GEWISS

MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

MTX - MOULDED-CASE CIRCUIT BREAKERS

Technical data

			MTX 160c		MTX 160 - MTXE 160			MTX 250	
									
Standard			IEC 60947-2		IEC 60947-2			IEC 60947-2	
Continuous rated current (Iu)		**(A)**	160		160			250	
No. of poles			3-4		3-4			3-4	
Rated operational voltage (Ue)	**(AC) 50-60Hz**	**(V)**	690		690			690	
	(DC)	**(V)**	500		500			500	
Rated impulse withstand voltage (Uimp)		**(kV)**	8		8			8	
Overvoltage category			IV		IV			IV	
Rated insulation voltage (Ui)		**(V)**	800		800			800	
Test voltage at industrial frequency for 1 min.			3000		3000			3000	
Short-circuit breaking capacity (Icu)			**B**	**C**	**N**	**S**	**H**	**N**	**S**
	(AC) 50-60 Hz 220/230V	**(kA)**	25	40	65	85	100	50	85
	(AC) 50-60 Hz 380/415V	**(kA)**	16	25	36	50	70	36	50
	(AC) 50-60 Hz 440V	**(kA)**	10	15	30	45	55	25	40
	(AC) 50-60 Hz 500V	**(kA)**	8	10	25	30	36	20	30
	(AC) 50-60 Hz 690V	**(kA)**	3	4	6	7	8	5	8
	(DC) 250V - 2 poles in series	**(kA)**	16	25	36	50	70	36	50
	(DC) 250V - 3 poles in series	**(kA)**	20	30	40	55	85	40	55
	(DC) 500V - 2 poles in series	**(kA)**	-	-	-	-	-	-	-
	(DC) 500V - 3 poles in series	**(kA)**	16	25	36	50	70	36	50
	(DC) 750V - 3 poles in series	**(kA)**	-	-	-	-	-	-	-
Service short-circuit breaking capacity (Ics)									
	(AC) 50-60 Hz 380/415V	**(kA)**	100%	100%	100%	100%	100%	75%	50% (27kA)
	(AC) 50-60 Hz 440V	**(kA)**	100%	75%	100%	100%	100%	75%	50%
	(AC) 50-60 Hz 500V	**(kA)**	100%	75%	100%	100%	100%	75%	50%
	(AC) 50-60 Hz 690V	**(kA)**	100%	75%	100%	100%	100%	75%	50%
Rated short-circuit making capacity Icm (415V)		**(kA)**	32	52.5	75.6	105	154	75.6	105
Opening time (415V at Icu)		**(ms)**	7	6	3	3	3	7	6
Utilisation category (IEC 60947-2)			A		A			A	
Suitable for isolation			■		■			■	
Thermomagnetic release for power distribution	**T adjustable, M fixed**	**TM1**	■		■			■	
	T adjustable, M adjustable (5..10 x In)	**TM2**							
Thermomagnetic release for generator protection	**T adjustable, M fixed (3 x In)**	**TMG**			■ (N - S)			■	
Magnetic release for motor protection		**M**			■ (N - S)			■	
Electronic release for power distribution		**SEP/1**			■				
		SEP/2							
Versions			F		F - P			F - P	
Terminals	**Fixed (F)**		FC Cu - EF - FC CuAl - HR		F - FC Cu - FC CuAl EF - ES - R			F - FC Cu - FC CuAl EF - ES - R	
	Plug-in (P)		-		F - FC Cu - FC CuAl EF - ES - R			F - FC Cu - FC CuAl EF - ES - R	
	Withdrawable (W)		-		-			-	
Fixing on DIN profile			DIN EN 50022		DIN EN 50022			DIN EN 50022	
Mechanical endurance	**(No. of total operations /No. hourly operations)**		25000 / 240		25000 / 240			25000 / 240	
Electrical endurance (415V)	**(No. of total operations / No. hourly operations)**		8000 / 120		8000 / 120			8000 / 120	
Standard dimensions, fixed 3/4 poles	**L**	**(mm)**	76 / 102		90 / 120			105 / 140	
	D	**(mm)**	70		70			70	
	H	**(mm)**	130		130			150	
Operating temperature		**(°C)**	-25 +70		-25 +70			-25 +70	
Weight	**Fixed (F) 3 / 4 P**	**(kg)**	0.9 / 1.2		1.1 / 1.5			1.5 / 2	
	Plug-in (P) 3 / 4 P	**(kg)**	-		1.5 / 1.9			2.7 / 3.7	
	Withdrawable (W) 3 / 4 P	**(kg)**	-		-			-	

Version key:
F - Fixed
P - Plug-in
W - Withdrawable

Terminals key:
F = Front
EF = Extended front
ES = Extended divaricated front

FC Cu = Front for copper cables
FC CuAl = Front for copper or aluminium cables
R = Rear threaded

HR = Rear horizontal flat
VR = Rear vertical flat
MC = multi-cable

For technical information contact the Technical Assistance Service or visit gewiss.com

MTX

MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

MTX 320 - MTXE 320				MTX 630 - MTXE 630				MTX 1000 - MTXE 1000				MTSE 1600		
														
IEC 60947-2				IEC 60947-2				IEC 60947-2				IEC 60947-2		
250 / 320				400 / 630				630/800/1000				1250 / 1600		
3-4				3-4				3-4				3-4		
690				690				690				690		
750				750				750				-		
8				8				8				8		
IV				IV				IV				IV		
1000				1000				1000				800		
3500				3500				3500				3000		
N	**S**	**H**	**L**	**N**	**S**	**H**	**L**	**N**	**S**	**H**	**L**	**S**	**H**	**L**
70	85	100	200	70	85	100	200	70	85	100	200	85	100	200
36	50	70	120	36	50	70	120	36	50	70	100	50	65	100
30	40	65	100	30	40	65	100	30	45	50	80	40	55	80
25	30	50	85	25	30	50	85	25	35	50	65	35	45	70
20	25	40	70	20	25	40	70	20	22	25	30	20	25	35
36	50	70	100	36	50	70	100	36	50	70	100	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	36	50	70	25	36	50	70	20	35	50	65	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	25	36	50	16	25	36	50	16	20	36	50	-	-	-
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	75%	100%	75%	50%
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	75%	100%	75%	50%
100%	100%	100%	100%	100%	100%	100%	100%[1]	100%	100%	100%	75%	100%	75%	50%
100%	100%	100%	100%	100%	100%	100%[1]	100%[2]	75%	75%	75%	75%	100%	75%	50%
75.6	105	154	264	75.6	105	154	264	75.6	105	154	220	105	143	220
5	5	5	5	6	6	6	6	10	9	8	7	22	22	22
A				B (400A)[5] - A (630 A)				B (630-800 A)[6] - A (1000 A)				B[7]		
■				■				■				■		
■				■				■						
■				■				■				(SEP/A) ■		
■				■				■				(SEP/B) ■		
F - P - W				F - P - W				F - W[3]				F - W		
F - FC Cu - FC CuAl EF - ES - R - MC				F - FC CuAl EF - ES - R - RC				F - FC CuAl EF - ES - R - RC				F - FC CuAl (1250A) EF - ES - HR - VR		
EF - ES - HR - VR FC Cu - FC CuAl				EF - ES - HR - VR FC Cu - FC CuAl				-				-		
EF - ES - HR - VR FC Cu - FC CuAl				EF - ES - HR - VR FC Cu - FC CuAl				EF[4] - HR - VR				EF - HR - VR		
-				-				-				-		
20000 / 240				20000 / 120				20000 / 120				10000 / 120		
8000 / 120 (250A) 6000 / 120 (320A)				7000 / 60 (400A) 5000 / 60 (630A)				7000 / 60 (630A) 5000 / 60 (800A) 4000 / 60 (1000A)				7000 / 20 (1250A) 5000 / 20 (1600A)		
105 / 140				140 / 184				210 / 280				210 / 280		
103.5				103.5				103.5				138.5		
205				205				268				406		
-25 +70				-25 +70				-25 +70				-25 +70		
2.35 / 3.05				3.25 / 4.15				9.5 / 12				17 / 22		
3.6 / 4.65				5.15 / 6.65				-				-		
3.85 / 4.9				5.4 / 6.9				12.1 / 15.1				21.8 / 29.2		

Notes:
1 - 75% for In=630A
2 - 50% for In=630A
3 - Not available for In=1000A
4 - The EF terminals are supplied with the circuit breaker in the version In=1000A
5 - Icw=5kA
6 - Icw=7.6kA (630A) - 10kA (800A)
7 - Icw= 15kA (1250A) - 20kA (1600A)

In the plug-in assembly of MTX/E 160, MTX 250 and MTX/E 630 (630A), and in the withdrawable assembly of MTX/E 630 (630A), the maximum calibration is derated by 10% to 40°C

For technical information contact the Technical Assistance Service or visit gewiss.com

MCCB WITH THERMOMAGNETIC AND MAGNETIC RELEASES

MTX 160c

THERMOMAGNETIC RELEASES - TM1														
	L1 - L2 - L3 (Ith)*	**(A)**	**16 (1)**	**20 (1)**	**25 (2)**	**32**	**40**	**50**	**63**	**80**	**100**	**125**	**160**
	Neutral (Ith)*	**(A)**	**16**	**20**	**25**	**32**	**40**	**50**	**63**	**80**	**100**	**125**	**160**
MTX 160c													
Circuit breaker for power distribution	I_3**	(A)	630	630	630	630	630	630	630	800	1000	1250	1600

(1) Breaking capacity B only (2) Breaking capacity B and C only

The thermal element of the thermomagnetic releases has an adjustable threshold with range (0.7 - 1) x Ith.
This adjustment is done by positioning the selector at the minimum value MIN (0.7 XIth), the average value MED (0.85 XIth) or the maximum value MAX (1xIth). Placing the selector in an intermediate position (for example between MIN and MED) is not possible to know with certainty the value of the corresponding thermal trip.

The adjusted current value obtained should be considered rated at 40°C

Neutral 100% protected

* "Ith" indicates the calibration current of the relay to protect the phases and neutral ** Magnetic tripping current with fixed threshold

MTX 160

THERMOMAGNETIC RELEASES - TM1						
	L1 - L2 - L3 (Ith)*	**(A)**	**10**	**16**	**20**	**25**
	Neutral (Ith)*	**(A)**	**10**	**16**	**20**	**25**
MTX 160						
Circuit breaker for power distribution	I_3**	(A)	100	500	500	500

The thermal element of the thermomagnetic releases has an adjustable threshold with range (0.7 - 1) x Ith.
This adjustment is done by positioning the selector at the minimum value MIN (0.7 XIth), the average value MED (0.85 XIth) or the maximum value MAX (1xIth).
Placing the selector in an intermediate position (for example between MIN and MED) is not possible to know with certainty the value of the corresponding thermal trip.

The adjusted current value obtained should be considered rated at 40°C

Neutral 100% protected

* "Ith" indicates the calibration current of the relay to protect the phases and neutral ** Magnetic tripping current with fixed threshold

MTX 160

THERMOMAGNETIC RELEASES FOR GENERATOR PROTECTION - TMG									
	L1 - L2 - L3 (Ith)*	**(A)**	**25**	**40**	**63**	**80**	**100**	**125**	**160**
	Neutral (Ith)*	**(A)**	**25**	**40**	**63**	**80**	**100**	**125**	**160**
MTX 160									
Circuit breaker for generator protection	I_3** = 3xIn	(A)	160	200	200	240	300	375	480

The thermal element of the thermomagnetic releases has an adjustable threshold with range (0.7 - 1) x Ith.
This adjustment is done by positioning the selector at the minimum value MIN (0.7 XIth), the average value MED (0.85 XIth) or the maximum value MAX (1xIth). Placing the selector in an intermediate position (for example between MIN and MED) is not possible to know with certainty the value of the corresponding thermal trip.

