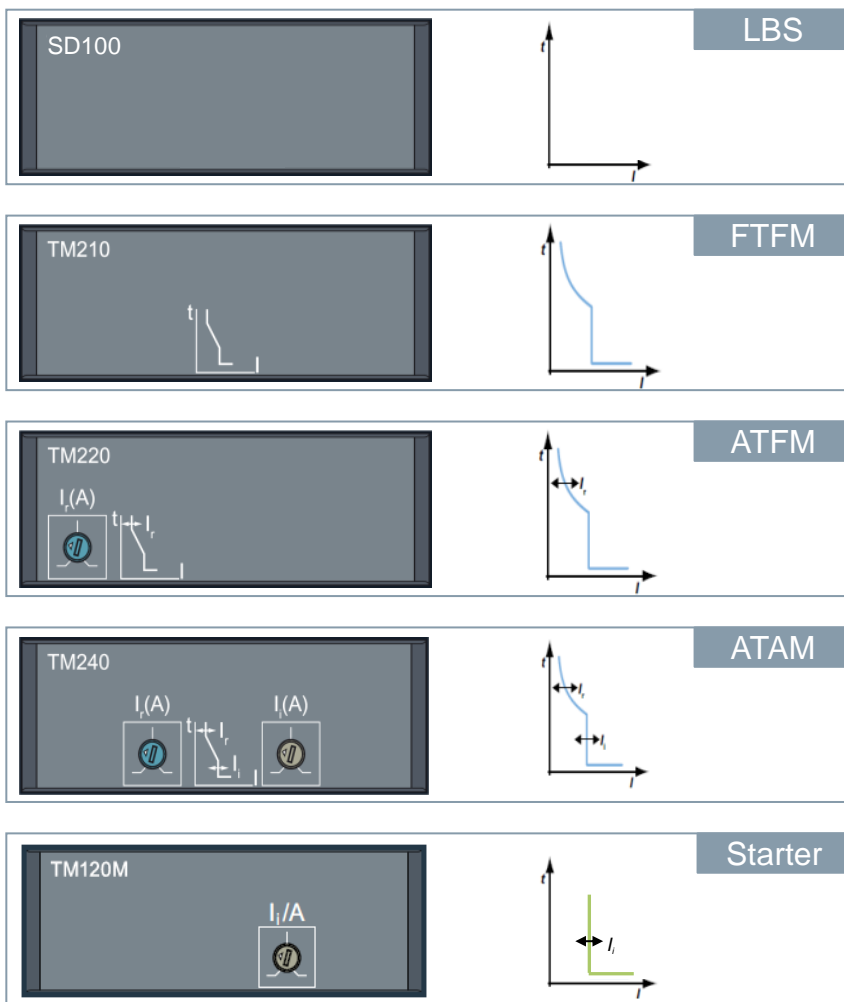


# 3VA1 塑壳断路器

## 脱扣器一览



### 适用于 线路保护 / 隔离开关 / 马达起动器

- 线路保护应用: TM210, TM220, TM240
- 负荷隔离开关: SD100
- 马达起动器: TM120M
- 四极断路器零线保护范围(160 A 壳架):
  - 0%, 50%, and 100%
- 选用于交流及直流配电网络
- 环境温度50°C及以下无降容

# 3VA1 塑壳断路器

## TM210 FTFM – (3VA10, 3VA11)

IEC 947	100 A	160 A	160 A
TM210 FTFM • 过载不可调 • 短路不可调	3/4-pole (3VA10 / 3VA11)	1/2-pole (3VA11)	3/4-pole (3VA10/3VA11)
<b>N线保护， 适用于4极断路器</b>	无保护	—	<ul style="list-style-type: none"> <li>• 无保护</li> <li>• 50% I<sub>n</sub></li> <li>• 100% I<sub>n</sub></li> </ul>

### Front view



### Characteristic curve



# 3VA1 塑壳断路器

## TM210 FTFM (3VA10, 3VA11)

Size		$I_n$	$I_r$	$I_i$	$I_N$ (4P)
3VA10	100 A	16 A	16 A	320 A	0%
		20 A	20 A	320 A	0%
		25 A	25 A	320 A	0%
		32 A	32 A	320 A	0%
		40 A	40 A	400 A	0%
		50 A	50 A	500 A	0%
		63 A	63 A	630 A	0%
		80 A	80 A	800 A	0%
		100 A	100 A	1.000 A	0%
3VA11	160 A	16 A	16 A	320 A	0%, 100%
		20 A	20 A	320 A	0%, 100%
		25 A	25 A	320 A	0%, 100%
		32 A	32 A	320 A	0%, 100%
		40 A	40 A	400 A	0%, 100%
		50 A	50 A	500 A	0%, 100%
		63 A	63 A	630 A	0%, 100%
		80 A	80 A	800 A	0%, 100%
		100 A	100 A	1.000 A	0%, 50%, 100%
		125 A	125 A	1.250 A	0%, 50%, 100%
		160 A	160 A	1.600 A	0%, 50%, 100%

# 3VA1 塑壳断路器

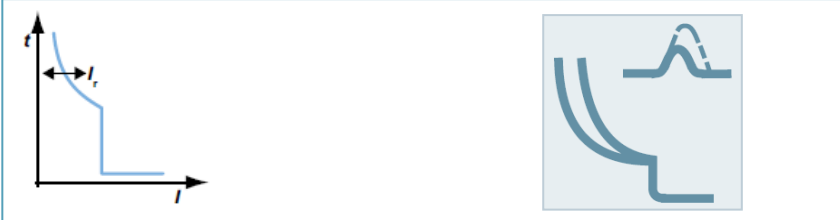
## TM220 ATFM (3VA11)

