

MOLDED CASE CIRCUIT BREAKERS - KP



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Molded case circuit breaker



Molded case circuit breakers - KP

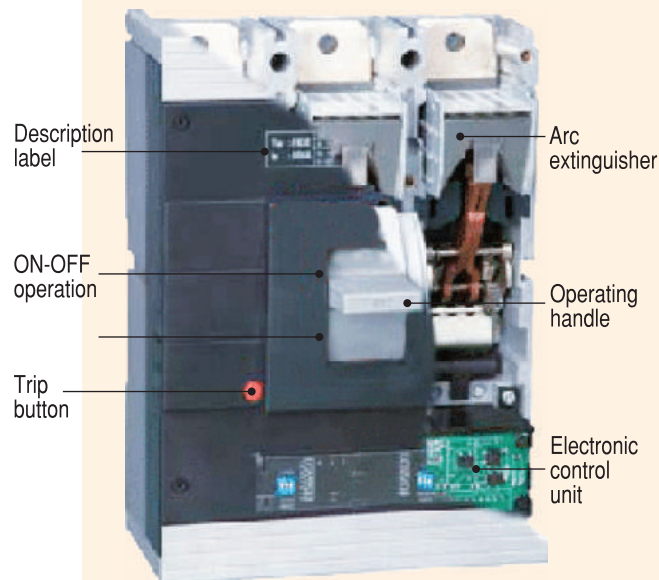
MOLDED CASE CIRCUIT BREAKERS - KP

Molded Case Circuit Breaker as devices designed to open or close a circuit by nonautomatic means and to open the circuit automatically on a predetermined over-current without damage to itself when properly applied within its rating. The circuit breaker is a mechanical open-closing device, which is used for closing, breaking, separating circuit and carrying current of that circuit under ordinary conditions and for automatically breaking the circuit under extraordinary conditions like short circuit and over current.

The most important function of the circuit breaker, in addition to opening and closing the circuit, is to protect the circuit under abnormal power picks.

Features:

- In conformity with IEC 60947-2, EN 60947-2
- Wide range from 16 - 2500 A
- Compact dimensions



Molded case circuit breakers

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KP 125-F (16-125) A - 3 pole

Type	Order number	Rated current at 40 °C (In) A	No. of poles	Icu/Ics 415V(kA)	Adjustment thermal/magnetic .. x In	Weight [g]	Packing [pcs]
KP 125-F 16A 3P	606770	16	3	25/18	0.8-1*	1000	1
KP 125-F 25A 3P	606766	25	3	25/18	0.8-1*	1000	
KP 125-F 40A 3P	606767	40	3	25/18	0.8-1*	1000	
KP 125-F 63A 3P	606768	63	3	25/18	0.8-1*	1000	
KP 125-F 80A 3P	606769	80	3	25/18	0.8-1/8	1000	
KP 125-F 100A 3P	606588	100	3	25/18	0.8-1/8	1000	
KP 125-F 125A 3P	606605	125	3	25/18	0.8-1/8	1000	

* Magnetic operating limit - 600A

KP 125-F (16-125) A - 4 pole

Type	Order number	Rated current at 40 °C (In) A	No. of poles	Icu/Ics 415V(kA)	Adjustment thermal/magnetic .. x In	Weight [g]	Packing [pcs]
KP 125-F 16A 4P	609480	16	4	25/18	0.8-1*	1500	1
KP 125-F 25A 4P	606944	25	4	25/18	0.8-1*	1500	
KP 125-F 40A 4P	606945	40	4	25/18	0.8-1*	1500	
KP 125-F 63A 4P	606946	63	4	25/18	0.8-1*	1500	
KP 125-F 80A 4P	606947	80	4	25/18	0.8-1/8	1500	
KP 125-F 100A 4P	606948	100	4	25/18	0.8-1/8	1500	
KP 125-F 125A 4P	606949	125	4	25/18	0.8-1/8	1500	

* Magnetic operating limit - 600A

KP 250-F (160-250) A - 3 pole

Type	Order number	Rated current at 40 °C (In) A	No. of poles	Icu/Ics 415V(kA)	Adjustment thermal/magnetic .. x In	Weight [g]	Packing [pcs]
KP 250-F 160A 3P	606591	160	3	35/35	0.7-1/5-10	2300	1
KP 250-F 200A 3P	606589	200	3	35/35	0.7-1/5-10	2300	
KP 250-F 250A 3P	606590	250	3	35/35	0.7-1/5-10	2300	

KP 250-F (160-250) A - 4 pole

Type	Order number	Rated current at 40 °C (In) A	No. of poles	Icu/Ics 415V(kA)	Adjustment thermal/magnetic .. x In	Weight [g]	Packing [pcs]
KP 250-F 160A 4P	606950	160	4	35/35	0.7-1/5-10	3100	1
KP 250-F 200A 4P	606951	200	4	35/35	0.7-1/5-10	3100	
KP 250-F 250A 4P	606952	250	4	35/35	0.7-1/5-10	3100	

KP 800-F (300-630) A - 3 pole

Type	Order number	Rated current at 40 °C (In) A	No. of poles	Icu/Ics 415V(kA)	Adjustment thermal/magnetic .. x In	Weight [g]	Packing [pcs]
KP 800-F 300A 3P	606592	300	3	50/25	0.7-1/5-10	8000	1
KP 800-F 400A 3P	606593	400	3	50/25	0.7-1/5-10	8000	
KP 800-F 500A 3P	606594	500	3	50/25	0.7-1/5-10	8000	
KP 800-F 630A 3P	606595	630	3	50/25	0.7-1/5-10	8000	



Molded case circuit breakers - KP



KP 800-F (800) A - 3 pole

Type	Order number	Rated current at 40 °C (In) A	No. of poles	Icu/Ics 415V(kA)	Adjustment thermal/magnetic .. x In	Weight [g]	Packing [pcs]
KP 800-F 800A 3P	606596	800	3	50/50	0.7-1/5-8	10000	1

KP 800-F (800) A - 4 pole

Type	Order number	Rated current at 40 °C (In) A	No. of poles	Icu/Ics 415V(kA)	Adjustment thermal/magnetic .. x In	Weight [g]	Packing [pcs]
KP 800-F 800A 4P	606957	800	4	50/50	0.7-1/5-8	15000	1

KP 800-FE (300-800) A - 3 pole

Type	Order number	Rated current at (In) A	No. of poles	Icu/Ics 415V(kA)	Adjustment thermal/magnetic .. x In	Weight [g]	Packing [pcs]
KP 800-FE 300A 3P	609561	300	3	50/50	0.4-1/2-10	10000	1
KP 800-FE 400A 3P	607524	400	3	50/50	0.4-1/2-10	10000	
KP 800-FE 500A 3P	609562	500	3	50/50	0.4-1/2-10	10000	
KP 800-FE 630A 3P	607523	630	3	50/50	0.4-1/2-10	10000	
KP 800-FE 800A 3P	607522	800	3	50/50	0.4-1/2-10	10000	

KP 800-FE* (300-800) A - 4 pole

Type	Order number	Rated current at (In) A	No. of poles	Icu/Ics 415V(kA)	Adjustment thermal/magnetic .. x In	Weight [g]	Packing [pcs]
KP 800-FE 300A 4P	609563	300	4	50/50	0.4-1/2-10	10000	1
KP 800-FE 400A 4P	609564	400	4	50/50	0.4-1/2-10	10000	
KP 800-FE 500A 4P	609565	500	4	50/50	0.4-1/2-10	10000	
KP 800-FE 630A 4P	609566	630	4	50/50	0.4-1/2-10	10000	
KP 800-FE 800A 4P	609567	800	4	50/50	0.4-1/2-10	10000	

* electronic circuit breaker

KP 1250-FE* (1000-1250) A - 3 pole

Type	Order number	Rated current (In) A	No. of poles	Icu/Ics 415V(kA)	Adjustment thermal/magnetic .. x In	Weight [g]	Packing [pcs]
KP 1250-FE 1000A 3P	606597	1000	3	50/25	0.4-1/2-10	18000	1
KP 1250-FE 1250A 3P	606597	1250	3	50/25	0.4-1/2-10	18000	

* electronic circuit breaker

KP 1250-FE* (1000-1250) A - 4 pole

Type	Order number	Rated current (In) A	No. of poles	Icu/Ics 415V(kA)	Adjustment thermal/magnetic .. x In	Weight [g]	Packing [pcs]
KP 1250-FE 1000A 4P	606958	1000	4	50/25	0.4-1/2-10	37000	1
KP 1250-FE 1250A 4P	606959	1250	4	50/25	0.4-1/2-10	37000	

* electronic circuit breaker

KP 1600-FE* (1000-1600) A - 3 pole

Type	Order number	Rated current (In) A	No. of poles	Icu/Ics 415V(kA)	Adjustment thermal/magnetic .. x In	Weight [g]	Packing [pcs]
KP 1600-FE 1000A 3P	602217	1000	3	50/25	0.4-1/2-10	27000	1
KP 1600-FE 1250A 3P	601398	1250	3	50/25	0.4-1/2-10	27000	
KP 1600-FE 1600A 4P	601397	1600	3	50/25	0.4-1/2-10	27000	

* electronic circuit breaker

KP 2500-FE* (2000-2500) A - 3 pole

Type	Order number	Rated current (In) A	No. of poles	Icu/Ics 415V(kA)	Adjustment thermal/magnetic .. x In	Weight [g]	Packing [pcs]
KP 2500-FE 2000A 3P	607532	2000	3	50/50	0.4-1/2-10	54000	1
KP 2500-FE 2500A 3P	606997	2500	3	50/50	0.4-1/2-10	54000	

* electronic circuit breaker



Accessories

Accessories

Auxiliary contacts

Auxiliary contacts - KP-125-F

Type	Order number	Voltage	Current rating (In)	Configuration	Packing [pcs]
KP BPKF1	606694	250V AC	5A		1
		250V DC	3A		



Auxiliary contacts - KP-250-F

Type	Order number	Voltage	Current rating (In)	Configuration	Packing [pcs]
KP BPKF2	606696	250V AC	5A		1
		250V DC	3A		



Auxiliary contacts - KP-800-F

Type	Order number	Voltage	Current rating (In)	Configuration	Packing [pcs]
KP BPKF3	606697	250V AC	5A		1
		250V DC	3A		



Auxiliary contacts - KP-1250-FE

Type	Order number	Voltage	Current rating (In)	Configuration	Packing [pcs]
KP BPKF4	606693	250V AC	5A		1
		250V DC	3A		



Auxiliary contacts - KP-1600-FE

Type	Order number	Voltage	Current rating (In)	Configuration	Packing [pcs]
KP BPKF5	606698	250V AC	5A		1
		250V DC	3A		



Under voltage release



Under voltage release - KP-250-F

Type	Order number	Voltage AC	Voltage DC	Configuration	Packing [pcs]
KP UF2	606709	220-250V	220-250V	D1-□-D2	1



Under voltage release - KP-800-F (300-630A)

Type	Order number	Voltage AC	Voltage DC	Configuration	Packing [pcs]
KP UF3	606707	220-250V	220-250V	D1-□-D2	1



Under voltage release - KP-800-F (800A)

Type	Order number	Voltage AC	Voltage DC	Configuration	Packing [pcs]
KP UF4	606705	220-250V	220-250V	D1-□-D2	1

Under voltage release - KP-1250-FE

Type	Order number	Voltage AC	Voltage DC	Configuration	Packing [pcs]
KP UF5	606708	220-250V	220-250V	D1-□-D2	1



Under voltage release - KP-1600-FE

Type	Order number	Voltage AC	Voltage DC	Configuration	Packing [pcs]
KP UF6	606706	220-250V	220-250V	D1-□-D2	1

Shunt trip release

Shunt trip release - KP-125-F

Type	Order number	Voltage AC	Voltage DC	Configuration	Packing [pcs]
KP DF1	606700	110-250V	110-250V	B1-□-~B2	1

Shunt trip release - KP-250-F

Type	Order number	Voltage AC	Voltage DC	Configuration	Packing [pcs]
KP DF2	606702	110-250V	110-250V	B1-□-~B2	1

