

**Metasol** *Meta Solution*

# MC/TOR

Contactors and Overload Relays



**LS** ELECTRIC

# **Metasol** Contactors and overload relays

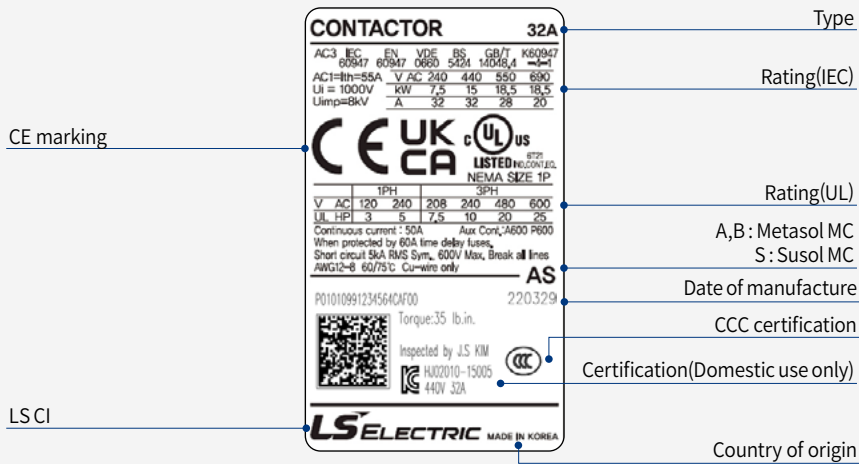
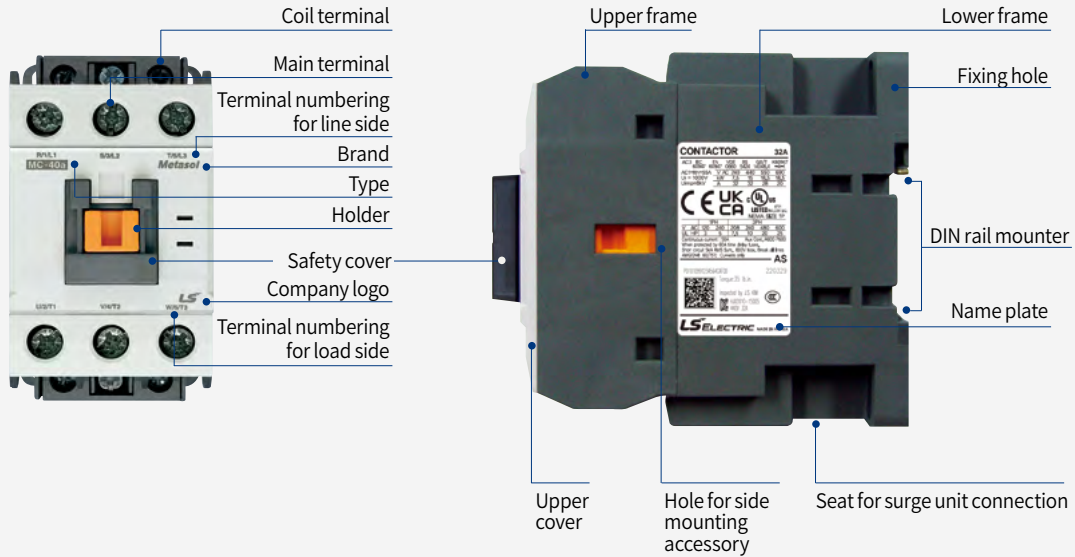
New Generation of Contactors From LS

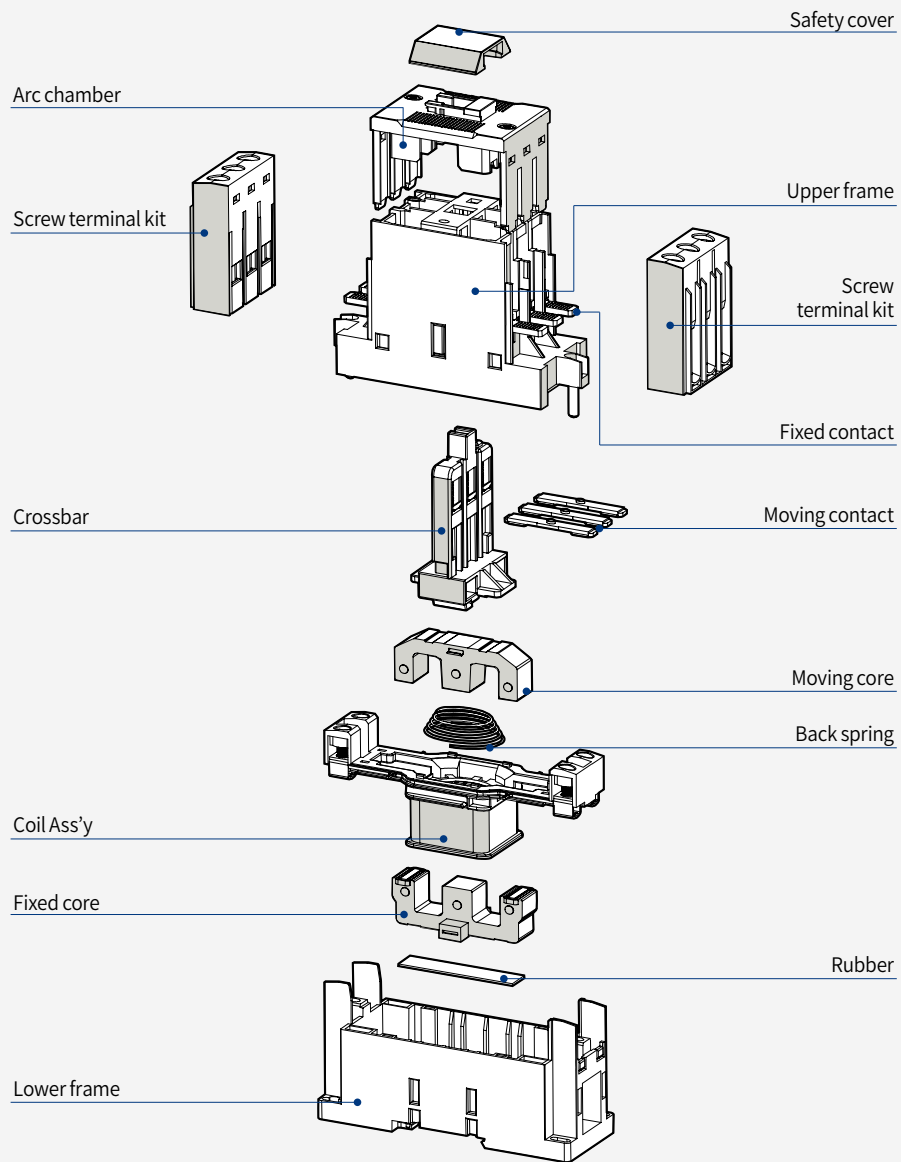


## **Designed to show superior technology: Metasol series**

Sealed structure has improved its safety features so that no arc flash is exposed. In order to emphasize its durability as an industrial device, Metasol series adopt simple design form and sophisticated shape applying diamond cut concepts on product surface.

# Marking





# Contactors

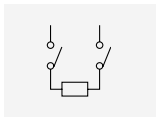
## Description 18AF

- 3-pole(NO) main contact
- Finger proof design
- DIN rail(35mm) or screw mountable
- AC or DC control in different physical size
- Front/side mountable accessories available
- Direct mountable overload relay available rating
- 1NO or 1NC Auxiliary contact built-in as standard.
- Degree of protection: IP20

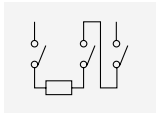
## Rating



MC-18a



2pole for DC contact



3pole for DC contact

Contactor type			MC-6a		MC-9a		MC-12a		MC-18a		
			kW	A	kW	A	kW	A	kW	A	
AC duty	AC3	200/240V	2.2	9	2.5	11	3.5	13	4.5	18	
		380/440V	3	7	4	9	5.5	12	7.5	18	
		500/550V	3	6	4	7	7.5	12	7.5	13	
		690V	3	4	4	5	7.5	9	7.5	9	
	AC4	200/240V	1.5	7	1.5	8	2.2	11	3.7	16	
		380/440V	2.2	5	2.2	6	4	9	4	11	
AC1		-	25	-	25	-	25	-	32		
DC1 duty (L/R=1ms)	2-pole in series	24V	-	10	-	10	-	12	-	18	
		48V	-	10	-	10	-	12	-	18	
		110V	-	6	-	6	-	10	-	13	
	3-pole in series	24V	-	10	-	10	-	12	-	18	
		48V	-	10	-	10	-	12	-	18	
		110V	-	8	-	8	-	12	-	18	
	DC3, 5 duty (L/R=15ms)	2-pole in series	24V	-	8	-	8	-	12	-	12
			48V	-	4	-	4	-	6	-	6
			110V	-	2.5	-	2.5	-	4	-	4
3-pole in series		24V	-	8	-	8	-	12	-	12	
		48V	-	6	-	6	-	10	-	10	
		110V	-	4	-	4	-	8	-	8	
Directly mountable overload relay			MT-12								
Conductor size (Solid, stranded) (the max. number of conducts: 2)			AWG	18~10	16~10	16~8	14~8				
			mm <sup>2</sup>	1~4	1.5~4	1.5~10	2.5~10				
Conductor type			65/75°C Cu-wire only								



