Usage Manual

[PROF]®

MINIATURE CIRCUIT BREAKER (MCB)

Onninen Sp. z o.o.
Teolin 18B, 92-701 Lodz, Poland
COK@onninen.com

Thank you for choosing EK Series Miniature Circuit Breaker. Please read this manual before installation, operation and maintenance.

OVERVIEW

Miniature Circuit Breaker are magnetic switching devices that can conduct, transport and breake electrical currents at normal operating conditions.

They conduct the current for estimated period, breake the current at abnormal circuit conditions such as over-current or short-circuit. They include units providing thermal and magnetic protection.

STANDARD AND QUALITY CERTIFICATES

CE RoHS TÜV

Model No.	In(A)	Triggerring Characteristic	Standard
EKM1-40N	6,10,16,20,25,32,40	B,C	IEC/EN60898-1
EKM1-63S	1,2,3,4,5,6,8,10,13,16,20,25,32,40,50,63	B,C,D	
EKM1-63			
EKM3-63			
EKM1-63H			
EKM3-63H			
EKM1-63DC	1,2,3,4,6,10,16,20,25,32,40,50,63	10In±20%	IEC/EN60947-2
EKM3-63			
EKM1-125	63,80,100,125		

TECHNICAL SPECIFICATIONS

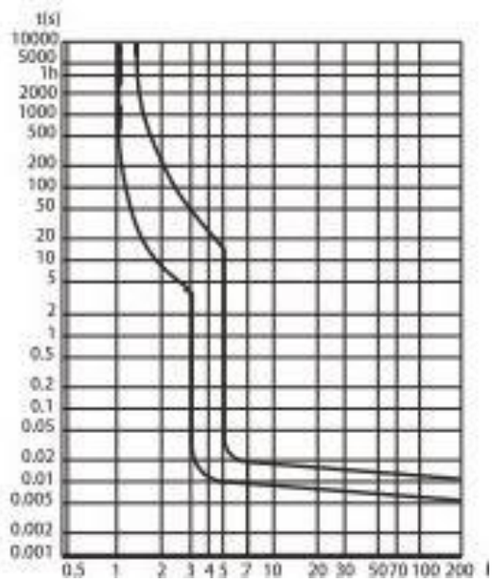
Model No.	Rated Voltage Ue	Rated Breaking Capacity	Number of Poles
EKM1-40N	230/240V	6000A	1P+N
EKM1-63S	230/400V,400V	4500A	1P,1P+N,2P,3P,3P+N,4P
EKM1-63		6000A	
EKM3-63			
EKM1-63H		10000A	
EKM3-63H			
EKM1-63DC	250,500,1000VDC	6000/10000A	1P,2P,4P
EKM1-125	230/400V,400V	10000A	1P,2P,3P,4P
EKM3-63	230/240V,400/415V	6000A	

CHARACTERISTICS CURVES

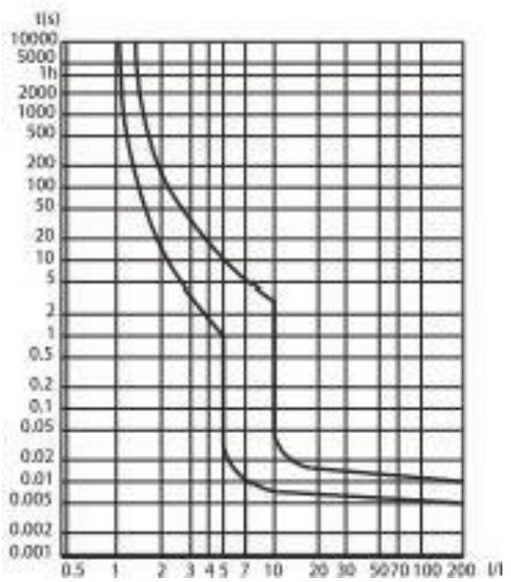
EKM1-40N,EKM1-63S,EKM1-63,EKM1-63H,EKM3-63,EKM3-63H 30~35℃

	ThermalTripping			**MagneticTripping**		
As per IEC60898	No tripping current	Tripping current	Time Limits t	Hold current	Trip **current**	**Time Limits t**
B Curve	1.13×IN	1.45×IN	≥1h <1h	3×IN	5×IN	**≥0.1s** **<0.1s**
C Curve	1.13×IN	1.45×IN	≥1h <1h	5×IN	10×IN	**≥0.1s** **<0.1s**
D Curve	1.13×IN	1.45×IN	≥1h <1h	10×IN	20×IN	**≥0.1s** **<0.1s**

