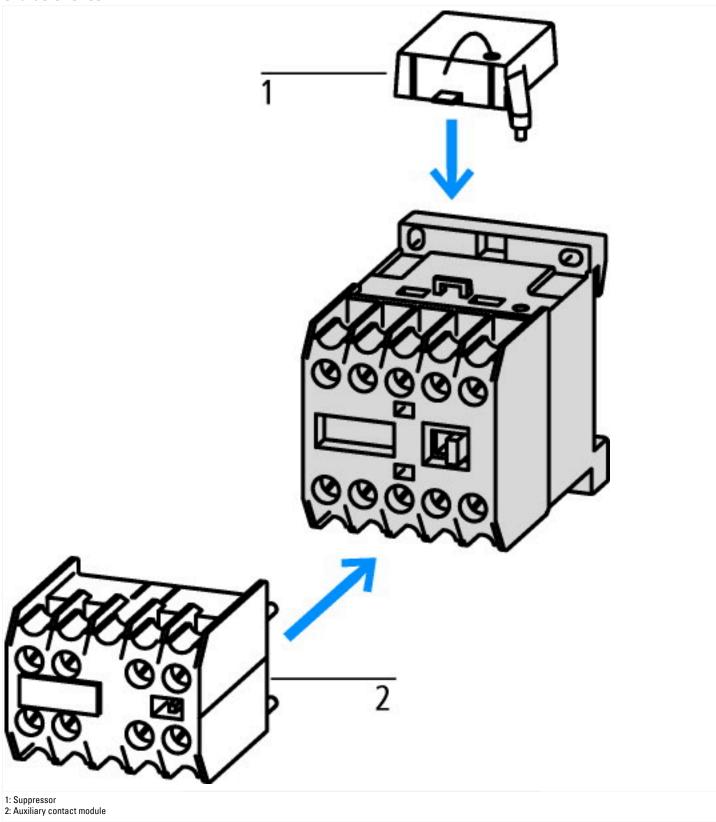
Low-voltage industrial components (EG000017) / Contactor relay (EC000196)

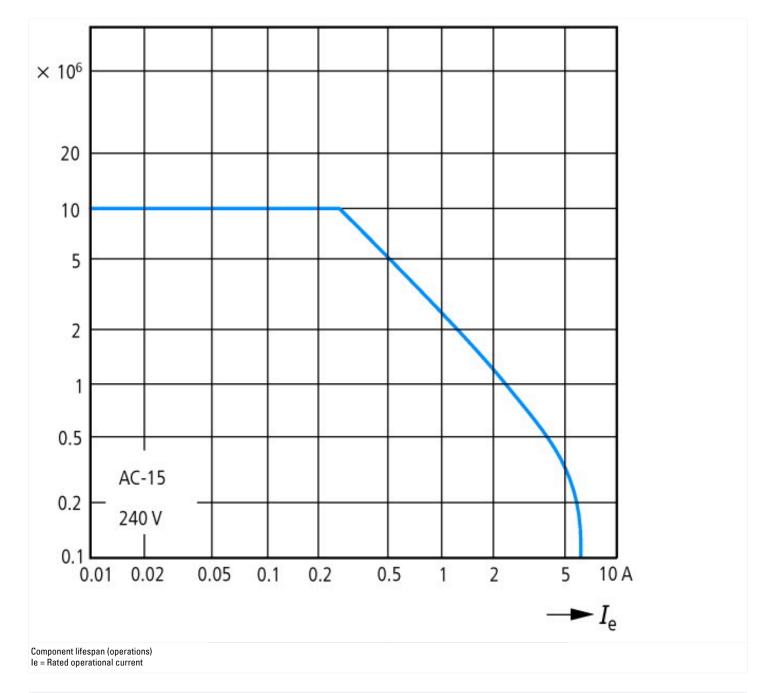
Electric engineering, automation, process contro	I engineering / Low-voltage switch technology	ogy / Contactor (LV) / Contactor relay (ecl@ss10.0.1-27-37-10-01 [AAB	3716014])