The adjusted current value obtained should be considered rated at 40°C

Neutral 100% protected

* "Ith" indicates the calibration current of the relay to protect the phases and neutral ** Magnetic tripping current with fixed threshold

MTX 160

MAGNETIC RELEASES FOR MOTOR PROTECTION - M																		
	L1 - L2 - L3 (Ith)*	**(A)**	**1 (1)**	**1.6 (1)**	**2 (1)**	**2.5 (1)**	**3.2 (1)**	**4 (1)**	**5 (1)**	**6.5 (1)**	**8.5 (1)**	**11 (1)**	**12.5 (1)**	**20 (2)**	**32 (2)**	**52 (2)**	**80 (2)**	**100 (2)**
MTX 160																		
Circuit breaker for motor protection	I_3**	(A)	13	21	26	33	42	52	65	84	110	145	163	240	384	624	960	1200

(1) I3 = 13xIth; (2) I3 = (6 ÷ 12) Ith

The adjusted current value obtained should be considered rated at 40°C

* "Ith" indicates the calibration current of the relay to protect the phases and neutral ** Magnetic tripping current

MTX 250

THERMOMAGNETIC RELEASES - TM1									
	L1 - L2 - L3 (Ith)*	**(A)**	**63**	**80**	**100**	**125**	**160**	**200**	**250**
	Neutral (Ith)*	**(A)**	**63**	**80**	**100**	**125**	**160**	**200**	**250**
MTX 250									
Circuit breaker for power distribution	**I_3** = 10xIn**	(A)	630	800	1000	1250	1600	2000	2500

The thermal element of the thermomagnetic releases has an adjustable threshold with range (0.7 - 1) x Ith.
This adjustment is done by positioning the selector at the minimum value MIN (0.7 XIth), the average value MED (0.85 XIth) or the maximum value MAX (1xIth). Placing the selector in an intermediate position (for example between MIN and MED) is not possible to know with certainty the value of the corresponding thermal trip.

The adjusted current value obtained should be considered rated at 40°C

Neutral 100% protected

* "Ith" indicates the calibration current of the relay to protect the phases and neutral ** Magnetic tripping current with fixed threshold

MTX 250

THERMOMAGNETIC RELEASES FOR GENERATOR PROTECTION - TMG									
	L1 - L2 - L3 (Ith)*	**(A)**	**63**	**80**	**100**	**125**	**160**	**200**	**250**
	Neutral (Ith)*	**(A)**	**63**	**80**	**100**	**125**	**160**	**200**	**250**
MTX 250									
Circuit breakers for generator protection	**I_3** = 3xIn**	(A)	400	400	400	400	480	600	750

The thermal element of the thermomagnetic releases has an adjustable threshold with range (0.7 - 1) x Ith.
This adjustment is done by positioning the selector at the minimum value MIN (0.7 XIth), the average value MED (0.85 XIth) or the maximum value MAX (1xIth). Placing the selector in an intermediate position (for example between MIN and MED) is not possible to know with certainty the value of the corresponding thermal trip.

The adjusted current value obtained should be considered rated at 40°C

Neutral 100% protected

* "Ith" indicates the calibration current of the relay to protect the phases and neutral ** Magnetic tripping current with fixed threshold

MTX 250

MAGNETIC RELEASES FOR MOTOR PROTECTION - M						
	L1 - L2 - L3 (Ith)*	**(A)**	**100 (1)**	**125 (1)**	**160 (1)**	**200 (1)**
MTX 250						
Circuit breaker for motor protection	**I_3****	(A)	1200	1500	1920	2400

(1) I3 = (6 - 12) Ith

The adjusted current value obtained should be considered rated at 40°C

* "Ith" indicates the calibration current of the relay to protect the phases and neutral ** Magnetic tripping current

MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

MTX 320

THERMOMAGNETIC RELEASES - TM2							
	L1 - L2 - L3 (Ith)*	**(A)**	**100 (1)**	**125 (1)**	**160 (1)**	**200 (1)**	**250 (1)**
	Neutral (Ith)*	**(A)**	**100 (1)**	**125 (1)**	**160 (1)**	**200 (1)**	**250 (1)**
MTX 320							
Circuit breaker for power distribution	I_3**	(A)	1000	1250	1600	2000	2500

(1) I3 = (5 ÷ 10) Ith

The thermal element of the thermomagnetic releases has an adjustable threshold with range (0.7 - 1) x Ith.
This adjustment is done by positioning the selector at the minimum value MIN (0.7 XIth), the average value MED (0.85 XIth) or the maximum value MAX (1xIth). Placing the selector in an intermediate position (for example between MIN and MED) is not possible to know with certainty the value of the corresponding thermal trip.
The adjusted current value obtained should be considered rated at 40°C

Neutral 100% protected

* "Ith" indicates the calibration current of the relay to protect the phases and neutral ** Magnetic tripping current with fixed threshold

MTX 630

THERMOMAGNETIC RELEASES - TM2					
	L1 - L2 - L3 (Ith)*	**(A)**	**320 (1)**	**400 (1)**	**500 (1)**
	Neutral (Ith)*	**(A)**	**320 (1)**	**400 (1)**	**500 (1)**
MTX 630					
Circuit breaker for power distribution	I_3**	(A)	1000	1250	1600

(1) I3 = (5 - 10) Ith

The thermal element of the thermomagnetic releases has an adjustable threshold with range (0.7 - 1) x Ith.
This adjustment is done by positioning the selector at the minimum value MIN (0.7 XIth), the average value MED (0.85 XIth) or the maximum value MAX (1xIth). Placing the selector in an intermediate position (for example between MIN and MED) is not possible to know with certainty the value of the corresponding thermal trip.
The adjusted current value obtained should be considered rated at 40°C

Neutral 100% protected

* "Ith" indicates the calibration current of the relay to protect the phases and neutral ** Magnetic tripping current

MTX 1000

THERMOMAGNETIC RELEASES - TM2				
	L1 - L2 - L3 (Ith)*	**(A)**	**630 (1)**	**800 (1)**
	Neutral (Ith)*	**(A)**	**630 (1)**	**800 (1)**
MTX 1000				
Circuit breaker for power distribution	I_3**	(A)	6300	8000

(1) I3 = (5 - 10) Ith

The thermal element of the thermomagnetic releases has an adjustable threshold with range (0.7 - 1) x Ith.
This adjustment is done by positioning the selector at the minimum value MIN (0.7 XIth), the average value MED (0.85 XIth) or the maximum value MAX (1xIth). Placing the selector in an intermediate position (for example between MIN and MED) is not possible to know with certainty the value of the corresponding thermal trip.
The adjusted current value obtained should be considered rated at 40°C

Neutral 100% protected

* "Ith" indicates the calibration current of the relay to protect the phases and neutral ** Magnetic tripping current

MCCB WITH ELECTRONIC RELEASES

MTXE 160

SEP/1 ELECTRONIC RELEASES							
	L1 - L2 - L3 (Ith)*	**(A)**	**10**	**25**	**63**	**100**	**160**
	Neutral (Ith)*	**(A)**	**10**	**25**	**63**	**100**	**160**
MTXE 160							
Circuit breaker for power distribution	**L**	(A)	4 / 10	10 / 25	25.2 / 63	40 / 100	64 / 160
	S	(A)	10 / 100	25 / 250	63 / 630	100 / 1000	160 / 1600
	I	(A)	10 / 100	25 / 250	63 / 630	100 / 1000	160 / 1600

The adjusted current value obtained should be considered rated at 40°C

Neutral 100% protected

* "Ith" indicates the calibration current of the relay to protect the phases and neutral

MTXE 320

SEP/1 - SEP/2 ELECTRONIC RELEASES							
	L1 - L2 - L3 (Ith)*	**(A)**		**100**	**160**	**250**	**320**
	Neutral (Ith)*	**(A)**		**100**	**160**	**250**	**320**
MTXE 320							
Circuit breaker for power distribution	**SEP/1**	L	(A)	40 / 100	64 / 160	100 / 250	128 / 320
		S [1]	(A)	100 / 1000	160 / 1600	250 / 2500	320 / 3200
		I [1]	(A)	100 / 1000	160 / 1600	250 / 2500	320 / 3200
	SEP/2	L	(A)	40 / 100	64 / 160	100 / 250	128 / 320
		S [1]	(A)	60 / 1000	96 / 1600	150 / 2500	192 / 3200
		I [1]	(A)	150 / 1200	240 / 1920	375 / 3000	480 / 3840
		G	(A)	20 / 100	32 / 160	50 / 250	64 / 320

[1] MTXE 320 In=320A; MTXE 630 In=630A; MTXE 1000 In=1000A = MAX adjustment 9.5 X In

The adjusted current value obtained should be considered rated at 40°C

Neutral 50% or 100% protected

* "Ith" indicates the calibration current of the relay to protect the phases and neutral

MTXE 630

SEP/1 - SEP/2 ELECTRONIC RELEASES					
	L1 - L2 - L3 (Ith)*	**(A)**		**400**	**630**
	Neutral (Ith)*	**(A)**		**400**	**630**
MTXE 630					
Circuit breaker for power distribution	**SEP/1**	L	(A)	160 / 400	252 / 630
		S [1]	(A)	400 / 4000	630 / 6300
		I [1]	(A)	400 / 4000	630 / 6300
	SEP/2	L	(A)	160 / 400	252 / 630
		S [1]	(A)	240 / 4000	378 / 6300
		I [1]	(A)	240 / 4800	378 / 7560
		G	(A)	80 / 400	126 / 630

[1] MTXE 320 In=320A; MTXE 630 In=630A; MTXE 1000 In=1000A = MAX adjustment 9.5 X In

The adjusted current value obtained should be considered rated at 40°C

Neutral 50% or 100% protected

* "Ith" indicates the calibration current of the relay to protect the phases and neutral

MTXE 1000

SEP/1 - SEP/2 ELECTRONIC RELEASES						
	L1 - L2 - L3 (Ith)*	**(A)**		**630**	**800**	**1000**
	Neutral (Ith)*	**(A)**		**630**	**800**	**1000**
MTXE 1000						
Circuit breaker for power distribution	**SEP/1**	L	(A)	252 / 630	320 / 800	400 / 1000
		S [1]	(A)	630 / 6300	800 / 8000	1000 / 10000
		I [1]	(A)	630 / 6300	800 / 8000	1000 / 10000
	SEP/2	L	(A)	252 / 630	320 / 800	400 / 1000
		S [1]	(A)	378 / 6300	480 / 8000	600 / 10000
		I [1]	(A)	378 / 7560	480 / 9600	600 / 12000
		G	(A)	126 / 630	160 / 800	200 / 1000

[1] MTXE 320 In=320A; MTXE 630 In=630A; MTXE 1000 In=1000A = MAX adjustment 9.5 X In

The adjusted current value obtained should be considered rated at 40°C

Neutral 50% or 100% protected

* "Ith" indicates the calibration current of the relay to protect the phases and neutral

MTSE 1600

SEP/A - SEP/B ELECTRONIC RELEASES					
	L1 - L2 - L3 (Ith)*	**(A)**		**1250**	**1600**
	Neutral (Ith)*	**(A)**		**1250**	**1600**
MTSE 1600					
Circuit breaker for power distribution	**SEP/A**	L	(A)	500 / 1250	640 / 1600
		S	(A)	1250 / 12500	1600 / 16000
		I	(A)	1875 / 15000	2400 / 19200
	SEP/B	L	(A)	500 / 1250	640 / 1600
		S	(A)	1250 / 12500	1600 / 16000
		I	(A)	1875 / 15000	2400 / 19200
		G	(A)	500 / 1250	640 / 1600

The adjusted current value obtained should be considered rated at 40°C

Neutral 50% or 100% protected

* "Ith" indicates the calibration current of the relay to protect the phases and neutral