IEC 947	100 A	160 A	250 A
TM220 ATFM • 过载可调 • 短路不可调	—	3/4-pole (3VA11)	—
<b>N线保护， 适用于4极断路器</b>	—	<ul style="list-style-type: none"> <li>• 无保护</li> <li>• 50% <math>I_n</math></li> <li>• 100% <math>I_n</math></li> </ul>	—

### Front view



### Characteristic curve



# 3VA1 塑壳断路器

## TM220 ATFM (3VA11)

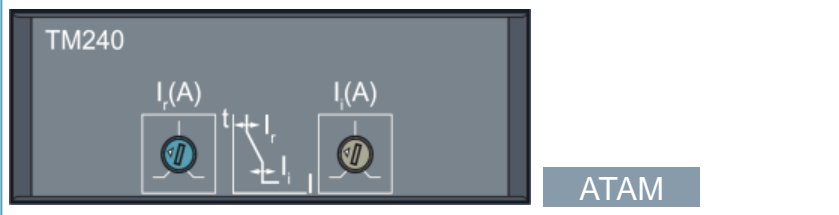
Size	$I_n$	$I_r$	$I_i$	$I_N$ (4P)
160 A	16 A	11 ... 16 A	320 A	0%, 100%
	20 A	14 ... 20 A	320 A	0%, 100%
	25 A	18 ... 25 A	320 A	0%, 100%
	32 A	22 ... 32 A	320 A	0%, 100%
	40 A	28 ... 40 A	400 A	0%, 100%
	50 A	35 ... 50 A	500 A	0%, 100%
	63 A	44 ... 63 A	630 A	0%, 100%
	80 A	56 ... 80 A	800 A	0%, 100%
	100 A	70 ... 100 A	1.000 A	0%, 50%, 100%
	125 A	88 ... 125 A	1.250 A	0%, 50%, 100%
	160 A	112 ... 160 A	1.600 A	0%, 50%, 100%

# 3VA1 塑壳断路器

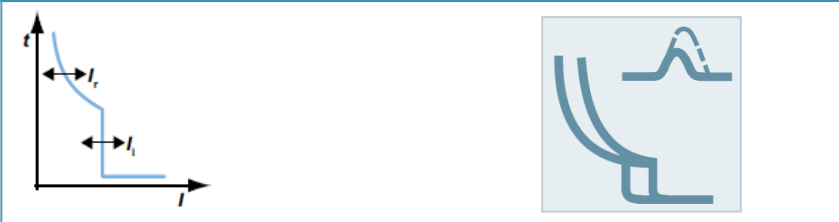
## TM240 ATAM (3VA1)

IEC 947	100 A	160 A	250 A
TM240 ATAM • 过载可调 • 短路可调	—	3/4-pole (3VA11)	3/4-pole (3VA12)
<b>N线保护， 适用于4极断路器</b>	—	<ul style="list-style-type: none"> <li>• 无保护</li> <li>• 50% <math>I_n</math></li> <li>• 100% <math>I_n</math></li> </ul>	<ul style="list-style-type: none"> <li>• 无保护</li> <li>• 50% <math>I_n</math></li> <li>• 100% <math>I_n</math></li> </ul>