## Coil voltage

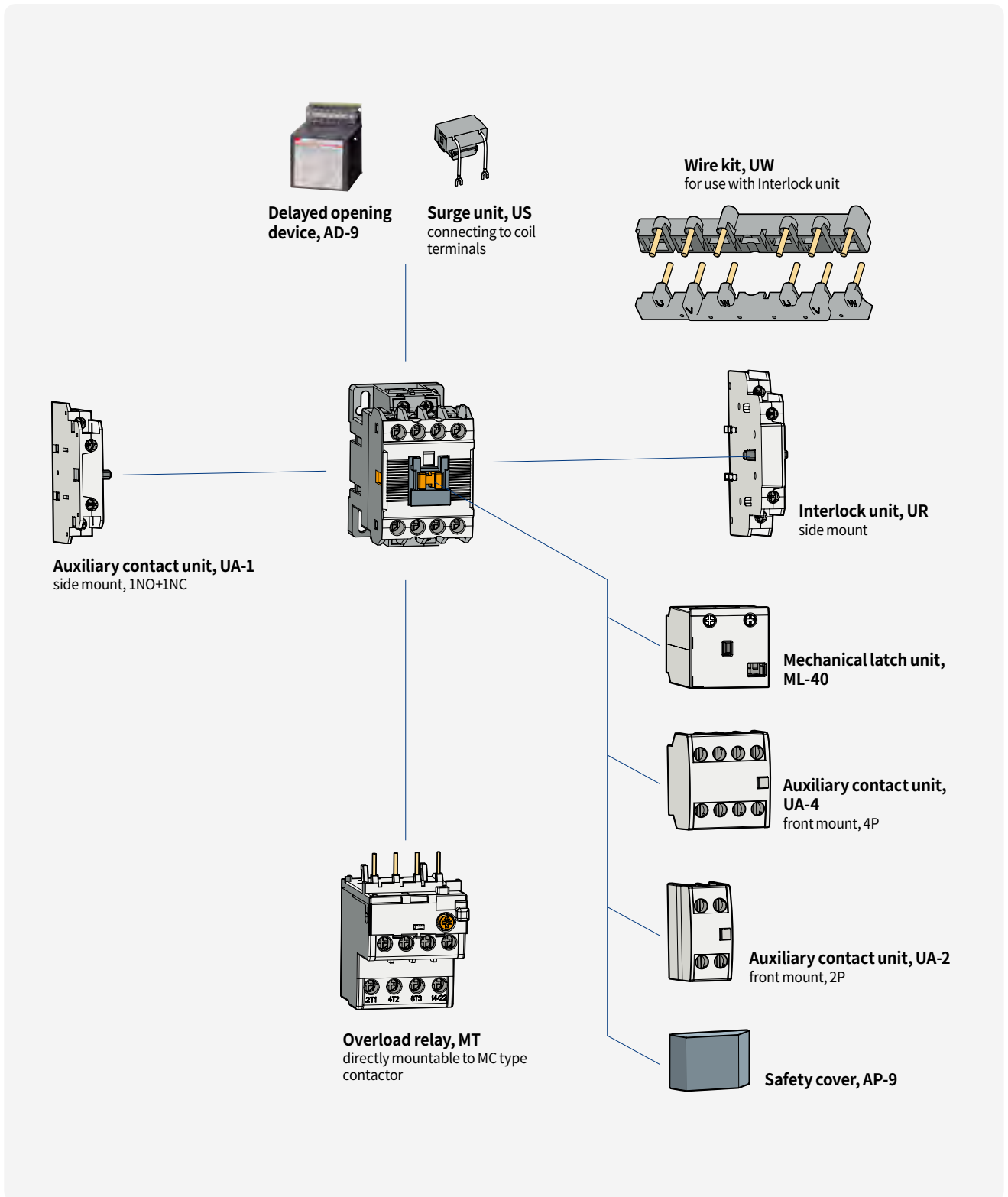
AC	50Hz	24, 32, 36, 42, 48, 80, 100, 110, 120, 220, 230, 240, 380, 400, 415, 440, 500, 550V
	60Hz	24, 48, 110, 120, 200, 208, 220, 230, 240, 277, 380, 440, 480, 600V
DC		12, 20, 24, 30, 48, 60, 80, 100, 110, 125, 200, 220, 250V

## Certification

- CE(IEC)
- UL508
- CCC

\* Please be cautious for wiring control power cable, especially “+” (Positive) and “-” (Negative) polarity should be correctly considered.

## Accessories



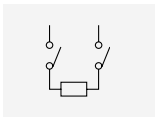
# Contactors

## Description 22AF

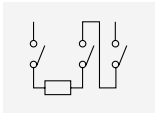
- 3-pole(NO) main contact
- Finger proof design
- DIN rail(35mm) or screw mountable
- AC or DC control in different physical size
- Front/side mountable accessories available
- Direct mountable overload relay available rating
- 1NO1NC Auxiliary contact built-in as standard.
- UA-1 is available on only left side
- Degree of protection: IP20



MC-22b



2pole for DC contact



3pole for DC contact

## Rating

Contactor type			MC-9b		MC-12b		MC-18b		MC-22b			
			kW	A	kW	A	kW	A	kW	A		
AC duty	AC3	200/240V	2.5	11	3.5	13	4.5	18	5.5	22		
		380/440V	4	9	5.5	12	7.5	18	11	22		
		500/550V	4	7	7.5	12	7.5	13	15	20		
		690V	4	6	7.5	9	7.5	9	15	18		
	AC4	200/240V	1.5	8	2.2	11	3.7	16	3.7	18		
		380/440V	2.2	6	4	9	4	11	5.5	13		
DC1 duty (L/R=1ms)	2-pole in series	24V	-	10	-	12	-	18	-	20		
		48V	-	10	-	12	-	18	-	20		
		110V	-	6	-	10	-	13	-	15		
	3-pole in series	24V	-	10	-	12	-	18	-	20		
		48V	-	10	-	12	-	18	-	20		
		110V	-	8	-	12	-	18	-	20		
		DC3, 5 duty (L/R=15ms)	2-pole in series	24V	-	8	-	12	-	12	-	20
				48V	-	4	-	6	-	6	-	15
				110V	-	2.5	-	4	-	4	-	8
3-pole in series	24V	-	8	-	12	-	12	-	20			
	48V	-	6	-	10	-	10	-	20			
	110V	-	4	-	8	-	8	-	15			
Directly mountable overload relay			MT-32									
Conductor size (Solid, stranded) (the max. number of conducts: 2)		AWG	16~10		16~8		14~8		14~8			
		mm <sup>2</sup>	1.5~4		1.5~10		2.5~10		2.5~10			
Conductor type			65/75°C Cu-wire only									



