

**Contactors, 4 pole, DC operation: 80 A, RDC 24: 24 - 27 V DC, Screw terminals**



**Part no.** DILMP80(RDC24)  
**Catalog No.** 109898  
**Alternate Catalog No.** XTCF080D00TD  
**EL-Nummer (Norway)** 4130414

**Delivery program**

Product range			Contactors
Application			Contactors for 4 pole electric consumers
Subrange			Contactors up to 200 A, 4 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
Connection technique			Screw terminals
Number of poles			4 pole
<b>Rated operational current</b>			
AC-1			
Conventional free air thermal current, 3 pole, 50 - 60 Hz			
at 40 °C	$I_{th} = I_e$	A	80
at 50 °C	$I_{th} = I_e$	A	76
at 55 °C	$I_{th} = I_e$	A	73
at 60 °C	$I_{th} = I_e$	A	69
For use with			DILM150-XHI(A)(V)... or DILM1000-XHI11-SA or DILM1000-XHI(V)11-SI
Actuating voltage			RDC 24: 24 - 27 V DC
Voltage AC/DC			DC operation
Connection to SmartWire-DT			no
Instructions			Contacts to EN 50 012. integrated suppressor circuit in actuating electronics

**Technical data**

**General**

Standards			IEC/EN 60947, VDE 0660, UL, CSA
Lifespan, mechanical			
DC operated	Operations	$\times 10^6$	10
Operating frequency, mechanical			
AC operated	Operations/h		5000
DC operated	Operations/h		5000
Climatic proofing			Damp heat, constant, to IEC 60068-2-3 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
Degree of Protection			IP00

Altitude		m	Max. 2000
Protection against direct contact when actuated from front (EN 50274)			Finger and back-of-hand proof
Stripping length		mm	10
Terminal capacity main cable			
Solid		mm <sup>2</sup>	1 x (2.5 - 16) 2 x (2.5 - 16)
Flexible with ferrule		mm <sup>2</sup>	1 x (2.5 - 35) 2 x (2.5 - 25)
Stranded		mm <sup>2</sup>	1 x (16 - 50) 2 x (16 - 35)
Solid or stranded		AWG	12 - 2
Flat conductor	Lamellenzahl x Breite x Dicke	mm	2 x (6 x 9 x 0.8)
Terminal screw			M6
Tightening torque		Nm	3.3
Stripping length		mm	10
Terminal capacity control circuit cables			
Solid		mm <sup>2</sup>	1 x (0.75 - 4) 2 x (0.75 - 4)
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			
Main cable			
Pozidriv screwdriver		Size	2
Standard screwdriver		mm	0.8 x 5.5 1 x 6
Control circuit cables			
Pozidriv screwdriver		Size	2
Standard screwdriver		mm	0.8 x 5.5 1 x 6

### Main conducting paths

Rated impulse withstand voltage	$U_{imp}$	V AC	8000
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 (cos $\phi$ )	Up to 690 V	A	700 According to IEC/EN 60947
Breaking capacity			
220 V 230 V		A	500
380 V 400 V		A	500
500 V		A	500
660 V 690 V		A	296
Short-circuit rating			
Short-circuit protection maximum fuse			
Type "2" coordination			
400 V	gG/gL 500 V	A	80
690 V	gG/gL 690 V	A	63
Type "1" coordination			
400 V	gG/gL 500 V	A	160
690 V	gG/gL 690 V	A	80