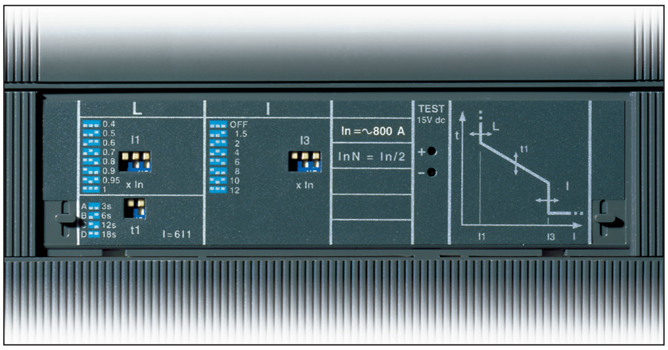
ADJUSTING THE ELECTRONIC RELEASES

SEP/1 electronic release

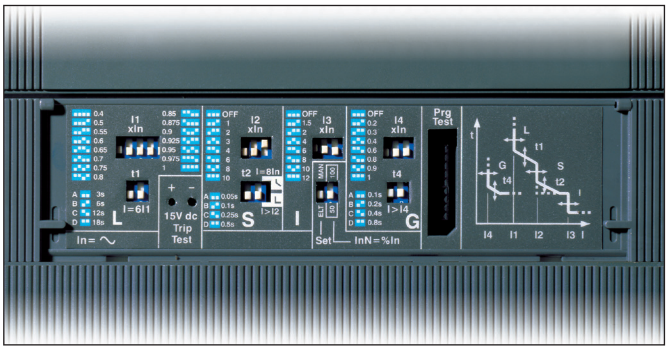
SEP/2 electronic release

TRIPPING THRESHOLDS AND CHARACTERISTICS		
Protection function	**SEP/1**	
	Tripping threshold	**Tripping characteristic**
Overload protection **L** Against overloads, with reverse long time delayed tripping and time-dependent tripping characteristic	I_1 = 0.40 x In step = 0.04 x In MTXE 160 Release between 1.05...1.30 x I_1 MTXE 320 - MTXE 630 - MTXE 1000 Release between 1.1...1.30 x I_1	at 6 x I_1 t_1 = 3-6s (MTXE 160) 12s (MTXE 320 - MTX 630 - MTX 1000) Tolerance: MTXE 160 ± 10% up to 2 x In - ± 20% above 2 x In MTXE 320 - MTXE 630 - MTXE 1000 ± 10% up to 6 x In - ± 20% above 6 x In
Short-circuit protection long delay **S** Against short-circuiting, with reverse short time delayed tripping and time-dependent (I^2t =constant) or time-independent tripping characteristic I^2t=cost ON I^2t=cost OFF **CAN BE EXCLUDED**	I_2[1] = 1 - 1.5 - 2 - 2.5 - 3 - 3.5 - 4.5 - 5.5 - 6.5 - 7 - 7.5 - 8 - 8.5 - 9 - 10 x In Tolerance: MTXE 160 ± 10% up to 2 x In - ± 20% above 2 x In MTXE 320 - MTXE 630 - MTXE 1000 ± 10%	at 8 x In t_2 = 0.1 - 0.25s Tolerance: MTXE 160 ± 20% MTXE 320 - MTXE 630 - MTXE 1000 ± 10% up to 6 x In - ± 20% above 6 x In
Instantaneous short-circuit protection **I** Against short-circuiting, with instantaneous adjustable tripping **CAN BE EXCLUDED**	I_3[1] = 1 - 1.5 - 2 - 2.5 - 3 - 3.5 - 4.5 - 5.5 - 6.5 - 7 - 7.5 - 8 - 8.5 - 9 - 10 x In Tolerance: MTXE 160 ± 20% MTXE 320 - MTXE 630 - MTXE 1000 ± 10%	Instantaneous
	SEP/2	
	Tripping threshold	**Tripping characteristic**
Overload protection **L** Against overloads, with reverse long time delayed tripping and time-dependent tripping characteristic	I_1 = 0.40 x In step = 0.04 x In Release between 1.1...1.30 x I_1	at 6 x I_1 t_1[2] = 3 - 6 - 9 18s Tolerance: ± 10%
Short-circuit protection long delay **S** Against short-circuiting, with reverse short time delayed tripping and time-dependent (I^2t =constant) or time-independent tripping characteristic I^2t=cost ON I^2t=cost OFF **CAN BE EXCLUDED**	I_2[1] = 0.6 - 1.2 - 1.8 - 2.4 - 3 - 3.6 - 4.2 - 5.8 - 6.4 - 7 - 7.6 - 8.2 - 8.8 - 9.4 - 10 x In Tolerance: ± 10%	**For t = k/I²** at 8 x In t_2 = 0.05 - 0.1 - 0.25 - 0.5s **For t = k** t_2 = 0.05 - 0.1 - 0.25 - 0.5s
Instantaneous short-circuit protection **I** Against short-circuiting, with instantaneous adjustable tripping **CAN BE EXCLUDED**	I_3[1] = 1.5 - 2.5 - 3 - 4 - 4.5 - 5 - 5.5 -6.5 - 7 - 7.5 - 8 - 9 - 9.5 - 10.5 - 12 x In Tolerance: ± 10%	Instantaneous
Earthing protection **G** Against earthing faults, with reverse short time delayed tripping and time-dependent tripping characteristic (I^2t =constant) **CAN BE EXCLUDED**	I_4 = 0.2 - 0.25 - 0.45 - 0.55 - 0.75 - 0.8 - 1 x In Tolerance: ± 10%	Up to 3.15 x I_4: t_4 = 0.1s Up to 2.25 x I_4: t_4 = 0.2s Up to 1.6 x I_4: t_4 = 0.4s Up to 1.10 x I_4: t_4 = 0.8s

(1) MTXE 320 In=320A; MTXE 630 In=630A; MTXE 1000 In=1000A = MAX adjustment 9.5 X In.
(2) MTXE 320 In=320A ; MTXE 630 In=630A; MTXE 1000 In=1000A = t1 = 10,5s.



SEP/A electronic release



SEP/B electronic release

TRIPPING THRESHOLDS AND CHARACTERISTICS		
Protection function	**Tripping threshold**	**Tripping characteristic**
Overload protection **L** Against overloads, with reverse long time delayed tripping and time-dependent tripping characteristic	I1 = 0,4 - 0,5 - 0,6 - 0,7 - 0,8 - 0,9 - 0,95 - 1 x In I1 = 0,4 - 0,5 - 0,55 - 0,6 - 0,65 - 0,7 - 0,75 - 0,8 - 0,85 - 0,875 - 0,9 - 0,925 - 0,95 - 0,975 - 1 x In Release between 1,05 ... 1,30 x I1 (IEC 60947-2)	at 6 xI1 t1 = 3s; at 6x I1 t1 = 6s; at 6x I1 t1 = 12s; at 6x I1 t1 = 18s (Tolerance: + 10% up 2 x In: + 20% above 2 x In)
Short-circuit protection long delay **S** Against short-circuiting, with reverse short time delayed tripping and time-dependent (I2t =constant) or time-independent tripping characteristic I²t=cost ON I²t=cost OFF **CAN BE EXCLUDED**	I2 = 1 -2 -3 - 4 -6 - 8 - 10 x In Tolerance: + 10% I2 = 1 -2 -3 - 4 -6 - 8 - 10 x In Tolerance: + 10%	at 8 xI1 t2 = 0,05s; at 8x I1 t2 = 0,1s; at 8x I1 t2 = 0,25s; at 8x I1 t2 = 0,5s (Tolerance: + 20%) t2 = 0,05s; t2 = 0,1s; t2 = 0,25s; t2 = 0,5s (Tolerance + 20%)
Instantaneous short-circuit protection **I** Against short-circuiting, with instantaneous adjustable tripping **CAN BE EXCLUDED**	I3 = 1,5 -2 - 4 -6 - 8 - 10 - 12 x In Tolerance: + 20%	Instantaneous
Earthing protection **G** Against earthing faults, with reverse short time delayed tripping and time-dependent tripping characteristic (I2t =constant) **CAN BE EXCLUDED**	I4 = 0,2 - 0,3 - 0,4 - 0,6 - 0,8 - 0,9 - 1 x In Tolerance: + 20%	up to 3,25 x I4 t4 = 100ms; up to 2,25 x I4 t4 = 200ms; up to 1,6 x I4 t4 = 400ms; up to 1,25 x I4 t4 = 800ms (Tolerance + 10% up to 2 x In: + 20% above 2 x In)

For technical information contact the Technical Assistance Service or visit gewiss.com

ADD-ON RCD FOR MTX/M

Technical data

TYPE	BDI (instantaneus)	BDR (adjustable)	
			
Suitable for	MTX/M 160c - MTX/E160 MTX/M 250	MTX/M 160c - MTX/E160 MTX/M 250	MTX/E/M 320 - MTXM 400 MTX/E/M 630
Type	"L"-shaped	"L"-shaped	Placed below
Technology	Electronic	Electronic	Electronic
Action	Solenoid	Solenoid	Solenoid
Primary operating voltage [1] (V)	85…500	85…500	85…500
Operating frequency (Hz)	45…66	45…66	45…66
Self-powered	Yes	Yes	Yes
Test operation range [1] (V)	85…500	85…500	85…500
Rated operating current (A)	Up to 250	Up to 250	Up to 500
Adjustable tripping thresholds (A)	0.03 - 0.1 - 0.3 - 0.5 - 1 - 3	0.03 - 0.05 - 0.1 - 0.3 - 0.5 - 1 - 3 - 5 - 10	0.03 - 0.05 - 0.1 - 0.3 - 0.5 - 1 - 3 - 5 - 10
Adjustable tripping times (s)	Instantaneous	Instantaneous 0.1 - 0.2 - 0.3 - 0.5 - 1 - 2 - 3	Instantaneous 0.1 - 0.2 - 0.3 - 0.5 - 1 - 2 - 3
Tolerance for tripping time		± 20%	± 20%
Absorbed power [2]	< 8W at 400V AC	< 10W at 400V AC	< 10W at 400V AC
Local tripping signalling	■	■	■
Change-over contact for tripping signalling	■	■	■
Input for remote opening		■	■
NO contact for pre-alarm signalling		■	■
NO contact for alarm signalling		■	■
Pre-alarm indication at 25% Idn (tolerance ±3%)	■	■	■
Timed alarm indication at 75% Idn (tolerance ±3%)	■	■	■
A type for alternating and pulsating current AC type only for alternating current	■	■	■
AE type with remote release		■	■
S type (selective)		■	■
Button key for insulation test	■	■	■
Power supply from above or below	■	■	■
Kit for converting circuit breaker with RCCB from fixed to plug-in		■	■

[1] Operation up to 50V phase-neutral
[2] The absorbed power values may be lower when the power supply voltage values are lower

For technical information contact the Technical Assistance Service or visit gewiss.com

General characteristics of Add-on BDI and BDR

The MTX moulded-case circuit breakers (up to 500A) are suitable for combined assembly with residual current releases of the BDI and BDR ranges.

These releases, made with analogue electronic technology, act directly on the circuit breaker thanks to an opening release, already provided with the residual current release, to be put in the special slot in the area of the left-hand pole. No auxiliary power supply is necessary because they are supplied directly from the mains (from above or from below), and functioning is also guaranteed with just one phase plus neutral, or just two live phases and with one-way pulsating currents with direct components.

The residual current releases are manufactured in compliance with the following Standards:
- IEC 60947-2 appendix B
- IEC 61000: for protection against untimely tripping

Three-phase application and Switch-disconnectors MTXM application

The neutral connection must be on the left and the device functioning conditions can be constantly monitored by means of the test push-button of the electronic circuit and the magnetic indicator for RCCB tripping. The ADD-ON RCD can be also used in three-phase balanced distribution system without neutral. In this case MCCB 4-pole version must be chosen and it's necessary to wire the three phases on appropriate terminals excluding the N terminal. Also in this situation the test push-button works correctly.

The residual current releases can also be assembled on the MTXM switch disconnectors. In this case, the resulting device is a residual current circuit breaker RCCB.

Accessories and installation

The 4-pole circuit breaker with residual current release can still be equipped with the same electrical accessories usually available for that circuit breaker without Add-on RCD.

The residual current releases are supplied with:
- an opening release to be housed in the area of the third pole, completed with an auxiliary contact which signals tripping due to a fault in the RCCB.
- a cover for the cell.
- terminal covers (for residual current release with "L" shape, except for GWD8241)

It is not possible to create the plug-in and withdrawable configuration of circuit breakers equipped with residual current releases.