## Coil voltage

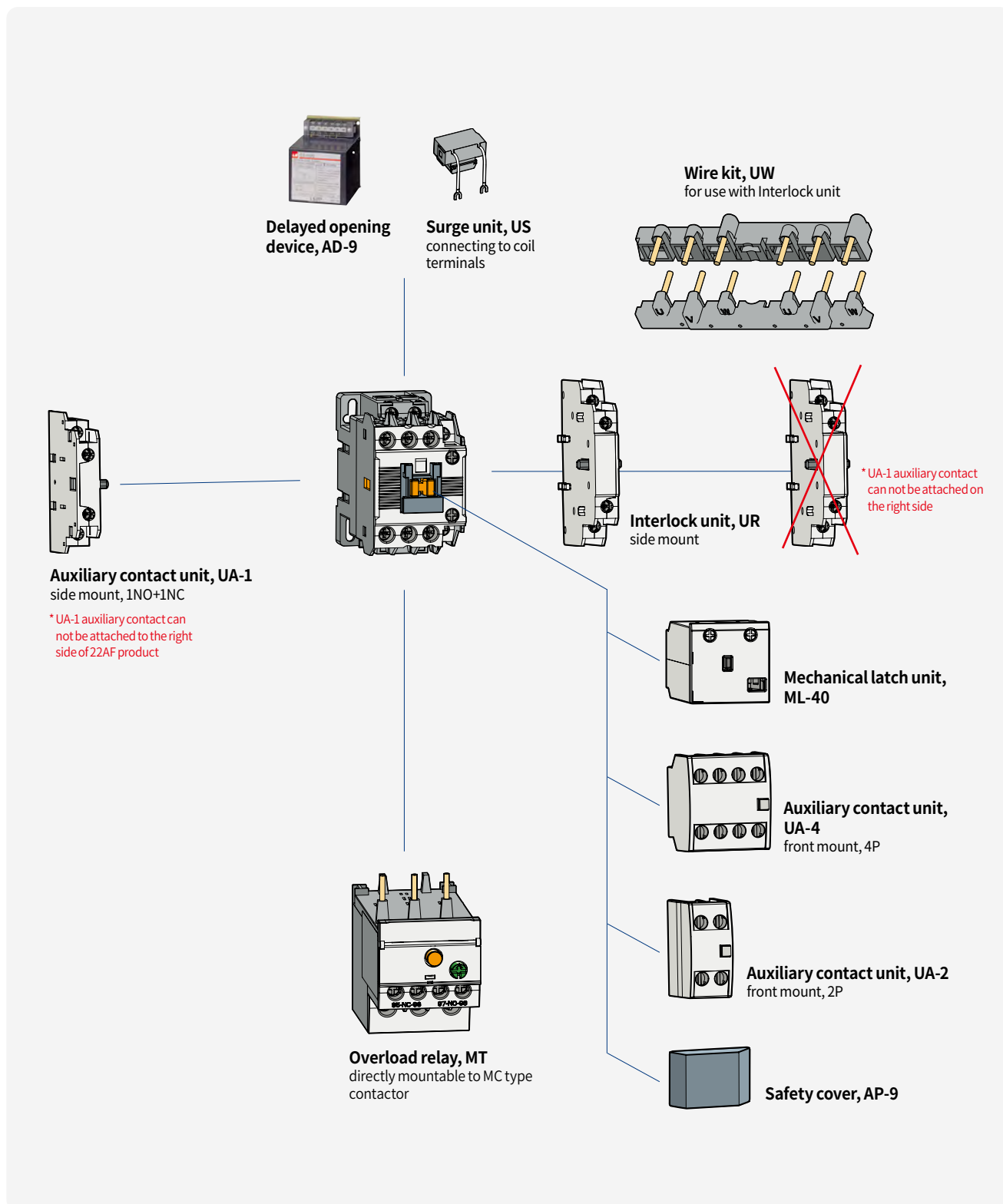
AC	50Hz	24, 32, 36, 42, 48, 80, 100, 110, 120, 220, 230, 240, 380, 400, 415, 440, 500, 550V
	60Hz	24, 48, 110, 120, 200, 208, 220, 230, 240, 277, 380, 440, 480, 600V
DC		12, 20, 24, 30, 48, 60, 80, 100, 110, 125, 200, 220, 250V

## Certification

- CE(IEC)
- UL508
- CCC

\* Please be cautious for wiring control power cable, especially “+” (Positive) and “-” (Negative) polarity should be correctly considered.

## Accessories



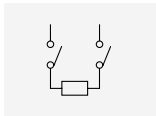
# Contactors

## Description 40AF

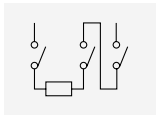
- 3-pole(NO) main contact
- Finger proof design
- DIN rail(35mm) or screw mountable
- AC or DC control in different physical size
- Front/side mountable accessories available
- Direct mountable overload relay available rating
- 2NO2NC Auxiliary contact built-in is possible as standard
- Degree of protection: IP20



MC-40a



2pole for DC contact



3pole for DC contact

## Rating

Contactor type			MC-32a		MC-40a			
			kW	A	kW	A		
AC duty	AC3	200/240V	7.5	32	11	40		
		380/440V	15	32	18.5	40		
		500/550V	18.5	28	22	32		
		690V	18.5	20	22	23		
		1000V	22	17	22	17		
	AC4	200/240V	4.5	20	5.5	25		
		380/440V	7.5	17	11	24		
		AC1	-	55	-	60		
		DC1 duty (L/R=1ms)	2-pole in series	24V	-	25	-	35
				48V	-	25	-	35
	110V		-	25	-	25		
3-pole in series	24V	-	25	-	35			
	48V	-	25	-	35			
	110V	-	25	-	35			
DC3, 5 duty (L/R=15ms)	2-pole in series	24V	-	25	-	35		
		48V	-	20	-	20		
		110V	-	10	-	10		
	3-pole in series	24V	-	25	-	35		
		48V	-	25	-	30		
		110V	-	20	-	20		
	Directly mountable overload relay			MT-32				
	Conductor size (Solid, stranded) (the max. number of conducts: 2)	AWG	12~8		8~6			
		mm <sup>2</sup>	2.5~10		10~16			
Conductor type			65/75°C Cu-wire only					



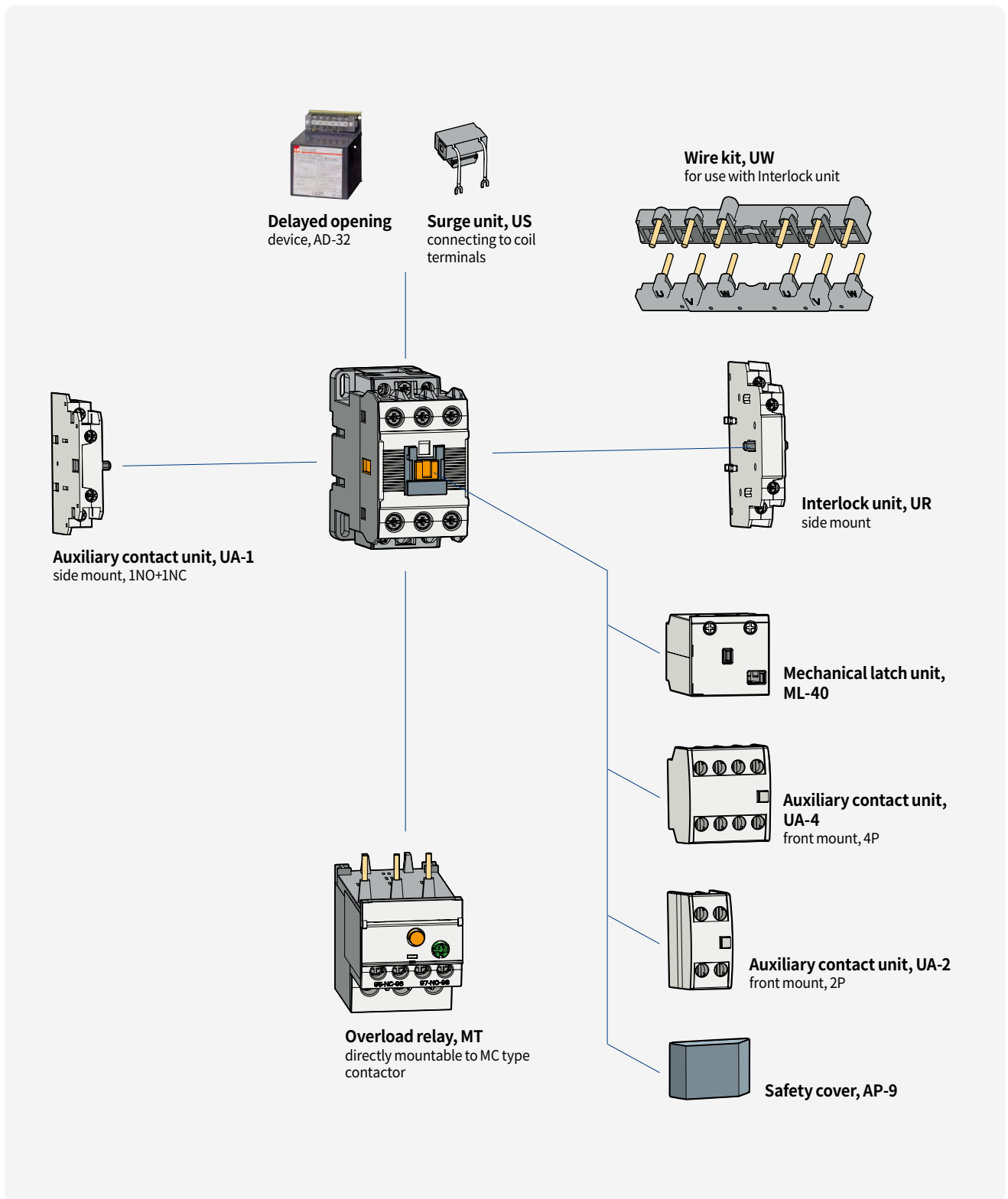
## Coil voltage

AC	50Hz	24, 32, 36, 42, 48, 80, 100, 110, 120, 220, 230, 240, 380, 400, 415, 440, 500, 550V
	60Hz	24, 48, 110, 120, 200, 208, 220, 230, 240, 277, 380, 440, 480, 600V
DC		12, 20, 24, 48, 60, 80, 100, 110, 125, 200, 220, 250V

## Certification

- CE(IEC)
- UL508
- CCC

## Accessories



# Contactors

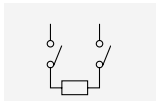
## Description 65AF

- 3-pole(NO) main contact
- Finger proof design
- DIN rail(35mm) or screw mountable
- Both screw and Box terminal (lug) type are available
- AC or DC control in different physical size
- Front/side mountable accessories available
- Direct mountable overload relay available rating
- 2NO2NC Auxiliary contact built-in is possible as standard
- Degree of protection: IP20