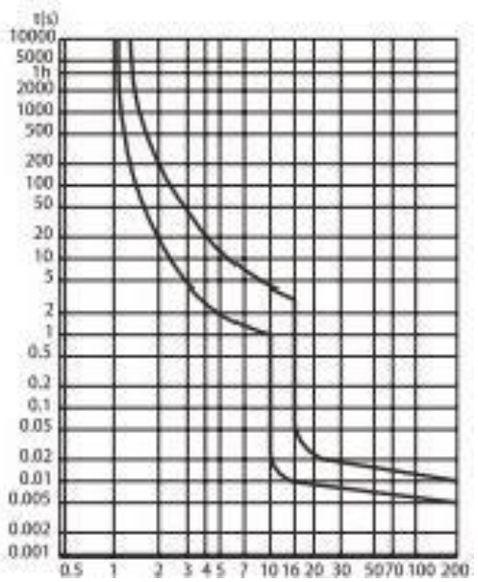
B Type



C Type



D Type

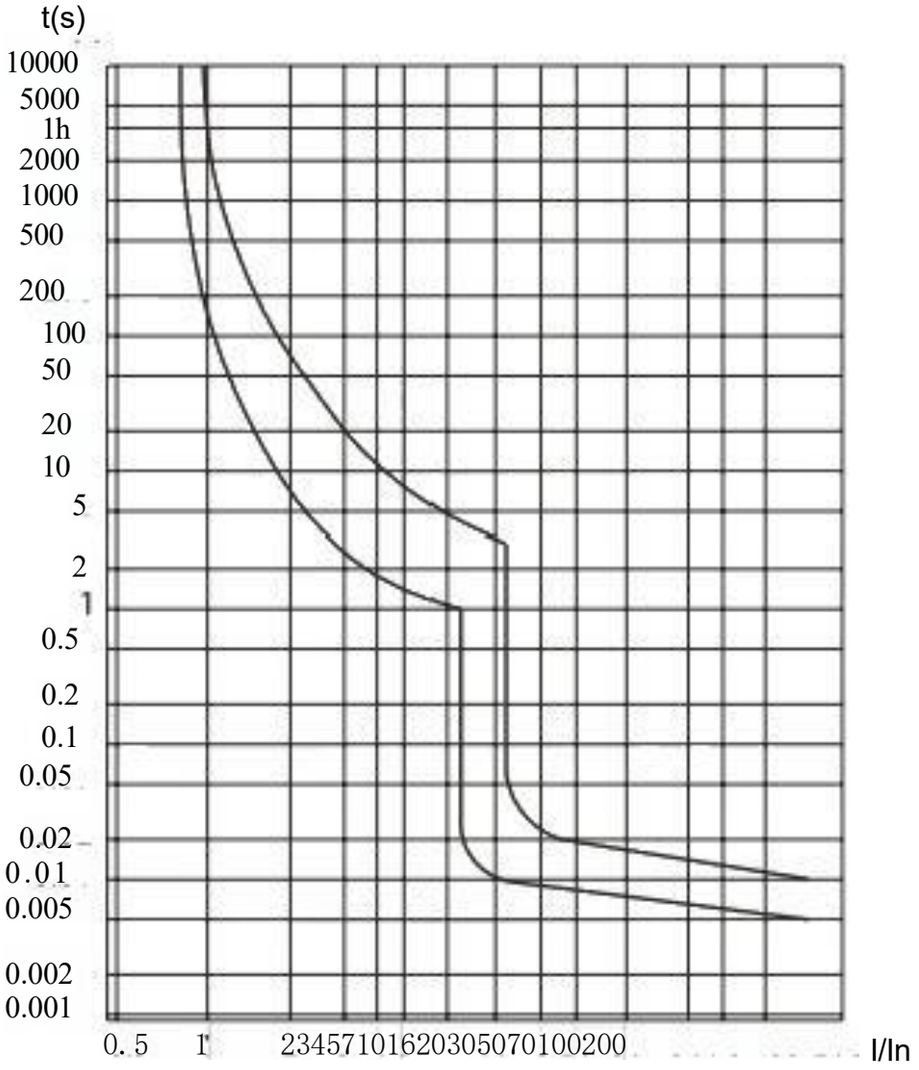


Influence of ambient temperature on load carrying capacity

Rated current InA	Ambient temperature/℃									
	-40	-30	-20	-10	0	10	20	30	40	50
1	1,35	1,30	1,20	1,20	1,15	3,30	1,05	1	0,90	0,88
2	2,70	2,60	2,50	2,40	2,30	2,20	2,10	2	1,90	1,80
3	4,05	3,90	3,75	3,60	3,45	3,30	3,15	3	2,80	2,60
4	5,40	5,20	5,00	4,80	4,60	4,40	4,20	4	3,70	3,50
5	6,75	6,50	6,25	6,00	5,75	5,50	5,25	5	4,70	4,50
6	8,10	7,80	7,50	7,20	6,90	6,60	6,30	6	5,60	5,30
8	11,20	10,60	10,00	9,60	9,20	8,80	8,40	8	7,40	7,00
10	13,50	13,00	12,50	12,00	11,50	11,00	10,50	10	9,30	8,80
13	17,70	17,00	16,30	15,60	15,00	14,30	13,70	13	12,00	11,40