Shunt trip release - KP-800-F (300-630A)

Type	Order number	Voltage AC	Voltage DC	Configuration	Packing [pcs]
KP DF3	606703	110-250V	110-250V	B1-□-~B2	1

Shunt trip release - KP-800-F (800A)

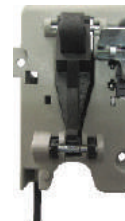
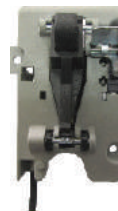
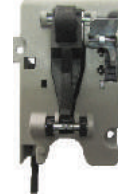
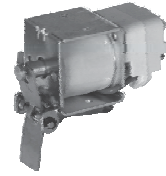
Type	Order number	Voltage AC	Voltage DC	Configuration	Packing [pcs]
KP DF4	606704	110-250V	110-250V	B1-□-~B2	1

Shunt trip release - KP-1250-FE

Type	Order number	Voltage AC	Voltage DC	Configuration	Packing [pcs]
KP DF5	606699	110-250V	110-250V	B1-□-~B2	1

Shunt trip release - KP-1600-FE

Type	Order number	Voltage AC	Voltage DC	Configuration	Packing [pcs]
KP DF6	606701	110-250V	110-250V	B1-□-~B2	1





Extended rotary handle

Extended rotary handle - KP-250-F

Type	Order number	Ampere ranges	Packing [pcs]
KP HF1	609554	160-250A	1

Extended rotary handle - KP-800-F (300-630A)

Type	Order number	Ampere ranges	Packing [pcs]
KP HF2	609555	300-630A	1

Extended rotary handle - KP-800-F (800A)

Type	Order number	Ampere ranges	Packing [pcs]
KP HF3	609556	800A	1

Extended rotary handle - KP-1250-FE

Type	Order number	Ampere ranges	Packing [pcs]
KP HF4	609557	1000-1250A	1

Note: It is not plug-in.

Motor control mechanism

Motor control mechanism - KP-250-F

Type	Order number	Voltage AC	Power	Opening/closing time (sec)	Packing [pcs]
KP MF1	609558	220V	100W	1/1	1

Motor control mechanism - KP-800-F - KP-1600-FE

Type	Order number	Voltage AC	Power	Opening/closing time (sec)	Packing [pcs]
KP MF2	609559	220V	100W	4/3.5	1

Motor control mechanism - KP-2500-FE

Type	Order number	Voltage AC	Power	Opening/closing time (sec)	Packing [pcs]
KP MF3	609560	220V	500W	1.5/1.5	1



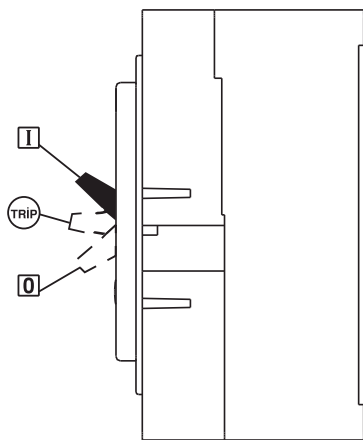
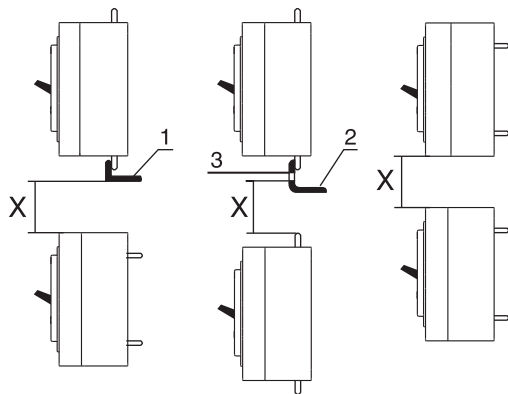


Figure 1



- 1) Busbar
- 2) Cable
- 3) Cable terminal

Type	x (mm)
KP 125-F KP 250-F	140
KP 800-F KP 800-FE	180
KP 1600-FE KP 2500-FE	

Figure 2

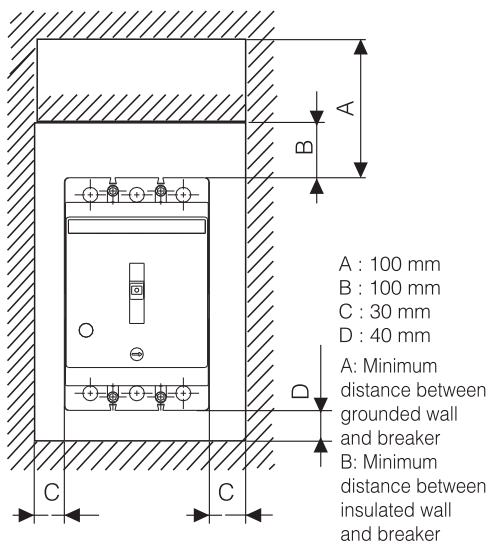


Figure 3

Utilization Type of the Circuit Breaker:

There are 3 positions indicating position of the breaker. These positions are shown in Figure-1.

ON/1 Position:

It indicates that contacts of the breaker are closed. In this position, the breaker lever is in the top position.

TRIP Position:

It indicates that the breaker is opened due to any failure (overload or short circuit). In this case, breaker lever is in the middle position between ON and OFF positions. In order to take the breaker, which is in trip position, to ON position; push the breaker lever downwards as shown by the OFF sign. Breaker shall be set with “click” sound. After that, pull the lever as shown by ON sign to close the breaker.

OFF/0 Position:

It indicates that contacts of the breaker are open. In this way, the breaker lever is in the bottom position.

Assembly:

Important considerations during assembly are listed below.
 - The place to assemble the breaker should be free of dust and moisture.

-Breaker should be assembled in a way not to be subject to gas and vapour.

- If the environment is dusty and moist, the breaker must be assembled in a housing with appropriate protection degree.

- While the breaker is in operation, it should not be exposed to vibration and sudden impacts.

- Minimum distances between two breakers assembled one on another should be as shown in Figure-2.

- Minimum distances between grounded or insulated wall and the breaker should be as shown in Figure-3.

- Assembly method of the connectors (for KP-250-F) vary according to connection at the front or at the back. Connector may be de-mounted, reversed and mounted again if required.

- Cable connections of measurement devices should be made through busbar, no connection should be made through terminals of the breaker (Please request extension busbar from factor for connections to be made with cable shoes.)

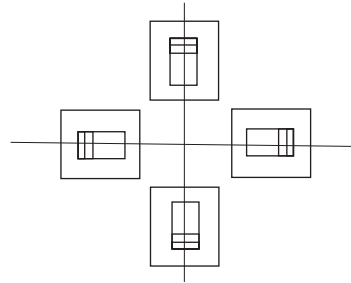
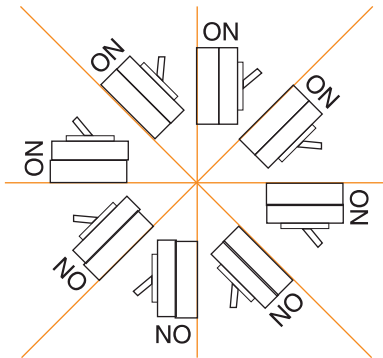
- End insert should be used in connections of multi-wire cables to breaker connector and no brazing should be made at cable ends.

- If connection is made to the breaker via copper busbars, busbars should be painted and feather edges should be rounded to minimize the risk of jumping.

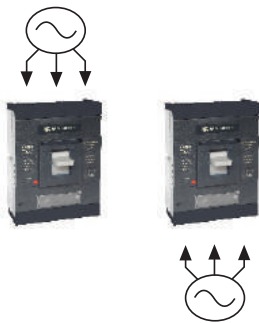
- Phase curtains must be placed in the conduit between two busbars in the breaker body.

- Grounding should be made in accordance with the regulations.

Assembly



Assembly can be made in any angle.



Line can be connected to Rade Koncar circuit breakers from above and from below, however connection from above should be preferred.

Temperature Compensation:

Current load capacity of device decrease if the operating temperature is exceed to given value on indoor conditions Standard Circuit breakers was calibrated for 40 °C. Values in the chart show the highest operating currents to be applied as a function of the ambient temperature. Increase in ambient temperature of the breaker shall result in decrease in allowed operating current of the breaker. Therefore, by considering the ambient temperature of the breaker, the rated current should be calibrated according to ambient temperature or the circuit breaker should be selected according to operating currents suitable for the value in the table. If the breaker is operated in an environment with a temperature higher than the calibrated ambient temperature, it opens earlier than the nominal values. If it is operated in a colder environment, it opens later than the nominal values.

In(A)	20° C	30° C	40° C	50° C	60° C
Thermal-Magnetic Circuit Breakers					
16	17,1	16,6	16,0	15,2	14,6
20	21,4	20,8	20,0	19,0	18,2
25	26,7	26,0	25,0	23,8	22,8
32	34,2	33,3	32,0	30,4	29,1
40	42,8	41,6	40,0	38,0	36,4
50	53,5	52,0	50,0	47,5	45,5
63	67,4	65,5	63,0	59,9	57,3
80	85,6	83,2	80,0	76,0	72,8
100	107,0	104,0	100,0	95,0	91,0
125	133,8	130,0	125,0	118,8	113,8
160	171,2	166,4	160,0	152,0	145,6
200	214,0	208,0	200,0	190,0	182,0
200	240,8	234,0	225,0	213,8	204,8
250	267,5	260,0	250,0	237,5	227,5
300	321,0	312,0	300,0	285,0	273,0
400	428,0	416,0	400,0	380,0	364,0
500	535,0	520,0	500,0	475,0	455,0
630	674,1	655,2	630,0	598,5	573,3
800	856,0	832,0	800,0	760,0	728,0

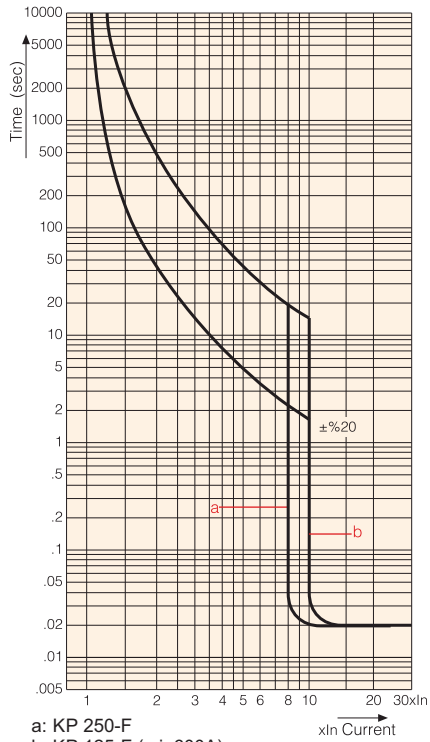
Example: Highest operating current of an KP 250-F type breaker with 100A rated current calibrated to 40°C would be 95A in an environment of 50°C.

