



Contactor, I<sub>th</sub> = I<sub>e</sub>: 850 A, RA 110: 48 - 110 V 40 - 60 Hz/48 - 110 V DC, AC and DC operation, Screw connection



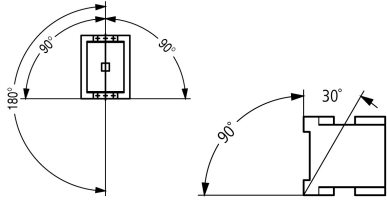
Part no. **DILH600/22(RA110)**  
 Catalog No. **197904**  
 Alternate Catalog No. **XTCEH600M22Y**

**Delivery program**

Product range			Contactors
Application			Mains contactors for resistive loads from 1000 A
Subrange			AC -1 contactors greater than 1000 A
Utilization category			AC-1: Non-inductive or slightly inductive loads, resistance furnaces
Connection technique			Screw connection
<b>Rated operational current</b>			
AC-1			
Conventional free air thermal current, 3 pole, 50 - 60 Hz			
Open			
at 40 °C	I <sub>th</sub> = I <sub>e</sub>	A	850
enclosed	I <sub>th</sub>	A	600
Conventional free air thermal current, 1 pole			
open	I <sub>th</sub>	A	1738
Contact sequence			
For use with			DILH800-XHI...
Actuating voltage			RA 110: 48 - 110 V 40 - 60 Hz/48 - 110 V DC
Voltage AC/DC			AC and DC operation
<b>Auxiliary contacts</b>			
possible variants at auxiliary contact module fitting options			sidewise: 2 x DILH800-XHI11(V)-SI; 2 x DILH800-XHI11-SA
Side mounting auxiliary contacts			
<b>Instructions</b>			Interlocked opposing contacts according to IEC/EN 60947-5-1 Appendix L, inside the auxiliary contact module Auxiliary contacts used as mirror contacts according to IEC/EN 60947-4-1 Appendix F (not N/C late open)
<b>Instructions</b>			integrated suppressor circuit in actuating electronics 660 V, 690 V or 1000 V: not directly reversing

**Technical data**

<b>General</b>			
Standards			IEC/EN 60947, VDE 0660, UL, CSA, CCC
Lifespan, mechanical			
AC operated	Operations	x 10 <sup>6</sup>	3
DC operated	Operations	x 10 <sup>6</sup>	3
Operating frequency, mechanical			
AC operated	Operations/h		1000
DC operated	Operations/h		1000
Climatic proofing			Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Ambient temperature			
Open		°C	-40 - +70
Storage		°C	- 40 - + 80

Mounting position			
Mechanical shock resistance (IEC/EN 60068-2-27)			
Half-sinusoidal shock, 10 ms			
Main contacts			
N/O contact	g		10
Auxiliary contacts			
N/O contact	g		10
N/C contact	g		8
Degree of Protection			IP00
Altitude	m		Max. 2000
Weight	kg		9.5
Terminal capacity main cable			
Flexible with cable lug		mm <sup>2</sup>	50 - 240
Stranded with cable lug		mm <sup>2</sup>	70 - 240
Busbar	Width	mm	50
Main cable connection screw/bolt			M10
Tightening torque	Nm		24
Terminal capacity control circuit cables			
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 - 2.5) 2 x (0.75 - 2.5)
Solid or stranded		AWG	18 - 14
Stripping length		mm	10
Control circuit cable connection screw/bolt			M3.5
Tightening torque	Nm		1.2
Tool			
Main cable			
Width across flats		mm	16
Control circuit cables			
Pozidriv screwdriver		Size	2
Standard screwdriver		mm	0.8 x 5.5/1 x 6
<b>Main conducting paths</b>			
Rated impulse withstand voltage	$U_{imp}$	V AC	12000
Overvoltage category/pollution degree			III/3
Rated insulation voltage	$U_i$	V AC	1000
Rated operational voltage	$U_e$	V AC	1000
Safe isolation to EN 61140			
between coil and contacts		V AC	1000
between the contacts		V AC	1000
Making capacity (p.f. to IEC/EN 60947)		A	6000
Breaking capacity			
220 V 230 V		A	4800
380 V 400 V		A	4800
500 V		A	4800
660 V 690 V		A	2000
1000 V		A	1575
Short-circuit rating			
Short-circuit protection maximum fuse			
AC-1			
400 V	aR 500 V	A	1260 (2 x 630)