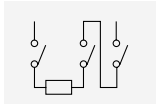
### Rating



MC-65a



2pole for DC contact



3pole for DC contact

Contactor type			MC-50a		MC-65a		
			kW	A	kW	A	
AC duty	AC3	200/240V	15	55	18.5	65	
		380/440V	22	50	30	65	
		500/550V	30	43	33	60	
		690V	30	28	33	35	
		1000V	30	23	30	23	
	AC4	200/240V	7.5	35	11	50	
		380/440V	15	32	22	47	
	AC1		-	100	-	115	
	DC1 duty (L/R=1ms)	2-pole in series	24V	-	50	-	50
			48V	-	40	-	40
110V			-	35	-	35	
3-pole in series		24V	-	50	-	65	
		48V	-	50	-	65	
		110V	-	50	-	65	
DC3, 5 duty (L/R=15ms)	2-pole in series	24V	-	45	-	45	
		48V	-	25	-	25	
		110V	-	15	-	15	
	3-pole in series	24V	-	50	-	50	
		48V	-	35	-	35	
		110V	-	30	-	30	
Directly mountable overload relay			MT-63				
Conductor size (Solid, stranded) (the max. number of conducts: 2)		AWG	10~4		8~3		
		mm <sup>2</sup>	6~25		10~35		
Conductor type			65/75°C Cu-wire only				



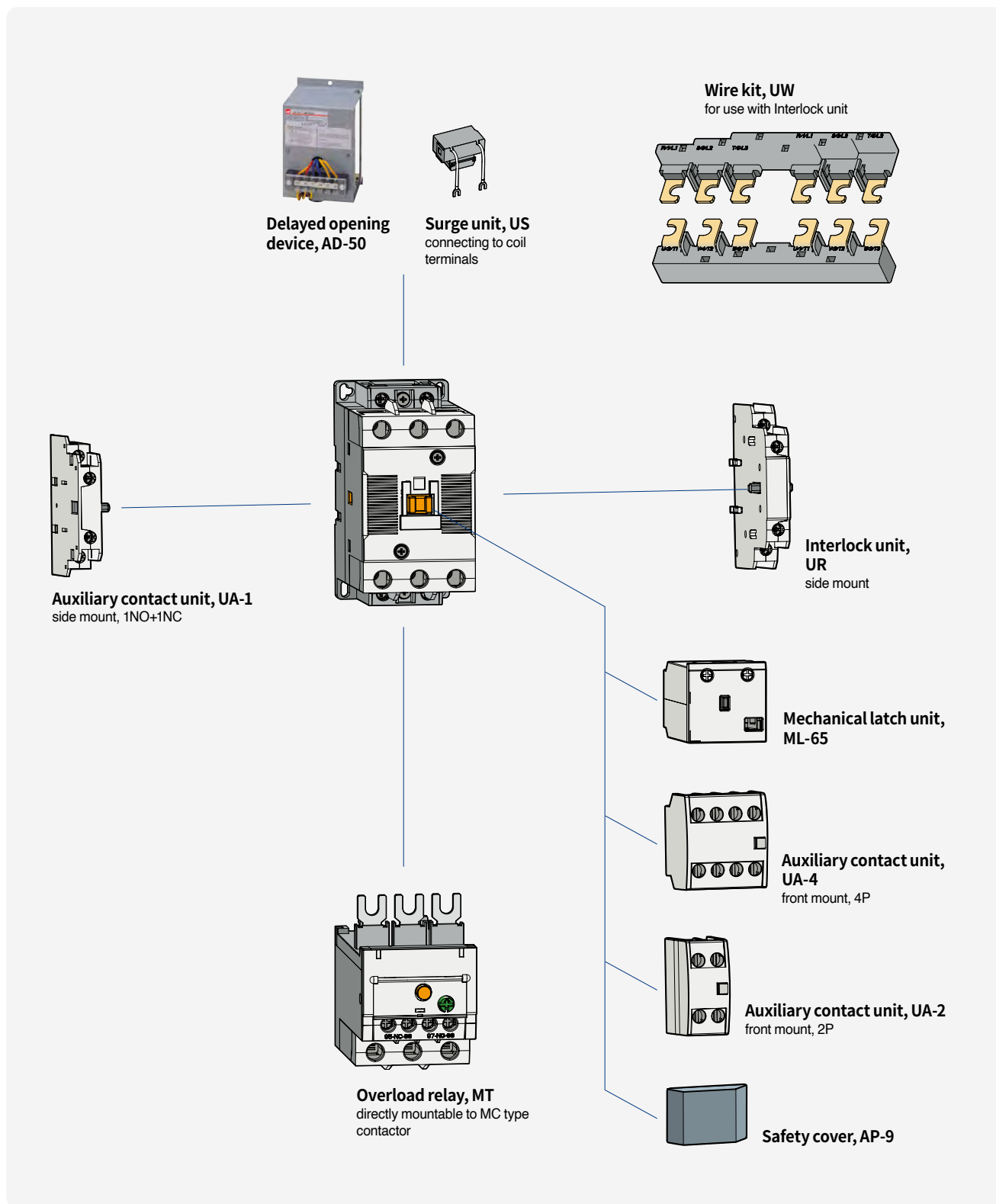
### Coil voltage

AC	50Hz	24, 32, 36, 42, 48, 80, 100, 110, 120, 220, 230, 240, 380, 400, 415, 440, 500, 550V
	60Hz	24, 48, 110, 120, 200, 208, 220, 230, 240, 277, 380, 440, 480, 600V
DC		12, 20, 24, 48, 60, 80, 100, 110, 125, 200, 220, 250V

### Certification

- CE(IEC)
- UL508
- CCC

## Accessories



# Contactors

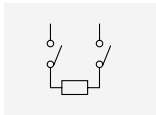
## Description 100AF

- 3-pole(NO) main contact
- Finger proof design
- DIN rail(35, 70mm) or screw mountable
- Both screw and Box terminal (lug) type are available
- AC or DC control in different physical size
- Front/side mountable accessories available
- Direct mountable overload relay available rating
- 2NO2NC Auxiliary contact built-in is possible as standard
- Degree of protection: IP20

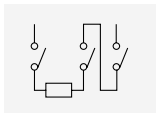
### Rating



MC-100a



2pole for DC contact



3pole for DC contact

Contactor type			MC-75a		MC-85a		MC-100a		
			kW	A	kW	A	kW	A	
AC duty	AC3	200/240V	22	75	25	85	30	105	
		380/440V	37	75	45	85	55	105	
		500/550V	37	64	45	75	55	85	
		690V	37	42	45	45	55	65	
		1000V	37	28	37	28	37	28	
	AC4	200/240V	13	55	15	65	19	80	
		380/440V	25	52	30	62	37	75	
	AC1		-	125	-	135	-	160	
	DC1 duty (L/R=1ms)	2-pole in series	24V	-	75	-	80	-	100
			48V	-	65	-	65	-	100
110V			-	50	-	50	-	80	
3-pole in series		24V	-	75	-	80	-	100	
		48V	-	75	-	80	-	100	
		110V	-	75	-	80	-	100	
DC3, 5 duty (L/R=15ms)	2-pole in series	24V	-	65	-	65	-	100	
		48V	-	40	-	40	-	60	
		110V	-	20	-	20	-	40	
	3-pole in series	24V	-	80	-	80	-	100	
		48V	-	60	-	60	-	90	
		110V	-	50	-	50	-	80	
Directly mountable overload relay			MT-95						
Conductor size (Solid, stranded) (the max. number of conducts: 2)		AWG	8~2		8~0		8~00		
		mm <sup>2</sup>	10~35		10~50		10~70		
Conductor type			65/75°C Cu-wire only						