TECHNICAL DATA

TYPE		KP 125-F	KP 250-F	KP 800-F	KP 800-F/ KP 800-FE	KP 1250-FE	KP 1600-FE	KP 2500-FE	
Standard conformity		IEC 60947-2/EN 60947-2							
No. of poles		3,4P	3,4P	3P	3,4P	3,4P	3P	3P	
Standard current range/ratings I_n	A	16, 25, 40, 63, 80, 100, 125	160, 200, 250	300, 400, 500, 630	800/300, 400, 500, 630, 800	1000, 1250	1600	2000, 2500	
Rated operational voltage $U_{e\sim}$	V	415	415	415	415	415	415	415	
Rated insulation voltage $U_{i\sim}$	V	800	800	800	800	800	800	800	
Rated impulse withstand voltage U_{imp}	kV	8	8	8	8	8	8	8	
Category of use		A	A	A	A	A	A	A	
Degree of protection: Appliance with terminal shields Appliance in enclosure with front plate		IP 30 IP 40				IP 00 IP 40			
Polution degree		III							
Ambient temperature	°C	-5 to +60			-5 to +60/ -5 to +40	-5 to +40			
Ultimate breaking capacity I_{cu}^*	230/240 V ~ 400/415 V ~ 440 V ~ 480/500 V ~ 690 V ~ 250 V -	kA kA kA kA kA kA	35 25 20 12 8 15	65 35 25 18 12 22	70 50 40 35 25 22	75 50 40/35 30 20 20/-	80 50 35 25 18 -	80 50 40 25 20 -	85 50 35 30 20 -
Standard breaking capacity I_{cs} (% I_{cu})*		kA	75	100	50	100	50	50	100
Rated short circuit making capacity (415 V~)		kA_{peak}	53	74	74	105	105	105	105
Endurance (o.c. cycle)	mechanical electrical		≥15 000 3 000	≥15 000 3 000	≥15 000 3 000	≥15 000 3 000	≥15 000 3 000	≥15 000 3 000	≥15 000 3 000
Type of protection									
Rated current adjustment area - I_1			(0,8 - 1) I_n	(0,7 - 1) I_n	(0,7 - 1) I_n	(0,7 - 1)/ (0,4 - 1) I_n	(0,4 - 1) I_n	(0,4 - 1) I_n	(0,4 - 1) I_n
Instant opening current adjustment - I_2			8 I_n (min 600A)	(5 - 10) I_n	(5 - 10) I_n	(5 - 10) I_n / (2 - 10) I_1	(2 - 10) I_1	(2 - 10) I_1	(2 - 10) I_1

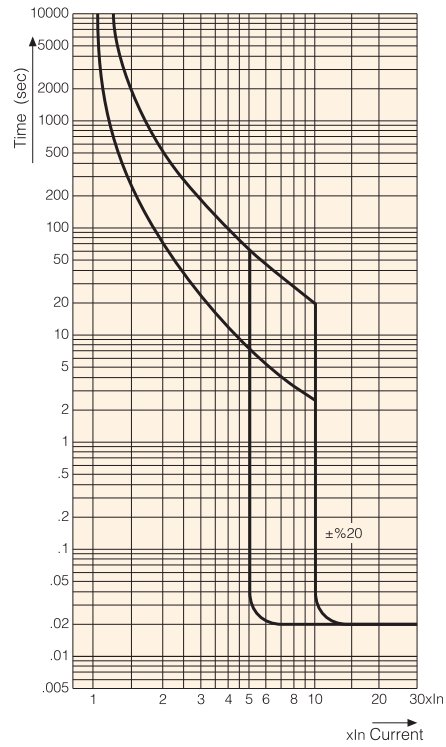
* The LINE side is the upper side. LOAD is to be connected on the down side.

KP 125-F - KP 250-F
Thermal magnetic circuit breakers

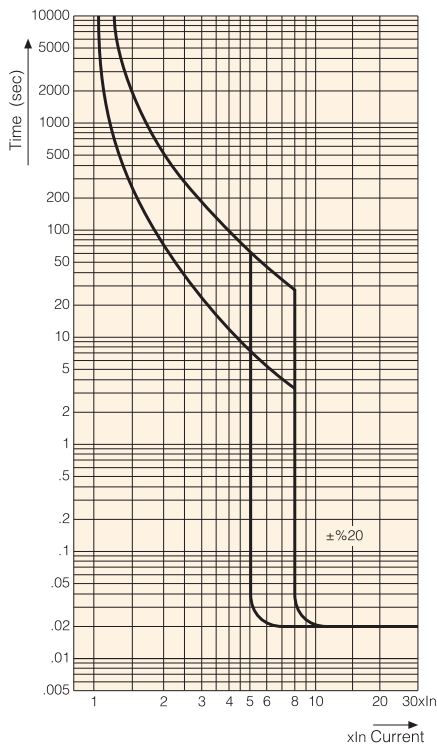


a: KP 250-F
b: KP 125-F (min600A)

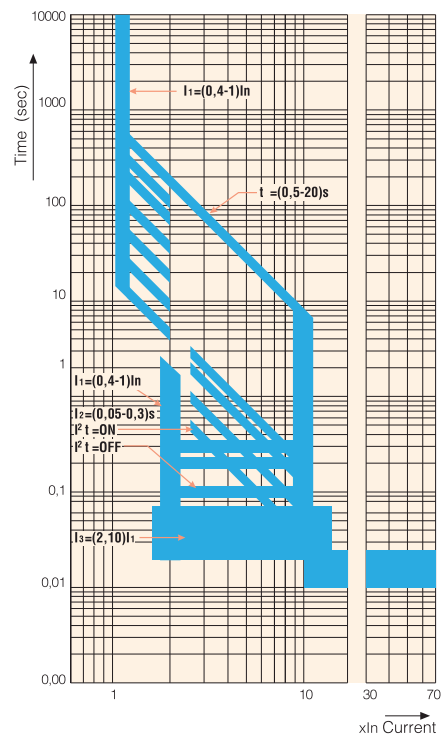
KP 800-F (300-630A)
Thermal magnetic circuit breakers



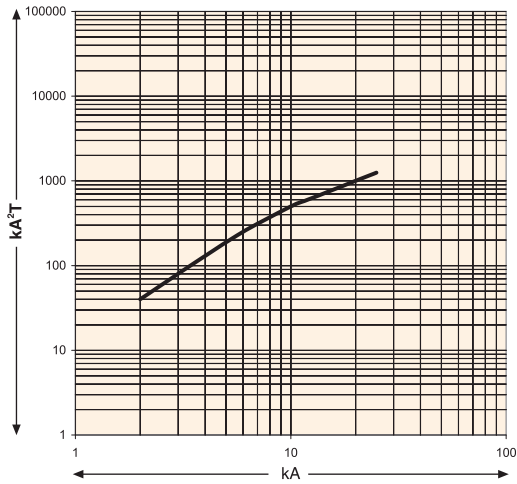
KP 800-F (800A)
Thermal magnetic circuit breakers



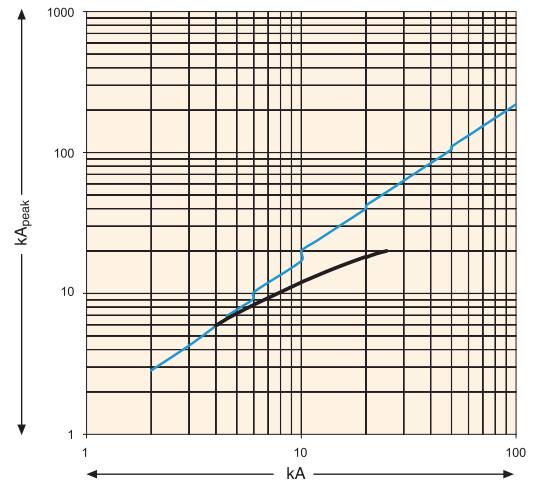
KP 800-FE - KP 2500-FE
Electronic circuit breakers