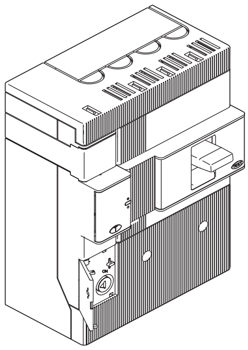
To assemble the circuit breaker with residual current device on a DIN rail, you must order the appropriate bracket.
A circuit breaker cannot be simultaneously equipped with both Add-on RCD and the rotating handle or motor control (except for the side mounting motor control for MTX 160c, MTX 160 and MTXE 160).

For the releases with adjustable tripping only (BDR) it is possible to use the opening solenoid, given as standard accessory, to open the circuit breaker remotely without the addition of extra solenoid. It's enough to connect NC contact to Y11-Y12 terminals on the front of device.

The three cables 85-86-88 of opening solenoid, given as standard accessory, can be used for optional signaling when the residual current circuit breaker trips.

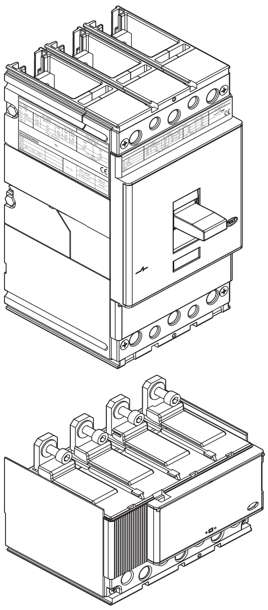
"L-shaped" residual current release

These residual current releases - available for MTX circuit breakers up to 250A, both instantaneous and adjustable version - are characterised by the specific type of cable connection, directly on the circuit breaker once the RCCB has been assembled. This guarantees the rationalisation and simplification of the installation procedure. The distinctive "L" shape allows a reduction in the overall dimensions of the circuit breaker-residual current release assembly, and makes it possible to access the adjustment functions on the left side of the circuit breaker, while the toroid is mounted below.
These residual current releases can be assembled on the MTX 160c circuit breaker, both with front terminal for copper cables (FC Cu) and with the special rear horizontal terminals (HR), code GW D8 418.
The MTX/E 160 and MTX 250 circuit breakers, on the other hand, can only take the FC Cu terminals. For this reason, the relative residual current releases are always supplied with a semi-kit of these terminals.
Only for the MTX 160c circuit breaker is there an adjustable, lowered version that allows it to be installed in 200mm DIN modules.



Under-mounting residual current release

These residual current releases are only available in the version with adjustable tripping, and they can be assembled on MTX/E 320 and MTX/E 630 circuit breakers up to 500A.
The release is supplied with standard front terminals, but can be equipped with any terminal available for the corresponding circuit breaker.



MTXM - SWITCH DISCONNECTORS

Technical data

				MTXM 160 c	MTXM 250	MTXM 320
						
Standard				IEC 60947-3	IEC 60947-3	IEC 60947-3
Conventional thermal current (Ith)			**(A)**	160	250	320
Rated operating current in category AC22 (Ie)			**(A)**	160	250	320
Rated operating current in category AC23 (Ie)			**(A)**	125	200	250
No. of poles				3-4	3-4	3-4
Rated operational voltage (Ue)		**(AC) 50-60Hz**	**(V)**	690	690	690
		(DC)	**(V)**	500	500	750
Rated impulse withstand voltage (Uimp)			**(kV)**	8	8	8
Overvoltage category				IV	IV	IV
Rated insulation voltage (Ui)			**(V)**	800	800	800
Test voltage at industrial frequency for 1 min.			**(V)**	3000	3000	3000
Rated short-circuit making capacity (Icm)			**(kA)**	2.8	5.3	5.3
Brief allowable rated current for 1s (Icw)			**(kA)**	2	3.6	3.6
Versions				F	F - P	F - P - W
Terminals				FC Cu - EF - FC CuAl	F - FC CuAl - FC Cu - EF - ES - R	F - FC CuAl - FC Cu - EF - ES - R - MC - HR - VR
Mechanical endurance	**(no. of manoeuvres / operations per hour)**			25000 / 120	25000 / 120	20000 / 120
Standard dimensions, fixed, 3/4 poles		**L**	**(mm)**	76 / 102	105 / 140	105 / 140
		D	**(mm)**	70	70	103.5
		H	**(mm)**	130	150	205
Operating temperature			**(°C)**	-25 +70	-25 +70	-25 +70
	Fixed (F)	**3 / 4 P**	**(kg)**	0.9 / 1.2	1.5 / 2	2.35 / 3.05
Weight	**Plug-in version (P)**	**3 / 4 P**	**(kg)**	/	2.1 / 3.7	3.6 / 4.65
	Withdrawable version (W)	**3 / 4 P**	**(kg)**	/	/	3.85 / 4.9

Version key:
F - Fixed
P - Plug-in
W - Withdrawable

Terminals key:
F = Front
EF = Extended front
ES = Extended divaricated front
FC Cu = Front for copper cables
FC CuAl = Front for copper or aluminium cables
R = Rear threaded
HR = Rear horizontal flat
VR = Rear vertical flat
MC = multi-cable

COORDINATION BETWEEN SWITCH DISCONNECTORS AND MCCB'S - 380/415V a.c.

MCCB'S

RANGE		MTX 160c		MTX 160 - MTXE 160			MTX 250		MTX 320 - MTXE 320				MTX 630 - MTXE 630 (400A)			
Icu (kA)		16	25	36	50	70	36	50	36	50	70	120	36	50	70	120
SWITCH DISCONNECTORS	MTXM 160c	16	25	36	50	70	-	-	-	-	-	-	-	-	-	-
	MTXM 250	-	-	-	-	-	36	50	36	50	70	120	-	-	-	-
	MTXM 320	-	-	-	-	-	-	-	36	50	70	120	-	-	-	-
	MTXM 400	-	-	-	-	-	-	-	-	-	-	-	36	50	70	120
	MTXM 630	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MTXM 800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MTXM 1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MTSM 1600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

MTXM 400	MTXM 630	MTXM 800	MTXM 1000	MTSM 1600
				
IEC 60947-3	IEC 60947-3	IEC 60947-3	IEC 60947-3	IEC 60947-3
400	630	800	1000	1250 / 1600
400	630	800	1000	1250 / 1600
400	400	800	800	/
3-4	3-4	3-4	3-4	3-4
690	690	690	690	690
750	750	750	750	750
8	8	8	8	8
IV	IV	IV	IV	IV
800	800	1000	1000	800
3000	3000	3500	3500	3000
11	11	30	30	52.5
6	6	15	15	25
F - P - W	F - P - W	F - W	F	F - W
F - FC CuAl - FC Cu - EF - ES - R - HR - VR	F - FC CuAl - FC Cu - EF - ES - R - HR - VR	F - FC CuAl - EF - ES - R - RC	F - FC CuAl - EF - ES - R - RC	F - EF - FC CuAl (1250) - HR - VR
20000 / 120	20000 / 120	20000 / 120	20000 / 120	1000 / 120
140 / 184	140 / 184	210 / 280	210 / 280	210 / 280
103.5	103.5	103.5	103.5	138.5
205	205	268	268	406
-25 +70	-25 +70	-25 +70	-25 +70	-25 +70
3.25 / 4.15	3.25 / 4.15	9.5 / 12	9.5 / 12	17 / 22
5.15 / 6.65	5.15 / 6.65	/	/	/
5.4 / 6.9	5.4 / 6.9	12.1 / 15.1	/	21.8 / 29.2

COORDINATION BETWEEN SWITCH DISCONNECTORS AND MCCB'S - 380/415V a.c.														
MCCB'S														
MTXE 630 (630A)				MTX 1000 - MTXE 1000 (800A)				MTXE 1000 (1000A)				MTSE 1600		
36	50	70	120	36	50	70	100	36	50	70	100	50	65	100
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	50	70	120	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	36	50	70	100	36	50	70	100	-	-	-
-	-	-	-	-	-	-	-	36	50	70	100	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	50	65	100

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Power loss

TOTAL POWER LOSS OF THERMOMAGNETIC AND ELECTRONIC CIRCUIT BREAKERS (W/pole)																					
In (A)	MTX 160c	MTX 160		MTXE 160		MTX 250		MTX 320		MTXE 320		MTX 630		MTXE 630		MTX 1000		MTXE 1000		MTSE 1600	
	F	F	D	F	D	F	D	F	P-W	F	P-W	F	P-W	F	P-W	F	W	F	W	F	P-W
10				0.5	0.6																
16	1.5																				
20	1.8																				
25	2	2.3	2.8	1	1.2																
32	2.1	2.7	3.2																		
40	2.6	3.9	4.6																		
50	3.7	4.3	5																		
63	4.3	5.1	6	3.5	4	4.3	5.1														
80	4.8	6.1	7.2			4.8	5.8														
100	7	8.5	10	8	9.2	5.6	6.8	5.2	5.8	1.7	2.3										
125	10.7	12	14.7			6.6	7.9	6.2	7.2												
160	15	17	20	17	20	7.9	9.5	7.4	9	4.4	6										
200						13.2	15.8	9.9	12.4												
250						17.8	21.4	13.7	17.6	10.7	14.6										
320										17.6	24	13.6	20.9	10.6	17.9						
400												19.5	31	16.5	28						
500												28.8	36.7								
630														41	53.6	30.6	30	30	38.3		
800																31	39.6	32	41.6		
1000																		50			
1250																				160	220
1600																				260	360

TOTAL POWER LOSS OF MAGNETIC CIRCUIT BREAKERS (W/pole)			
In (A)	MTX 160	MTX 250	
	F	F	F-P
1	1.5		
1.6	2.1		
2	2.5		
2.5	2.6		
3.2	2.9		
4	2.6		
5	2.9		
6.5	3.5		
8.5	2.7		
11	3.1		
12.5	1.1		
20	1.7		
32	2.7		
52	4.3		
80	6.1		
100	8.5	5.6	6.8
125		6.6	7.9
160		7.9	9.5
200		13.2	15.8

TOTAL POWER LOSS OF NON-AUTOMATIC CIRCUIT BREAKERS (W/pole)															
In (A)	**MTXM 160c**	**MTXM 250**		**MTXE 320**		**MTXM 400**		**MTXM 630**		**MTXM 800**		**MTXE 1000**	**MTSE 1600**	
	F	F	D	F	P-W	F	P-W	F	P-W	F	W	F	F	P-W
10														
16														
20														
25														
32														
40														
50														
63														
80														
100														
125														
160	15													
200														
250		17.8	21.4											
320				17.6	24									
400						16.5	28							
500														
630								41	53.6					
800										32	41.6			
1000												50		
1250													160	220
1600													260	360

Temperature performance

Circuit breakers with thermomagnetic and magnetic releases

TEMPERATURE PERFORMANCE FOR MTX 160c THERMOMAGNETIC - RATED CURRENT							
In (A)	**10°C**	**20°C**	**30°C**	**40°C**	**50°C**	**60°C**	**70°C**
16	13 - 18	12 - 18	12 - 17	11 - 16	11 - 15	10 - 14	9 - 13
20	16 - 23	15 - 22	15 - 21	14 - 20	13 - 19	12 - 18	11 - 16
25	20 - 29	19 - 28	18 - 26	18 - 25	16 - 23	15 - 22	14 - 20
32	26 - 37	25 - 35	24 - 34	22 - 32	21 - 30	20 - 28	18 - 26
40	32 - 46	31 - 44	29 - 42	28 - 40	26 - 38	25 - 35	23 - 33
50	40 - 58	39 - 55	37 - 53	35 - 50	33 - 47	31 - 44	28 - 41
63	51 - 72	49 - 69	46 - 66	44 - 63	41 - 59	39 - 55	36 - 51
80	64 - 92	62 - 88	59 - 84	56 - 80	53 - 75	49 - 70	46 - 65
100	81 - 115	77 - 110	74 - 105	70 - 100	66 - 94	61 - 88	57 - 81
125	101 - 144	96 - 138	92 - 131	88 - 125	82 - 117	77 - 109	71 - 102
160	129 - 184	123 - 176	118 - 168	112 - 160	105 - 150	98 - 140	91 - 130