16	21,60	20,80	20,00	19,20	18,40	17,60	16,80	16	14,90	14,00
20	27,00	26,00	25,00	24,00	23,00	22,00	21,00	20	18,60	17,60
25	33,90	32,60	31,30	30,00	28,80	27,50	26,30	25	23,20	22,00
32	43,20	41,60	40,00	38,40	36,80	35,20	33,60	32	30,00	28,20
40	54,00	52,00	50,00	48,00	46,00	44,00	42,00	40	37,20	35,20
50	67,50	65,00	62,50	60,00	57,50	55,00	52,50	50	46,50	44,00
63	85,00	82,00	78,80	75,60	72,50	69,30	66,20	63	58,60	55,40

CHARACTERISTICS CURVES

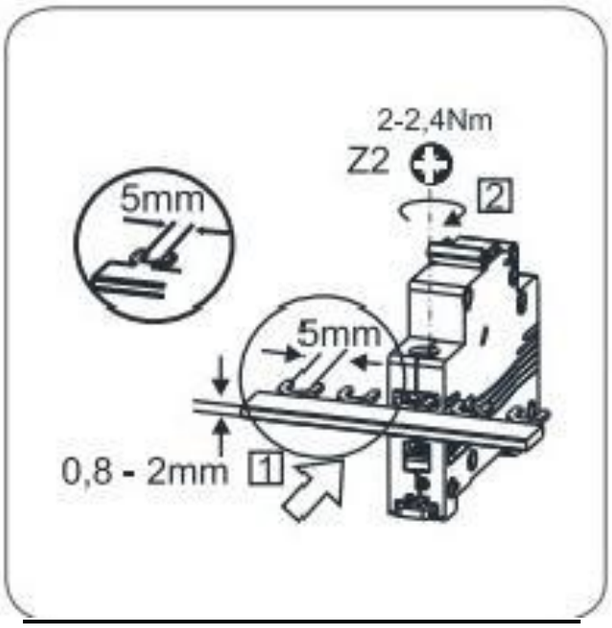
EKM1-63DC,EKM1-125,EKM3-63						
	Thermal Tripping			Magnetic Tripping		
As per IEC60947	No tripping current	Tripping current I2	Time Limits t	Hold current 14	Trip current I5	Time Limits t
1-63A 63-125A	1.05×IN	1.30×IN	≥2h <2h	8×IN	12×IN	≥0.2s <0.2s