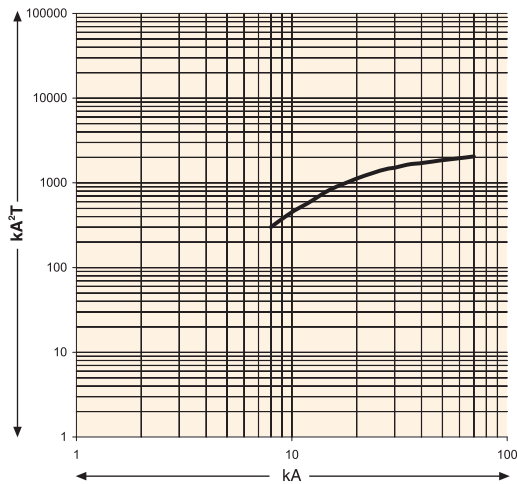
KP 125-F I^2T Curve



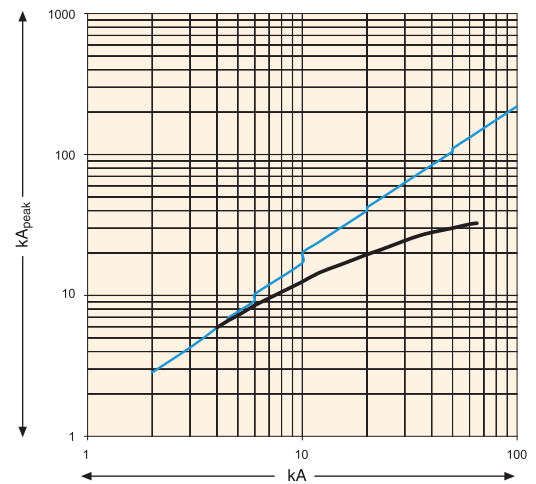
KP 125-F I_{peak} Curve



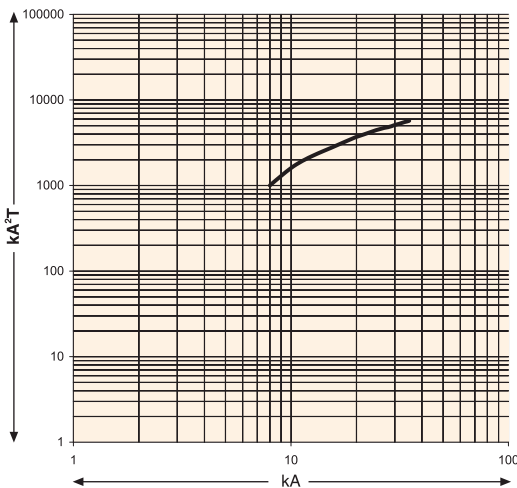
KP 250-F I^2T Curve



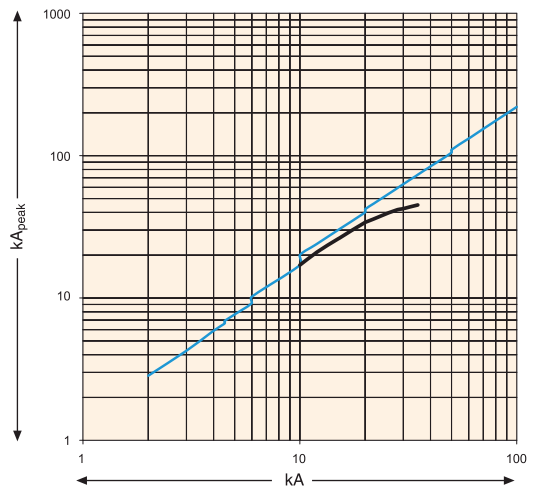
KP 250-F I_{peak} Curve



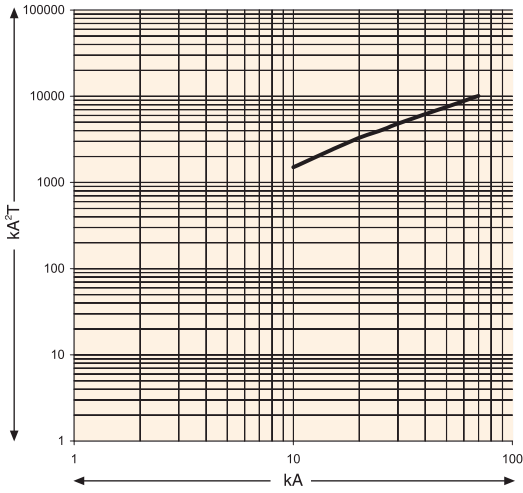
KP 800-F (300-630)A I^2T Curve



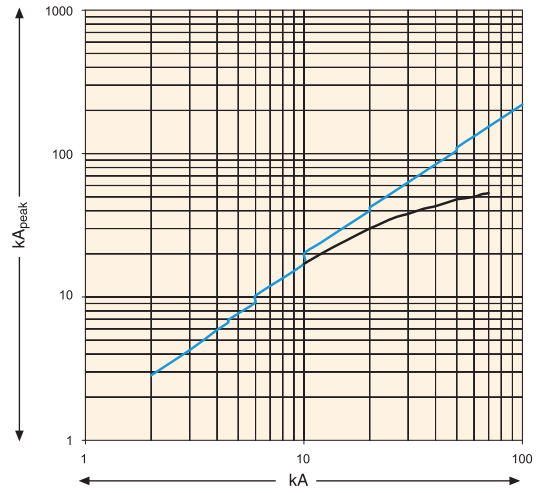
KP 800-F (300-630)A I_{peak} Curve



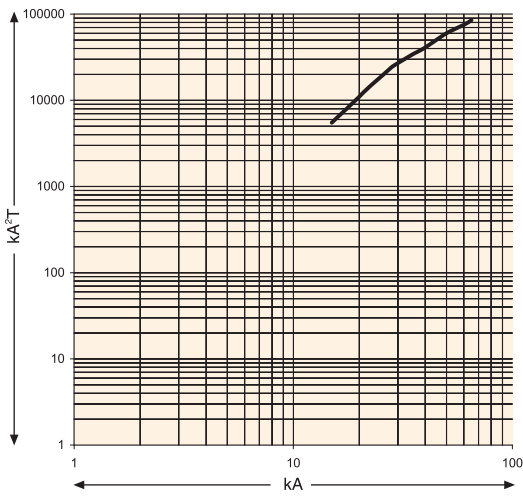
KP 800-F (800)A/KP 800-FE I^2T Curve



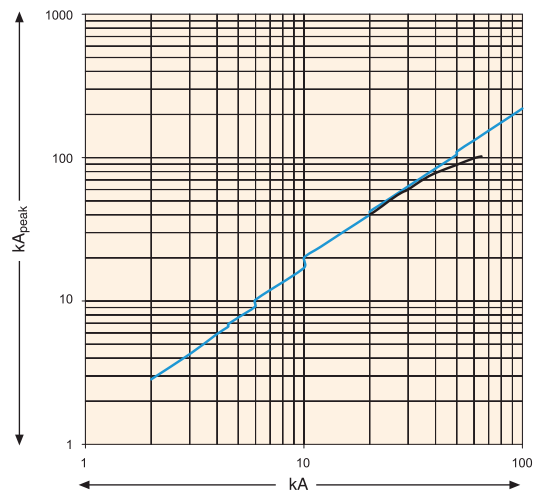
KP 800-F (800)/KP 800-FEA I_{peak} Curve



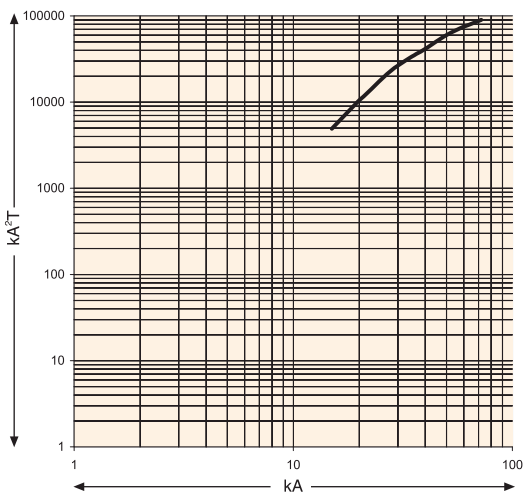
KP 1250-FE I^2T Curve



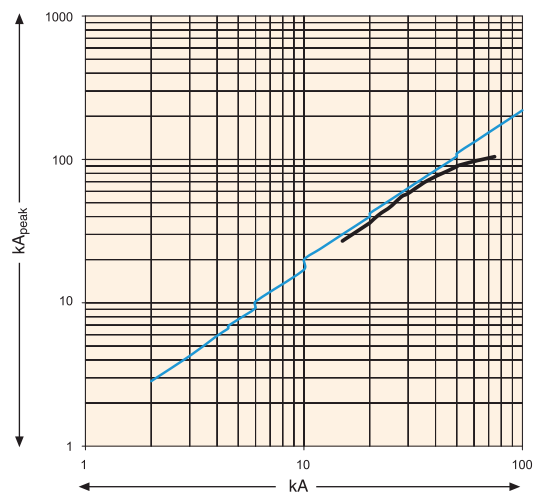
KP 1250-FE I_{peak} Curve



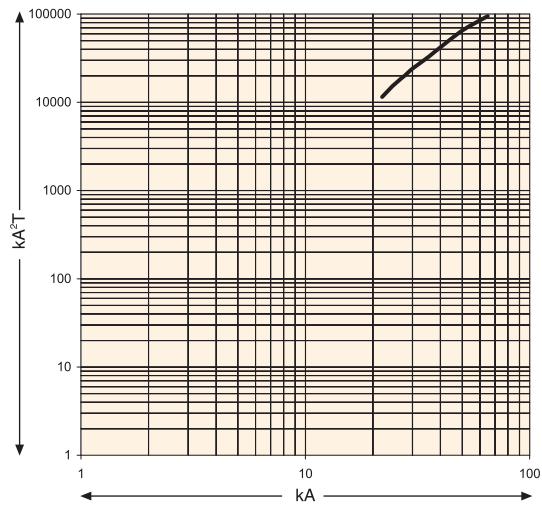
KP 1600-FE I^2T Curve



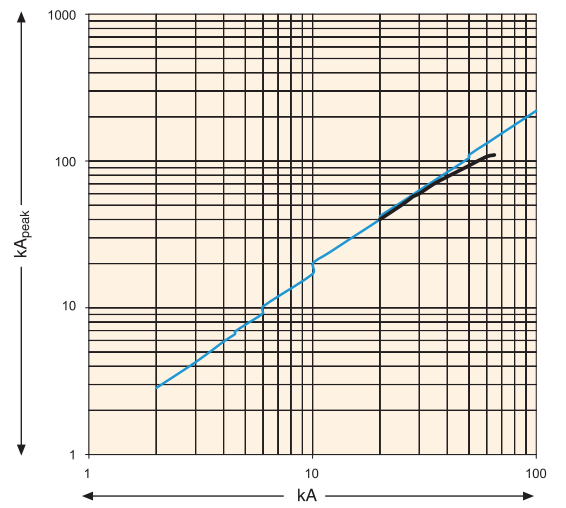
KP 1600-FE I_{peak} Curve



KP 2500-FE I^2T Curve

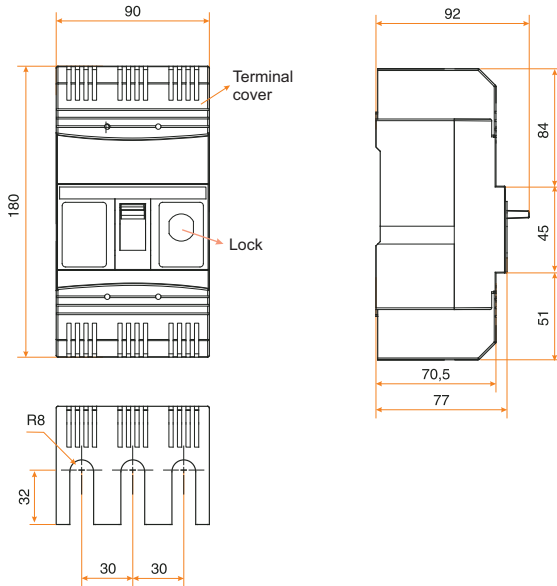


KP 2500-FE I_{peak} Curve

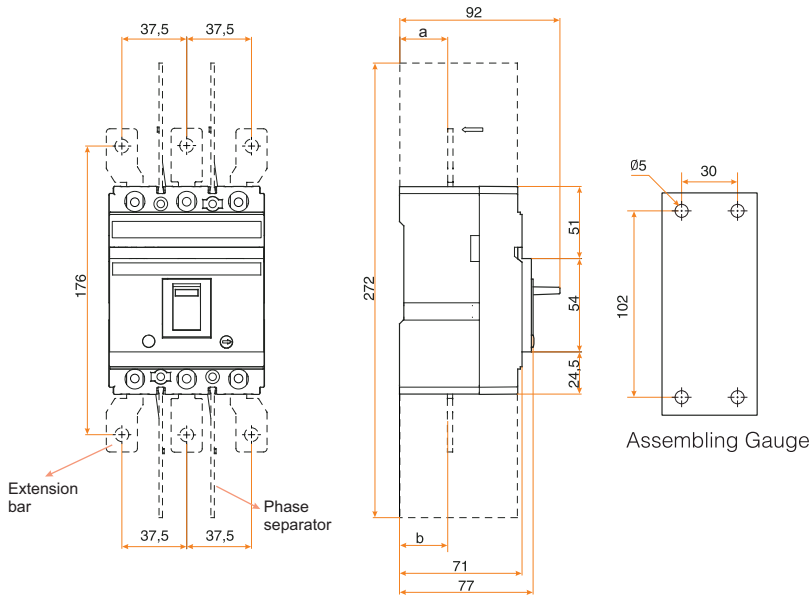
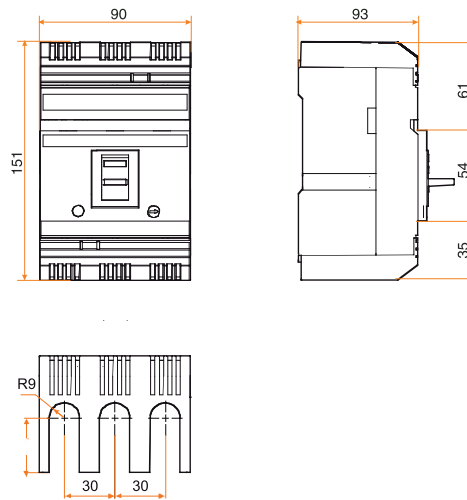


Dimensional drawings

KP 125-F With lock
(With long terminal cover)



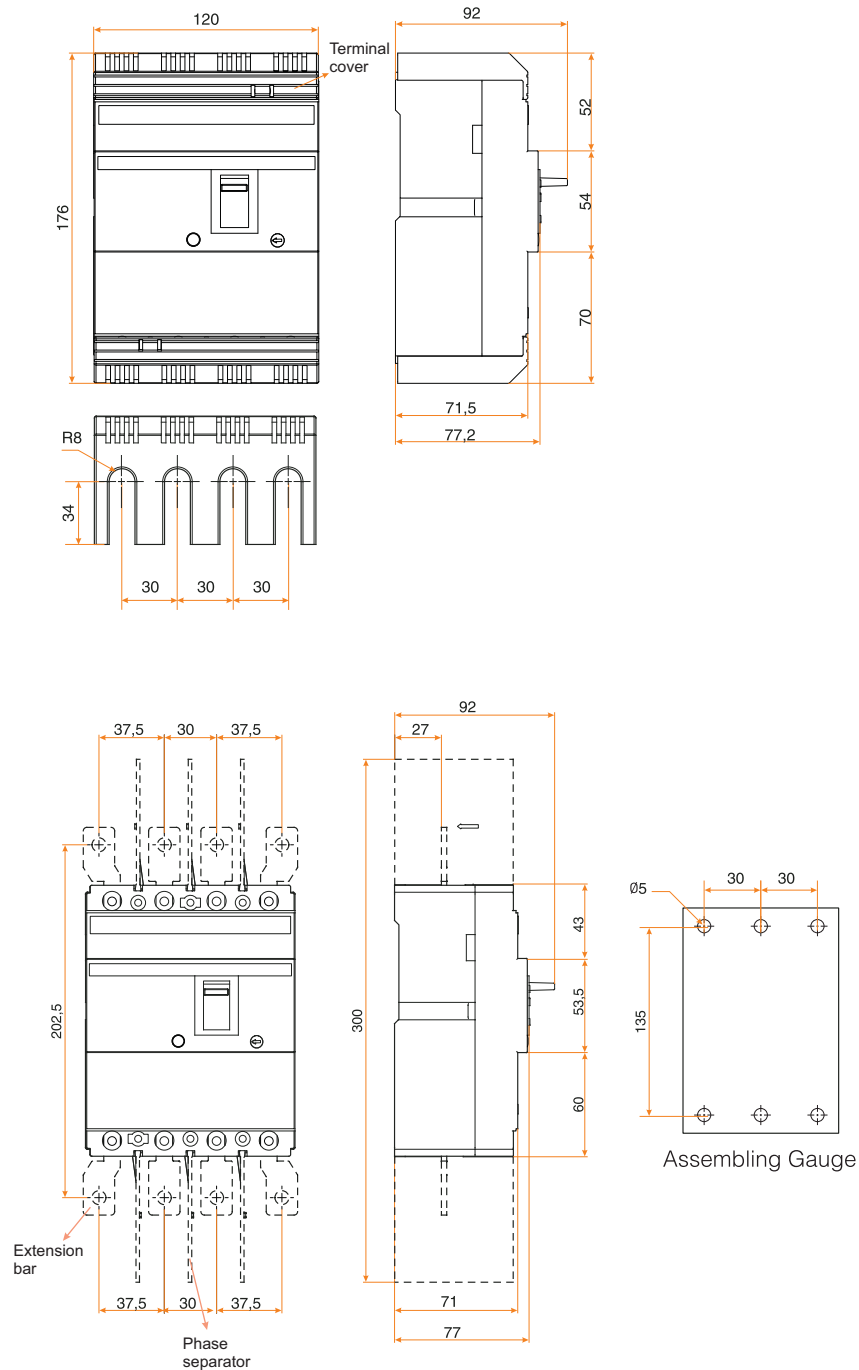
KP 125-F Thermal adjustable
(With terminal cover)