TEMPERATURE PERFORMANCE FOR MTX 160 THERMOMAGNETIC - RATED CURRENT							
In (A)	**10°C**	**20°C**	**30°C**	**40°C**	**50°C**	**60°C**	**70°C**
16	13 - 18	12 - 18	12 - 17	11 - 16	10 - 15	10 - 14	9 - 13
20	16 - 23	15 - 22	15 - 21	14 - 20	13 - 19	12 - 17	11 - 16
25	20 - 29	19 - 28	18 - 26	18 - 25	16 - 23	15 - 22	14 - 20
32	26 - 37	25 - 35	24 - 34	22 - 32	21 - 30	19 - 28	18 - 26
40	32 - 46	31 - 44	29 - 42	28 - 40	26 - 37	24 - 35	23 - 32
50	40 - 57	39 - 55	37 - 53	35 - 50	33 - 47	30 - 43	28 - 40
63	51 - 72	49 - 69	46 - 66	44 - 63	41 - 59	38 - 55	36 - 51
80	64 - 92	62 - 88	59 - 84	56 - 80	52 - 75	49 - 70	45 - 65
100	80 - 115	77 - 110	74 - 105	70 - 100	65 - 93	61 - 87	56 - 81
125	101 - 144	96 - 138	92 - 132	88 - 125	82 - 117	76 - 109	71 - 101
160	129 - 184	123 - 178	118 - 168	112 - 160	105 - 150	97 - 139	90 - 129

TEMPERATURE PERFORMANCE FOR MTX 160 MAGNETIC - RATED CURRENT							
In (A)	**10°C**	**20°C**	**30°C**	**40°C**	**50°C**	**60°C**	**70°C**
1	/	/	/	/	/	/	/
1.6	1.3 - 1.8	1.2 - 1.8	1.2 - 1.7	1.1 - 1.6	1 - 1.5	1 - 1.4	0.9 - 1.3
2	1.6 - 2.3	1.5 - 2.2	1.5 - 2.1	1.4 - 2	1.3 - 1.9	1.2 - 1.7	1.1 - 1.6
2.5	2 - 2.9	1.9 - 2.8	1.8 - 2.6	1.8 - 2.5	1.6 - 2.3	1.5 - 2.2	1.4 - 2
3.2	2.6 - 3.7	2.5 - 3.5	2.4 - 3.4	2.2 - 3.2	2.1 - 3	1.9 - 2.8	1.8 - 2.6
4	3.2 - 4.6	3.1 - 4.4	2.9 - 4.2	2.8 - 4	2.6 - 3.7	2.4 - 3.5	2.3 - 3.2
5	4 - 5.7	3.9 - 5.5	3.7 - 5.3	3.5 - 5	3.3 - 4.7	3 - 4.3	2.8 - 4
6.5	5.1 - 7.2	4.9 - 6.9	4.6 - 6.6	4.4 - 6.3	4.1 - 5.9	3.8 - 5.5	3.6 - 5.1
8.5	6.4 - 9.2	6.2 - 8.8	5.9 - 8.4	5.6 - 8	5.2 - 7.5	4.9 - 7	4.5 - 6.5
11	8 - 11.5	7.7 - 11	7.4 - 10.5	7 - 10	6.5 - 9.3	6.1 - 8.7	5.6 - 8.1
12.5	10.1 - 14.4	9.6 - 13.8	9.2 - 13.2	8.8 - 12.5	8.2 - 11.7	7.6 - 10.9	7.1 - 10.1
20	16 - 23	15 - 22	15 - 21	14 - 20	13 - 19	12 - 17	11 - 16
32	26 - 37	25 - 35	24 - 34	22 - 32	21 - 30	19 - 28	18 - 26
52	40 - 57	39 - 55	37 - 53	35 - 50	33 - 47	30 - 43	28 - 40
80	64 - 92	62 - 88	59 - 84	56 - 80	52 - 75	49 - 70	45 - 65
100	80 - 115	77 - 110	74 - 105	70 - 100	65 - 93	61 - 87	56 - 81
125	101 - 144	96 - 138	92 - 132	88 - 125	82 - 117	76 - 109	71 - 101
160	129 - 184	123 - 178	118 - 168	112 - 160	105 - 150	97 - 139	90 - 129
200	/	/	/	/	/	/	/

TEMPERATURE PERFORMANCE FOR MTX 250 THERMOMAGNETIC AND MAGNETIC - RATED CURRENT							
In (A)	**10°C**	**20°C**	**30°C**	**40°C**	**50°C**	**60°C**	**70°C**
63	51 - 72	49 - 69	46 - 66	44 - 63	41 - 59	38 - 55	35 - 51
80	64 - 92	62 - 88	59 - 84	56 - 80	52 - 75	48 - 69	45 - 64
100	80 - 115	77 - 110	74 - 105	70 - 100	65 - 93	61 - 87	56 - 80
125	101 - 144	96 - 138	92 - 132	88 - 125	82 - 116	76 - 108	70 - 100
160	129 - 184	123 - 176	118 - 168	112 - 160	104 - 149	97 - 139	90 - 129
200	161 - 230	154 - 220	147 - 211	140 - 200	130 - 186	121 - 173	112 - 161
250	201 - 287	193 - 278	184 - 263	175 - 250	163 - 233	152 - 216	141 - 201

TEMPERATURE PERFORMANCE FOR MTX 320 THERMOMAGNETIC - RATED CURRENT							
In (A)	**10°C**	**20°C**	**30°C**	**40°C**	**50°C**	**60°C**	**70°C**
100	83 - 118	80 - 113	74 - 106	70 - 100	66 - 95	59 - 85	49 - 75
125	103 - 145	100 - 140	94 - 134	88 - 125	80 - 115	73 - 105	63 - 95
160	130 - 185	124 - 176	118 - 168	112 - 160	106 - 150	100 - 104	90 - 130
200	162 - 230	155 - 220	147 - 210	140 - 200	133 - 190	122 - 175	107 - 160
250	200 - 285	193 - 275	183 - 262	175 - 250	168 - 240	160 - 230	150 - 220

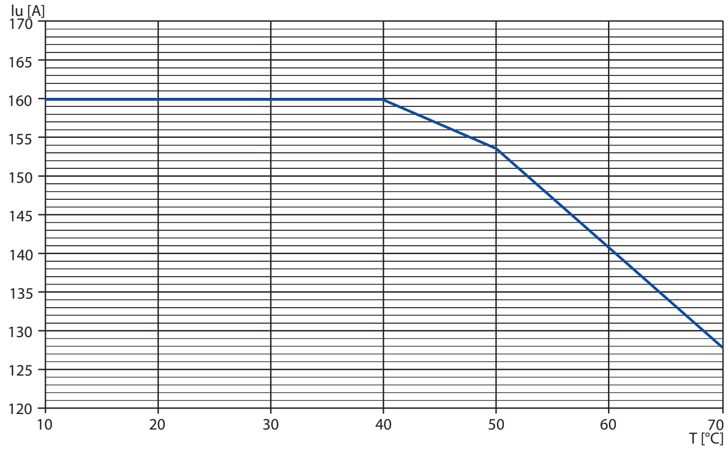
TEMPERATURE PERFORMANCE FOR MTX 630 THERMOMAGNETIC - RATED CURRENT							
In (A)	**10°C**	**20°C**	**30°C**	**40°C**	**50°C**	**60°C**	**70°C**
320	260 - 368	245 - 350	234 - 335	224 - 320	212 - 305	200 - 285	182 - 263
400	325 - 465	310 - 442	195 - 420	280 - 400	265 - 380	250 - 355	230 - 325
500	435 - 620	405 - 580	380 - 540	350 - 500	315 - 450	280 - 400	240 - 345

TEMPERATURE PERFORMANCE FOR MTX 1000 THERMOMAGNETIC - RATED CURRENT							
In (A)	**10°C**	**20°C**	**30°C**	**40°C**	**50°C**	**60°C**	**70°C**
630	520 - 740	493 - 705	462 - 660	441 - 630	405 - 580	380 - 540	350 - 500
800	685 - 965	640 - 905	605 - 855	560 - 800	520 - 740	470 - 670	420 - 610

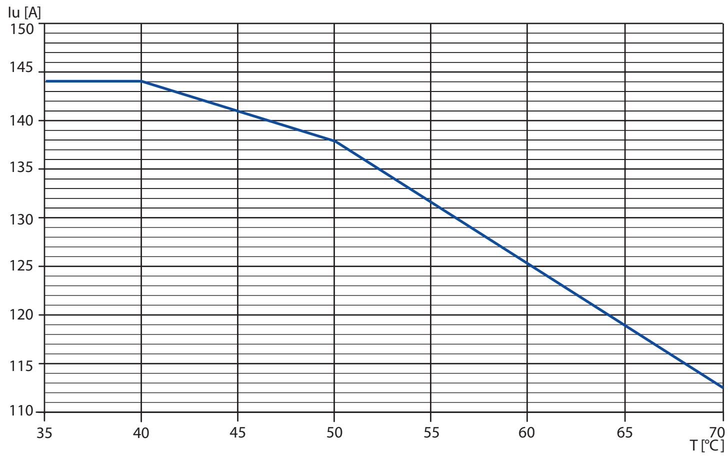
Temperature performance

Circuit breakers with electronic releases

TEMPERATURE PERFORMANCE FOR MTXE 160 - FIXED								
Terminals	Up to 40°C		50°C		60°C		70°C	
	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1
F	160	1	153.6	0.96	140.8	0.88	128	0.8
EF	160	1	153.6	0.96	140.8	0.88	128	0.8
ES	160	1	153.6	0.96	140.8	0.88	128	0.8
FC Cu	160	1	153.6	0.96	140.8	0.88	128	0.8
FC CuAl	160	1	153.6	0.96	140.8	0.88	128	0.8
R	160	1	153.6	0.96	140.8	0.88	128	0.8



TEMPERATURE PERFORMANCE FOR MTXE 160 - PLUG-IN								
Terminals	Up to 40°C		50°C		60°C		70°C	
	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1
F	144	0.9	138	0.84	126	0.80	112	0.68
EF	144	0.9	138	0.84	126	0.80	112	0.68
ES	144	0.9	138	0.84	126	0.80	112	0.68
FC Cu	144	0.9	138	0.84	126	0.80	112	0.68
FC CuAl	144	0.9	138	0.84	126	0.80	112	0.68
R	144	0.9	138	0.84	126	0.80	112	0.68



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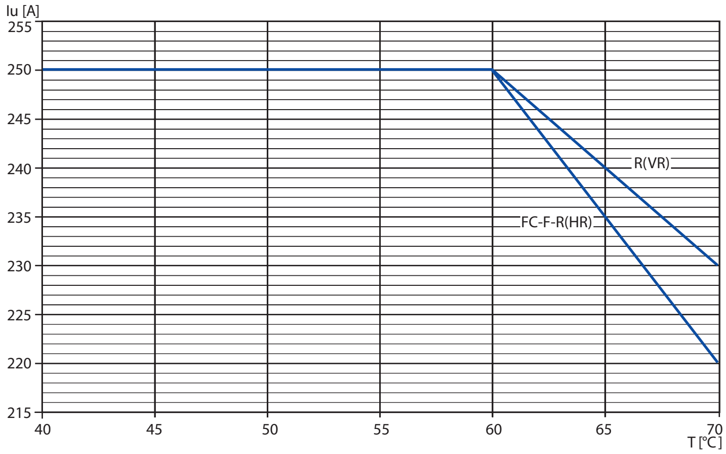
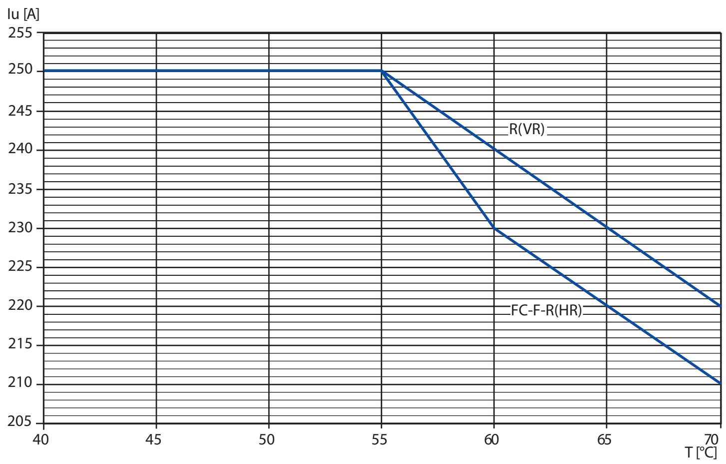
TEMPERATURE PERFORMANCE FOR MTXE 320 (UP TO In=250A) - FIXED

