

Safe  
Reliable  
Powerful



**EATON**

*Powering Business Worldwide*

## Use of NZM circuit breakers at 1000 VAC

The special series for up to 1000 VAC rated operational voltage stretches the range of application of the performance and switch disconnecter continues to pull out. They are suitable for use under special environmental conditions like mines, road tunnels, refineries, chemical plants and electric railways. Typical applications are drives for high performance and general industrial power supply with long supply lines.



## Circuit-breakers, switch-disconnectors

Technical overview for 1000 VAC

### NZM...-S1

With main switch characteristics to IEC/EN 60204 and isolating characteristics to IEC/EN 60947, VDE 660

#### Circuit-breakers for 1000 VAC, 3 pole

#### Switching capacity

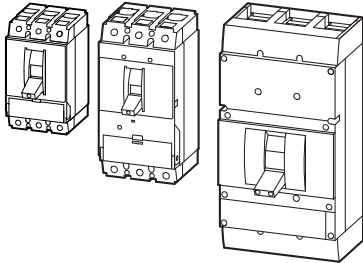
1000 VAC	kA/p.f.	$I_{cu}$	$I_{cs}$
		10/0.5	3/0.5
Rated uninterrupted current $I_u =$		$I_u$	$I_u$
Rated current $I_n$		$I_u$	$I_u$

#### System and cable protection

#### Selectivity protection

#### Motor protection





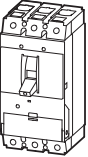
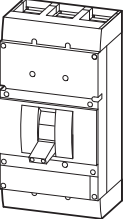
	NZMH2-A...-S1	NZMH3-AE...-S1	NZMH4-AE...-S1	NZMH2-VE...-S1	NZMH4-VE...-S1	NZMH3-ME...-S1	NZMH4-ME...-S1
20		250	630	100	630	220	550
25		400	800	160	800	350	875
32		<b>630</b>	1000	<b>250</b>	1000	<b>450</b>	<b>1400</b>
40			1250		1250		
50			<b>1600</b>		<b>1600</b>		
63							
80							
100							
125							
160							
200							
250							
<b>300</b>							



# Circuit-breakers, switch-disconnectors

## Circuit-breakers for 1000 VAC, 3 pole

HPL17047EN

	Switching capacity 1000 VAC 50/60 Hz $I_{cu}$ kA	Rated current = Rated uninterrupted current $I_n = I_u$ A	Setting range		Short-circuit releases Non-delayed $I_i = I_n \times \dots$ Delayed $I_{sd} = I_r \times \dots$	Fixed mounting Part no. Article no.	Std. pack	
			Overload releases					
			$I_r$ A 					
<b>System and cable protection</b>								
<b>Thermomagnetic releases</b>								
	10	20	15-20	350 A fest	–	<b>NZMH2-A20-S1</b> 290355	S	1 off
		25	20-25	350 A fest	–	<b>NZMH2-A25-S1</b> 290356	S	
		32	25-32	350 A fest	–	<b>NZMH2-A32-S1</b> 290357	S	
		40	32-40	8 - 10	–	<b>NZMH2-A40-S1</b> 290358	S	
		50	40-50	6 - 10	–	<b>NZMH2-A50-S1</b> 290359	S	
		63	50-63	6 - 10	–	<b>NZMH2-A63-S1</b> 290360	S	
		80	63-80	6 - 10	–	<b>NZMH2-A80-S1</b> 290361	S	
		100	80-100	6 - 10	–	<b>NZMH2-A100-S1</b> 290362	S	
		125	100-125	6 - 10	–	<b>NZMH2-A125-S1</b> 290363	S	
		160	125-160	6 - 10	–	<b>NZMH2-A160-S1</b> 290364	S	
		200	160-200	6 - 10	–	<b>NZMH2-A200-S1</b> 290365	S	
250	200-250	6 - 10	–	<b>NZMH2-A250-S1</b> 290366	S			
<b>Electronic releases</b>								
R.m.s. value measurement and "thermal memory"								
	15	250	125-250	2 - 11	–	<b>NZMH3-AE250-S1</b> 119361	S	1 off
		400	200-400	2 - 11	–	<b>NZMH3-AE400-S1</b> 119362	S	
		630	315-630	2 - 8	–	<b>NZMH3-AE630-S1</b> 119363	S	
	20	630	315-630	2 - 12	–	<b>NZMH4-AE630-S1</b> 290370	S	
		800	400-800	2 - 12	–	<b>NZMH4-AE800-S1</b> 290371	S	
		1000	500-1000	2 - 12	–	<b>NZMH4-AE1000-S1</b> 290372	S	
		1250	630-1250	2 - 12	–	<b>NZMH4-AE1250-S1</b> 290373	S	
		1600	800-1600	2 - 12	–	<b>NZMH4-AE1600-S1</b> 290374	S	

