

LZM1-4 circuit-breaker series up to 1600 A

Circuit breaker LZM



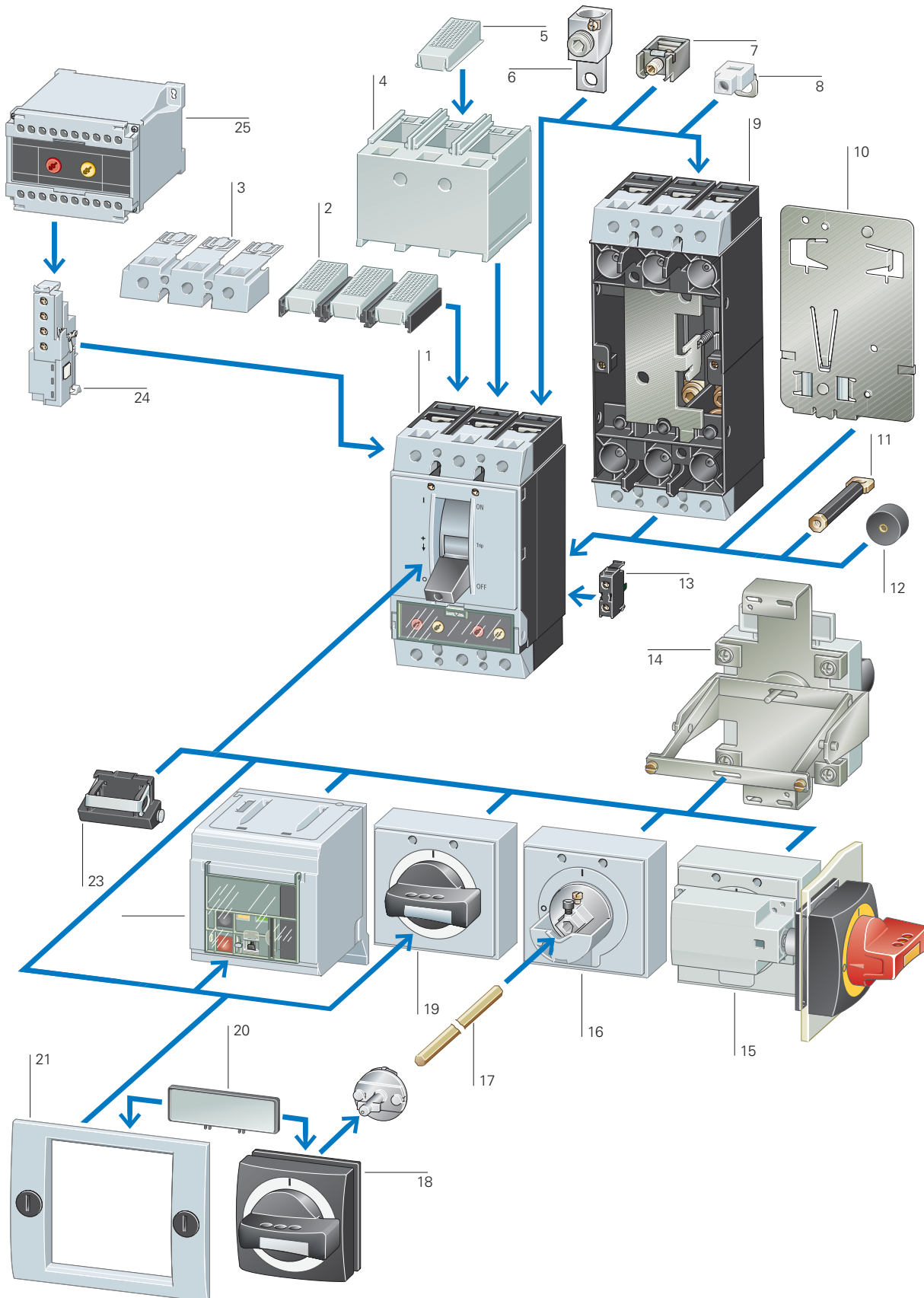
EATON

Powering Business Worldwide

Circuit-breakers LZM

System overview

Circuit-breakers LZM



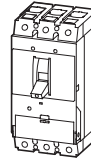
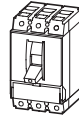
Circuit-breakers LZM