Terminals	Up to 40°C		50°C		60°C		70°C	
	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1
FC	250	1	250	1	250	1	220	0.88
F	250	1	250	1	250	1	220	0.88
HR	250	1	250	1	250	1	220	0.88
VR	250	1	250	1	250	1	230	0.92

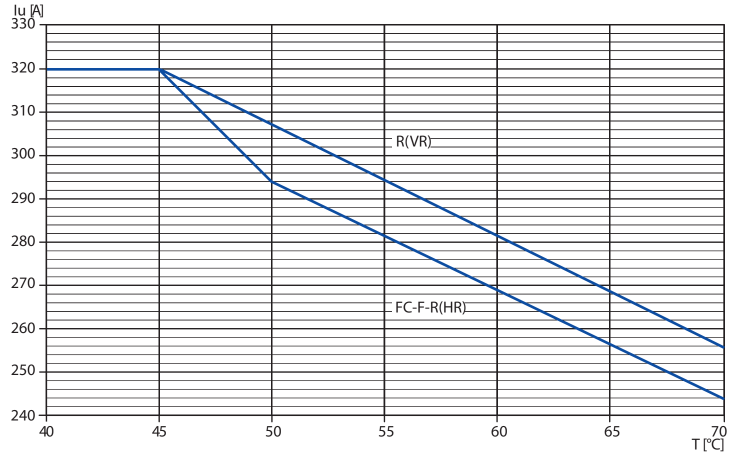


TEMPERATURE PERFORMANCE FOR MTXE 320 (UP TO In=250A) - PLUG-IN / WITHDRAWABLE

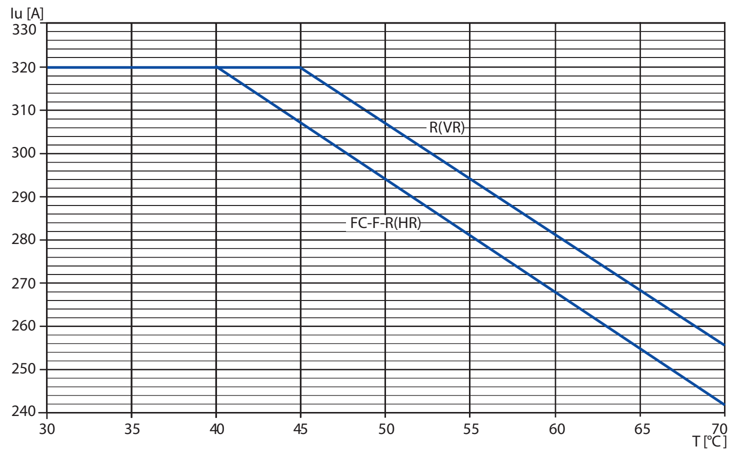
Terminals	Up to 40°C		50°C		60°C		70°C	
	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1
FC	250	1	250	1	230	0.92	210	0.84
F	250	1	250	1	230	0.92	210	0.84
HR	250	1	250	1	230	0.92	210	0.84
VR	250	1	250	1	240	0.96	220	0.88



TEMPERATURE PERFORMANCE FOR MTXE 320 - FIXED								
Terminals	Up to 40°C		50°C		60°C		70°C	
	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1
FC	320	1	294	0.92	269	0.84	243	0.76
F	320	1	294	0.96	269	0.84	243	0.76
HR	320	1	294	0.92	269	0.84	243	0.76
VR	320	1	307	0.96	281	0.88	256	0.80



TEMPERATURE PERFORMANCE FOR MTXE 320 - PLUG-IN / WITHDRAWABLE								
Terminals	Up to 40°C		50°C		60°C		70°C	
	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1
FC	320	1	294	0.92	268	0.84	242	0.76
F	320	1	294	0.92	268	0.84	242	0.76
HR	320	1	294	0.92	268	0.84	242	0.76
VR	320	1	307	0.96	282	0.88	256	0.80



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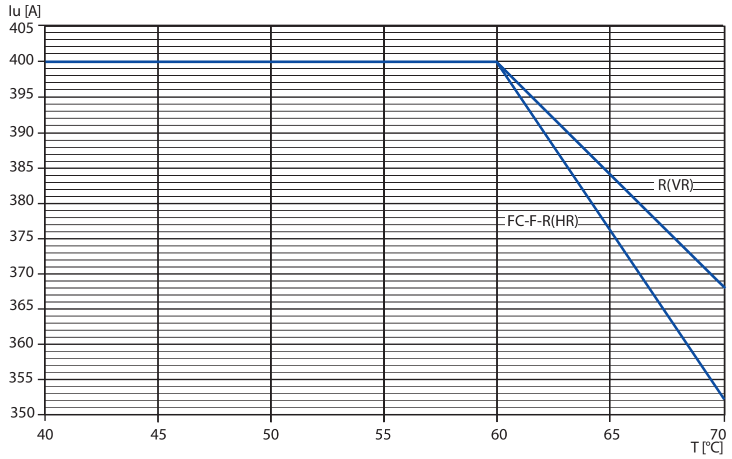
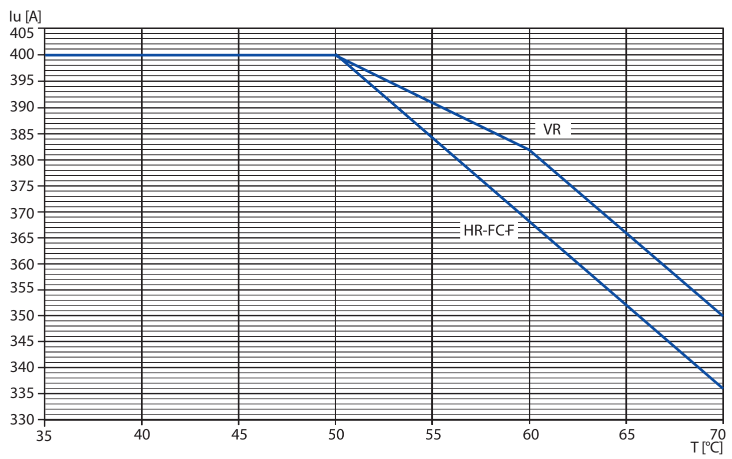
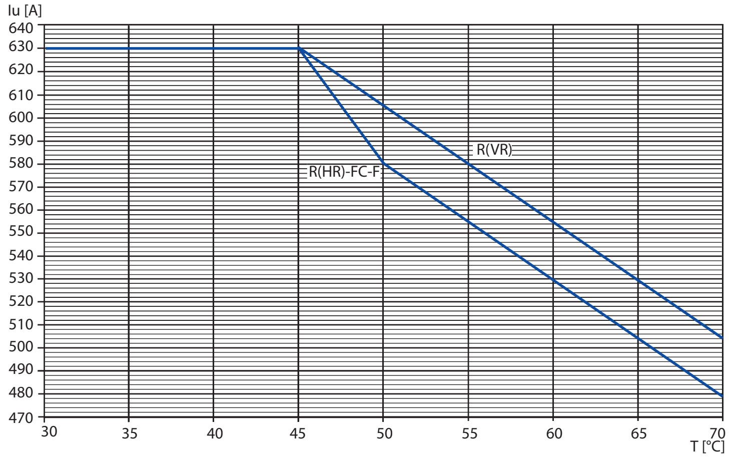
TEMPERATURE PERFORMANCE FOR MTXE 630 (UP TO In=400A) - FIXED								
Terminals	Up to 40°C		50°C		60°C		70°C	
	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1
FC	400	1	400	1	400	1	352	0.88
F	400	1	400	1	400	1	352	0.88
HR	400	1	400	1	400	1	352	0.88
VR	400	1	400	1	400	1	368	0.92



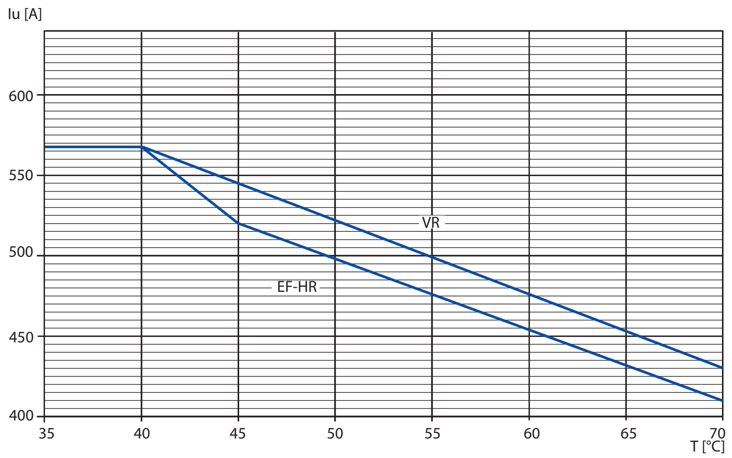
TEMPERATURE PERFORMANCE FOR MTXE 630 (UP TO In=400A) - PLUG-IN / WITHDRAWABLE								
Terminals	Up to 40°C		50°C		60°C		70°C	
	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1
FC	400	1	400	1	368	0.92	336	0.84
F	400	1	400	1	368	0.92	336	0.84
HR	400	1	400	1	368	0.92	336	0.84
VR	400	1	400	1	382	0.96	350	0.88



TEMPERATURE PERFORMANCE FOR MTXE 630 - FIXED								
Terminals	Up to 40°C		50°C		60°C		70°C	
	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1
FC	630	1	580	0.92	529	0.84	479	0.76
F	630	1	580	0.92	529	0.84	479	0.76
HR	630	1	580	0.92	529	0.84	479	0.76
VR	630	1	605	0.96	554	0.88	504	0.80



TEMPERATURE PERFORMANCE FOR MTXE 630 - PLUG-IN / WITHDRAWABLE								
Terminals	Up to 40°C		50°C		60°C		70°C	
	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1
EF	567	0.9	502	0.80	458	0.72	409	0.64
HR	567	0.9	502	0.80	458	0.72	409	0.64
VR	567	0.9	526	0.82	480	0.76	429	0.68



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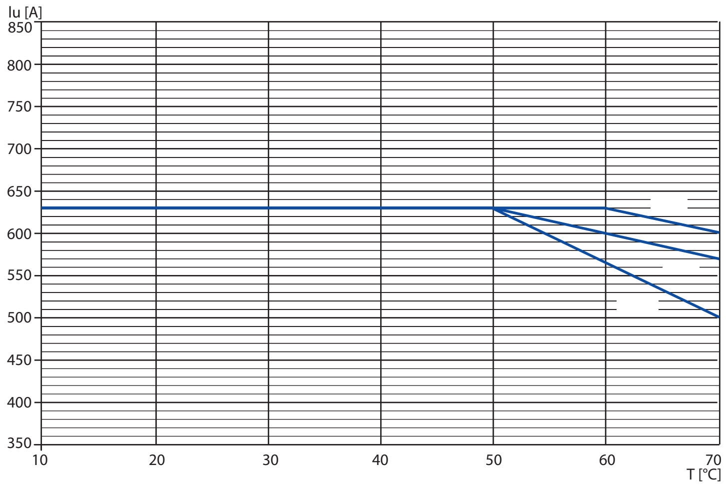
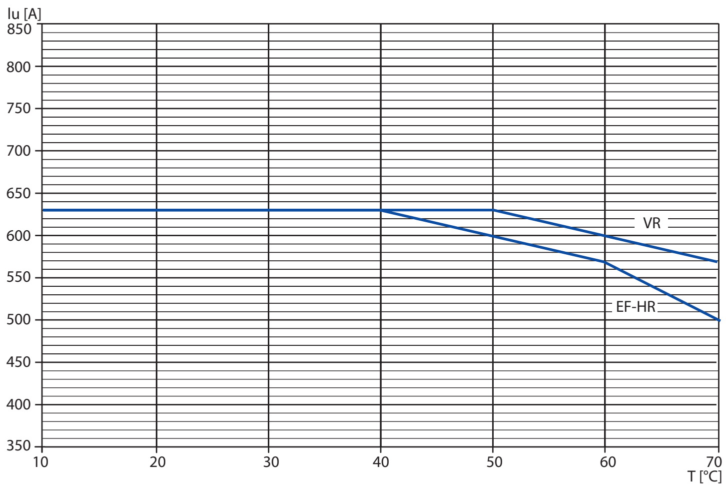
TEMPERATURE PERFORMANCE FOR MTXE 1000 (UP TO In=630A) - FIXED								
Terminals	**Up to 40°C**		**50°C**		**60°C**		**70°C**	
	I_{max} (A)	**I_1**	**I_{max} (A)**	**I_1**	**I_{max} (A)**	**I_1**	**I_{max} (A)**	**I_1**
FC	630	1	630	1	598.5	0.95	567	0.9
F	630	1	630	1	598.5	0.95	567	0.9
HR	630	1	630	1	630	1	598.5	0.95
VR	630	1	630	1	567	0.9	504	0.80