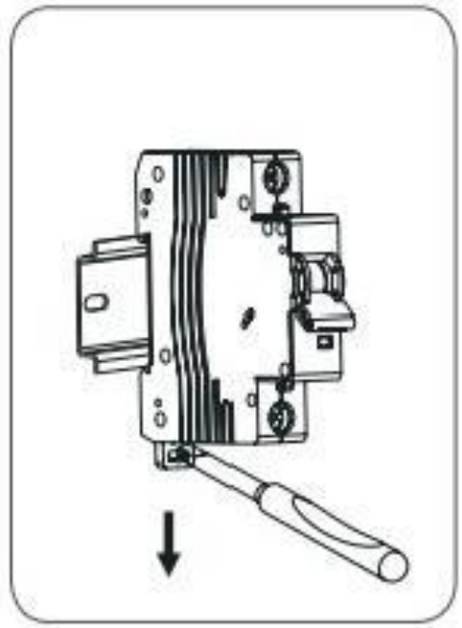


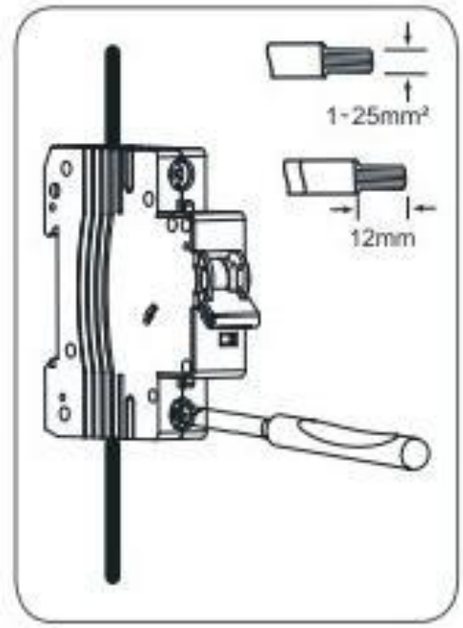
(8-12In)

PRODUCT ASSEMBLY

·Product calibrating and programming are performed during manufacturing and each product is offered to sales after a through quality control. There are no maintenance or programming tasks that the users can perform.

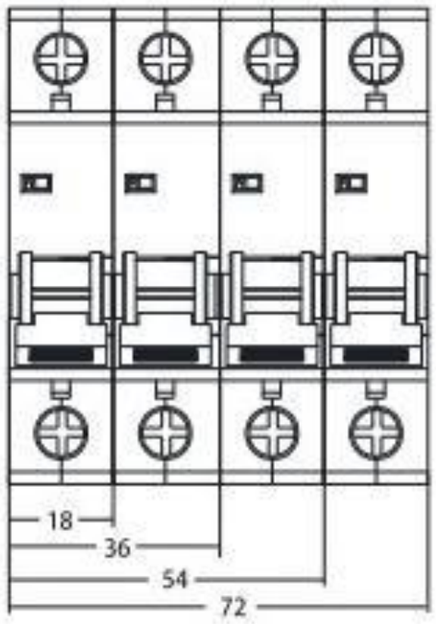


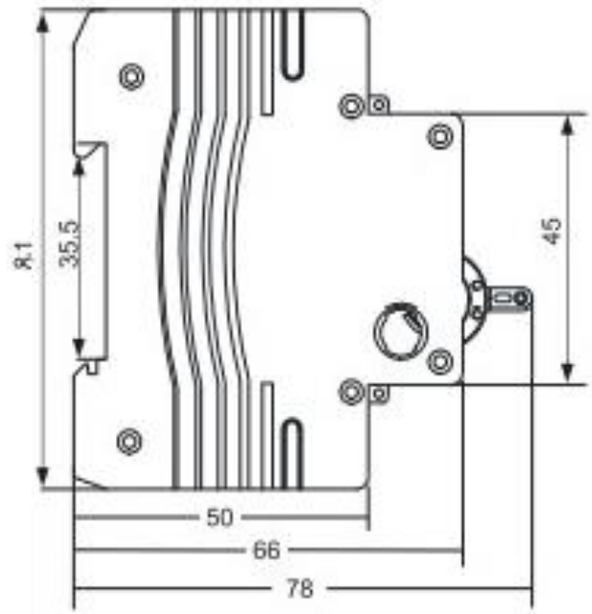




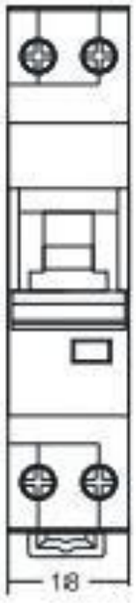
Overall and Installation Dimension(mm)