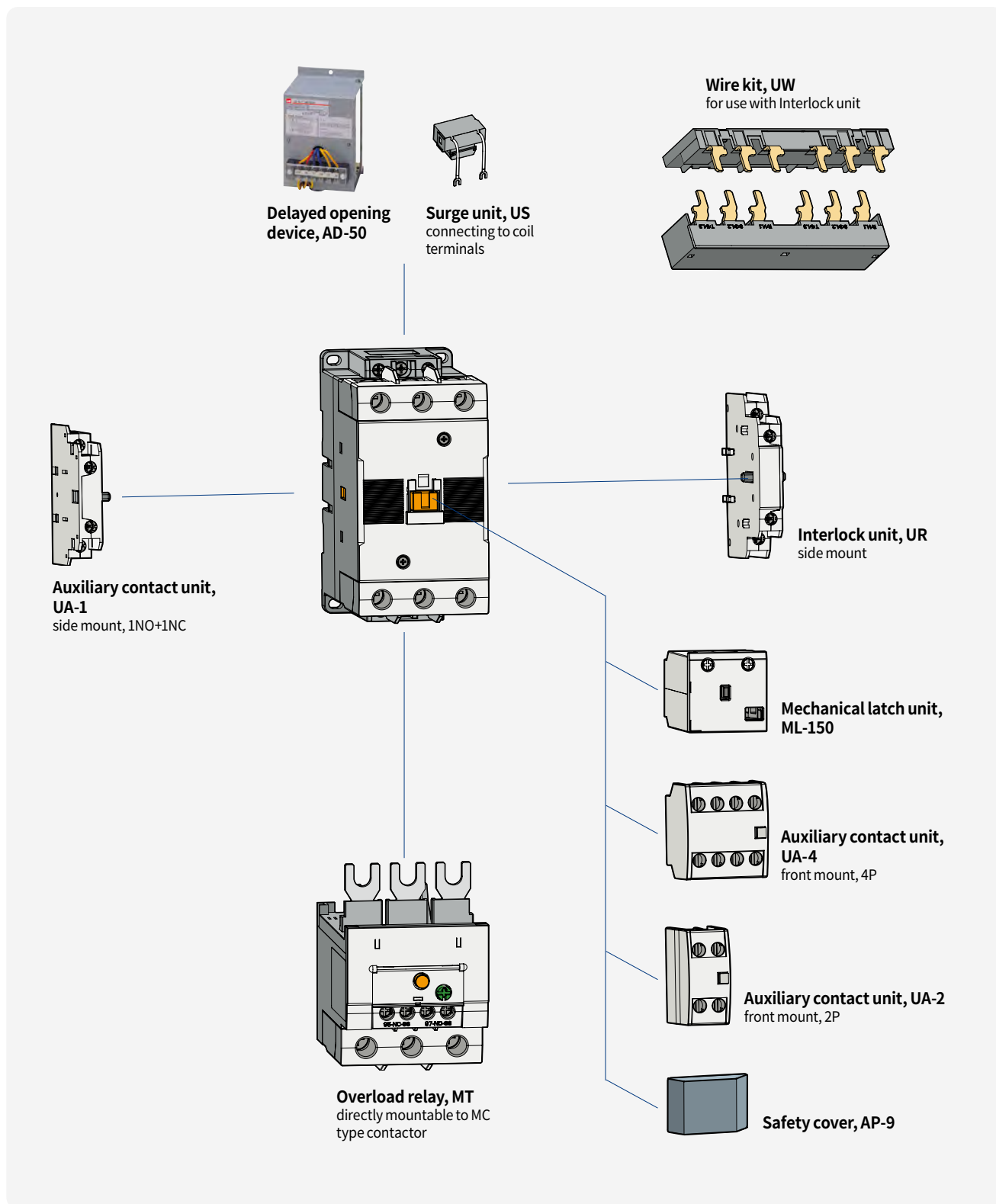
### Coil voltage

AC	50Hz	24, 32, 36, 42, 48, 80, 100, 110, 120, 220, 230, 240, 380, 400, 415, 440, 500, 550V
	60Hz	24, 48, 110, 120, 200, 208, 220, 230, 240, 277, 380, 440, 480, 600V
DC		12, 20, 24, 48, 60, 80, 100, 110, 125, 200, 220, 250V

### Certification

- CE(IEC)
- UL508
- CCC

## Accessories



# Contactors

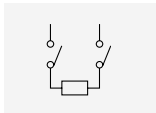
## Description 150AF

- 3-pole(NO) main contact
- Finger proof design
- DIN rail(70mm) or screw mountable
- Both screw and Box terminal (lug) type are available
- AC or DC control in the same physical size
- Front/side mountable accessories available
- Direct mountable overload relay available
- 2NO2NC Auxiliary contact built-in is possible as standard
- Degree of protection: IP20

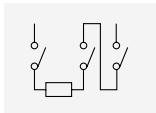
### Rating



MC-150a



2pole for DC contact



3pole for DC contact

Contactor type			MC-130a		MC-150a	
			kW	A	kW	A
AC duty	AC3	200/240V	37	130	45	150
		380/440V	60	130	75	150
		500/550V	60	90	70	100
		690V	55	60	55	60
		1000V	75	50	75	50
	AC4	200/240V	22	93	30	120
		380/440V	45	90	55	110
	AC1		-	200	-	250
DC1 duty (L/R=1ms)	2-pole in series	24V	-	120	-	150
		48V	-	100	-	120
		110V	-	80	-	100
	3-pole in series	24V	-	120	-	150
		48V	-	120	-	150
		110V	-	100	-	150
DC3, 5 duty (L/R=15ms)	2-pole in series	24V	-	120	-	150
		48V	-	60	-	100
		110V	-	40	-	80
	3-pole in series	24V	-	120	-	150
		48V	-	90	-	130
		110V	-	80	-	120
Directly mountable overload relay			MT-150			
Conductor size (Solid, stranded) (the max. number of conducts: 2)	AWG		3~00		3~4/0	
	mm <sup>2</sup>		35~70		35~95	
Conductor type			65/75°C Cu-wire only			



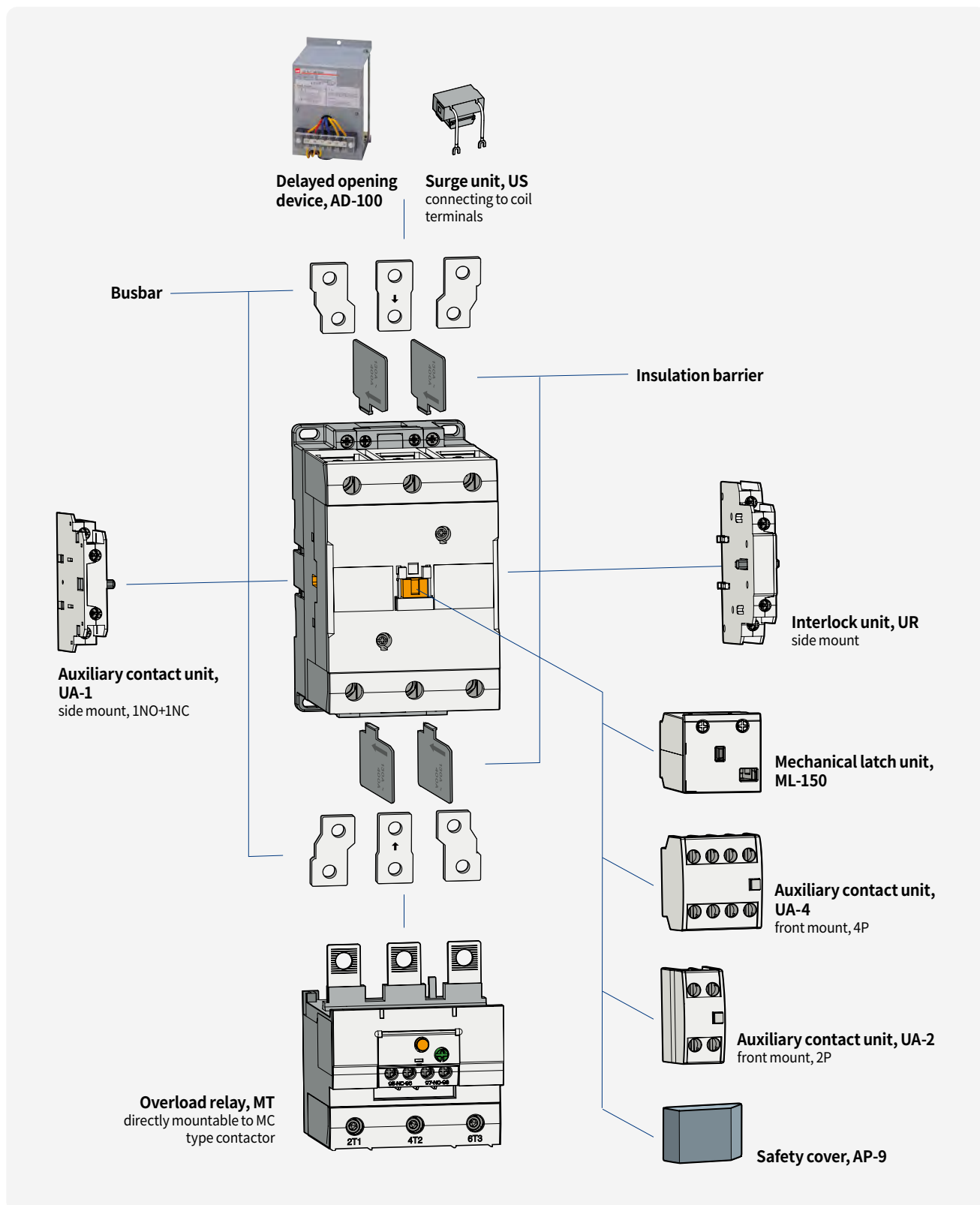
### Coil voltage

AC / DC	100~240 / 100~220 / 24~48
AC 50/60Hz	24, 48, 100~240, 110~120, 220~240, 300, 380~440, 500V
DC	24, 48, 70~110, 100~220, 110, 220V

### Certification

- CE(IEC)
- UL508
- CCC

## Accessories

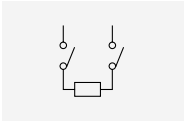


## Description 225AF

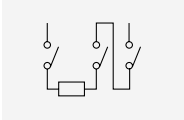
- 3-pole main contact
- AC/DC common use coil built
- Wide coil operation voltage
- Screw mountable
- 2NO+2NC Auxiliary contacts built-in as standard
- Top/side mountable accessories available
- Direct mountable overload relays available
- Degree of protection: IP00