### Front view



### Characteristic curve



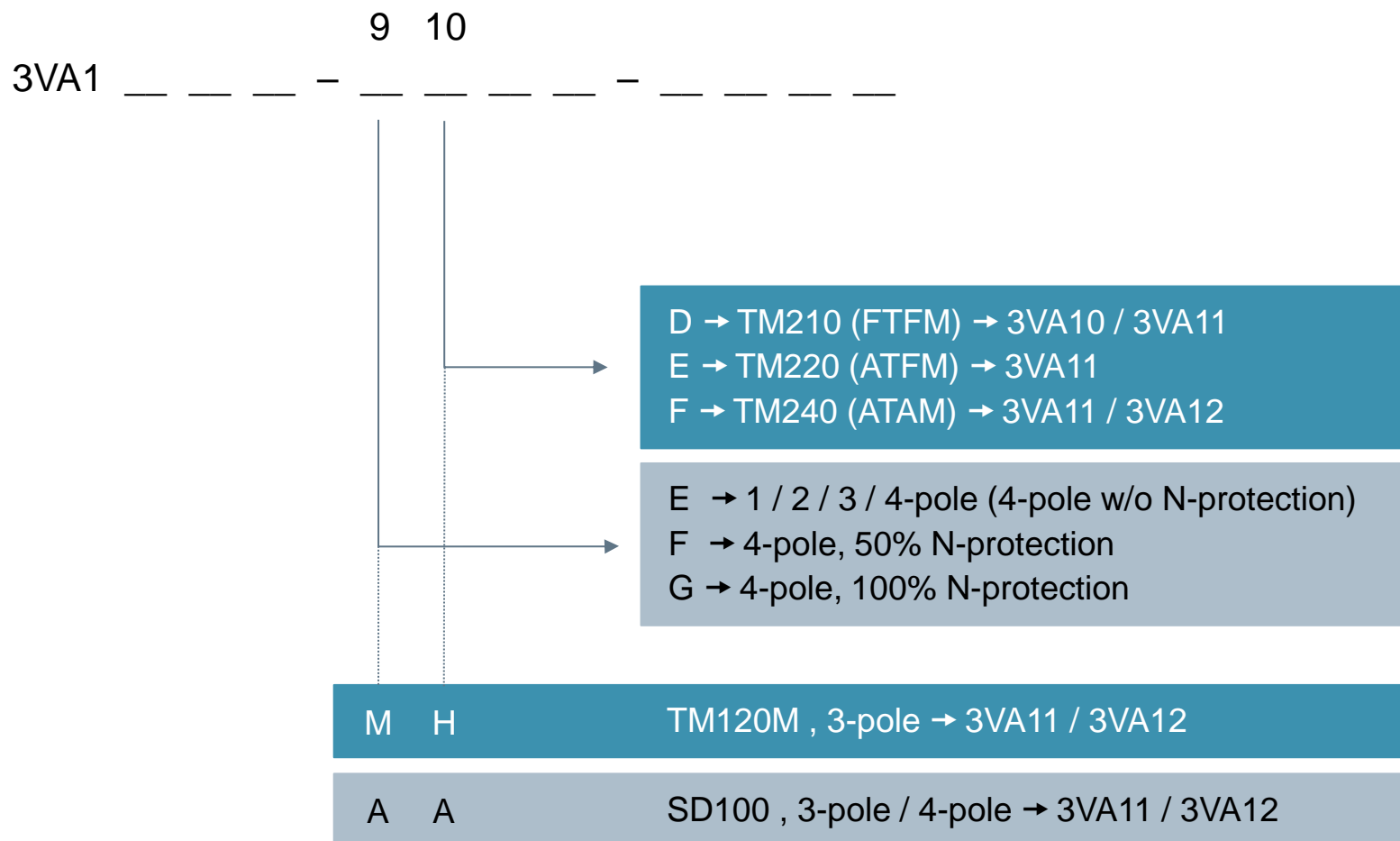
# 3VA1 塑壳断路器

## TM240 ATAM (3VA11, 3VA12)

Size	$I_n$	$I_r$	$I_i$	$I_N$ (4P)
160 A (3VA11)	16 A	11 ... 16 A	160 ... 320 A	0%, 100%
	20 A	14 ... 20 A	160 ... 320 A	0%, 100%
	25 A	18 ... 25 A	160 ... 320 A	0%, 100%
	32 A	22 ... 32 A	160 ... 320 A	0%, 100%
	40 A	28 ... 40 A	200 ... 400 A	0%, 100%
	50 A	35 ... 50 A	250 ... 500 A	0%, 100%
	63 A	44 ... 63 A	315 ... 630 A	0%, 100%
	80 A	56 ... 80 A	400 ... 800 A	0%, 100%
	100 A	70 ... 100 A	500 ... 1.000 A	0%, 50%, 100%
	125 A	88 ... 125 A	625 ... 1.250 A	0%, 50%, 100%
250 A (3VA12)	160 A	112 ... 160 A	800 ... 1.600 A	0%, 50%, 100%
	200 A	140... 200 A	1.000... 2.000 A	0%, 50%, 100%
	250 A	175... 250 A	1.250... 2.500 A	0%, 50%, 100%

# 3VA1 塑壳断路器

## 热磁脱扣器代码及含义





# 3VA2塑壳断路器

## 产品亮点



### 线路保护/发电机保护/ 电动机保护/电机起动器

- 4种分断容量等级, 自55KA至150KA
- 上下级断路器额定壳架电流比2.5: 1即可实现完全选择性
- 标配电子式脱扣器(ETU 3、5、8系列)
- ETU 8系列脱扣器集成电能测量功能
- 具有通信功能, 可以PROFIBUS, PROFINET, Ethernet (Modbus TCP), Modbus RTU协议进行通讯
- 完善及统一设计的内外部附件, 适用于全系列3VA断路器
- 内部附件3VA全系列通用设计

# 3VA2塑壳断路器

## 电子式脱扣器

### ETU 3-系列



- 旋钮式调节, 带电流值指示

#### 线路及发电机保护:

- ETU320 LI
- ETU330 LIG
- ETU350 LSI

#### 线路保护: 专为同熔断器配合而创!

- ETU340 (ELISA)

#### 电机保护:

- ETU350M LSI

#### 电机起动器:

- ETU310M I

### ETU 5-系列



- 菜单式显示屏
- 可配置通信附件实现通信功能
- 可配置外部零线测量互感器 (N-CT)

#### 线路及发电机保护:

- ETU550 LSI
- ETU560 LSIG

#### 电机保护:

- -

#### 电机起动器:

- -

### ETU 8-系列



- 菜单式显示屏
- 可配置通信附件实现通信功能
- 可配置外部零线测量互感器 (N-CT)
- **集成电能测量功能**

#### 线路及发电机保护:

- ETU850 LSI
- ETU860 LSIG

#### 电机保护:




- ETU860M

#### 电机起动器:

- -

# 3VA2塑壳断路器

## 电子式脱扣器-ETU 3系列

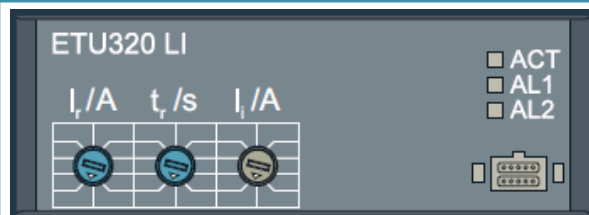
- 提供LI, LSI, LIG 及ELISA四种脱扣器类型, 其中LIG, ELISA为西门子独有!
- 最多至5个保护整定旋钮, 带颜色识别
  - 过载保护 
  - 短路短延时或瞬动保护 
  - 中性线保护 
- 以整定值为指示, 易于设定
- 整定值可以透明保护盖铅封
- 四极断路器中性线保护定值可调
- LED状态指示灯
  - ACT
  - AL1 ( $I > 90\% I_r$ )
  - AL2 ( $I > 105\% I_r$ )