690 V	aR 690 V	A	1260 (2 x 630)
1000 V	aR 1000 V	A	1260 (2 x 630)

## AC

AC-1			
Rated operational current			
Conventional free air thermal current, 3 pole, 50 - 60 Hz			
Open			
at 40 °C	$I_{th} = I_e$	A	850
at 50 °C	$I_{th} = I_e$	A	760
at 55 °C	$I_{th} = I_e$	A	725
at 60 °C	$I_{th} = I_e$	A	695
enclosed	$I_{th}$	A	600
Conventional free air thermal current, 1 pole			
Note			
open	$I_{th}$	A	1738
at maximum permissible ambient air temperature			

## Current heat loss

3 pole, at $I_{th}$ (60°)	W	37.3
Current heat loss at $I_e$ to AC-3/400 V	W	0.026

## Magnet systems

Voltage tolerance			
$U_S$			48 - 110 V 40-60 Hz 48 - 110 V DC
AC operated	Pick-up		$0.7 \times U_{S \min} - 1.15 \times U_{S \max}$
DC operated	Pick-up		$0.7 \times U_{S \min} - 1.15 \times U_{S \max}$
AC operated	Drop-out		$0.2 \times U_{S \max} - 0.6 \times U_{S \min}$
DC operated	Drop-out		$0.2 \times U_{S \max} - 0.6 \times U_{S \min}$
Power consumption of the coil in a cold state and $1.0 \times U_S$			
Note on power consumption			
Pull-in power	Pick-up	VA	450
Pull-in power	Pick-up	W	350
Sealing power	Sealing	VA	4.3
Sealing power	Sealing	W	3.3
Duty factor		% DF	100
Changeover time at 100 % $U_S$ (recommended value)			
Main contacts			
Closing delay		ms	60
Opening delay		ms	50
Behaviour in marginal and transitional conditions			
Sealing			
Voltage interruptions			
$(0 \dots 0.2 \times U_{C \min}) \leq 10 \text{ ms}$			Time is bridged specifically
$(0 \dots 0.2 \times U_{C \min}) > 10 \text{ ms}$			Contactors drop-out
Voltage drops			
$(0.2 \dots 0.6 \times U_{C \min}) \leq 12 \text{ ms}$			Time is bridged specifically
$(0.2 \dots 0.6 \times U_{C \min}) > 12 \text{ ms}$			Contactors drop-out
$(0.6 \dots 0.7 \times U_{C \min})$			Contactors remains switched on
Excess voltage			
$(1.15 \dots 1.3 \times U_{C \max})$			Contactors remains switched on
Pick-up phase			
$(0 \dots 0.7 \times U_{C \min})$			Contactors does not switch on
$(0.7 \times U_{C \min} \dots 1.15 \times U_{C \max})$			Contactors switches on properly
Admissible transitional contact resistance (of the external control circuit device when actuating A11)			
		mΩ	$\leq 500$
PLC signal level (A3 - A4) to IEC/EN 61131-2 (type 2)			
High		V	15

Low	V	5
<b>Electromagnetic compatibility (EMC)</b>		
Electromagnetic compatibility		This product has been designed for use in the industrial sector (Environment A). Use in the residential area (Environment B) can produce radio interference, therefore additional interference suppression measures must be provided.
<b>Rating data for approved types</b>		
Auxiliary contacts		
Pilot Duty		
AC operated		A600
DC operated		P300
General Use		
AC	V	600
AC	A	6
DC	V	250
DC	A	1
Special Purpose Ratings		
Resistance Air Heating		
480V 60Hz 3phase, 277V 60Hz 1phase	A	700
600V 60Hz 3phase, 347V 60Hz 1phase	A	700

## Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	$I_n$	A	650
Equipment heat dissipation, current-dependent	$P_{vid}$	W	0
Static heat dissipation, non-current-dependent	$P_{vs}$	W	6.3
Heat dissipation capacity	$P_{diss}$	W	0
Operating ambient temperature min.		°C	-40
Operating ambient temperature max.		°C	70
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.