EKM1-63S

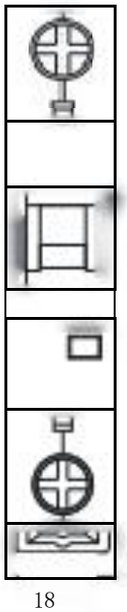


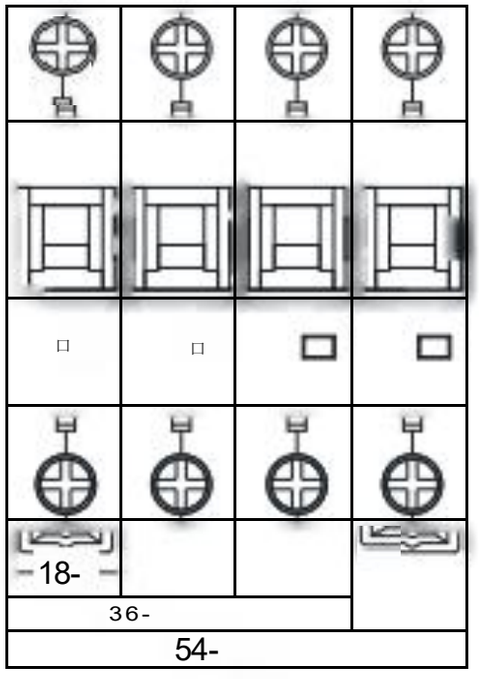


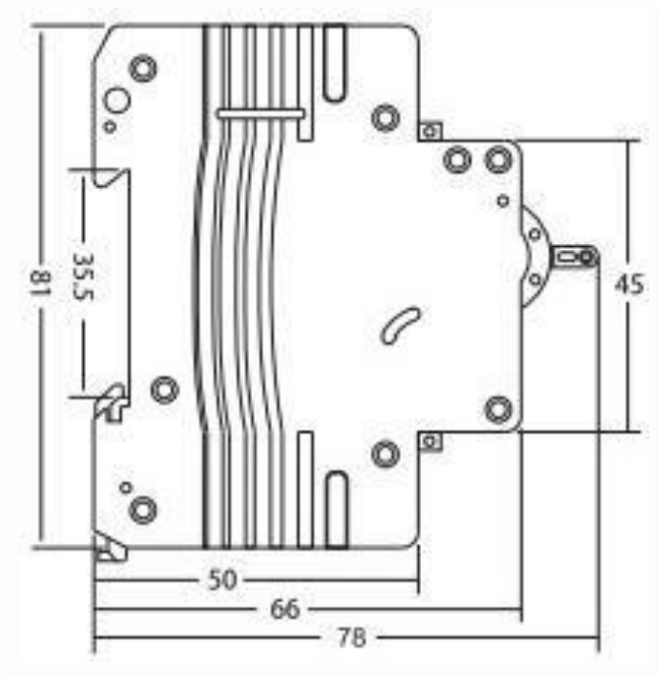
EKM1-40N



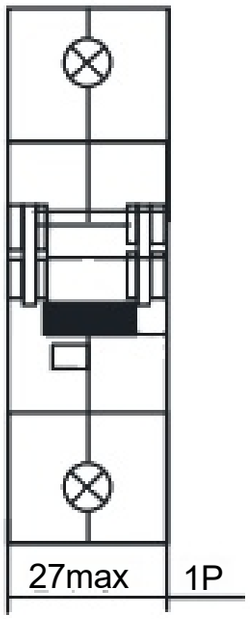
EKM1-63 EKM1-63H