TEMPERATURE PERFORMANCE FOR MTXE 1000 (UP TO A In=630A) - WITHDRAWABLE								
Terminals	**Up to 40°C**		**50°C**		**60°C**		**70°C**	
	I_{max} (A)	**I_1**	**I_{max} (A)**	**I_1**	**I_{max} (A)**	**I_1**	**I_{max} (A)**	**I_1**
EF	630	1	598.5	0.95	567	0.9	504	0.8
HR	630	1	630	1.00	598.5	0.95	567	0.9
VR	630	1	598.5	0.95	567	0.9	504	0.8



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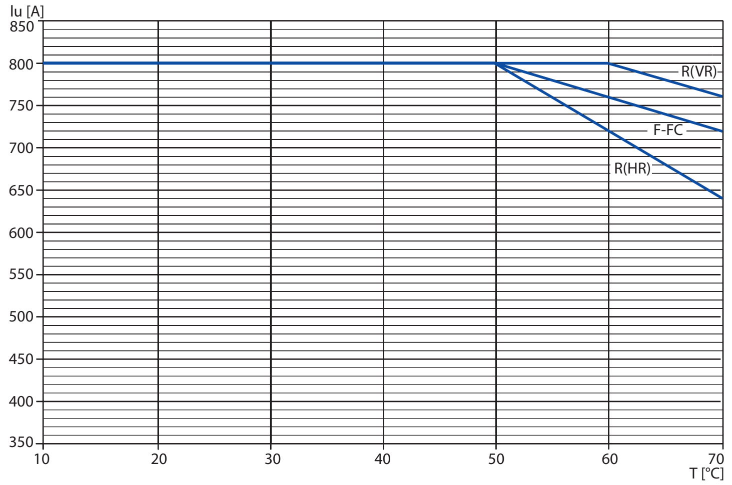
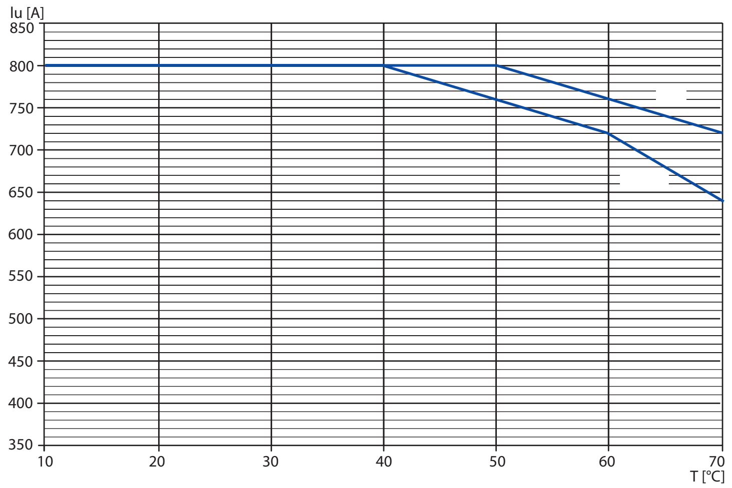
TEMPERATURE PERFORMANCE FOR MTXE 1000 (UP TO In=800A) - FIXED								
Terminals	Up to 40°C		50°C		60°C		70°C	
	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1
FC	800	1	800	1	760	0.95	720	0.9
F	800	1	800	1	760	0.95	720	0.9
HR	800	1	800	1	800	1	760	0.95
VR	800	1	800	1	720	0.9	640	0.80



TEMPERATURE PERFORMANCE FOR MTXE 1000 (UP TO A In=800A) - WITHDRAWABLE								
Terminals	Up to 40°C		50°C		60°C		70°C	
	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1
EF	800	1	760	0.95	720	0.9	640	0.8
HR	800	1	800	1.00	760	0.95	720	0.9
VR	800	1	760	0.95	720	0.9	640	0.8



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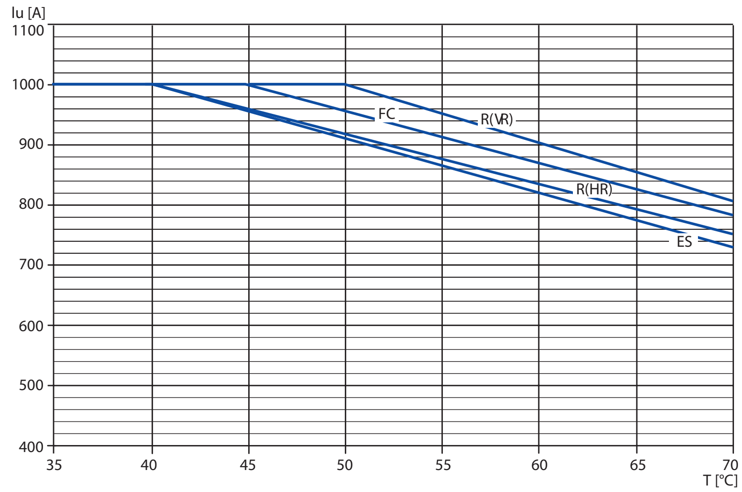
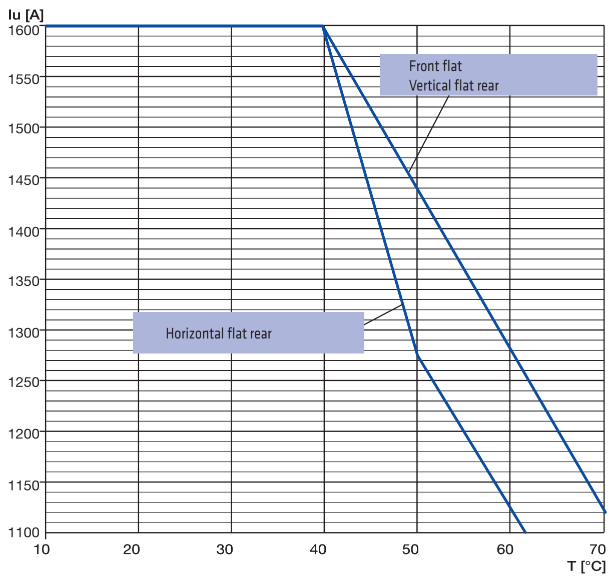
TEMPERATURE PERFORMANCE FOR MTXE 1000 - FIXED								
Terminals	Up to 40°C		50°C		60°C		70°C	
	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1
FC	1000	1	960	0.96	877	0.88	784	0.78
HR	1000	1	926	0.93	845	0.85	756	0.76
VR	1000	1	1000	1	913	0.91	817	0.82
ES	1000	1	900	0.90	820	0.82	720	0.72



TEMPERATURE PERFORMANCE FOR MTSE 1600 - FIXED								
Terminals	Up to 40°C		50°C		60°C		70°C	
	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1	I_{max} (A)	I_1
F	1600	1	1440	0.9	1280	0.8	1120	0.7
FC	1600	1	1440	0.9	1280	0.8	1120	0.7
RC	1600	1	1280	0.8	1120	0.7	906	0.6



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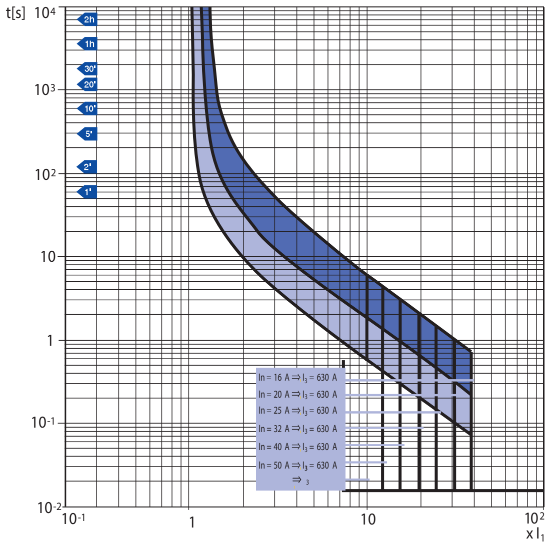
MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