Current (A)	Dimensions (mm)	
	a	b
16	27,5	26
25	27,5	26
40	27,5	27
63	27,5	27
80	27,5	27
100	27,5	27
125	27,5	27

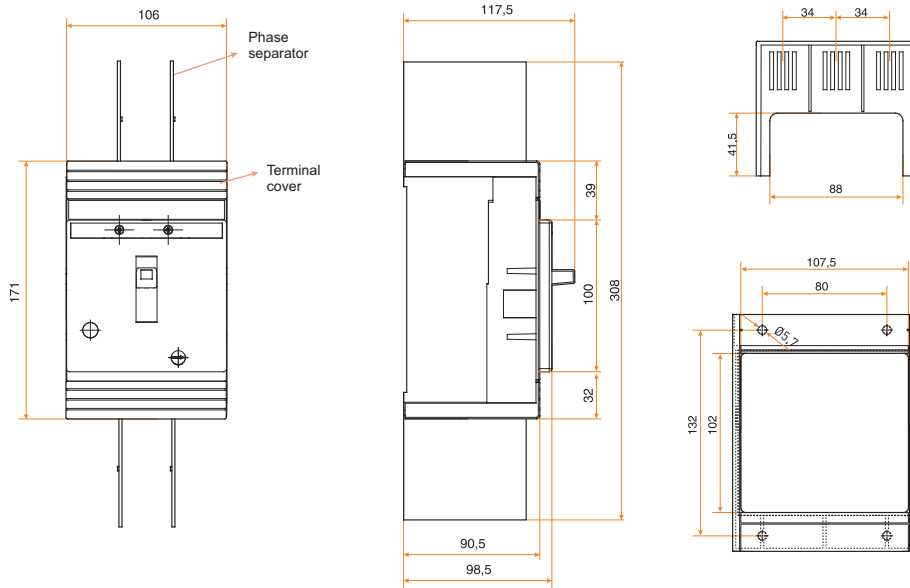
Parts drawn with dotted line are manufactured upon request.

KP 125-F Thermal adjustable (4 poles)



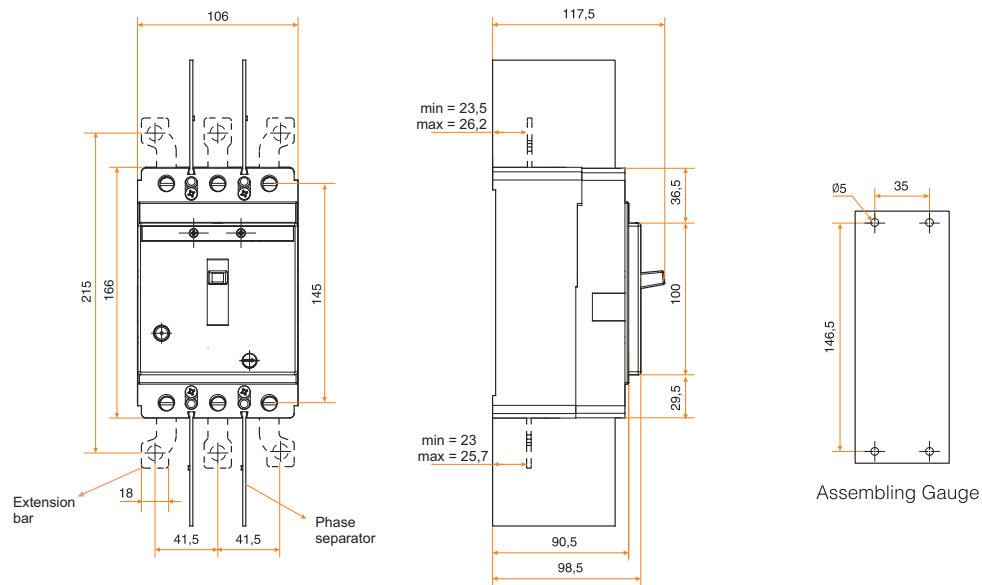
Parts drawn with dotted line are manufactured upon request.

KP 250-F (3pole)



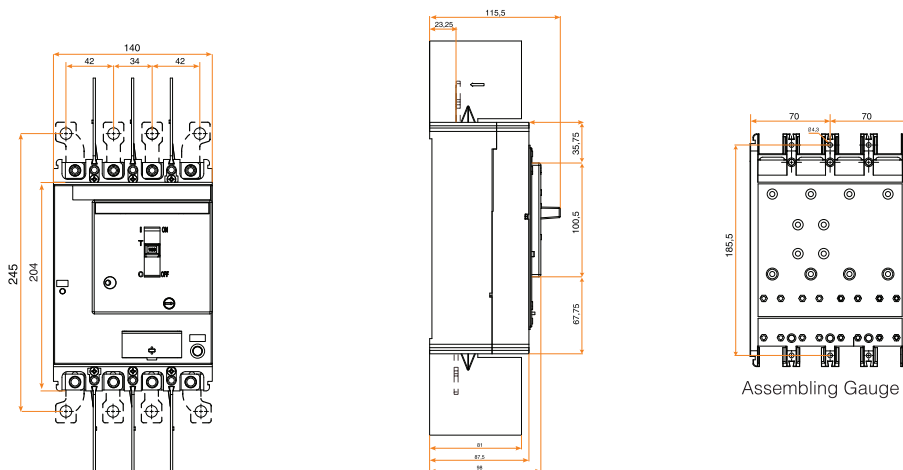
Panel Frame

KP 250-F (4 pole)



Assembling Gauge

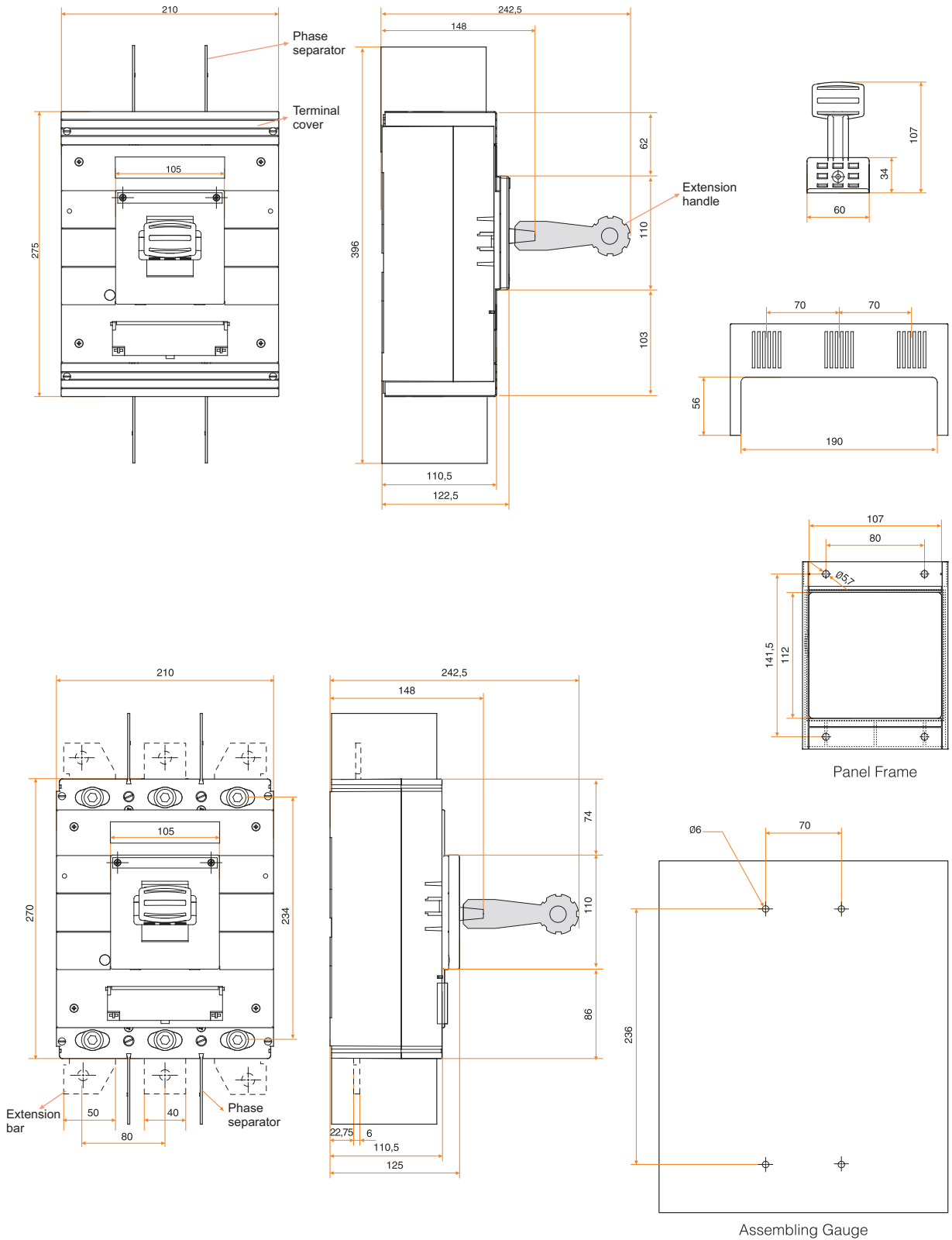
KP 250-F (4 pole)



Assembling Gauge

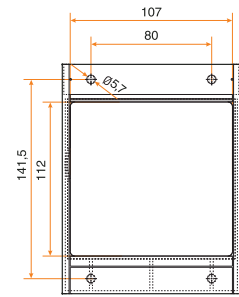
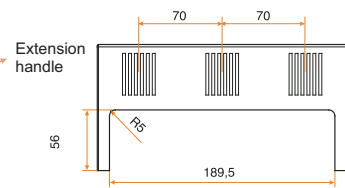
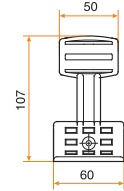
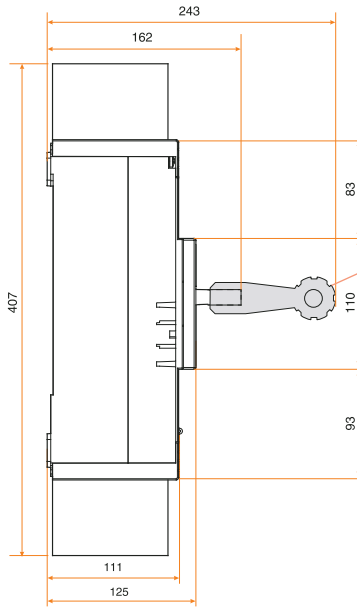
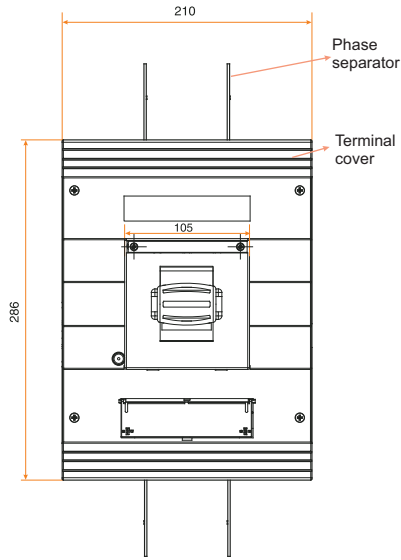
Parts drawn with dotted line are manufactured upon request.