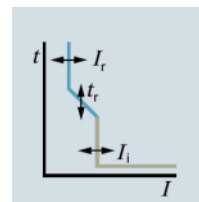
# 3VA2塑壳断路器

## 电子式脱扣器- ETU320 LI

### 用户界面



### 特性曲线



	Size	$I_n$	$I_r$	$t_r$	$I_i$	$I_N^{1)}$
Class M, H, C, L	100 A (3VA20)	25 A	10 ... 25 A	0,5 ... 17 s	38 ... 300 A	$I_N=1 \times I_r$ ; OFF
		40 A	16 ... 40 A	0,5 ... 17 s	60 ... 480 A	
		63 A	25 ... 63 A	0,5 ... 17 s	95 ... 756 A	
		100 A	40 ... 100 A	0,5 ... 17 s	150 ... 1,200 A	
	160 A (3VA21)	25 A	10 ... 25 A	0,5 ... 17 s	38 ... 300 A	$I_N=1 \times I_r$ ; OFF
		40 A	16 ... 40 A	0,5 ... 17 s	60 ... 480 A	
		63 A	25 ... 63 A	0,5 ... 17 s	95 ... 756 A	
		100 A	40 ... 100 A	0,5 ... 17 s	150 ... 1,200 A	
	250 A (3VA22)	160 A	63 ... 160 A	0,5 ... 17 s	240 ... 1,600 A	$I_N=0,5$ ; $1 \times I_r$ ; OFF
		250 A	100 ... 250 A	0,5 ... 15 s	375 ... 2,500 A	
	400 A (3VA23)	250 A	100 ... 250 A	0,5 ... 17 s	375 ... 3,000 A	
		400 A	160 ... 400 A	0,5 ... 17 s	600 ... 4,000 A	
Class M, H, C	630 A (3VA24)	400 A	160 ... 400 A	0,5 ... 17 s	600 ... 4,800 A	
		630 A	250 ... 630 A	0,5 ... 12 s	945 ... 5,670 A	
Class L	630A (3VA24)	400 A	160 ... 400 A	0,5 ... 17 s	600 ... 4,400 A	
		630 A	250 ... 630 A	0,5 ... 12 s	945 ... 5,670 A	

1) For 4-pole breaker

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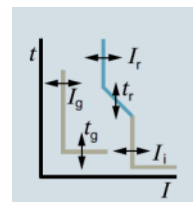
# 3VA2塑壳断路器

## 电子式脱扣器- ETU330 LIG

### 用户界面



### 特性曲线



	Size	$I_n$	$I_r$	$t_r$	$I_i$	$I_g$	$t_g$	$I_N^{1)}$
Class M, H, C, L	100 A (3VA20)	25 A	10 ... 25 A	0,5 ... 17 s	38 ... 300 A	15 ... 25 A	0,1; 0,3 s	$I_N=1 \times I_r$ ; OFF
		40 A	16 ... 40 A	0,5 ... 17 s	60 ... 480 A	16 ... 40 A		
		63 A	25 ... 63 A	0,5 ... 17 s	95 ... 756 A	16 ... 63 A		
	160 A (3VA21)	100 A	40 ... 100 A	0,5 ... 17 s	150 ... 1,200 A	20 ... 100 A		$I_N=0,5$ ; $1 \times I_r$
		25 A	10 ... 25 A	0,5 ... 17 s	38 ... 300 A	15 ... 25 A		
		40 A	16 ... 40 A	0,5 ... 17 s	60 ... 480 A	16 ... 40 A		
		63 A	25 ... 63 A	0,5 ... 17 s	95 ... 756 A	16 ... 63 A		
	250 A (3VA22)	100 A	40 ... 100 A	0,5 ... 17 s	150 ... 1,200 A	20 ... 100 A		$I_N=1 \times I_r$ ; OFF
		160 A	63 ... 160 A	0,5 ... 17 s	240 ... 1,600 A	32 ... 160 A		
	400 A (3VA23)	160 A	63 ... 160 A	0,5 ... 17 s	240 ... 1,920 A	32 ... 160 A		$I_N=0,5$ ; $1 \times I_r$ ; OFF
250 A		100 ... 250 A	0,5 ... 15 s	375 ... 2,500 A	50 ... 250 A			
Class M, H, C	630 A (3VA24)	250 A	100 ... 250 A	0,5 ... 17 s	375 ... 3,000 A	50 ... 250 A		
		400 A	160 ... 400 A	0,5 ... 17 s	600 ... 4,000 A	80 ... 400 A		
Class L	630A (3VA24)	400 A	160 ... 400 A	0,5 ... 17 s	600 ... 4,400 A	80 ... 400 A		
		630 A	250 ... 630 A	0,5 ... 12 s	945 ... 5,670 A	126 ... 630 A		