MC-225a



2pole for DC contact



3pole for DC contact

### Rating

Contactor type			MC-185a		MC-225a	
			kW	A	kW	A
AC duty	AC3	200/240V	55	185	75	225
		380/440V	90	185	132	225
		500/550V	110	180	132	200
		690V	110	120	140	150
		1000V	132	90	132	90
	AC4	200/240V	37	150	45	180
		380/440V	75	150	90	180
	AC1		-	300	-	350
	DC1 duty (L/R=1ms)	2-pole in series	24V	-	180	-
48V			-	180	-	180
110V			-	150	-	150
3-pole in series		24V	-	180	-	220
		48V	-	180	-	220
		110V	-	180	-	220
DC3, 5 duty (L/R=15ms)	2-pole in series	24V	-	180	-	220
		48V	-	150	-	150
		110V	-	120	-	120
	3-pole in series	24V	-	180	-	220
		48V	-	180	-	220
		110V	-	150	-	150
Directly mountable overload relay			MT-225			
Conductor size (Solid, stranded) (The max. number of conducts: 2)	AWG	1~4/0		0~300		
	mm <sup>2</sup>	50~95		50~150		
Conductor type			75°C Cu stranded wire			

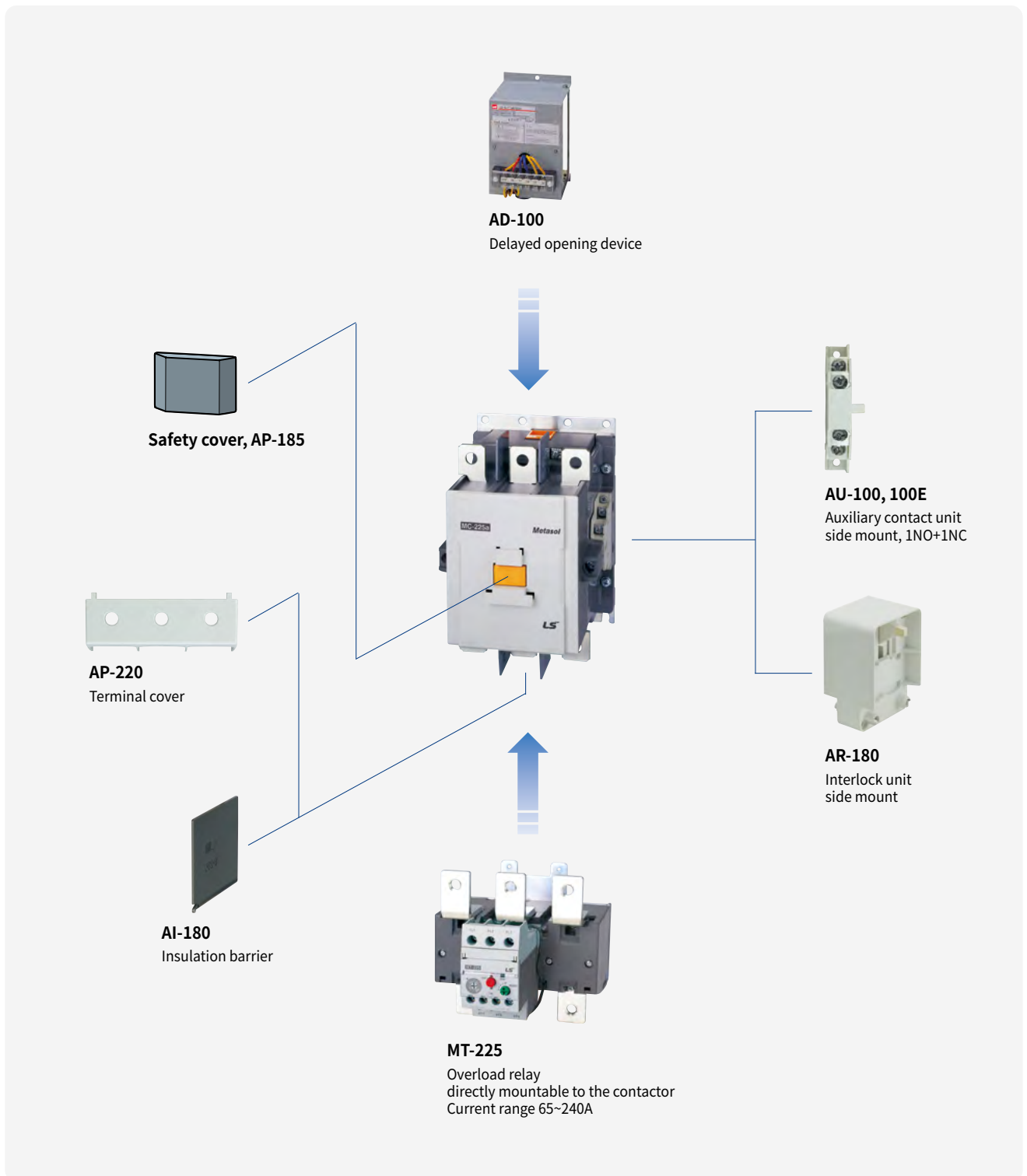


### Coil voltage, AC/DC common

Nominal(ordering) voltage	AC 50/60Hz	DC
24V	24 - 25V	24V
48V	48 - 50V	48V
100/200V	100 - 240V	100 - 220V
300V	265 - 347V	-
400V	380 - 450V	-
500V	440 - 575V	-

Certification
<ul style="list-style-type: none"> <li>• CE(IEC)</li> <li>• UL508</li> <li>• CCC</li> </ul>

## Accessories



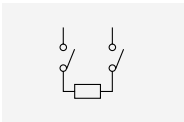
# Contactors

## Description 400AF

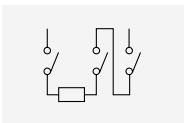
- 3-pole main contact
- AC/DC common use coil built
- Wide coil operation voltage
- Screw mountable
- 2NO+2NC Auxiliary contacts built-in as standard
- Side mountable accessories available
- Degree of protection: IP00



MC-400a



2pole for DC contact



3pole for DC contact

### Rating

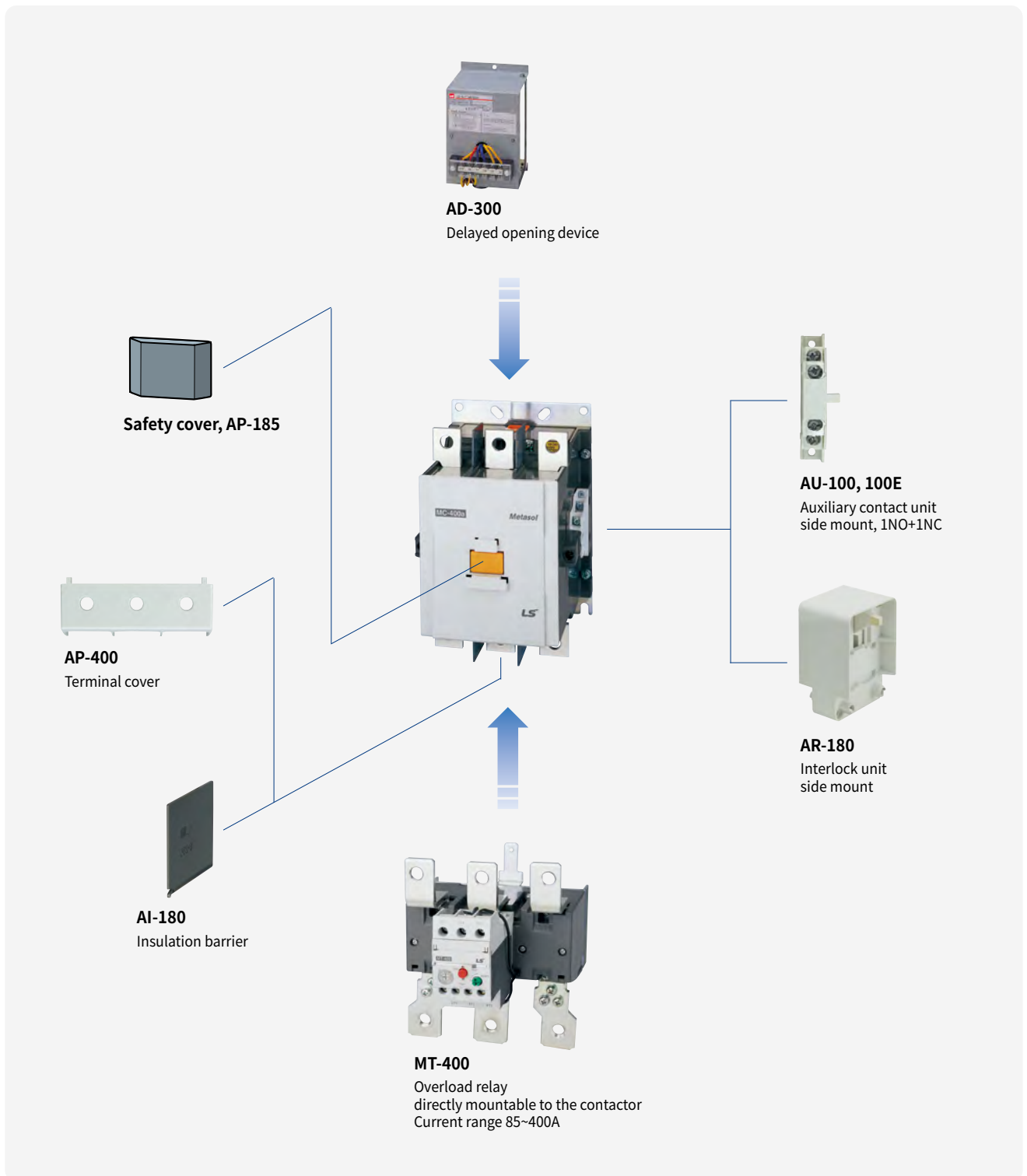
Contactor type			MC-265a		MC-330a		MC-400a	
			kW	A	kW	A	kW	A
AC duty	AC3	200/240V	80	265	90	330	125	400
		380/440V	147	265	160	330	200	400
		500/550V	147	225	160	280	225	350
		690V	160	185	200	220	250	300
		1000V	147	105	147	105	147	105
	AC4	200/240V	50	200	55	220	75	300
		380/440V	102	200	110	220	150	300
		AC1	-	400	-	500	-	520
	DC1 duty (L/R=1ms)	2-pole in series	24V	-	220	-	300	-
48V			-	180	-	240	-	240
110V			-	150	-	200	-	200
3-pole in series		24V	-	220	-	300	-	400
		48V	-	220	-	300	-	400
		110V	-	220	-	300	-	400
DC3, 5 duty (L/R=15ms)	2-pole in series	24V	-	220	-	300	-	400
		48V	-	150	-	200	-	200
		110V	-	120	-	150	-	150
	3-pole in series	24V	-	220	-	300	-	400
		48V	-	220	-	280	-	280
		110V	-	150	-	200	-	200
Directly mountable overload relay					MT-400			
Conductor size (Solid, stranded) (The max. number of conducts: 2)	AWG	3/0~500		4/0~500		350~700		
	mm <sup>2</sup>	95~240		95~240		185~370		
Conductor type					75°C Cu stranded wire			