KP 800-F (300-630)A

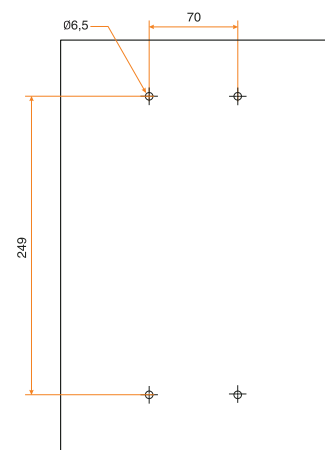
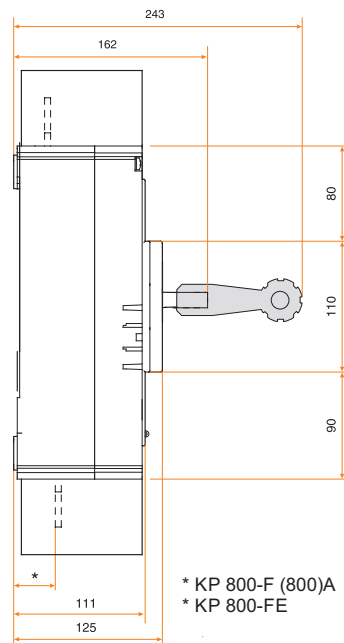
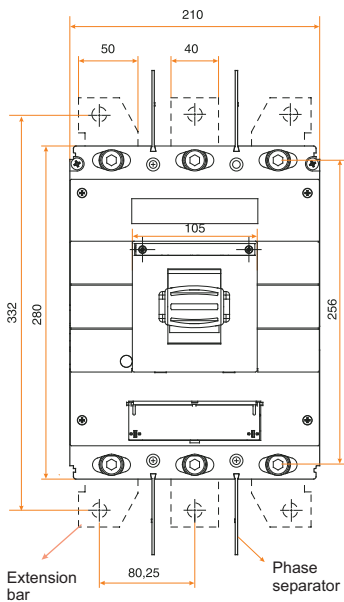


Parts drawn with dotted line are manufactured upon request.

KP 800-F (800)A, KP 800-FE



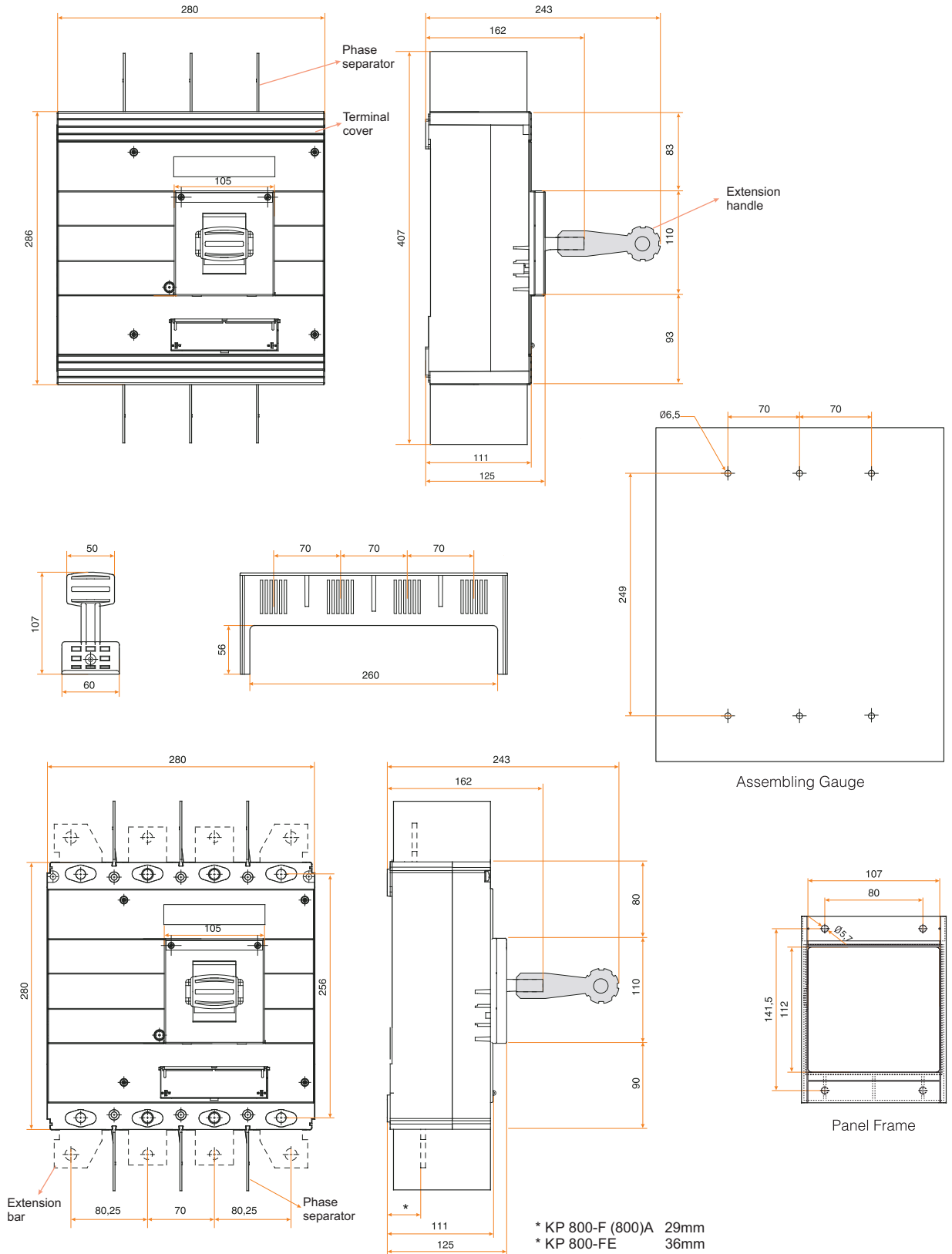
Panel Frame



Assembling Gauge

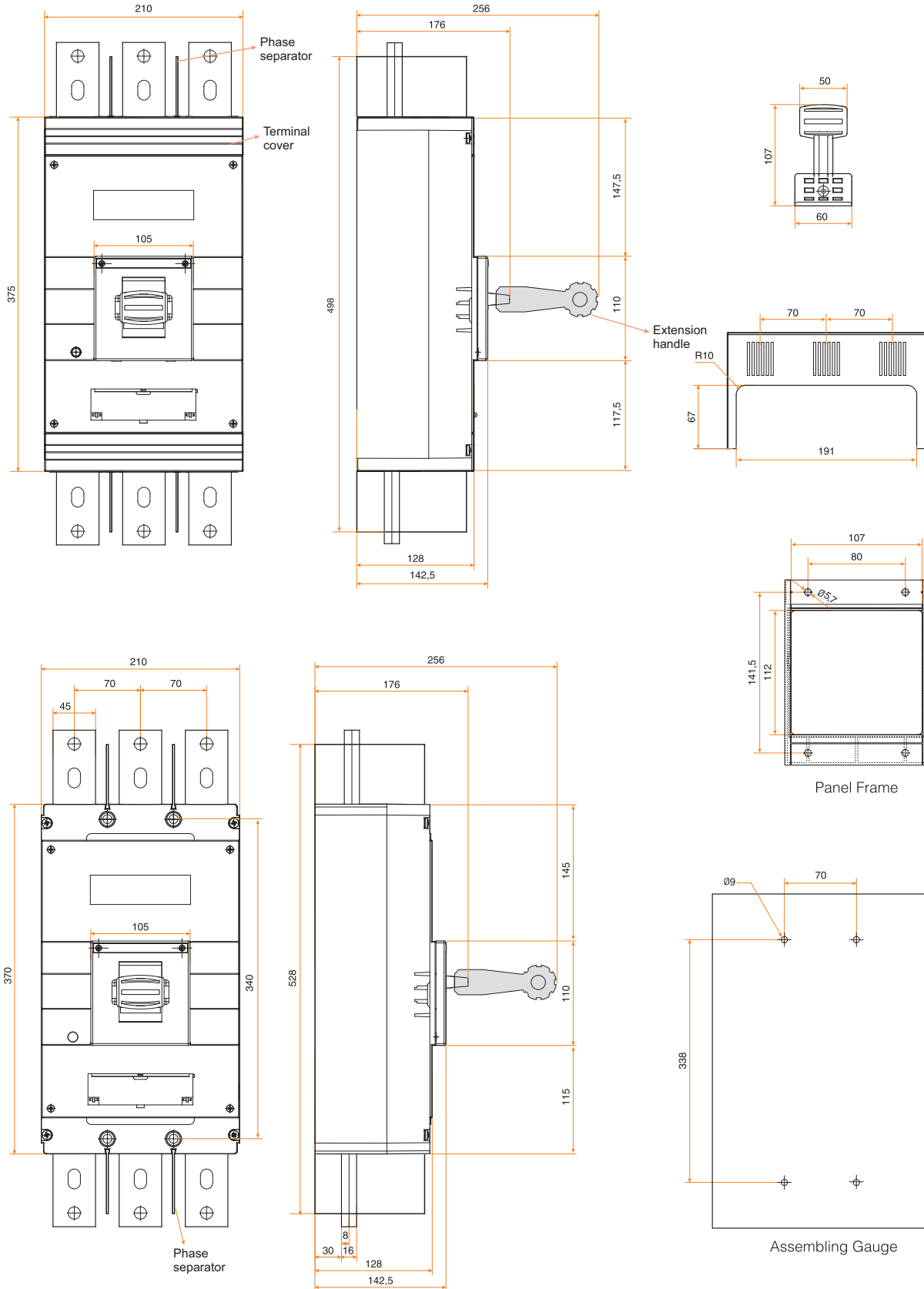
Parts drawn with dotted line are manufactured upon request.