### Notes

**B = box terminals**  
**S = screw terminals**

IEC/EN 60947-2

Terminal type:

NZM2: Cover NZM2-XKSA required




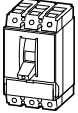
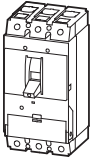
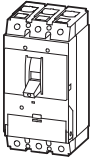
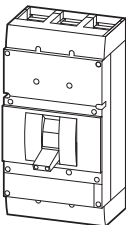
NZM3: Cover NZM3-XKSA required

NZM4: Isolated bar connection (screw terminal NZM4-XKS)

# Circuit-breakers, switch-disconnectors

## Circuit-breakers for 1000 VAC, 3 pole

HPL17048EN

	Switching capacity 1000 VAC 50/60 Hz  $I_{cu}$ kA	Rated current = Rated uninterrupted current  $I_n = I_u$ A	Setting range			Fixed mounting Part no. Article no.	Std. pack	
			Overload releases	Short-circuit releases				
				$I_r$ A	Non-delayed $I_i = I_n \times \dots$			Delayed $I_{sd} = I_r \times \dots$
								
<b>Systems protection, cable protection, selectivity, generator protection</b>								
IEC/EN 60947-2 R.m.s. value measurement and "thermal memory" Adjustable delay setting $t_r$ • 2 – 20 s at 6 x $I_r$ and infinite (without overload release) Adjustable delay $t_{sd}$ • Steps: 0, 20, 60, 100, 200, 300, 500, 750, 1000 ms $i^2t$ constant function • NZM2 fixed OFF • NZM3, NZM4 switchable								
	<b>10</b>	100	50-100	1200 A fest	2 - 10	<b>NZMH2-VE100-S1</b> 100777	S	1 off
		160	80-160	1920 A fest	2 - 10	<b>NZMH2-VE160-S1</b> 100778	S	
		250	125-250	3000 A fest	2 - 10	<b>NZMH2-VE250-S1</b> 100779	S	
		400	200-400	2 - 11	2 - 10	<b>NZMH3-VE400-S1</b> 119367	S	
		630	315-630	2 - 8	1,5 - 7	<b>NZMH3-VE630-S1</b> 119368	S	
	<b>20</b>	630	315-630	2 - 12	2 - 10	<b>NZMH4-VE630-S1</b> 290375	S	
		800	400-800	2 - 12	2 - 10	<b>NZMH4-VE800-S1</b> 290376	S	
		1000	500-1000	2 - 12	2 - 10	<b>NZMH4-VE1000-S1</b> 290377	S	
		1250	630-1250	2 - 12	2 - 10	<b>NZMH4-VE1250-S1</b> 290378	S	
		1600	800-1600	2 - 12	2 - 10	<b>NZMH4-VE1600-S1</b> 290379	S	
<b>Motor protection</b>								
IEC/EN 60947-4-1, IEC/EN 60947-2 Phase-failure sensitivity R.m.s. value measurement and "thermal memory" Adjustable delay setting $t_r$ • 2 – 20 s at 6 x $I_r$ and infinite (without overload release)								
	<b>15</b>	220	110-220	2 - 14	–	<b>NZMH3-ME220-S1</b> 119364	S	1 off
		350	175-350	2 - 14	–	<b>NZMH3-ME350-S1</b> 119365	S	
		450	225-450	2 - 12	–	<b>NZMH3-ME450-S1</b> 119366	S	
	<b>20</b>	550	275-550	2 - 14	–	<b>NZMH4-ME550-S1</b> 290383	S	
		875	438-875	2 - 14	–	<b>NZMH4-ME875-S1</b> 290384	S	
		1400	700-1400	2 - 14	–	<b>NZMH4-ME1400-S1</b> 290385	S	

### Notes

**B = box terminals**  
**S = screw terminals**

Terminal type:  
NZM2: Cover NZM2-XKSA required  
NZM3: Cover NZM3-XKSA required  
NZM4: Isolated bus connection (screw terminal NZM4-XKS)



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