Technical overview

Circuit-breaker, 3/4 pole LZM1, LZM2, LZM3, LZM4

Circuit-breaker

With main switch characteristics to IEC/EN 60204 and isolating characteristics to IEC/EN 60947, CCC

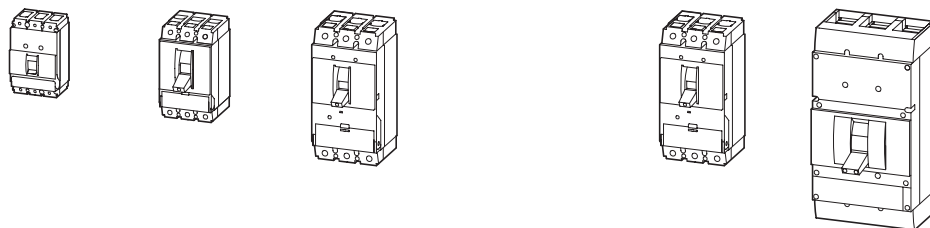


Rated uninterrupted current I_u = Rated current I_n
 Adjustable overload release I_r
 Adjustable short-circuit release I_i
 Delayed short-circuit release I_{sd}

Thermomagnetic releases System and cable protection

		I_u A	I_u A	I_r A	I_i A		
Ambient temperature at 100% I_u min./max. -25 / +50 °C		20	20	$0.8 - 1 \times I_n$	350		
		25	25	$0.8 - 1 \times I_n$	350		
		32	32	$0.8 - 1 \times I_n$	350		
		40	40	$0.8 - 1 \times I_n$	$8 - 10 \times I_n$		
		50	50	$0.8 - 1 \times I_n$	$6 - 10 \times I_n$		
		63	63	$0.8 - 1 \times I_n$	$6 - 10 \times I_n$		
		80	80	$0.8 - 1 \times I_n$	$6 - 10 \times I_n$		
		100	100	$0.8 - 1 \times I_n$	$6 - 10 \times I_n$		
		125	125	250	$6 - 10 \times I_n$		
		160	160	320	LZM1: $8 \times I_n$, $6 - 10 \times I_n$		
		160	200	400	LZM1: $8 \times I_n$, $6 - 10 \times I_n$		
		160	250	500	LZM1: $8 \times I_n$, $6 - 10 \times I_n$		
		160	300		LZM1: $8 \times I_n$, $6 - 10 \times I_n$		
Basic switching capacity		LZMB1-A...		LZMB2-A...			
400/415 V	kA/cos φ	25	0.25	25	0.25		
440 V	kA/cos φ	25	0.25	25	0.25		
Comfort switching capacity		LZMC1-A...		LZMC2-A...		LZMC3-A...	
400/415 V	kA/cos φ	36	0.25	36	0.25	36	0.25
440 V	kA/cos φ	30	0.25	30	0.25	30	0.25
525 V	kA/cos φ	12	0.5	12	0.5	12	0.5
690 V	kA/cos φ	8	0.5	8	0.5	8	0.5
Normal switching capacity		LZMN1-A...		LZMN2-A...		LZMN3-A...	
400/415 V	kA/cos φ	50	0.25	50	0.25	50	0.25
440 V	kA/cos φ	35	0.25	35	0.25	35	0.25
525 V	kA/cos φ	20	0.30	25	0.25	25	0.25
690 V	kA/cos φ	10	0.50	20	0.30	20	0.30
Strong switching capacity		LZMS1-A...		LZMS2-A...		LZMS3-A...	
400/415 V	kA/cos φ	70	0.20	70	0.20	70	0.20
440 V	kA/cos φ	35	0.25	65	0.20	65	0.20
525 V	kA/cos φ	20	0.30	36	0.25	36	0.25
690 V	kA/cos φ	10	0.50	20	0.30	25	0.30