KP 800-F (800)A, KP 800-FE (4 pole)

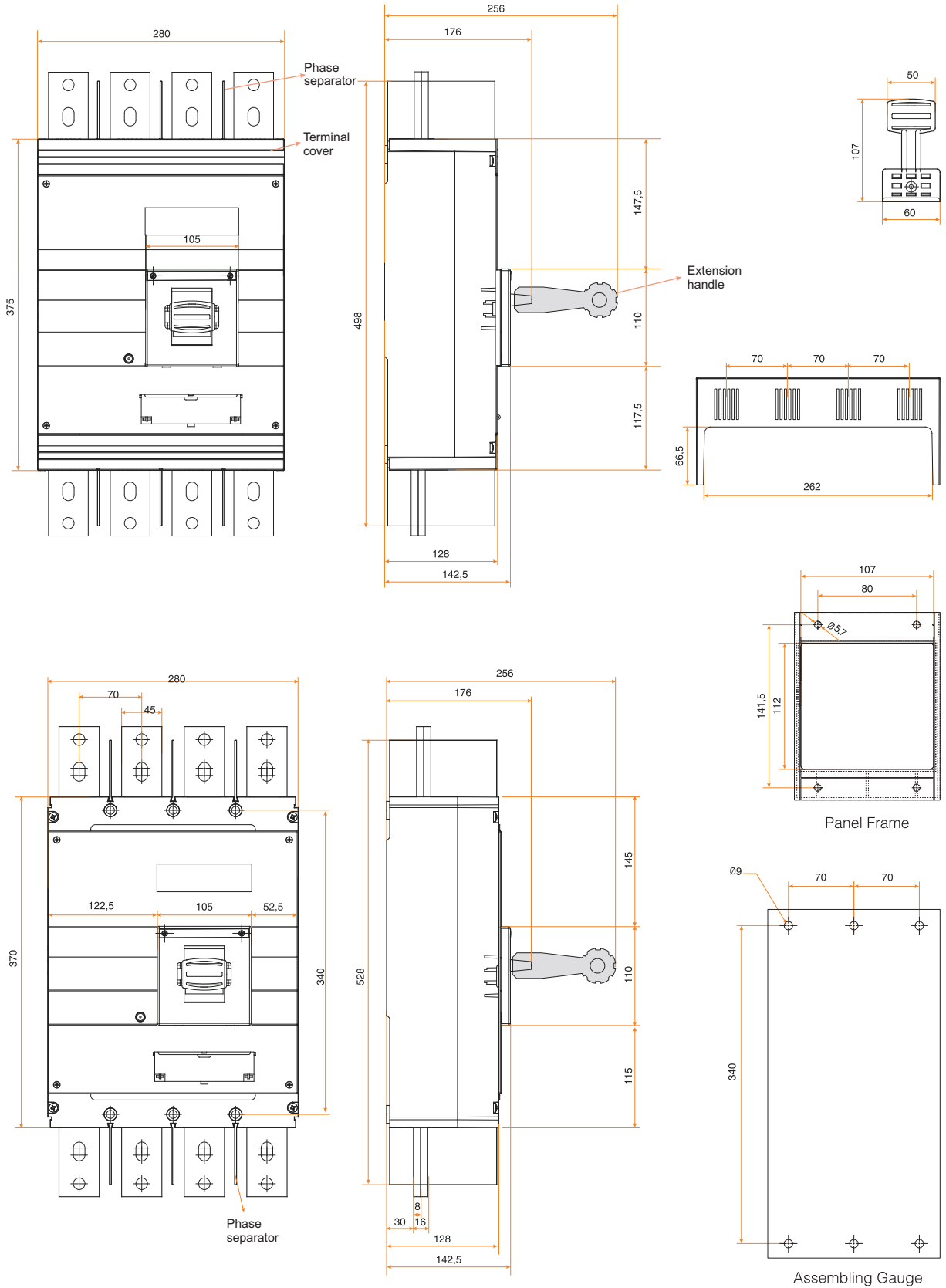


Parts drawn with dotted line are manufactured upon request.

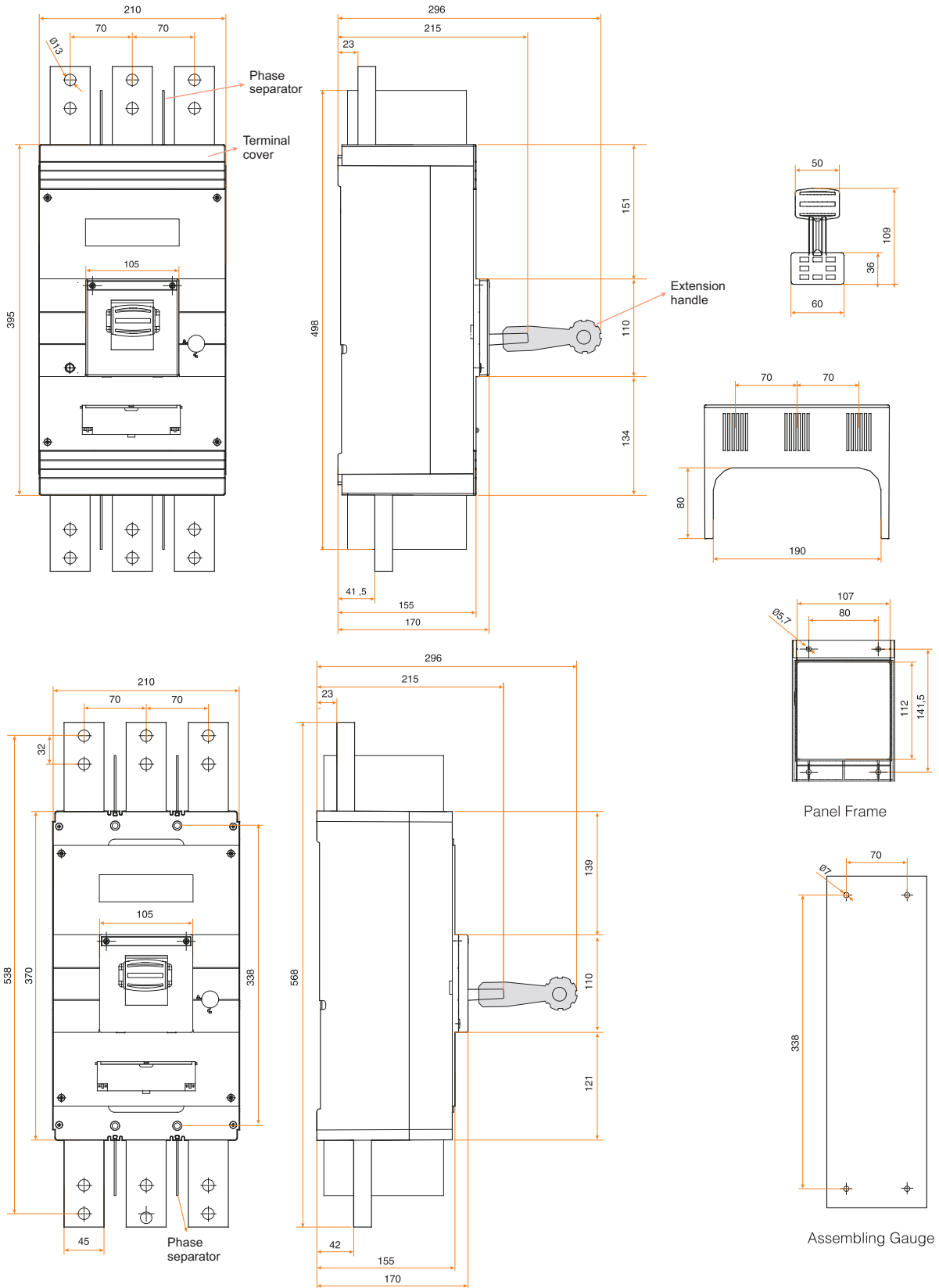
KP 1250-FE



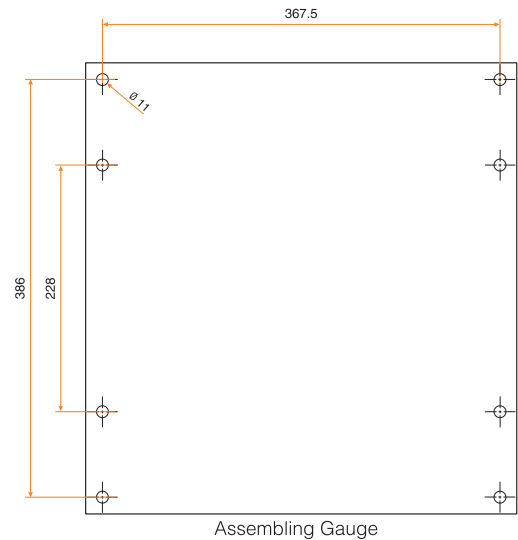
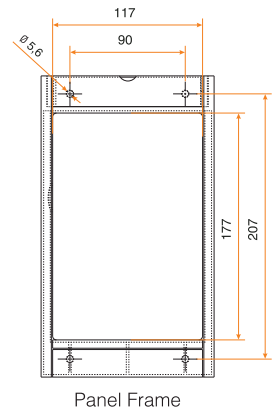
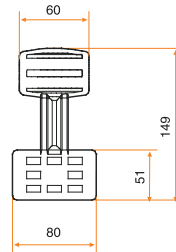
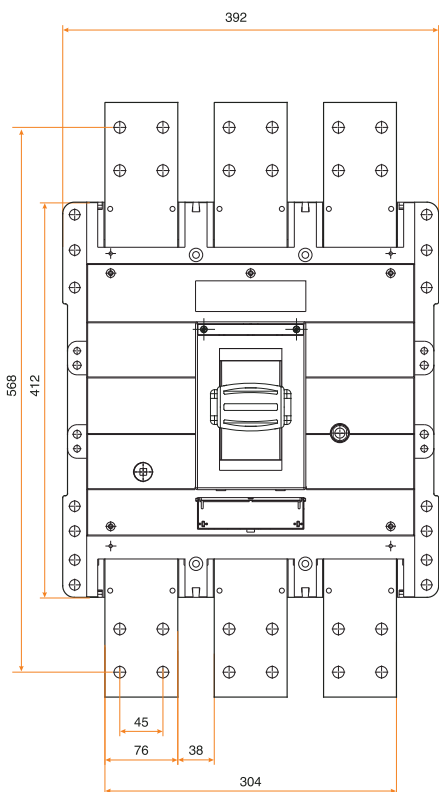
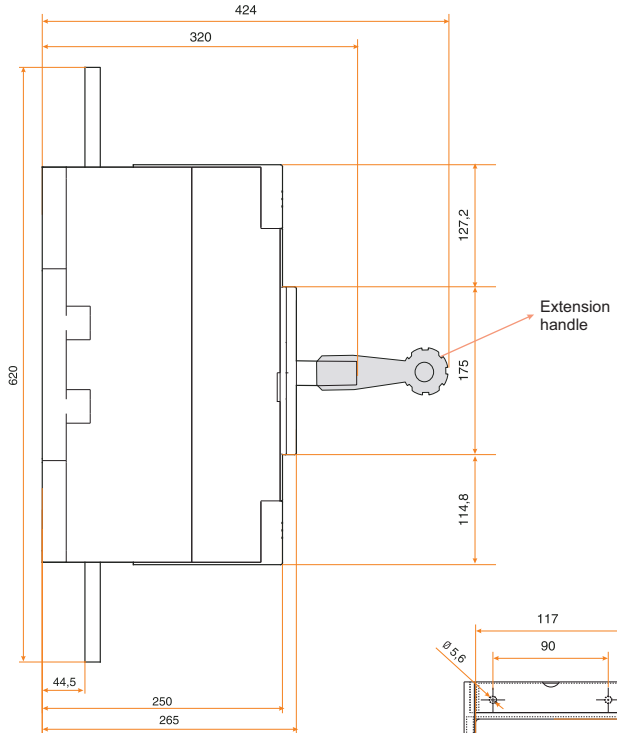
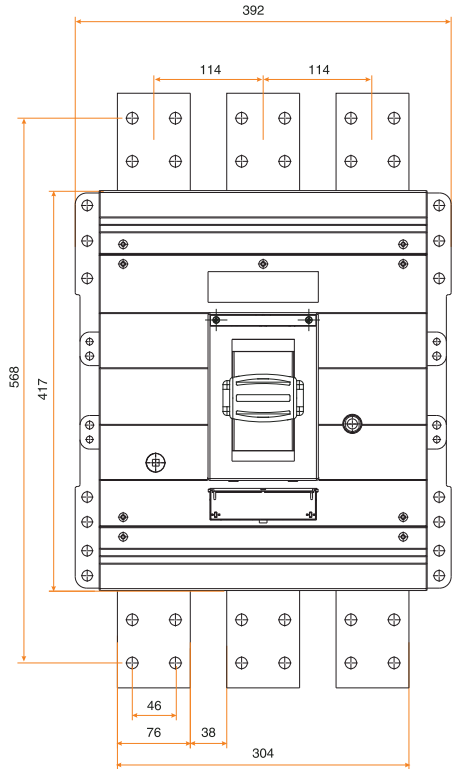
KP 1250-FE (4 poles)