### Coil voltage

Nominal(ordering) voltage	AC 50/60Hz	DC	Certification  • CE(IEC) • UL508 • CCC
100V / 200V	100 - 240V	100 - 220V	
300V	265 - 347V	-	
400V	380 - 450V	-	
500V	440 - 575V	-	
24V	-	24V	

## Accessories



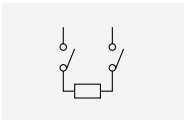
# Contactors

## Description 800AF

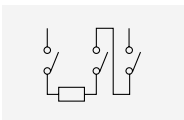
- 3-pole main contact
- AC/DC common use coil built
- Wide coil operation voltage
- Screw mountable
- 2NO+2NC Auxiliary contacts built-in as standard
- Top/side mountable accessories available
- Overload relays available
- Degree of protection: IP00



MC-800a



2pole for DC contact



3pole for DC contact

### Rating

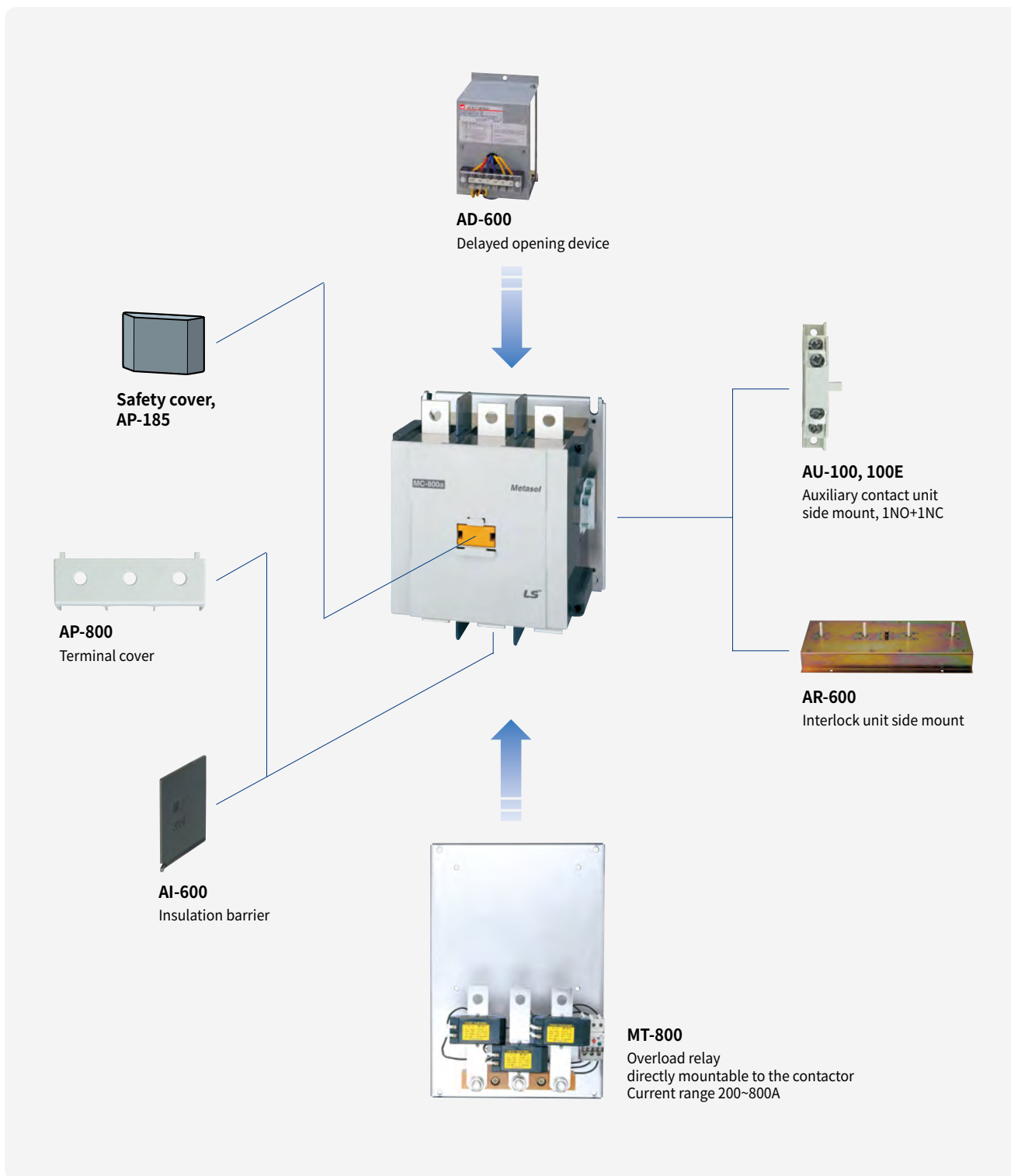
Contactor type			MC-500a		MC-630a		MC-800a		
			kW	A	kW	A	kW	A	
AC duty	AC3	200/240V	147	500	190	630	220	800	
		380/440V	265	500	330	630	440	800	
		500/550V	265	400	330	500	500	720	
		690V	300	380	400	420	500	630	
		1000V	280	220	280	220	280	220	
	AC4	200/240V	90	350	110	400	160	630	
		380/440V	176	350	200	400	300	630	
	AC1		-	700	-	900	-	1050	
	DC1 duty (L/R=1ms)	2-pole in series	24V	-	400	-	630	-	800
48V			-	240	-	630	-	800	
110V			-	200	-	630	-	630	
3-pole in series		24V	-	400	-	630	-	800	
		48V	-	400	-	630	-	800	
		110V	-	400	-	630	-	800	
DC3, 5 duty (L/R=15ms)		2-pole in series	24V	-	400	-	630	-	800
			48V	-	200	-	630	-	630
			110V	-	150	-	630	-	630
	3-pole in series	24V	-	400	-	630	-	800	
		48V	-	280	-	630	-	630	
		110V	-	200	-	630	-	630	
Directly mountable overload relay					MT-800				
Conductor size (Solid, stranded) (The max. number of conducts: 2)	AWG	350~800		600~2000		1700~Busbar			
	mm <sup>2</sup>	185~480		-		-			
Conductor type					75°C Cu stranded wire				



### Coil voltage, AC/DC common

Nominal(ordering) voltage	AC 50/60Hz	DC	Certification • CE(IEC) • UL508 • CCC
100V	100 - 127V	100 - 110V	
200V	200 - 240V	200 - 220V	
300V	265 - 347V	-	
400V	380 - 450V	-	
500V	440 - 575V	-	