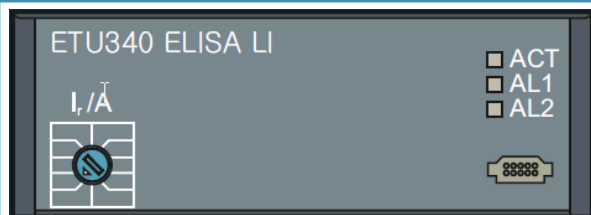
1) For 4-pole breaker

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# 3VA2塑壳断路器

## 电子式脱扣器-ETU340 ELISA

### 用户界面



### 特性曲线



	Size	$I_n$	$I_r$	$t_r$ (not adjustable)	$I_i$	$I_N^{1)}$
Class M, H, C, L	100 A (3VA20)	—	—	—	—	—
	160 A (3VA21)	25 A	10 ... 25 A	1.300 s	375 A	$I_N = 1 \times I_r$ ; OFF
		40 A	16 ... 40 A	1.300 s	600 A	
		63 A	25 ... 63 A	1.300 s	945 A	
	100 A	40 ... 100 A	1.500 s	1.500 A		
250 A (3VA22)	160 A	63 ... 160 A	1.500 s	2.400 A		
400 A (3VA23)	250 A	100 ... 250 A	1.500 s	3.750 A	$I_N = 0,5 ; 1 \times I_r$ ; OFF	
Class M, H, C	630 A (3VA24)	400 A	160 ... 400 A	1.500 s		6.000 A
		500 A	200 ... 500 A	600 s		7.000 A
		630 A	250 ... 630 A	1.000 s		5.670 A
Class L	630A (3VA24)	400 A	160 ... 400 A	1.500 s		4.400 A
		500 A	200 ... 500 A	600 s	5.500 A	
		630 A	250 ... 630 A	1.500 s	5.670 A	

1) For 4-pole breaker

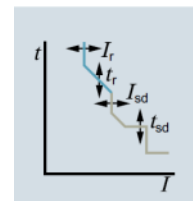
# 3VA2塑壳断路器

## 电子式脱扣器 – ETU350 LSI

### 用户界面



### 特性曲线



	Size	$I_n$	$I_r$	$t_r$	$I_{sd}$	$t_{sd}$	$I_i$	$I_N^{1)}$	
Class M, H, C, L	100 A	25 A	10 ... 25 A	0,5 ... 17 s	1,5 ... 10 x $I_r$	0 ... 0,4 s	300 A	$I_N = 1 \times I_r$ ; OFF	
		40 A	16 ... 40 A	0,5 ... 17 s			480 A		
		63 A	25 ... 63 A	0,5 ... 17 s			756 A		
		100 A	40 ... 100 A	0,5 ... 17 s			1,200 A		
	160 A	25 A	10 ... 25 A	0,5 ... 17 s			300 A	$I_N = 0,5; 1 \times I_r$ ; OFF	
		40 A	16 ... 40 A	0,5 ... 17 s			480 A		
		63 A	25 ... 63 A	0,5 ... 17 s			756 A		
		100 A	40 ... 100 A	0,5 ... 17 s			1,200 A		
	250 A	160 A	63 ... 160 A	0,5 ... 17 s			1,600 A	$I_N = 1 \times I_r$ ; OFF	
		250 A	100 ... 250 A	0,5 ... 15 s			1,920 A		
		400 A	250 A	100 ... 250 A			0,5 ... 17 s		2,500 A
			400 A	160 ... 400 A			0,5 ... 17 s		3,000 A
Class M, H, C	630 A	400 A	160 ... 400 A	0,5 ... 17 s	4,000 A	$I_N = 0,5; 1 \times I_r$ ; OFF			
		630 A	250 ... 630 A	0,5 ... 12 s	4,800 A				
		630 A	160 ... 400 A	0,5 ... 17 s	5,670 A				
Class L	630 A	400 A	160 ... 400 A	0,5 ... 17 s	1,5 ... 10 x $I_r$	4,400 A			
		630 A	250 ... 630 A	0,5 ... 12 s	1,5 ... 9 x $I_r$	5,670 A			

1) For 4-pole breaker

## 3VA2塑壳断路器

### 电子式脱扣器 – ETU5 及 ETU8系列

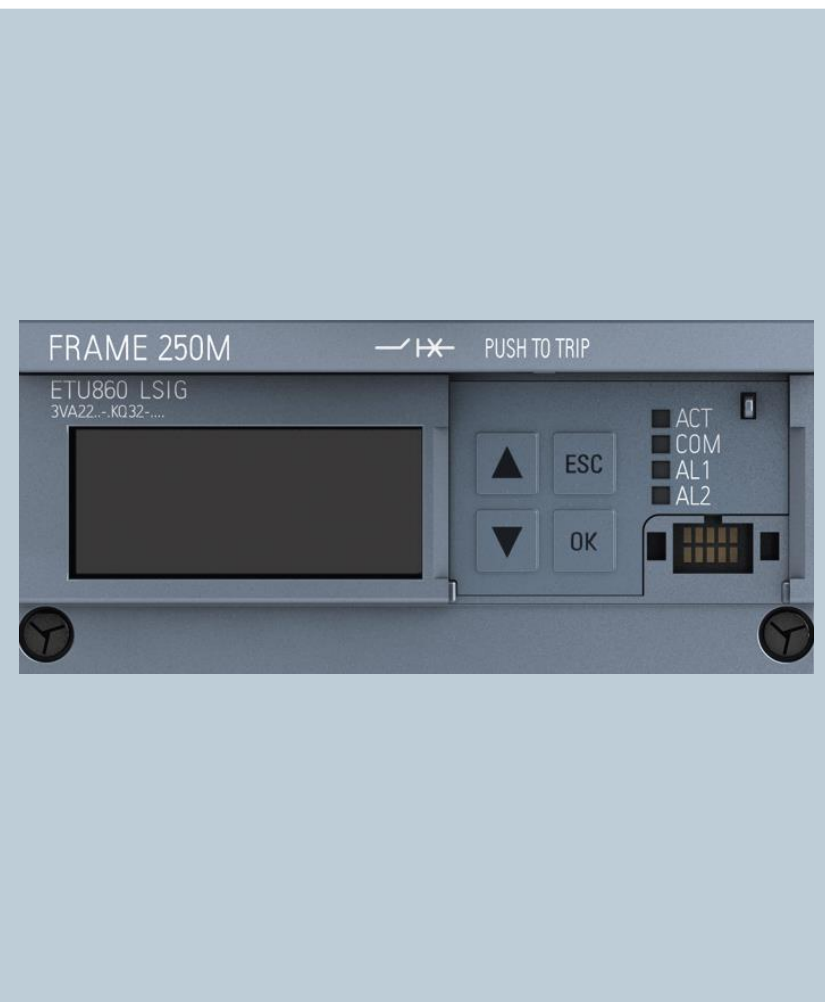
- 带有液晶显示器
- 参数可通过ETU 按键或由PC软件设定
- 电流显示:  $I_{L1}$ ,  $I_{L2}$ ,  $I_{L3}$ ,  $I_N$  and  $I_g$
- 带有集成能量测量功能的ETU8系列还可显示电压, 频率, 功率因数, 有功功率, 无功功率及电能
- 具有 LSI 及 LSIG保护功能
- 三极断路器可连接外部零线电流互感器 (N-CT)
- 4极断路具有中性线大电流(大导体)保护(OSN) (在 $I_n < I_{n, max}$  -壳架电流前提下)