Notes The stated switching capacity values are rated ultimate short-circuit breaking capacities (I_{cu})



Magnetic short-circuit release Motor protection

I_u	I_u	I_u	I_i
A	A	A	A
40			$8 - 14 \times I_n$
50			$8 - 14 \times I_n$
63			$8 - 14 \times I_n$
80			$8 - 14 \times I_n$
100			
100	125	250	
100	160	320	
100	200	400	
100		500	
100			

LZMB1-S... LZMB2-S...

25	0.25	25	0.25
25	0.25	25	0.25

LZMC1-S... LZMC2-S... LZMC3-S...

36	0.25	36	0.25	36	0.25
30	0.25	30	0.25	30	0.25
12	0.50	12	0.25	12	0.25
8	0.50	8	0.50	8	0.50

LZMN1-S... LZMN2-S... LZMN3-S...

50	0.25	50	0.25	50	0.25
35	0.25	35	0.25	35	0.25
20	0.30	25	0.25	25	0.25
10	0.50	20	0.30	20	0.30

Electronic releases Systems, cable, selectivity and generator protection

I_u	I_u	I_r	I_{sd}	I_i
A	A	A	A	A
		$0.5 - 1 \times I_n$	$2 - 10 \times I_r$	$2 - 12 \times I_n$
	400	$0.5 - 1 \times I_n$	$2 - 10 \times I_r$	$2 - 12 \times I_n$
	630	$0.5 - 1 \times I_n$	$2 - 10 \times I_r$	$2 - 12 \times I_n$
	630	$0.5 - 1 \times I_n$	$2 - 10 \times I_r$	$2 - 12 \times I_n$
	630	$0.5 - 1 \times I_n$	$2 - 10 \times I_r$	$2 - 12 \times I_n$
	630	$0.5 - 1 \times I_n$	$2 - 10 \times I_r$	$2 - 12 \times I_n$
	630		$2 - 6 \times I_r$	$2 - 8 \times I_r$
	630			

LZMN3-...E... LZMN4-...E...

50	0.25	50	0.25	50	0.25
35	0.25	35	0.25	35	0.25
25	0.25	25	0.25	25	0.25
20	0.30	20	0.30	20	0.30

LZMS1-S... LZMS2-S... LZMS3-S... LZMS3-...E... LZMS4-...E...

70	0.20	70	0.20	70	0.20
35	0.25	65	0.20	65	0.20
20	0.30	36	0.25	36	0.25
10	0.50	20	0.30	25	0.30
				70	0.20
				65	0.20
				36	0.25
				25	0.30
				35	0.25

Circuit-breakers LZM

Ordering

Electronic releases, 3 pole LZM...3, LZM...4

Normal switching capacity **50 kA**
at 415 V 50/60 Hz

Rated current = rated
uninterrupted current

Setting range

Overload
releases

Short-circuit releases

Non-delayed

Delayed short-
circuit release

$I_n = I_u$
A

I_r
A

I_i
A

I_{sd}
A



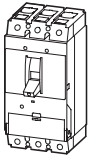
Part no.
Article no.