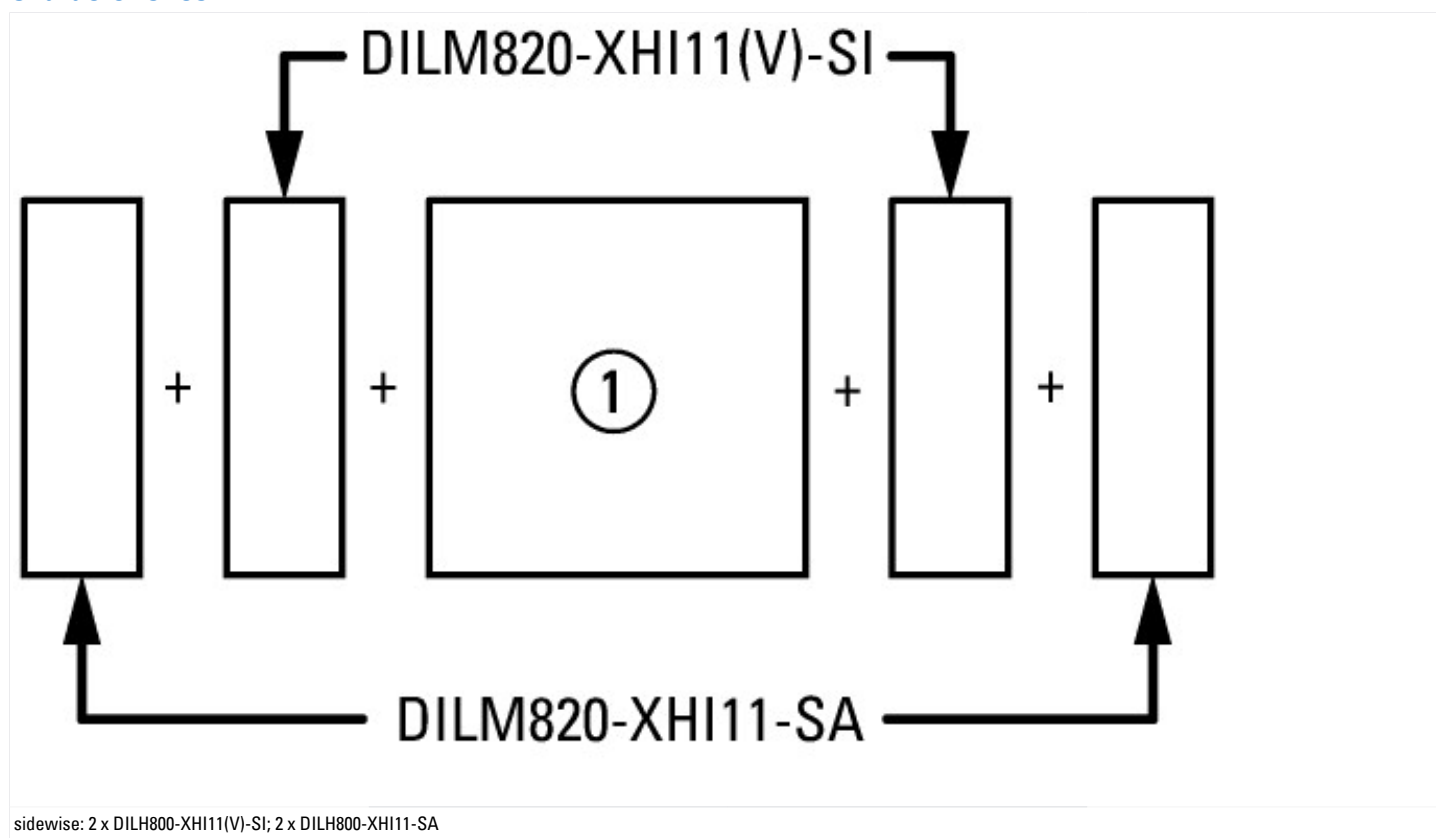
## Technical data ETIM 8.0

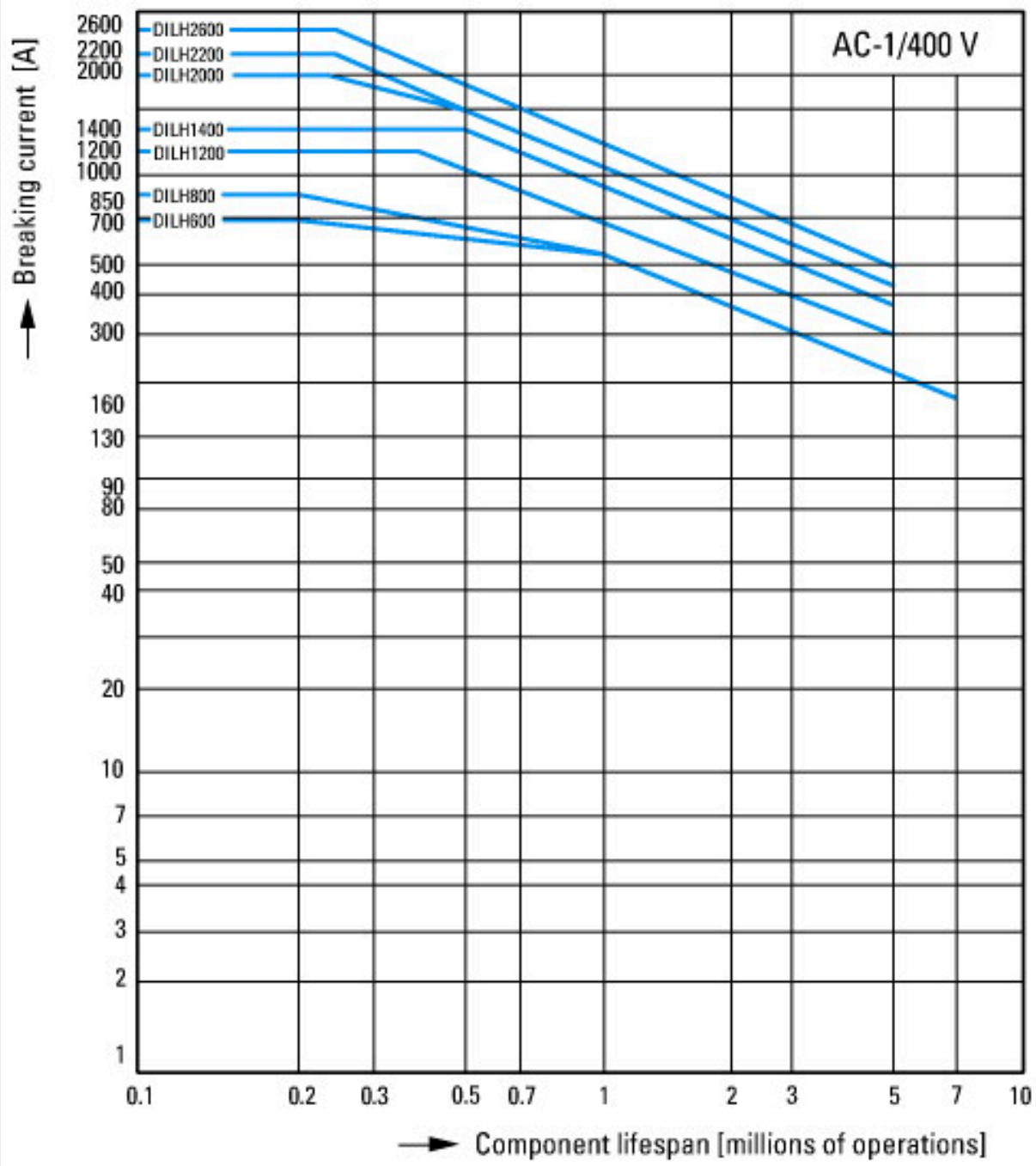
Low-voltage industrial components (EG000017) / Power contactor, AC switching (EC000066)		
Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Power contactor, AC switching (ecl@ss10.0.1-27-37-10-03 [AAB718015])		
Rated control supply voltage Us at AC 50HZ	V	48 - 110
Rated control supply voltage Us at AC 60HZ	V	48 - 110
Rated control supply voltage Us at DC	V	48 - 154
Voltage type for actuating		AC/DC
Rated operation current Ie at AC-1, 400 V	A	850
Rated operation current Ie at AC-3, 400 V	A	0
Rated operation power at AC-3, 400 V	kW	0
Rated operation current Ie at AC-4, 400 V	A	0
Rated operation power at AC-4, 400 V	kW	0
Rated operation power NEMA	kW	0
Modular version		No
Number of auxiliary contacts as normally open contact		2
Number of auxiliary contacts as normally closed contact		2
Type of electrical connection of main circuit		Rail connection
Number of normally closed contacts as main contact		0
Number of normally open contacts as main contact		3