如250A壳架断路器, 整定在160 A:

$$I_{r, L1/L2/L3} = 32 A \dots 160 A$$

$$I_{r, N} = 32 A \dots 250 A (1,6 \times I_n)$$

Go to manual page 115

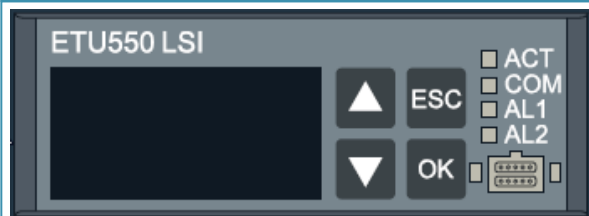




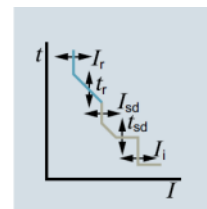
# 3VA2塑壳断路器

## 电子式脱扣器 – ETU550/850 LSI 3极

### 用户界面



### 特性曲线



	Size	$I_n$	$I_r$	$t_r$	$I_{sd}$	$t_{sd}$	$I_i$	$I_N^{1)}$	$I_N^{2)}$
Class M, H, C, L	100 A	25 A	10 ... 25 A	0,5 ... 25 s	15 ... 250 A	0,05 ... 0,5 s	38 ... 300 A	10 ... 40 A	10 ... 40 A
		40 A	16 ... 40 A	0,5 ... 25 s	24 ... 400 A		60 ... 480 A	16 ... 63 A	16 ... 63 A
		63 A	25 ... 63 A	0,5 ... 25 s	38 ... 630 A		95 ... 756 A	25 ... 100 A	25 ... 100 A
		100 A	40 ... 100 A	0,5 ... 25 s	60 ... 1,000 A		150 ... 1,200 A	20 ... 160 A	20 ... 100 A
	160 A	25 A	10 ... 25 A	0,5 ... 25 s	15 ... 250 A		38 ... 300 A	10 ... 40 A	10 ... 40 A
		40 A	16 ... 40 A	0,5 ... 25 s	24 ... 400 A		60 ... 480 A	16 ... 63 A	16 ... 63 A
		63 A	25 ... 63 A	0,5 ... 25 s	38 ... 630 A		95 ... 756 A	25 ... 100 A	25 ... 100 A
		100 A	40 ... 100 A	0,5 ... 25 s	60 ... 1,000 A		150 ... 1,200 A	20 ... 160 A	20 ... 160 A
	250 A	160 A	63 ... 160 A	0,5 ... 20 s	96 ... 1,600 A		240 ... 1,600 A	32 ... 250 A	32 ... 160 A
		250 A	160 A	63 ... 160 A	0,5 ... 25 s		96 ... 1,600 A	240 ... 1,920 A	32 ... 250 A
	400 A	250 A	100 ... 250 A	0,5 ... 15 s	150 ... 2,500 A		375 ... 2,500 A	50 ... 400 A	50 ... 250 A
		250 A	100 ... 250 A	0,5 ... 25 s	150 ... 2,500 A		375 ... 3,000 A	50 ... 400 A	50 ... 400 A
400 A		160 ... 400 A	0,5 ... 17 s	240 ... 4,000 A	600 ... 4,000 A	80 ... 630 A	80 ... 400 A		
400 A		160 ... 400 A	0,5 ... 17 s	240 ... 4,000 A	600 ... 6,000 A	80 ... 630 A	80 ... 500 A		
Class M, H, C	630 A	400 A	160 ... 400 A	0,2 ... 25 s	240 ... 4,000 A	600 ... 6,000 A	80 ... 630 A	80 ... 500 A	
		500 A	200 ... 500 A	0,5 ... 20 s	300 ... 5,000 A	750 ... 7,000 A	100 ... 800 A	100 ... 500 A	
		630 A	250 ... 630 A	0,5 ... 12 s	378 ... 5,670 A	945 ... 5,670 A	126 ... 1,000 A	126 ... 630 A	
Class L	630 A	400 A	160 ... 400 A	0,2 ... 25 s	240 ... 4,000 A	600 ... 4,400 A	80 ... 630 A	80 ... 500 A	
		630 A	250 ... 630 A	0,5 ... 12 s	378 ... 5,670 A	945 ... 5,670 A	126 ... 1,000 A	126 ... 630 A	