Price
see price list

Protection of systems and cables

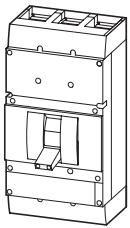
3 pole

Terminal screws standard,
terminals as accessories



400	200...400	800...4400		LZMN3-AE400 109639
630	315...630	1260...5040		LZMN3-AE630 109640

Terminal screws standard,
terminals as accessories

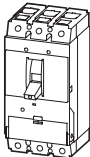


800	400...800	1600...9600		LZMN4-AE800 110942
1000	500...1000	2000...12000		LZMN4-AE1000 110943
1250	630...1250	2500...15000		LZMN4-AE1250 110944
1600	800...1600	3200...19200		LZMN4-AE1600 110945

Systems and cable protection, selectivity and generator protection

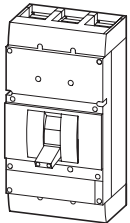
3 pole

Terminal screws standard,
terminals as accessories



400	200...400	800...4400	400...4000	LZMN3-VE400 109651
630	315...630	1260...5040	472...4410	LZMN3-VE630 109652

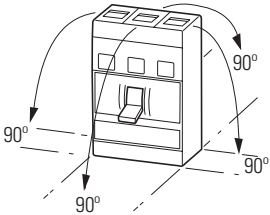
Terminal screws standard,
terminals as accessories



800	400...800	1600...9600	800...8000	LZMN4-VE800 110960
1000	500...1000	2000...12000	1000...10000	LZMN4-VE1000 110961
1250	630...1250	2500...15000	1250...12500	LZMN4-VE1250 110962
1600	800...1600	3200...19200	1600...16000	LZMN4-VE1600 110963

Notes

Notes for terminals → 29

Rated uninterrupted current max. 250 A				Rated uninterrupted current max. 630 A			Rated uninterrupted current max. 1600 A	
LZMB2	LZMC2	LZMN2	LZMS2	LZMC3	LZMN3	LZMS3	LZMN4	LZMS4
IEC/EN 60947, CCC								
Finger and back of hand proof to VDE 0106 Part 100								
Damp heat, constant, according to IEC 60068-2-78								
Damp heat, cyclical to IEC 60068-2-30								
-25...+70								
-25...+70								
20 (half-sinusoidal shock 20 ms) NZM4: (half-sinusoidal shock 11 ms)								
500								
300								
Vertical and 90° in all directions								
			With plug-in adapter LZM2: vertical, 90° right/left			with residual current release, LZM2: vertical and 90° to all directions		
			With withdrawable unit, LZM3: vertical, 90° left, LZM4: vertical, with remote operator: LZM2, LZM3, LZM4: vertical and 90° to all directions					
As required								
In the operating controls area: IP20 (basic degree of protection)								
With insulating surround: IP40, with door coupling rotary handle: IP66								
Tunnel terminal: IP10								
Phase isolator and strip terminal: IP00								
8000	8000	8000	8000	8000	8000	8000	8000	8000
6000	6000	6000	6000	6000	6000	6000	6000	6000
440	690	690	690	690	690	690	690	690
III/3	III/3	III/3	III/3	III/3	III/3	III/3	III/3	III/3
690	690	1000	690	690	1000	1000	1000	1000
440	690	690	690	690	690	690	525	525

Rated uninterrupted current max. 300 A				Rated uninterrupted current max. 630 A			Rated uninterrupted current max. 1600 A	
LZMB2	LZMC2	LZMN2	LZMS2	LZMC3	LZMN3	LZMS3	LZMN4	LZMS4
63	121	187	220	121	187	220	105	275
53	76	105	154	76	105	154	105	187
53	63	74	143	63	74	143	74	187
–	24	53	76	24	53	76	53	143
–	9	40	53	14	40	53	40	105
30	55	85	100	55	85	100	50	125
25	36	50	70	36	50	70	50	85
25	30	35	65	30	35	65	35	85
–	12	25	35	12	25	35	25	65
–	8	20	20	8	20	25	20	50
30	55	85	100	55	85	100	37	63
25	36	50	70	36	50	70	37	43
18.5	22.5	35	65	22.5	35	65	26	43
–	6	25	36	9	13	18	19	49
–	4	5	5	4	5	6	15	37
355	355	355	355	LZMN3-...400: 400 LZMN3-...630: 630			LZMN4-...800...1250: 2 × 630 LZMN4-...1600: 2 × 800	
A	A	A	A	A	A	A	B	B
–	–	1.9	1.9	3.3	3.3	3.3	19.2	19.2
–	–	1.9	1.9	3.3	3.3	3.3	19.2	19.2
250	250	250	250	500	630	630	2000	2000
250	250	250	250	500	630	630	2000	2000
250	250	250	250	500	630	630	1600 ²⁾	1600 ²⁾
250	250	250	250	500	630	630	1600 ²⁾	1600 ²⁾
20000	20000	20000	20000	15000	15000	15000	10000	10000
120	120	120	120	60	60	60	60	60
10000 ⁸⁾	10000	10000	10000	5000	5000	5000	3000	3000
–	7500	7500	7500	3000	3000	3000	2000	2000
6500 ⁴⁾	–	6500	6500	2000	2000	2000	2000	2000
–	5000	5000	5000	2000	2000	2000	1000	1000
19	19	19	19	31	40	40	97	97
< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 25 ≙ 415 V; < 35 > 415 V	< 25 ≙ 415 V; < 35 > 415 V

