MOELLER

Type: **DILM9–01(24VDC)**
Article No.: **276740**

Ordering information			
Rated operational current AC–3 400 V	I_e	A	9
Max. rating for three–phase motors, 50 – 60 Hz AC–3 230 V	P	kW	2.5
Max. rating for three–phase motors, 50 – 60 Hz AC–3 400 V	P	kW	4
Max. rating for three–phase motors, 50 – 60 Hz AC–3 690 V	P	kW	4.5
Max. rating for three–phase motors, 50 – 60 Hz AC–4 230 V	P	kW	1.5
Max. rating for three–phase motors, 50 – 60 Hz AC–4 400 V	P	kW	2.5
Max. rating for three–phase motors, 50 – 60 Hz AC–4 690 V	P	kW	3.6
Conventional thermal current I th = I e AC–1 Open	$I_{th} = I_e$	A	20
For use with			DILA–XHI(V)..

General			
Standards			IEC/EN 60947, VDE 0660, UL, CSA
Lifespan, mechanical			
AC operated	Operations	× 10^6	10
DC operated	Operations	× 10^6	10
Operating frequency, mechanical			
AC operated	Operations/h		9000
DC operated	Operations/h		9000
Climatic proofing			Damp heat, constant, to IEC 60068–2–78 Damp heat, cyclical, 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, 20 ms			
Main contacts			
Make contact		g	10
Auxiliary contacts			
Make contact		g	7
Break contact		g	5
Protection type			IP20
Protection against direct contact when actuated from front (IEC 536)			Finger– and back–of–hand proof
Weight			
AC operated		kg	0,23
DC operated		kg	0,28
Terminal capacity Main cable			
Solid		mm^2	1 × (0.75 – 4) 2 × (0.75 – 2.5)
Flexible with ferrule		mm^2	1 × (0.75 – 2.5) 2 × (0.75 – 2,5)
Solid or stranded		AWG	18 – 14
Anschlussschraube Hauptleiter			M3.5
Tightening torque		Nm	1.2
Terminal capacity Control circuit cables			
Solid		mm^2	1 × (0.75 – 4) 2 × (0.75 – 2.5)
Flexible with ferrule		mm2	1 × (0.75 – 2.5) 2 × (0.75 – 2.5)
Solid or stranded		AWG	18 – 14
Anschlussschraube Hilfsleiter			M3.5
Tightening torque		Nm	1.2
Tool			
Main cable			
Pozidriv screwdriver		Size	2
Standard screwdriver		mm	0.8 × 5.5 1 × 6
Control circuit cables			
Pozidriv screwdriver		Size	2
Standard screwdriver		mm	0.8 × 5.5 1 × 6
Terminal capacity Main cable			
Solid		mm^2	0.75 – 2.5
flexible		mm^2	0.75 – 2.5
flexible with ferrules		mm^2	0.75 – 2.5
Solid or stranded		AWG	18 – 14
Terminal capacity Control circuit cables			
Solid		mm^2	0.75 – 2.5

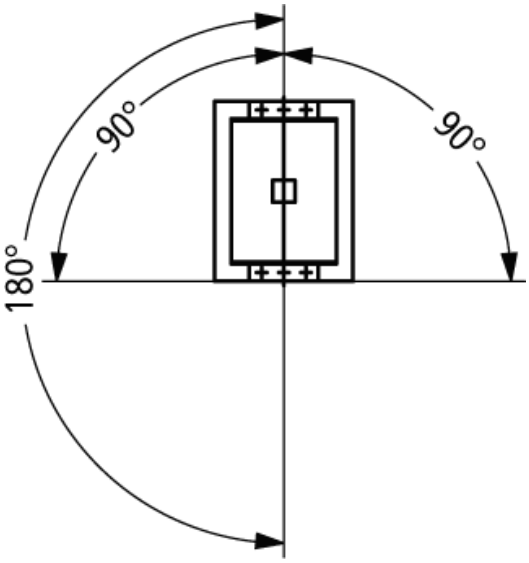
Flexible		mm^2	0.75 – 2.5
Flexible with ferrule		mm^2	0.75 – 2.5
Solid or stranded		AWG	18 – 14
Tool			
Stripping length		mm	10
Screwdriver blade width		mm	3,5
Main conducting paths			
Rated impulse withstand voltage	U_{imp}	V AC	8000
Overvoltage category/pollution degree			III/3
Rated insulation voltage			
AC	U_i	V AC	690
Rated operational voltage	U_e	V AC	690
Safe isolation to VDE 0106 Part 101 and Part 101/A1			
between coil and contacts		V AC	400
between the contacts		V AC	400
Making capacity (cos Õ to IEC/EN 60947) up to 690 V		A	112
Breaking capacity			
220/230 V		A	90
380/400 V		A	90
500 V		A	70
660/690 V		A	50
Component lifespan			
AC–3/AC–4			Tripping characteristics
Maximum operating frequency			
AC–1; 400 V	I_e	Ops/h	800
AC–3; 400 V	I_e	Ops/h	1000
AC–4; 400 V	I_e	Ops/h	300
Short–circuit rating			
Short–circuit protection Maximum fuse			
Type “2” coordination			
400 V	gG/gL 500 V	A	20
690 V	gG/gL 690 V	A	16
Type “1” coordination			
400 V	gG/gL 500 V	A	35
690 V	gG/gL 690 V	A	20
AC			
AC–1 duty			
conv. therm. current 3–pole 50 – 60 Hz			
open			
at 40 °C	I_{th}	A	22
at 50 °C	I_{th}	A	21
at 55 °C	I_{th}	A	21
at 60 °C	I_{th}	A	20
Enclosed	I_{th}	A	18