## Accessories



# Contactors

## Description 1260AF

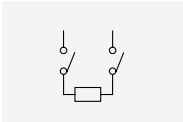
- 3-pole main contact
- AC/DC common use coil built
- Wide coil operation voltage
- Screw mountable
- 2NO+2NC Auxiliary contacts built-in as standard
- Side mountable accessories available
- Degree of protection: IP00



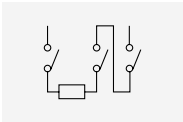
MC-1260a

### Rating

Contactor type		MC-1260a		
		kW	A	
AC duty	AC3	200/240V	-	-
		380/440V	-	-
		500/550V	-	-
		690V	-	-
		1000V	-	-
	AC1	-	1260	
Conductor size (Solid, stranded) (mm)	Busbar	50 x 10 x 2ea		
Conductor type	Busbar			



2pole for DC contact



3pole for DC contact



### Coil voltage, AC/DC common

Nominal(ordering) voltage	AC 50/60Hz	DC
100V / 200V	100 - 240V	100 - 220V

Certification
<ul style="list-style-type: none"> <li>• CE(IEC)</li> <li>• UL, UL/cUL</li> </ul>

## Accessories



# Contactors

## Description 2650AF

- 3-pole main contact
- AC/DC common use coil built
- Wide coil operation voltage
- Screw mountable
- 2NO+2NC Auxiliary contacts built-in as standard
- Side mountable accessories available
- Degree of protection: IP00



### Rating

Contactor type			MC-1400a		MC-1700a		MC-2100a		MC-2650a	
			kW	A	kW	A	kW	A	kW	A
AC duty	AC3	200/240V	290	860	310	1050	-	-	-	-
		380/440V	550	860	700	1050	900	1450	-	-
		500/550V	-	-	-	-	-	-	-	-
		690V	800	800	1000	950	-	-	-	-
		1000V	-	-	-	-	-	-	-	-
	AC1		-	1400	-	1700	-	2100	-	2650
Conductor size (Solid, stranded) (mm)	Busbar		100 x 5 x 2ea		100 x 5 x 3ea		100 x 5 x 4ea		100 x 10 x 3ea	
Conductor type			Busbar							



### Coil voltage, AC/DC common

Nominal(ordering) voltage	AC 50/60Hz	DC
100V / 200V	100 - 240V	100 - 220V

Certification
<ul style="list-style-type: none"> <li>• CE(IEC)</li> <li>• UL60947-4-1</li> <li>• CCC</li> </ul>

## Accessories

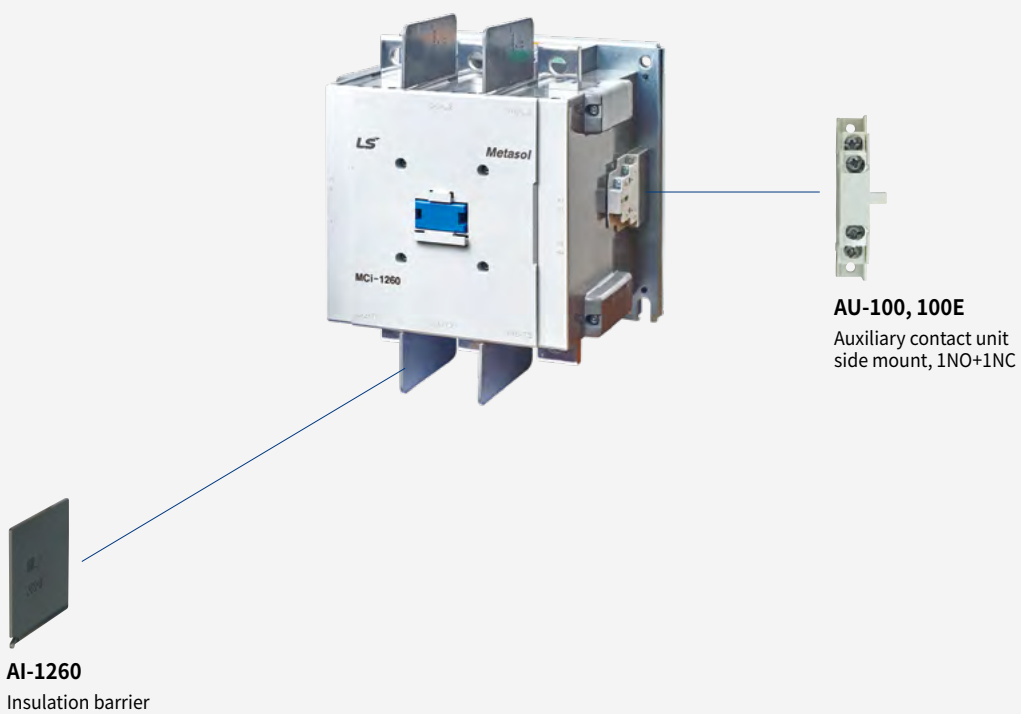


**Insulation barrier**  
AI-2100(MC-1400a~2100a)  
AI-2650(MC-2650a)

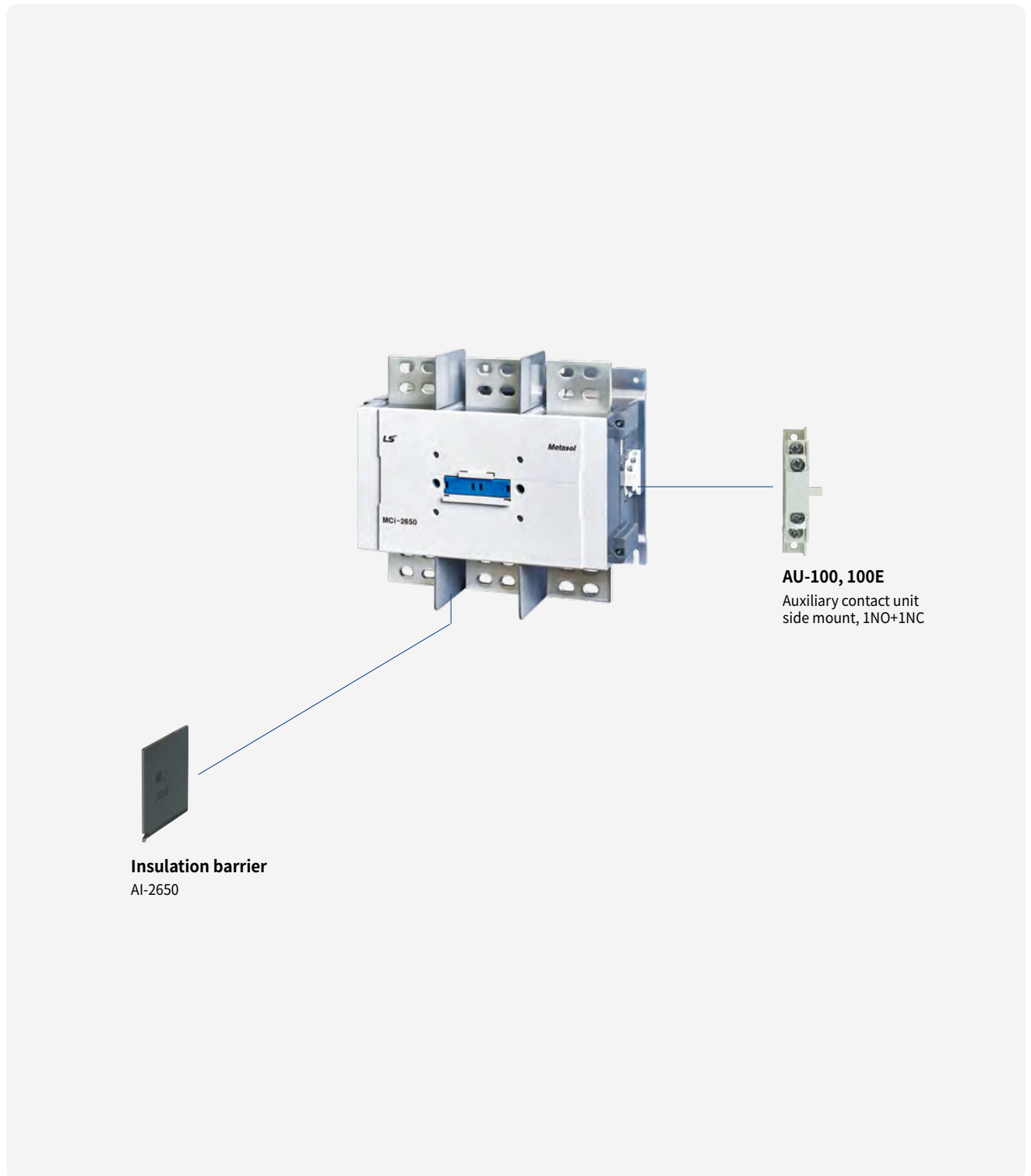
**AU-100, 100E**  
Auxiliary contact unit  
side mount, 1NO+1NC

# Renewal Magnetic Contactor

## Accessories 1260AF



## Accessories 2650AF



**Insulation barrier**  
AI-2650

**AU-100, 100E**  
Auxiliary contact unit  
side mount, 1NO+1NC