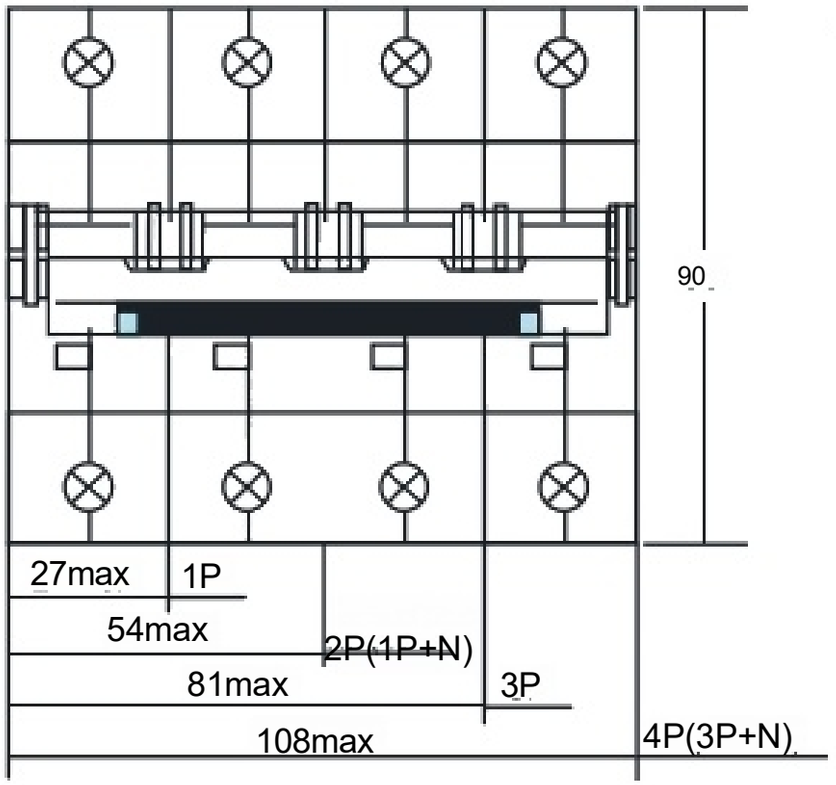


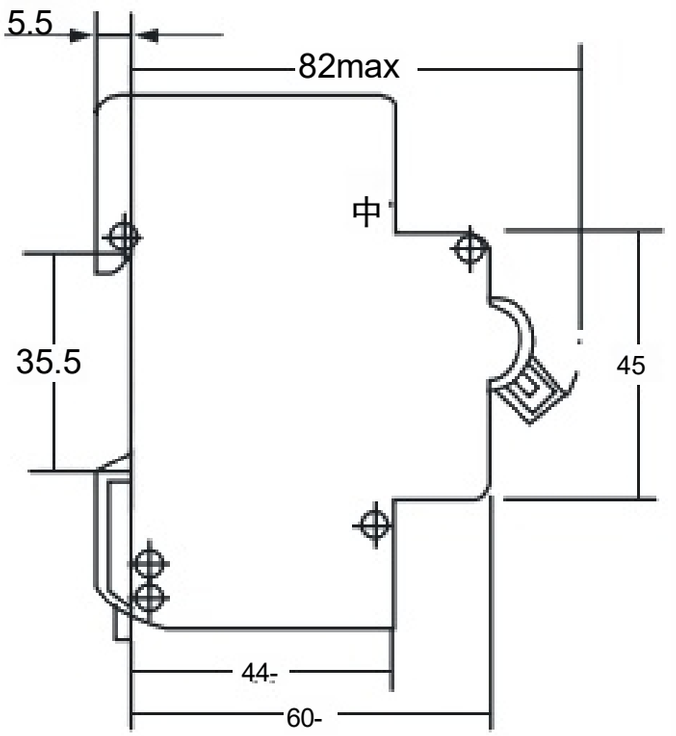




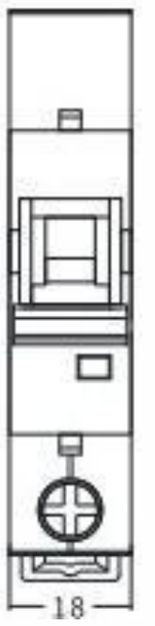
EKM1-125

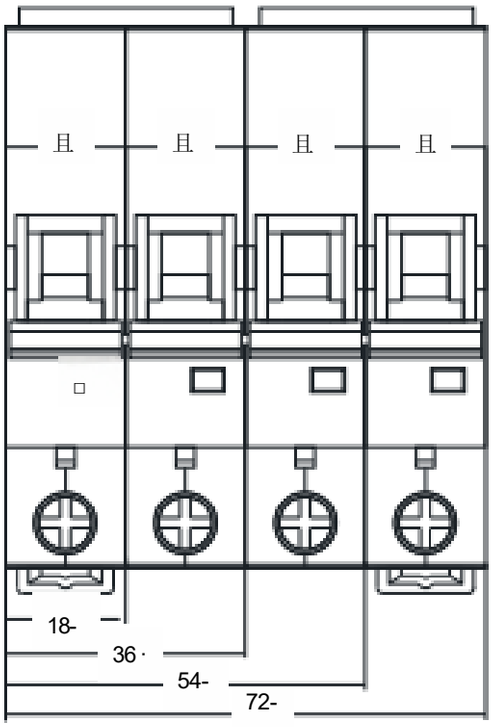


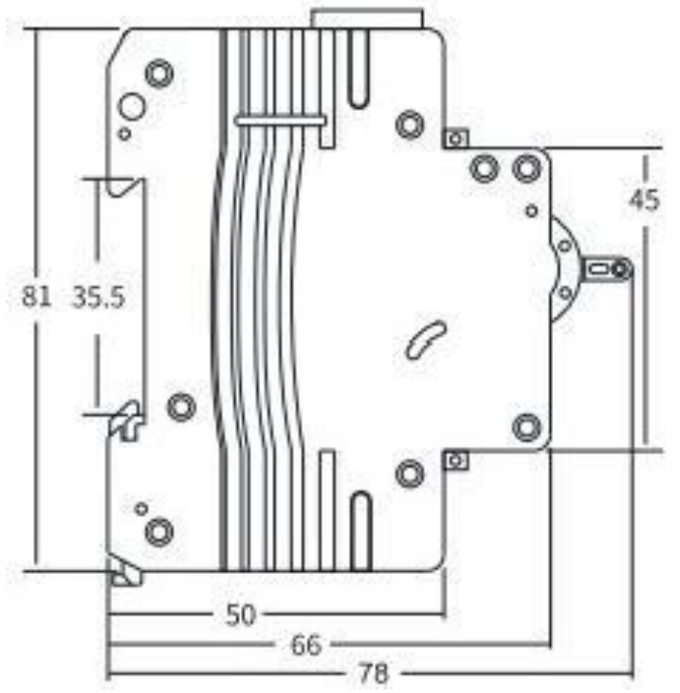