Conventional free air thermal current, 1–pole			
open	I_{th}	A	50
Enclosed	I_{th}	A	45
AC–3 duty			
Rated operational current AC–3 open, 50 – 60 Hz, 3–pole			
220/230 V	I_e	A	9
240 V	I_e	A	9
380/400 V	I_e	A	9
415 V	I_e	A	9
440V	I_e	A	9
500 V	I_e	A	7
660/690 V	I_e	A	5
Motor rating			
220/230 V	*P*	kW	2,5
240V	*P*	kW	3
380/400 V	*P*	kW	4
415 V	*P*	kW	5,5
440 V	*P*	kW	5,5
500 V	*P*	kW	4,5
660/690 V	*P*	kW	4,5
AC–4 duty			
Rated operational current AC–4 open, 50 – 60 Hz, 3–pole			
220/230 V	I_e	A	6
240 V	I_e	A	6
380/400 V	I_e	A	6
415 V	I_e	A	6
440 V	I_e	A	6
500 V	I_e	A	5
660/690 V	I_e	A	4,5
Motor rating			
220/230 V	*P*	kW	1,5
240 V	*P*	kW	1,6
380/400 V	*P*	kW	2,5
415 V	*P*	kW	2,8
440 V	*P*	kW	3
500 V	*P*	kW	2,8
660/690 V	*P*	kW	3,6
DC			
of three–phase capacitors open			
DC–1 operation			
60 V	I_e	A	20
110 V	I_e	A	20
220 V	I_e	A	15
440 V	I_e	A	1,3
DC–3 operation			

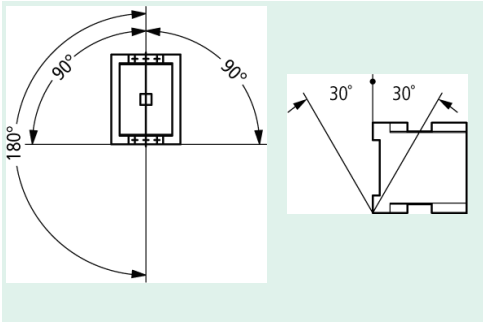
60 V	I_e	A	20
110 V	I_e	A	20
220 V	I_e	A	1,5
440 V	I_e	A	0,2
DC–5 operation			
60 V	I_e	A	20
110 V	I_e	A	20
220 V	I_e	A	1,5
440 V	I_e	A	0,2
Current heat loss (3–pole)			
Current heat loss at I_{th}		W	4,7
Current heat loss at I_e to AC–3/400 V		W	0,6
Impedance per pole		m&	2,5
Magnet systems			
Voltage tolerance			
AC operated			
AC operated	Pick–up	× U_c	0,8 – 1,1
Drop–out voltage AC operated			
Drop–out voltage AC operated	Abfall	× U_c	0,3 – 0,6
DC operated			
DC operated	Pick–up	× U_c	0,8 – 1,1
DC operated			
DC operated	Abfall	× U_c	0,15–0,6
Power consumption of the coil in a cold state and 1.0 × U_c			
50 Hz	Pick–up	VA	24
50 Hz	Pick–up	W	19
50 Hz	Sealing	VA	4
50 Hz	Sealing	W	1,2
60 Hz	Pick–up	VA	29
60 Hz	Pick–up	W	23
60 Hz	Sealing		4,4
60 Hz	Sealing	VA	1,3
50/60 Hz	Pick–up	VA	28 26
50/60 Hz	Pick–up	W	22 21
50/60 Hz	Sealing	VA	4,6 3,9
50/60 Hz	Sealing	W	1,4 1,2
DC operated	Pick–up	W	3
DC operated	Sealing	W	3
Duty factor		% DF	100
Switching times at 100 % U_c (approximate values)			
Main contacts			
AC operated			

Closing delay		ms	20
Opening delay		ms	15
DC operated			
Closing delay		ms	35
Opening delay		ms	15
Arcing time		ms	10
Electromagnetic compatibility (EMC)			
Emitted interference			to EN 60947−1
Interference immunity			to EN 60947−1

Mounting position



Mounting position, AC− and DC operated



Moeller GmbH, Hein−Moeller−Str. 7−11, D−53115 Bonn
E−Mail: catalog@moeller.net, Internet: www.moeller.net, http://catalog.moeller.net
Copyright 2005 by Moeller GmbH. Subject to modifications. HPL−C2005GB−INT V3.0