

**Contactor, 3 pole, 380 V 400 V 7.5 kW, 1 NC, 24 V 50/60 Hz, AC operation, Screw terminals**



**Part no. DILM17-01(24V50/60HZ)**  
**Catalog No. 277040**  
**Alternate Catalog No. XTCE018C01T**

**Delivery program**

Product range				Contactors
Application				Contactors for Motors
Subrange				Contactors up to 170 A, 3 pole
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
Notes				Also suitable for motors with efficiency class IE3.
Connection technique				Screw terminals
Number of poles				3 pole
<b>Rated operational current</b>				
AC-3				
Notes				At maximum permissible ambient temperature (open.) Also tested according to AC-3e.
380 V 400 V	$I_e$	A		18
AC-1				
Conventional free air thermal current, 3 pole, 50 - 60 Hz				
Open				
at 40 °C	$I_{th} = I_e$	A		40
enclosed	$I_{th}$	A		32
Conventional free air thermal current, 1 pole				
open	$I_{th}$	A		88
enclosed	$I_{th}$	A		80
<b>Max. rating for three-phase motors, 50 - 60 Hz</b>				
AC-3				
220 V 230 V	P	kW		5
380 V 400 V	P	kW		7.5
660 V 690 V	P	kW		11
AC-4				
220 V 230 V	P	kW		2.5
380 V 400 V	P	kW		4.5
660 V 690 V	P	kW		6.5
<b>Contacts</b>				
N/C = Normally closed				1 NC
Can be combined with auxiliary contact				DILA-XHI(V)...(-PI) DILM32-XHI...-PI DILM32-XHI11-S
Actuating voltage				24 V 50/60 Hz
Voltage AC/DC				AC operation
Connection to SmartWire-DT				no
<b>Instructions</b>				Contacts to EN 50 012. with mirror contact.
Frame size				2

**Technical data**

<b>General</b>				
Standards				IEC/EN 60947, VDE 0660, UL, CSA
Lifespan, mechanical				

AC operated	Operations	x 10 <sup>6</sup>	10
Operating frequency, mechanical			
AC operated	Operations/h		5000
Climatic proofing			
Damp heat, constant, to IEC 60068-2-78			
Damp heat, cyclic, to IEC 60068-2-30			
Ambient temperature			
Open		°C	-25 - +60
Enclosed		°C	- 25 - 40
Storage		°C	- 40 - 80
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	7
N/C contact		g	5
Mechanical shock resistance (IEC/EN 60068-2-27) when tabletop-mounted			
Half-sinusoidal shock, 10 ms			
Main contacts			
N/O contact		g	6.9
Auxiliary contacts			
N/O contact		g	5.3
N/C contact		g	3.5
Degree of Protection			
			IP00
Protection against direct contact when actuated from front (EN 50274)			
			Finger and back-of-hand proof
Altitude			
			m
			Max. 2000
Weight			
AC operated		kg	0.428
Screw connector terminals			
Terminal capacity main cable			
Solid		mm <sup>2</sup>	1 x (0.75 - 16) 2 x (0.75 - 10)
Flexible with ferrule		mm <sup>2</sup>	1 x (0.75 - 16) 2 x (0.75 - 10)
Stranded		mm <sup>2</sup>	1 x 16
Solid or stranded		AWG	single 18 - 6, double 18 - 8
Stripping length		mm	10
Terminal screw			M5
Tightening torque		Nm	3.2
Tool			
Pozidriv screwdriver		Size	2
Standard screwdriver		mm	0.8 x 5.5 1 x 6
Terminal capacity control circuit cables			
Solid		mm <sup>2</sup>	1 x (0.75 - 4) 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
Terminal screw			M3.5
Tightening torque		Nm	1.2
Tool			
Pozidriv screwdriver		Size	2
Standard screwdriver		mm	0.8 x 5.5 1 x 6

### Main conducting paths

Rated impulse withstand voltage	U <sub>imp</sub>	V AC	8000
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Overvoltage category/pollution degree			III/3
Rated insulation voltage	$U_i$	V AC	690
Rated operational voltage	$U_e$	V AC	690
Safe isolation to EN 61140			
between coil and contacts		V AC	440
between the contacts		V AC	440
Making capacity (p.f. to IEC/EN 60947)			
	Up to 690 V	A	238
Breaking capacity			
220 V 230 V		A	170
380 V 400 V		A	170
500 V		A	170
660 V 690 V		A	120
Short-circuit rating			
Short-circuit protection maximum fuse			
Type "2" coordination			
400 V	gG/gL 500 V	A	35
690 V	gG/gL 690 V	A	35
Type "1" coordination			
400 V	gG/gL 500 V	A	63
690 V	gG/gL 690 V	A	50

## 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	40
at 50 °C	$I_{th} = I_e$	A	38
at 55 °C	$I_{th} = I_e$	A	37
at 60 °C	$I_{th} = I_e$	A	35
enclosed	$I_{th}$	A	32
Conventional free air thermal current, 1 pole			
open	$I_{th}$	A	88
enclosed	$I_{th}$	A	80
AC-3			
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	$I_e$	A	18
240 V	$I_e$	A	18
380 V 400 V	$I_e$	A	18
415 V	$I_e$	A	18
440V	$I_e$	A	18
500 V	$I_e$	A	18
660 V 690 V	$I_e$	A	12
Motor rating	P	kWh	
220 V 230 V	P	kW	5
240V	P	kW	5.5
380 V 400 V	P	kW	7.5
415 V	P	kW	10
440 V	P	kW	10.5
500 V	P	kW	12
660 V 690 V	P	kW	11
AC-4			