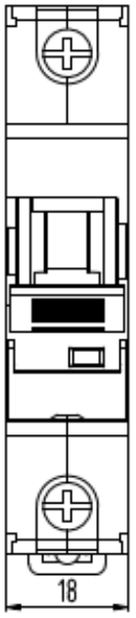
EKM1-63DC

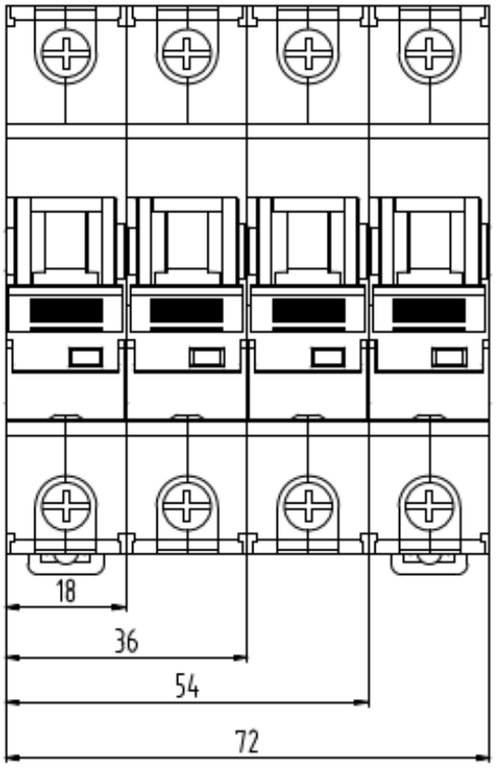


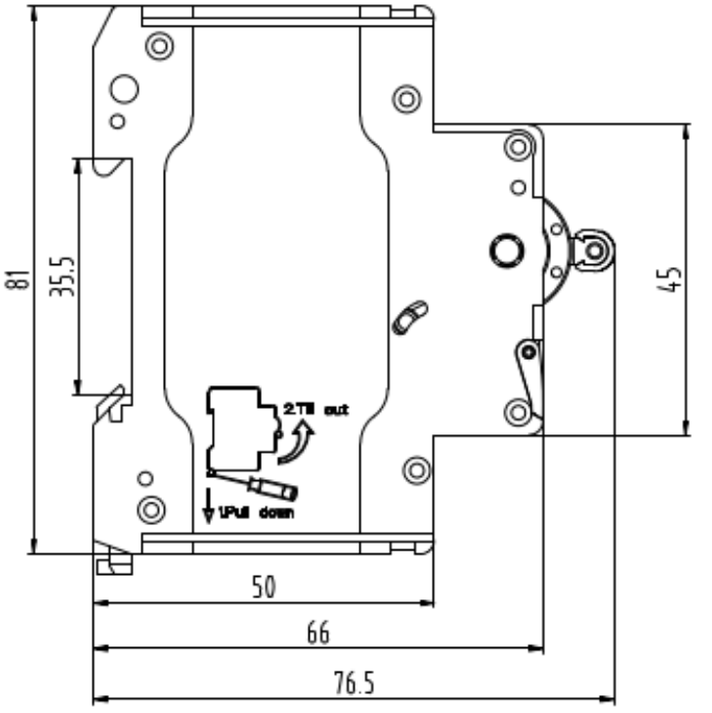




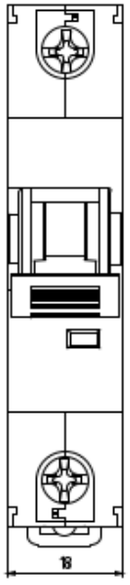
EKM3-63

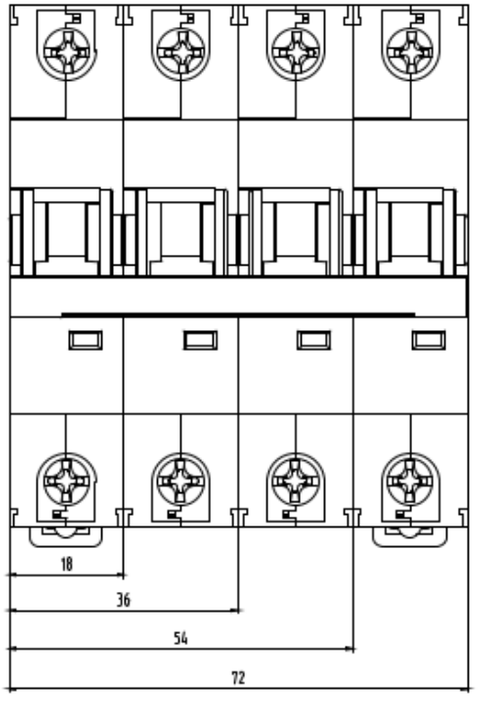