Rated control supply voltage Us at AC 50HZ	V	110 - 110
Rated control supply voltage Us at AC 60HZ	V	110 - 110
Rated control supply voltage Us at DC	V	0 - 0
Voltage type for actuating		AC
Rated operation current le, 400 V	А	3
Connection type auxiliary circuit		Screw connection
Mounting method		DIN-rail/screw
Interface		No
Number of auxiliary contacts as normally closed contact		2
Number of auxiliary contacts as normally open contact		2
Number of auxiliary contacts as normally closed contact, delayed switching		0
Number of auxiliary contacts as normally open contact, leading		0
With LED indication		No
Number of auxiliary contacts as change-over contact		0
Manual operation possible		No

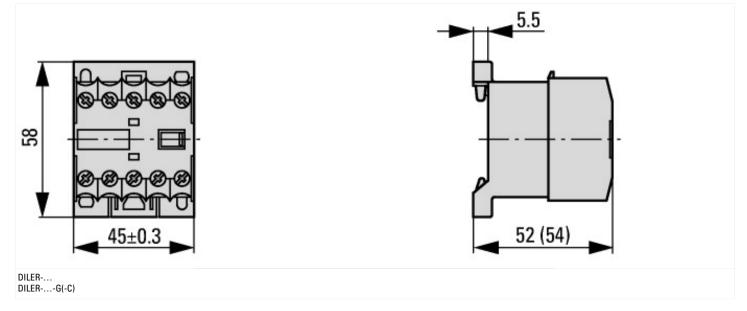
# Approvals

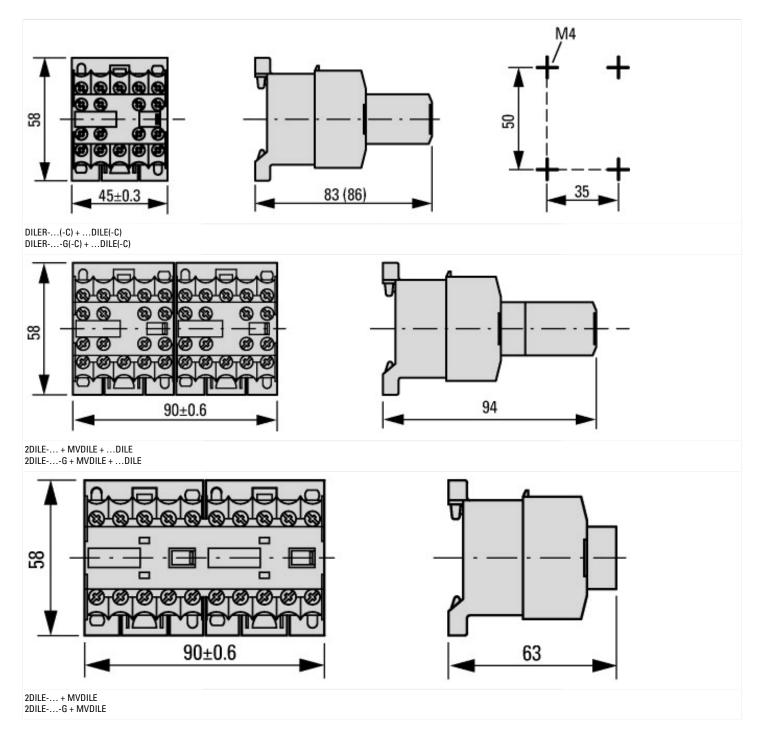
Product Standards	IEC/EN 60947-4-1; UL 508; CSA-C22.2 No. 14-05; CE marking
UL File No.	E29184
UL Category Control No.	NKCR
CSA File No.	012528
CSA Class No.	3211-03
North America Certification	UL listed, CSA certified
Specially designed for North America	No





### Dimensions





### **Assets (links)**

Declaration of CE Conformity 00003110 Instruction Leaflets IL03407009Z2018\_04

# Additional product information (links)

### IL03407009Z (AWA2100-0882) Mini contactor relay

IL03407009Z (AWA2100-0882) Mini contactor ftp://ftp.moeller.net/DOCUMENTATION/AWA\_INSTRUCTIONS/IL03407009Z2018\_04.pdf relay