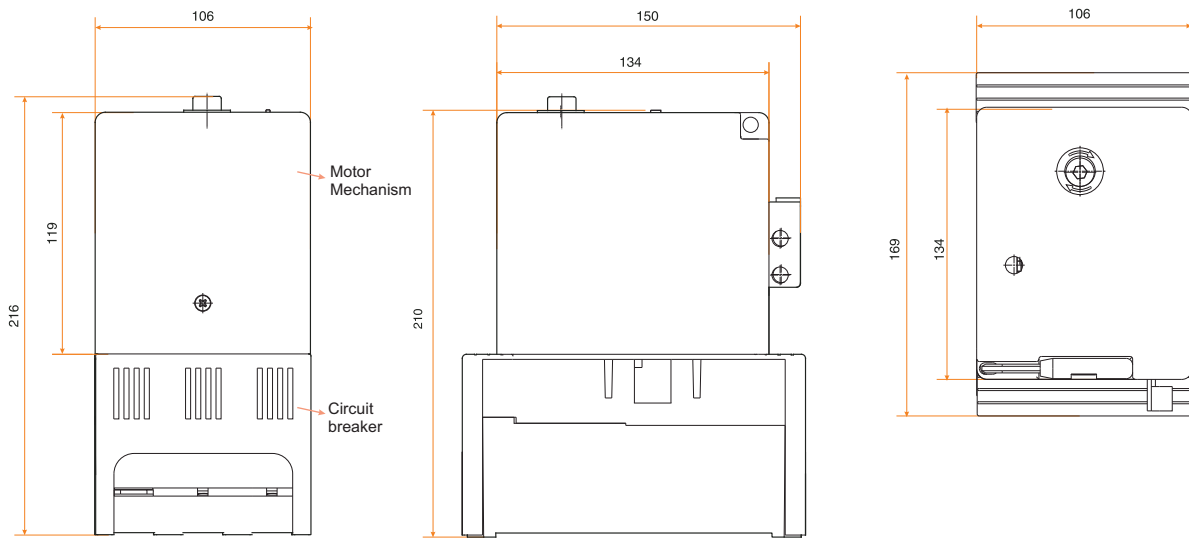
KP 1600-FE



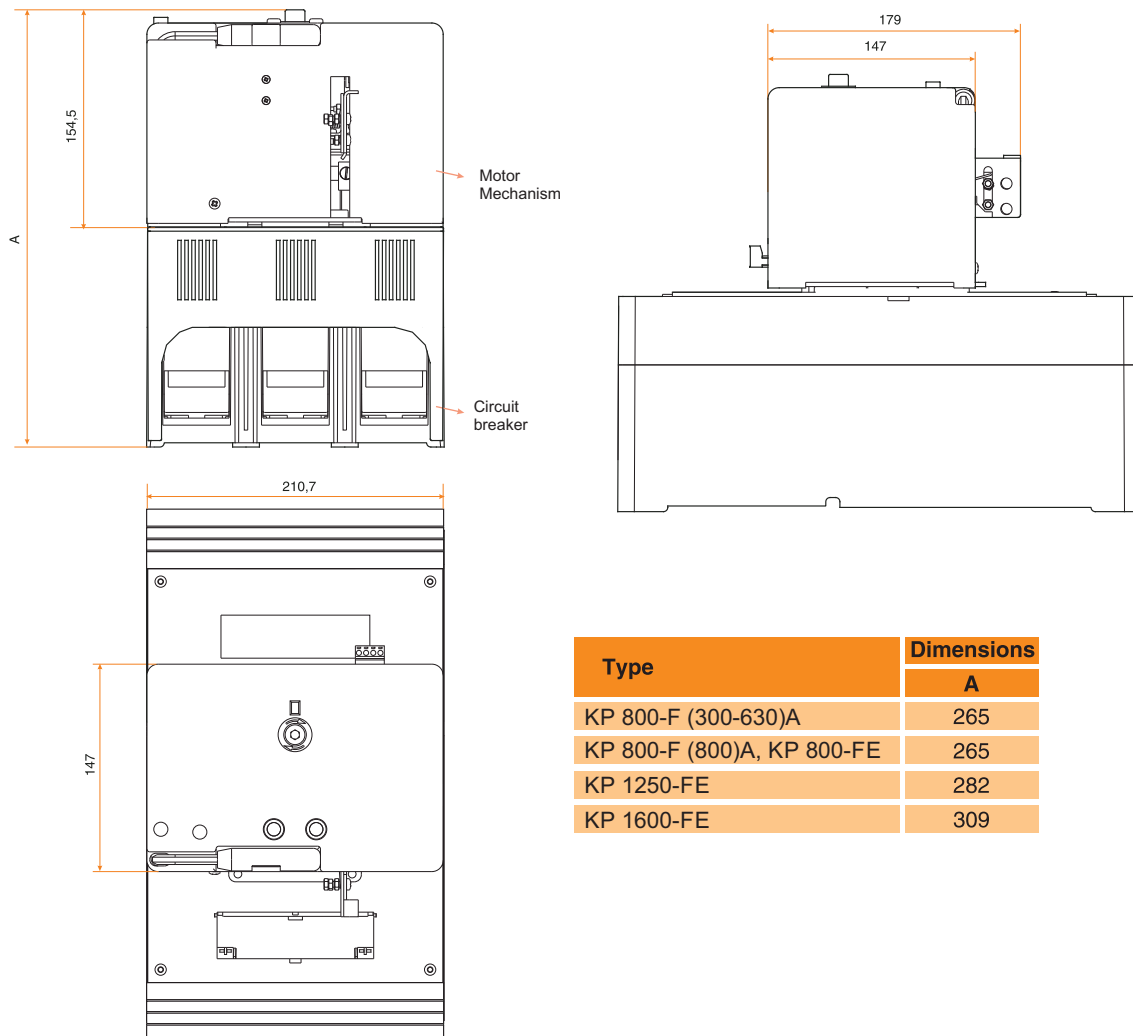
KP 2500-FE



Motor control mechanism for KP 250-F

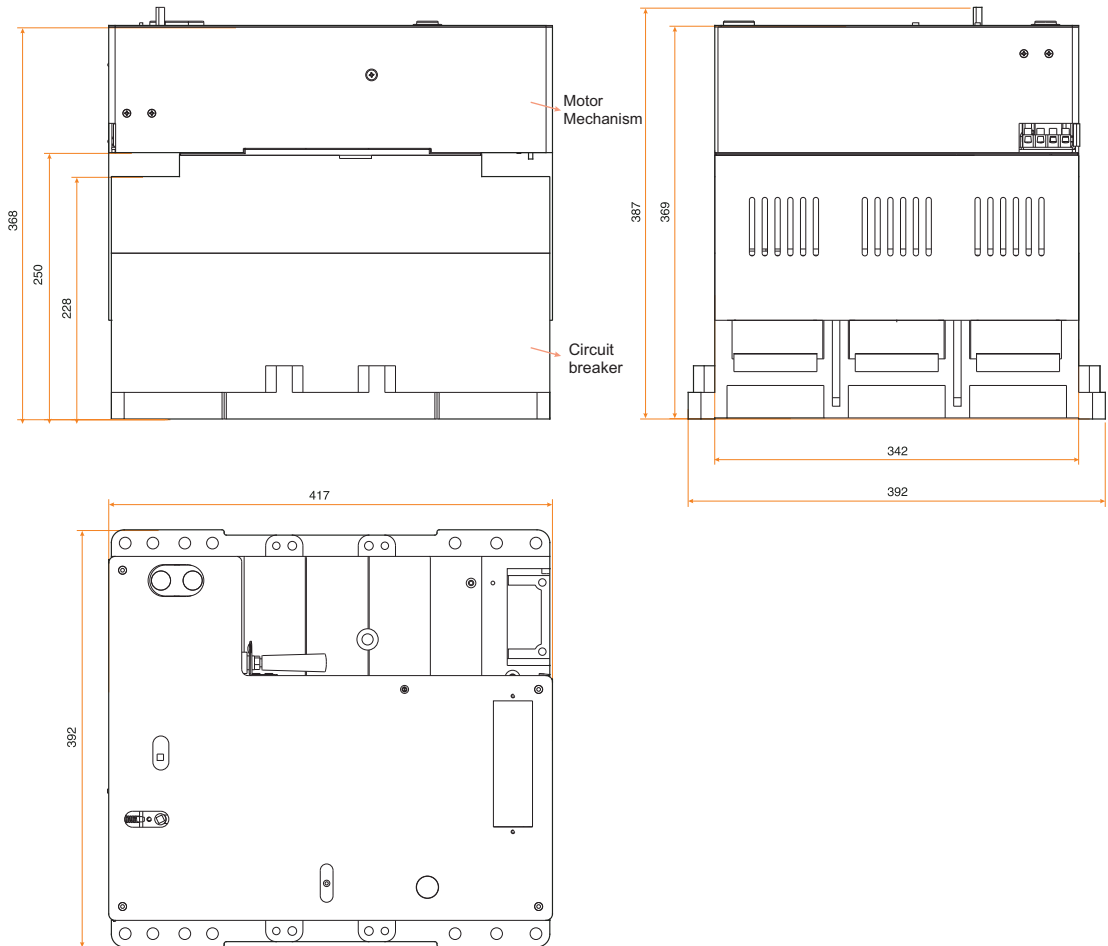


Motor control mechanism for KP 800-F (300-630)A, KP 800-F (800)A, KP 800-FE, KP 1250-FE, KP 1600-FE

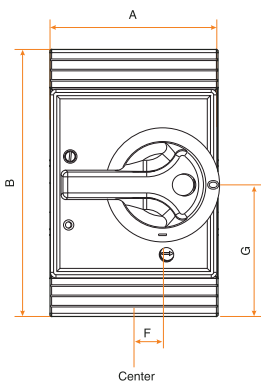
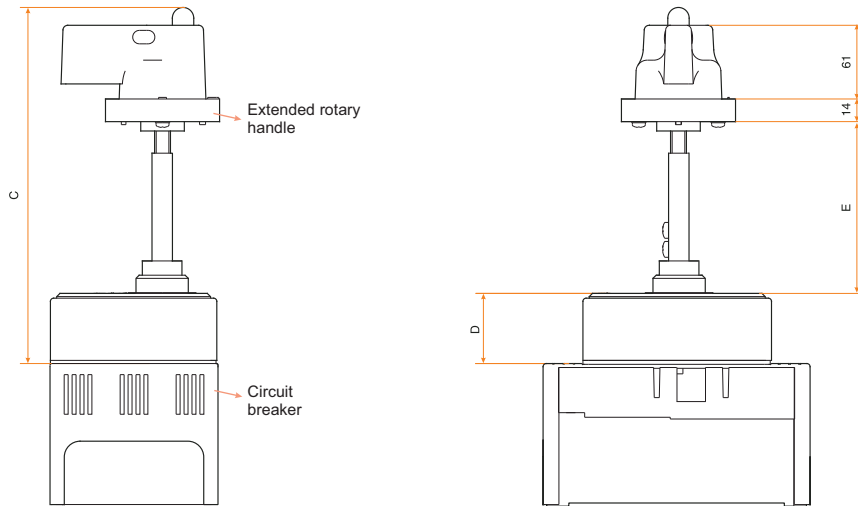


Type	Dimensions
	A
KP 800-F (300-630)A	265
KP 800-F (800)A, KP 800-FE	265
KP 1250-FE	282
KP 1600-FE	309

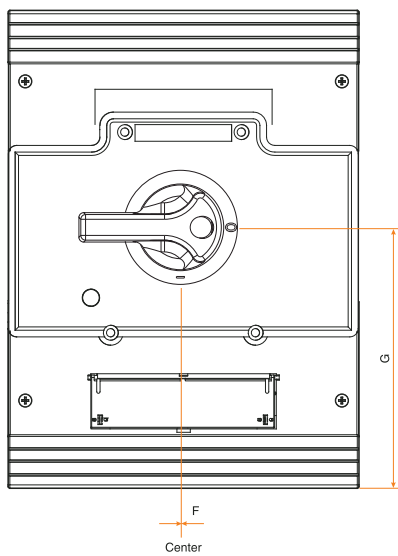
Motor control mechanism for KP 2500-FE



Extended rotary handle



Type	Dimensions							
	A	B	C	D	E		F	G
					min	m%x		
KP 250-F	105	119,5	225	45	100	172	18	85
KP 800-F (300-630)	210	135	310	63,5	100	180	0	145
KP 800-F (800), KP 800-FE	210	135	310	63,5	100	180	0	142
KP 1250-FE	210	135	310	63,5	100	180	0	180



Please ask special design dimensions CD for panel builder.