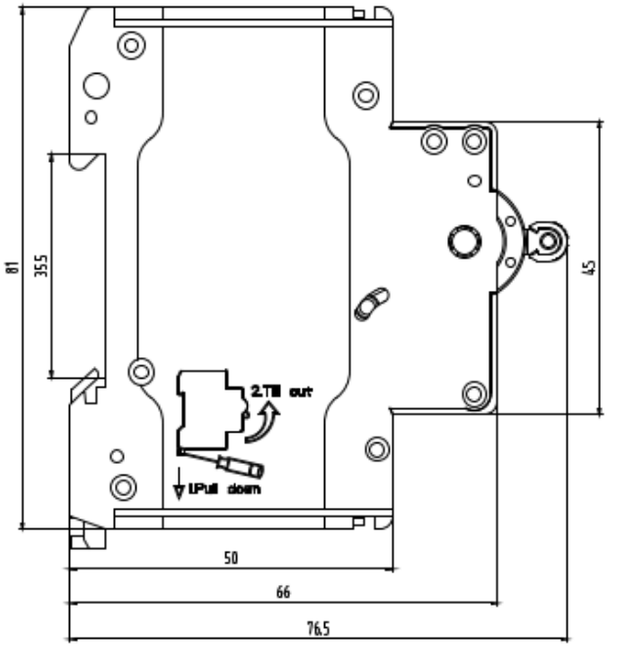




EKM3-63H



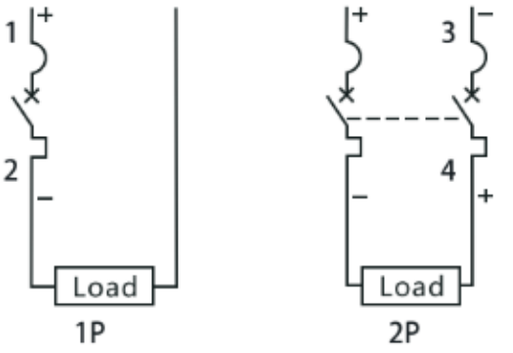


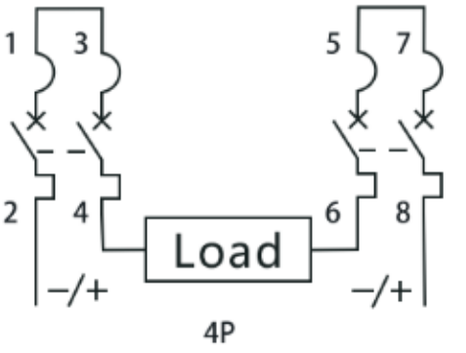


Circuit Diagram

EKM1-40N

EKM1-63DC





EKM1-63S EKM1-63 EKM1-63H EKM1-125 EKM3-63 EKM3-63H