### AC

AC-1			
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<b>Rated operational current</b>			
Conventional free air thermal current, 3 pole, 50 - 60 Hz			
Open			
at 40 °C	$I_{th} = I_e$	A	80
at 50 °C	$I_{th} = I_e$	A	76
at 55 °C	$I_{th} = I_e$	A	73
at 60 °C	$I_{th} = I_e$	A	69
enclosed	$I_{th}$	A	64
Conventional free air thermal current, 1 pole			
open	$I_{th}$	A	207
enclosed	$I_{th}$	A	186
Motor rating	P	kWh	
220/230 V	P	kW	29
240 V	P	kW	32
380/400 V	P	kW	50
415 V	P	kW	55
440 V	P	kW	58
500 V	P	kW	66
690 V	P	kW	87
<b>AC-3</b>			
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	50
240 V	$I_e$	A	50
380 V 400 V	$I_e$	A	50
415 V	$I_e$	A	50
440V	$I_e$	A	50
500 V	$I_e$	A	50
660 V 690 V	$I_e$	A	32
Motor rating	P	kWh	
220 V 230 V	P	kW	15.5
240V	P	kW	17
380 V 400 V	P	kW	22
415 V	P	kW	30
440 V	P	kW	32
500 V	P	kW	36
660 V 690 V	P	kW	30
<b>DC</b>			
Rated operational current, open			
DC-1			
60 V	$I_e$	A	80
110 V	$I_e$	A	80
220 V	$I_e$	A	80
<b>Current heat loss</b>			
3 pole, at $I_{th}$ (60°)		W	25.8
Impedance per pole		mΩ	1.9
<b>Magnet systems</b>			
Voltage tolerance			
AC operated 50/60 Hz		$x U_c$	0.85 - 1.1
DC operated	Pick-up	$x U_c$	At least double-pulse bridge rectifier - 0.7 - 1.2
DC operated	Drop-out	$x U_c$	At least double-pulse bridge rectifier - 0.2 - 0.6
Power consumption of the coil in a cold state and $1.0 \times U_S$			
Notes on DC actuation			At least double-pulse bridge rectifier

DC operated	Pick-up	W	24
DC operated	Sealing	W	1
Duty factor		% DF	100
Changeover time at 100 % U <sub>S</sub> (recommended value)			
Main contacts			
DC operated		ms	
Notes on DC actuation			At least double-pulse bridge rectifier
Closing delay		ms	54
Opening delay		ms	24
Arcing time		ms	10
Permissible residual current with actuation of A1 - A2 by the electronics (with 0 signal).		mA	≤ 1

### Rating data for approved types

Switching capacity			
Maximum motor rating			
Three-phase			
200 V 208 V		HP	15
230 V 240 V		HP	20
460 V 480 V		HP	40
575 V 600 V		HP	50
Single-phase			
115 V 120 V		HP	3
230 V 240 V		HP	10
General use		A	80
Short Circuit Current Rating			
Basic Rating			
SCCR		kA	10
max. Fuse		A	250
max. CB		A	250
480 V High Fault			
SCCR (fuse)		kA	30/100
max. Fuse		A	250/150 Class J
SCCR (CB)		kA	65
max. CB		A	100
600 V High Fault			
SCCR (fuse)		kA	30/100
max. Fuse		A	250/150 Class J
SCCR (CB)		kA	30
max. CB		A	250
Special Purpose Ratings			
Electrical Discharge Lamps (Ballast)			
480V 60Hz 3phase, 277V 60Hz 1phase		A	79
600V 60Hz 3phase, 347V 60Hz 1phase		A	79
Incandescent Lamps (Tungsten)			
480V 60Hz 3phase, 277V 60Hz 1phase		A	74
600V 60Hz 3phase, 347V 60Hz 1phase		A	74
Resistance Air Heating			
480V 60Hz 3phase, 277V 60Hz 1phase		A	79
600V 60Hz 3phase, 347V 60Hz 1phase		A	79
Elevator Control			
200V 60Hz 3phase		HP	10
200V 60Hz 3phase		A	32.2

240V 60Hz 3phase	HP	15
240V 60Hz 3phase	A	42
480V 60Hz 3phase	HP	30
480V 60Hz 3phase	A	40
600V 60Hz 3phase	HP	40
600V 60Hz 3phase	A	41

## Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	$I_n$	A	80
Heat dissipation per pole, current-dependent	$P_{vid}$	W	8.6
Equipment heat dissipation, current-dependent	$P_{vid}$	W	25.8
Static heat dissipation, non-current-dependent	$P_{vs}$	W	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		0 - 0
Rated control supply voltage $U_s$ at AC 60HZ	V		0 - 0
Rated control supply voltage $U_s$ at DC	V		24 - 27
Voltage type for actuating			DC
Rated operation current $I_e$ at AC-1, 400 V	A		80
Rated operation current $I_e$ at AC-3, 400 V	A		50
Rated operation power at AC-3, 400 V	kW		22
Rated operation current $I_e$ at AC-4, 400 V	A		40

Rated operation power at AC-4, 400 V	kW	20
Rated operation power NEMA	kW	29.8
Modular version		No
Number of auxiliary contacts as normally open contact		0
Number of auxiliary contacts as normally closed contact		0
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		4