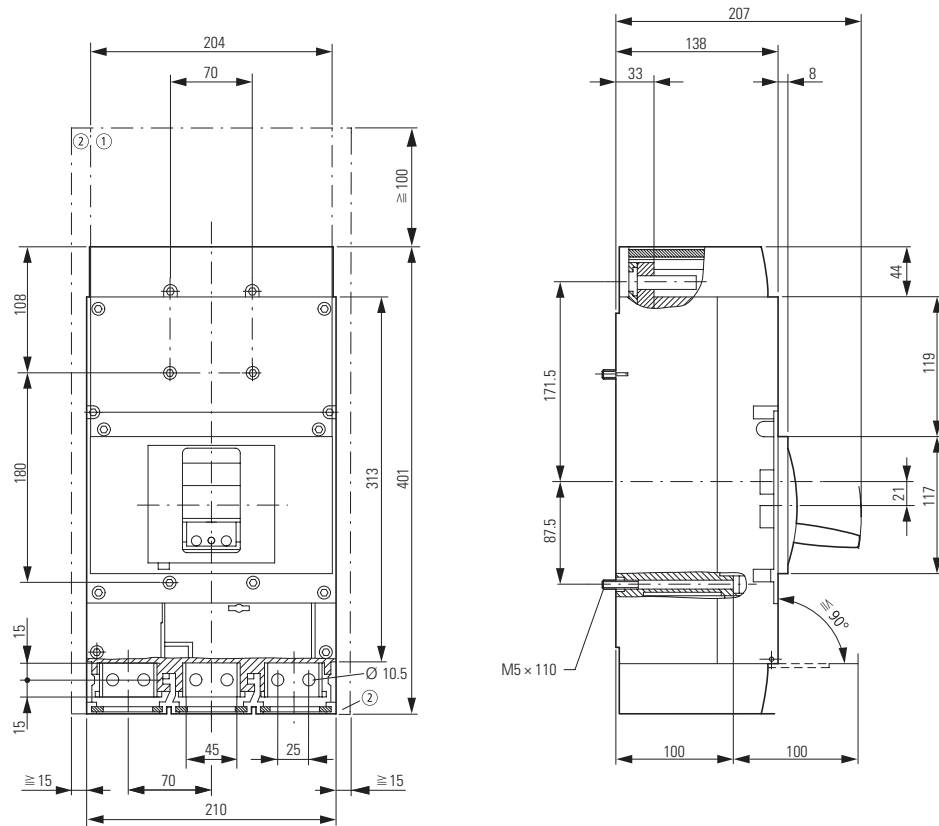
Size 4: Basic units LZM4

Circuit-breaker

3 pole

LZMN4

LZMS4



- ① Blow out area, minimum distance to other parts \cong 100 mm up to 690 V
- ② Minimum distance to adjacent parts \cong 15 mm