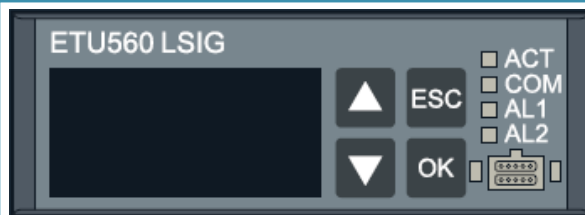
1) With external N 2) For 4-pole breaker

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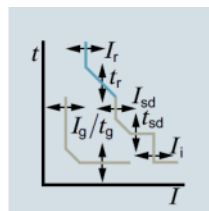
# 3VA2塑壳断路器

## 电子式脱扣器 – ETU560/860 LSIG 3-pole

### 用户界面



### 特性曲线



	Size	$I_n$	$I_r$	$t_r$	$I_{sd}$	$t_{sd}$	$I_i$	$I_g$	$t_g$	$I_N^{1)}$	$I_N^{2)}$
Class M, H, C, L	100 A (3VA20)	25 A	10 ... 25 A	0,5 ... 25 s	15 ... 250 A	0,05 ... 0,5 s	38 ... 300 A	5 ... 25 A	0,05 ... 0,8 s	10 ... 40 A	10 ... 40 A
		40 A	16 ... 40 A	0,5 ... 25 s	24 ... 400 A		60 ... 480 A	8 ... 40 A		16 ... 63 A	16 ... 63 A
		63 A	25 ... 63 A	0,5 ... 25 s	38 ... 630 A		95 ... 756 A	13 ... 63 A		25 ... 100 A	25 ... 100 A
		100 A	40 ... 100 A	0,5 ... 25 s	60 ... 1,000 A		150 ... 1,200 A	20 ... 100 A		20 ... 160 A	20 ... 100 A
	160 A (3VA21)	25 A	10 ... 25 A	0,5 ... 25 s	15 ... 250 A		38 ... 300 A	5 ... 25 A		10 ... 40 A	10 ... 40 A
		40 A	16 ... 40 A	0,5 ... 25 s	24 ... 400 A		60 ... 480 A	8 ... 40 A		16 ... 63 A	16 ... 63 A
		63 A	25 ... 63 A	0,5 ... 25 s	38 ... 630 A		95 ... 756 A	13 ... 63 A		25 ... 100 A	25 ... 100 A
		100 A	40 ... 100 A	0,5 ... 25 s	60 ... 1,000 A		150 ... 1,200 A	20 ... 100 A		20 ... 160 A	20 ... 160 A
	250 A (3VA22)	160 A	63 ... 160 A	0,5 ... 20 s	96 ... 1,600 A		240 ... 1,600 A	32 ... 160 A		32 ... 250 A	32 ... 250 A
		250 A	100 ... 250 A	0,5 ... 15 s	150 ... 2,500 A		240 ... 1,920 A	32 ... 160 A		32 ... 250 A	32 ... 250 A
	400 A (3VA23)	250 A	100 ... 250 A	0,5 ... 25 s	150 ... 2,500 A		375 ... 2,500 A	50 ... 250 A		50 ... 400 A	50 ... 250 A
		400 A	160 ... 400 A	0,5 ... 17 s	240 ... 4,000 A		375 ... 3,000 A	50 ... 250 A		50 ... 400 A	50 ... 400 A
Class M, H, C	630 A (3VA24)	400 A	160 ... 400 A	0,5 ... 17 s	240 ... 4,000 A	600 ... 4,000 A	80 ... 400 A	80 ... 400 A			
		500 A	200 ... 500 A	0,5 ... 20 s	300 ... 5,000 A	600 ... 6,000 A	80 ... 400 A	80 ... 400 A			
		630 A	250 ... 630 A	0,5 ... 12 s	378 ... 5,670 A	750 ... 7,000 A	100 ... 500 A	100 ... 500 A			
Class L	630 A (3VA24)	400 A	160 ... 400 A	0,2 ... 25 s	240 ... 4,000 A	945 ... 5,670 A	126 ... 630 A	126 ... 630 A			
		630 A	250 ... 630 A	0,5 ... 12 s	378 ... 5,670 A	600 ... 4,400 A	80 ... 400 A	80 ... 400 A			

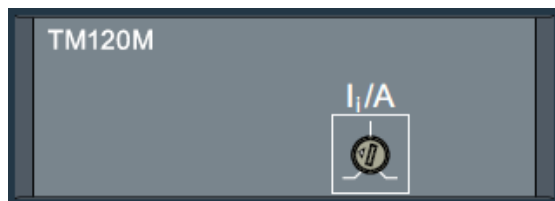
1) With external N 2) For 4-pole breaker

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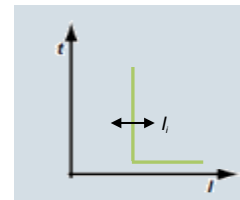
# 3VA塑壳断路器

## 电机起动器— TM120M (3VA11)

### 用户界面



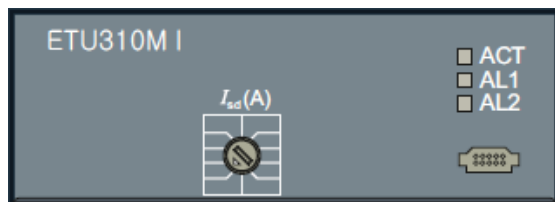
### 特性曲线



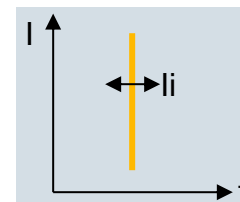
	Size	$I_n$	$I_i$
Class M, H	160 A	32 A	220 ... 510 A
		40 A	280 ... 640 A
		50 A	350 ... 800 A
		63 A	440 ... 1.010 A
		80 A	560 ... 1.280 A
		100 A	700 ... 1.600 A
		125 A	875 ... 2.000 A
		250 A	160 A
200 A	1.400 ... 2.800 A		