Open, 3-pole: 50 – 60 Hz			
220 V 230 V	$I_e$	A	10
240 V	$I_e$	A	10
380 V 400 V	$I_e$	A	10
415 V	$I_e$	A	10
440 V	$I_e$	A	10
500 V	$I_e$	A	10
660 V 690 V	$I_e$	A	8
Motor rating	P	kWh	
220 V 230 V	P	kW	2.5
240 V	P	kW	3
380 V 400 V	P	kW	4.5
415 V	P	kW	5
440 V	P	kW	5.5
500 V	P	kW	6
660 V 690 V	P	kW	6.5

## DC

Rated operational current, open			
DC-1			
60 V	$I_e$	A	35
110 V	$I_e$	A	35
220 V	$I_e$	A	35

## Current heat loss

3 pole, at $I_{th}$ (60°)		W	7.9
Current heat loss at $I_e$ to AC-3/400 V		W	2.1
Impedance per pole		mΩ	2.7

## Magnet systems

Voltage tolerance			
AC operated	Pick-up	x $U_c$	0.8 - 1.1
Drop-out voltage AC operated	Drop-out	x $U_c$	0.3 - 0.6
Power consumption of the coil in a cold state and $1.0 \times U_S$			
50/60 Hz	Pick-up	VA	62 58
50/60 Hz	Sealing	VA	9.1 6.5
50/60 Hz	Sealing	W	2.1
Duty factor		% DF	100
Changeover time at 100 % $U_S$ (recommended value)			
Main contacts			
AC operated			
Closing delay		ms	16 - 22
Opening delay		ms	8 - 14
Arcing time		ms	10
Lifespan, mechanical; Coil 50/60 Hz		x $10^6$	Mechanical lifespan at 50 Hz approx. 30% lower than under → Technical data general

## Electromagnetic compatibility (EMC)

Emitted interference			to EN 60947-1
Interference immunity			to EN 60947-1

## Rating data for approved types

Switching capacity			
Maximum motor rating			
Three-phase			
200 V 208 V		HP	5
230 V 240 V		HP	5
460 V 480 V		HP	10

575 V 600 V	HP	15
Single-phase		
115 V 120 V	HP	2
230 V 240 V	HP	3
General use	A	40
Auxiliary contacts		
Pilot Duty		
AC operated		A600
DC operated		P300
General Use		
AC	V	600
AC	A	10
DC	V	250
DC	A	1
Short Circuit Current Rating	SCCR	
Basic Rating		
SCCR	kA	5
max. Fuse	A	125
max. CB	A	125
480 V High Fault		
SCCR (fuse)	kA	10/100
max. Fuse	A	125/70 Class J
SCCR (CB)	kA	10/65
max. CB	A	50/32
600 V High Fault		
SCCR (fuse)	kA	10/100
max. Fuse	A	125/70 Class J
SCCR (CB)	kA	10/22
max. CB	A	50/32
Special Purpose Ratings		
Electrical Discharge Lamps (Ballast)		
480V 60Hz 3phase, 277V 60Hz 1phase	A	40
600V 60Hz 3phase, 347V 60Hz 1phase	A	40
Incandescent Lamps (Tungsten)		
480V 60Hz 3phase, 277V 60Hz 1phase	A	40
600V 60Hz 3phase, 347V 60Hz 1phase	A	40
Resistance Air Heating		
480V 60Hz 3phase, 277V 60Hz 1phase	A	40
600V 60Hz 3phase, 347V 60Hz 1phase	A	40
Refrigeration Control (CSA only)		
LRA 480V 60Hz 3phase	A	240
FLA 480V 60Hz 3phase	A	40
LRA 600V 60Hz 3phase	A	180
FLA 600V 60Hz 3phase	A	30
Definite Purpose Ratings (100,000 cycles acc. to UL 1995)		
LRA 480V 60Hz 3phase	A	108
FLA 480V 60Hz 3phase	A	18
Elevator Control		
200V 60Hz 3phase	HP	3
200V 60Hz 3phase	A	11
240V 60Hz 3phase	HP	3
240V 60Hz 3phase	A	9.6
480V 60Hz 3phase	HP	7.5

480V 60Hz 3phase	A	11
600V 60Hz 3phase	HP	10
600V 60Hz 3phase	A	11

## Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	$I_n$	A	18
Heat dissipation per pole, current-dependent	$P_{vid}$	W	0.7
Equipment heat dissipation, current-dependent	$P_{vid}$	W	2.1
Static heat dissipation, non-current-dependent	$P_{vs}$	W	2.1
Heat dissipation capacity	$P_{diss}$	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	60
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 $U_s$ at AC 50HZ		V	24 - 24
Rated control supply voltage $U_s$ at AC 60HZ		V	24 - 24
Rated control supply voltage $U_s$ at DC		V	0 - 0
Voltage type for actuating			AC
Rated operation current $I_e$ at AC-1, 400 V		A	40
Rated operation current $I_e$ at AC-3, 400 V		A	18
Rated operation power at AC-3, 400 V		kW	7.5
Rated operation current $I_e$ at AC-4, 400 V		A	10
Rated operation power at AC-4, 400 V		kW	4.5
Rated operation power NEMA		kW	7.4
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 normally open contacts as main contact			3