## Approvals

Product Standards		IEC/EN 60947-4-1; UL 60947-4-1; CSA - C22.2 No. 60947-4-1-14; 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

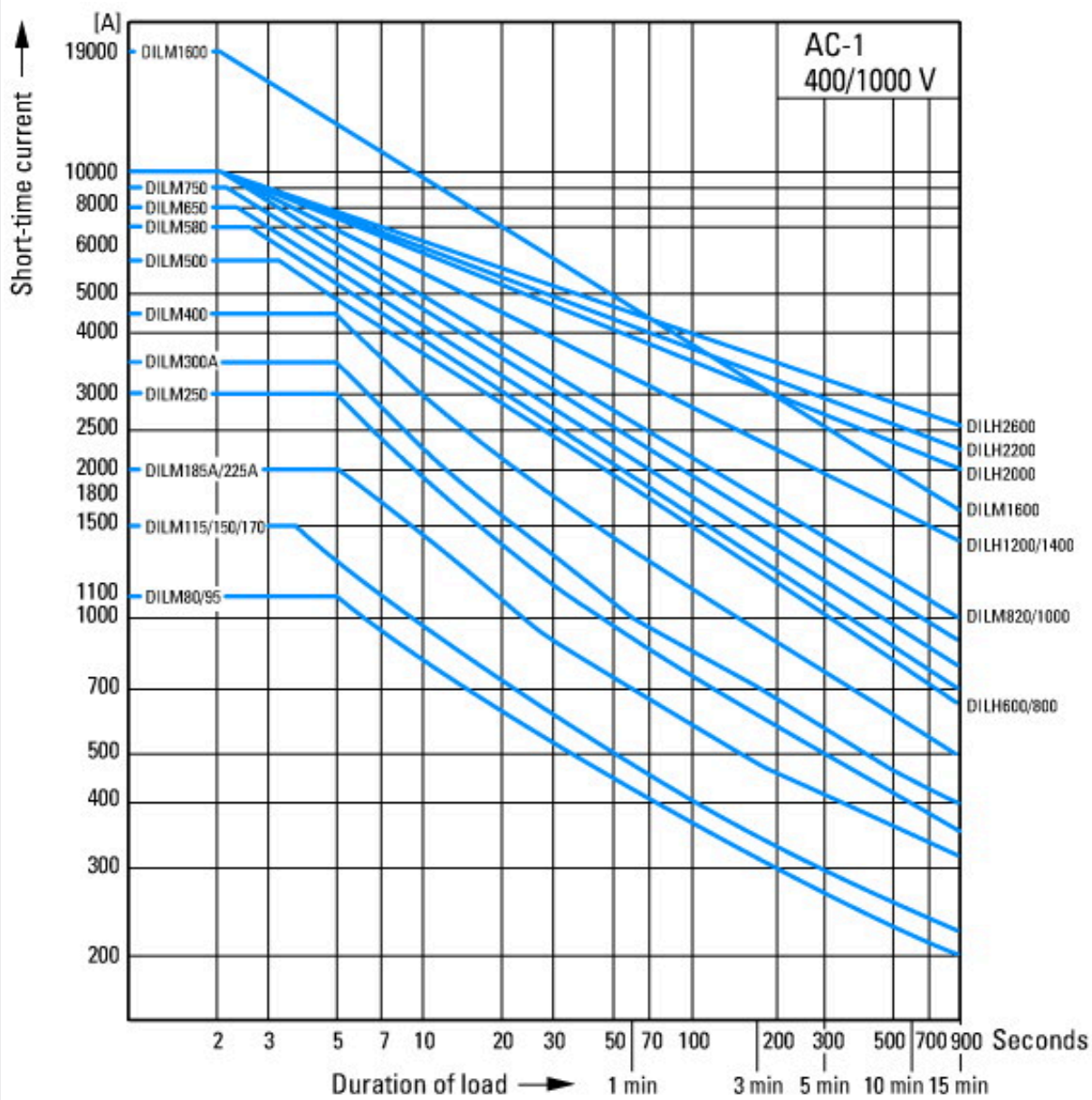
## Characteristics





Component lifespan DILH1200 - DILH2600  $\leq$  1000 V

Electrical lifespan AC-1



Short-time loading, 3-pole  
Time interval between two loading cycles: 15 minutes

## Dimensions