# 3VA塑壳断路器 电机起动器 – ETU310M I

## 用户界面



## 特性曲线



	Size	$I_n$	$I_i$
Class C, L	100 A		
	160 A (3VA21)	25 A	75 ... 375 A
		40 A	120 ... 600 A
		63 A	189 ... 945 A
		100 A	300 ... 1.500 A
	250 A (3VA22)	160 A	480 ... 2.400 A
		200 A	600 ... 3.000 A
400 A (3VA23)	250 A	750 ... 3.750 A	
630 A (3VA24)	400 A	1.200 ... 6.000 A	
	500 A	1.500 ... 7.500 A	

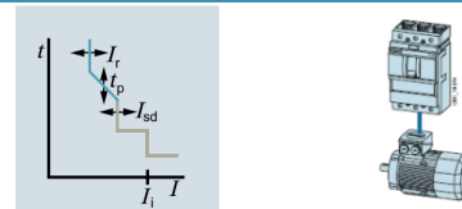
# 3VA塑壳断路器

## 电机保护 – ETU350M LSI

### 用户界面



### 脱扣曲线



	Size	$I_n$	$I_r$	$T_c$			$I_{sd}$	$t_{sd}$	$I_i$	
				10A	10 / 10E	20 / 20E				
Class M, C, L	100 A									
		160 A (3VA21)	25 A	10 ... 25 A	4	8	17	3 ... 15 $I_r$	30 ms	375 A
			40 A	16 ... 40 A			17			600 A
	63 A		25 ... 63 A	17			945 A			
	100 A		40 ... 100 A	17			1.500 A			
	250 A (3VA22)	160 A	63 ... 160 A	17			2.400 A			
		200 A	100 ... 200 A	15			3.000 A			
	400 A (3VA23)	250 A	100 ... 250 A	17			3.750A			
		630 A (3VA24)	400 A	160 ... 400 A			17			6.000 A
	500 A		250 ... 500 A	15			7.500 A			

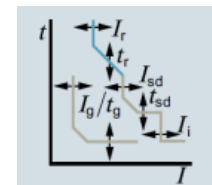
# 3VA塑壳断路器

## 电机保护 – ETU860M LSIG (1/2)

### 用户界面



### 脱扣曲线



	Size	$I_n$	$I_r$	$I_{sd}$	$t_{sd}$	$I_i$	$I_g$	$t_g$	
Class M, C, L	100 A								
		160 A (3VA21)	25 A	10 ... 25 A	1,2 ... 15 x $I_n$	30 ms	75 ... 375 A	5 ... 25 A, OFF	50 ... 800 ms
			40 A	16 ... 40 A			120 ... 600 A	8 ... 40 A, OFF	
			63 A	25 ... 63 A			189 ... 945 A	13 ... 63 A, OFF	
	250 A (3VA22)	100 A	40 ... 100 A	300 ... 1.500 A			20 ... 100 A, OFF		
		160 A	63 ... 160 A	480 ... 2.400 A			32 ... 160 A, OFF		
	400 A (3VA23)	200 A	80 ... 200 A	600 ... 3.000 A			50 ... 250 A, OFF		
		250 A	100 ... 250 A	750 ... 3.750 A			50 ... 250 A, OFF		
	630 A (3VA24)	400 A	160 ... 400 A	1.200 ... 6.000 A			80 ... 400 A, OFF		
		500 A	250 ... 500 A	1.500 ... 7.500 A			100 ... 500 A, OFF		

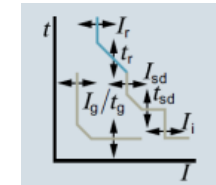
# 3VA塑壳断路器

## 电机保护 – ETU860M LSIG (2/2)

### 用户界面



### 脱扣曲线



	Size	I <sub>n</sub>	T <sub>c</sub>					T <sub>p</sub>	I	I <sub>b</sub>	t <sub>b</sub>	I <sub>&lt;&lt;</sub>	t <sub>&lt;&lt;</sub>	
			10A	10 / 10E	20 / 20E	30	30E							
Class M, C, L	100 A													
		160 A (3VA21)	25 A	4	8	17	24	24	3 ... 30 s	OFF, 5 ... 50%	30 ... 250 A, OFF	1 ... 10s	0,3 ... 0,9 x I <sub>r</sub>	1 ... 200s
			40 A			17	24	24	3 ... 30 s		48 ... 400 A, OFF			
			63 A			17	24	24	3 ... 30 s		76 ... 630 A, OFF			
	100 A	17	24			24	3 ... 25 s	120 ... 1,000 A, OFF						
	250 A (3VA22)	160 A		17	20	–	3 ... 20 s	162 ... 1,600 A, OFF						
		200 A		12	15	–	3 ... 15 s	240 ... 2,000 A, OFF						
	400 A (3VA23)	250 A		17	24	24	3 ... 30 s	300 ... 2,500 A, OFF						
	630 A (3VA24)	400 A		17	24	24	3 ... 25 s	480 ... 4,000 A, OFF						
500 A			12	15	–	3 ... 15 s	600 ... 5,000 A, OFF							

T<sub>c</sub>: Tripping Class  
T<sub>p</sub>: Tripping Time

I: unsymmetrie of the current

I<sub><<</sub>: pick up current idle protection  
t<sub><<</sub>: delay time idle protection

I<sub>b</sub>: pick up time blocking protection  
t<sub>b</sub>: pick up current blocking protection

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