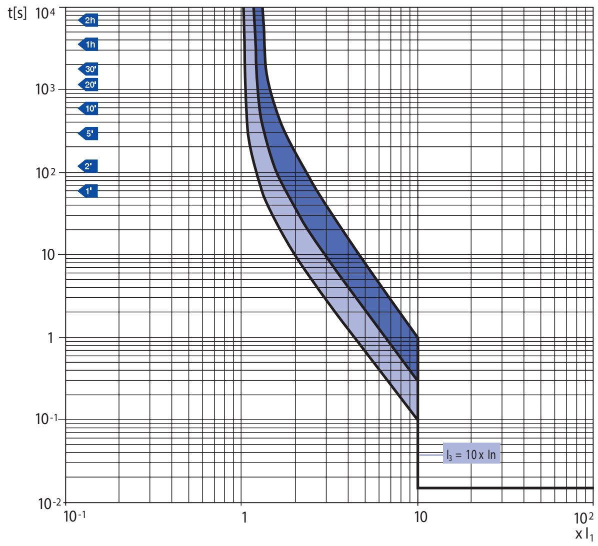
Tripping characteristics

Circuit breaker with thermomagnetic and magnetic release

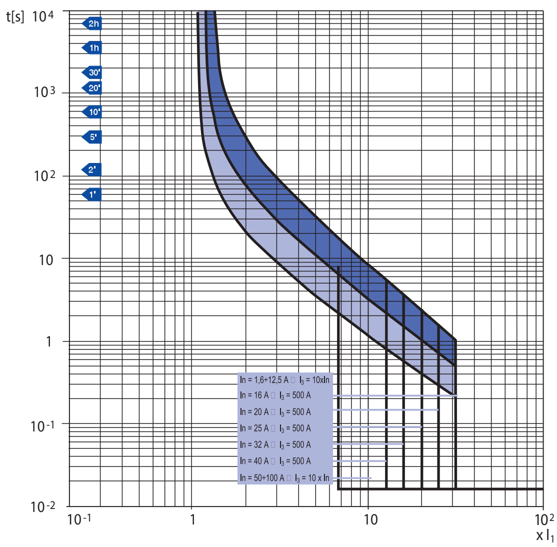
MTX 160c In= 16-63 A - TM1



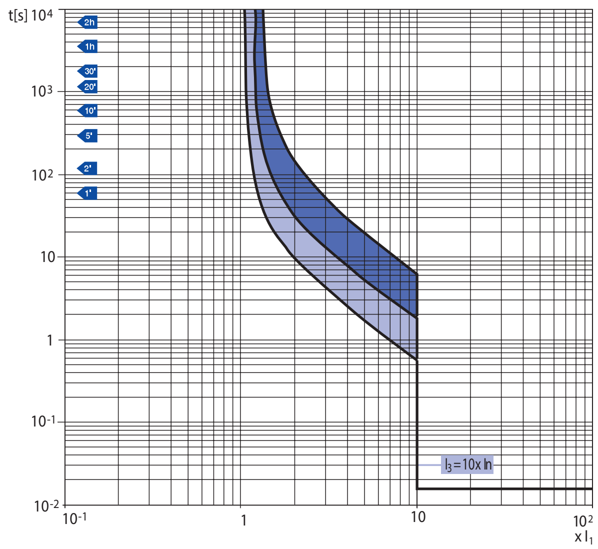
MTX 160c In= 80-160 A - TM1



MTX 160 In= 1.6-100 A - TM1



MTX 160c In= 125-160 A - TM1



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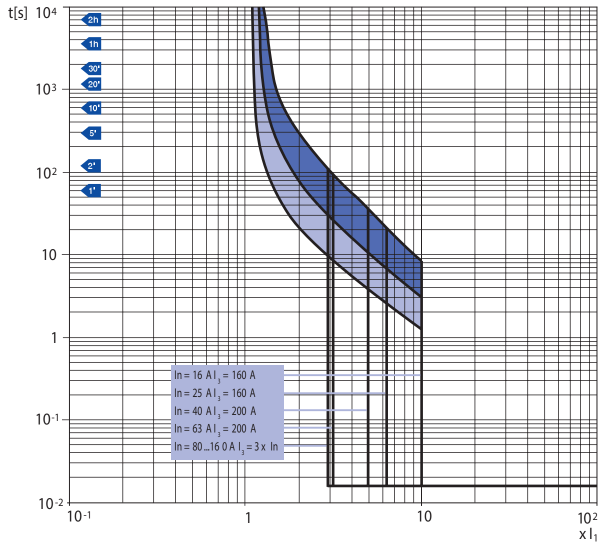
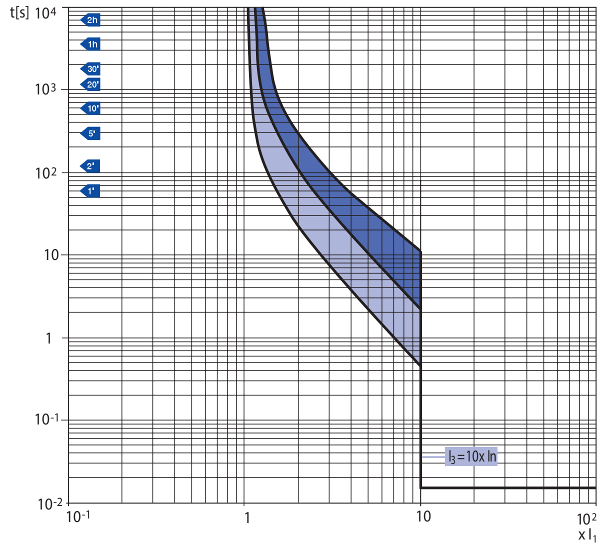
MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

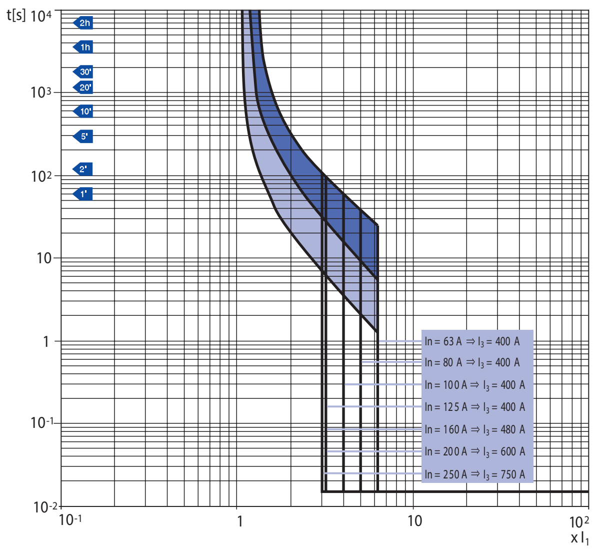
MTX 160 - TMG



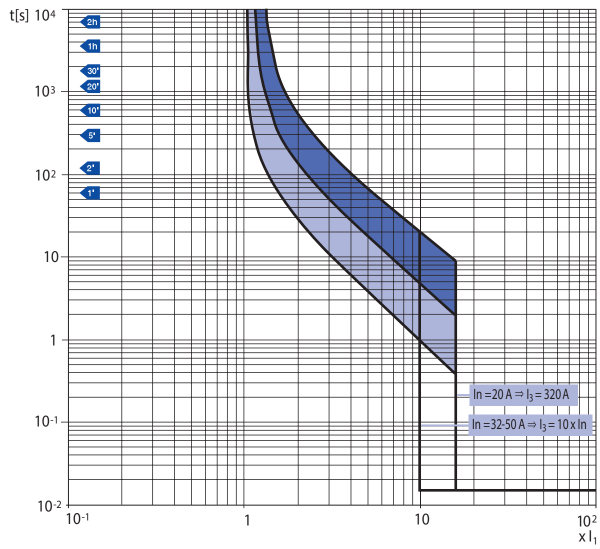
MTX 250 In= 63-250 A - TM1



MTX 250 In= 63-250 A - TMG



MTX 320 In= 20-50 A - TM1



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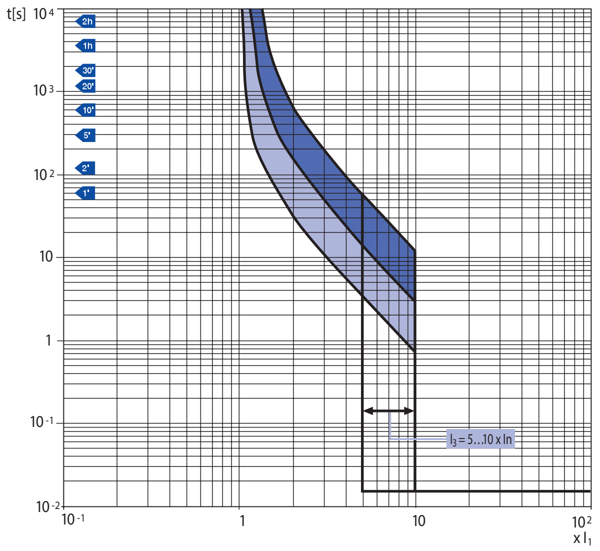
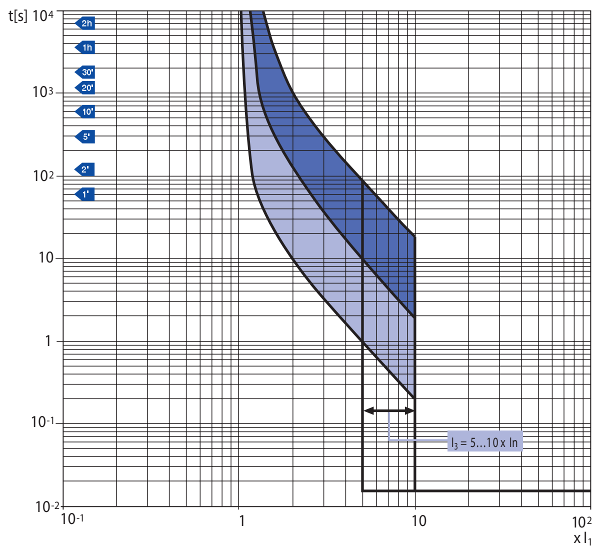
MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

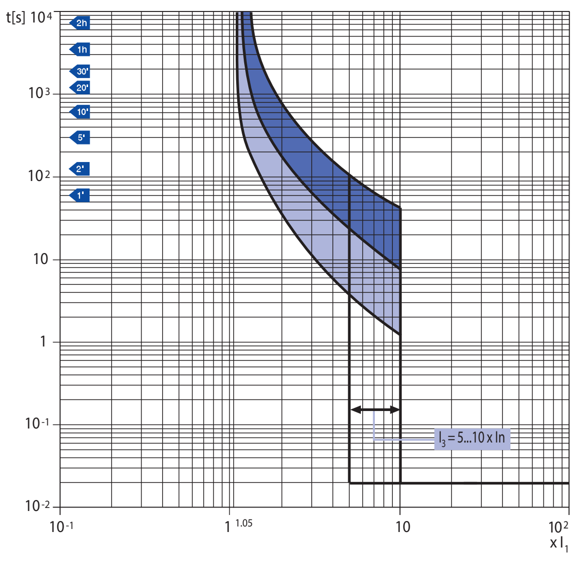
MTX 320 In=80-250 - TM2



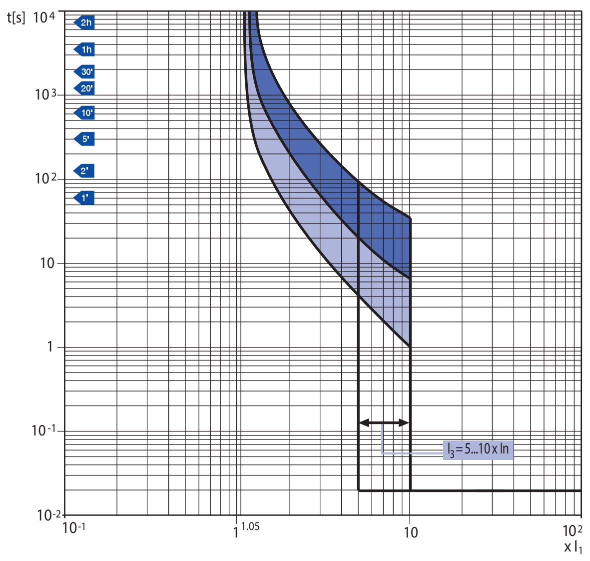
MTX 630 In= 320-500 A - TM2



MTX 1000 In= 630 A - TM2



MTX 1000 In= 800 A - TM2



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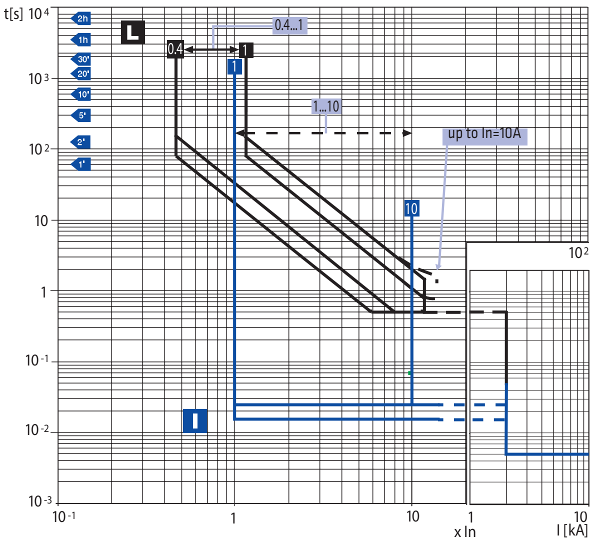
MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

Circuit breakers with electronic release

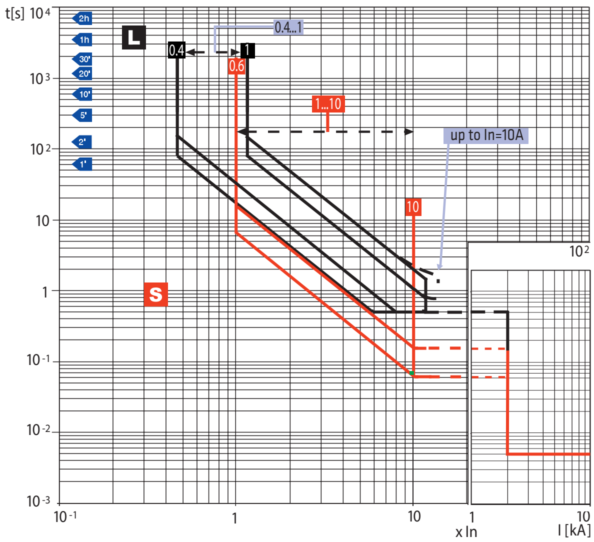
MTXE 160 - SEP/1

SEP/1 Functions L - I



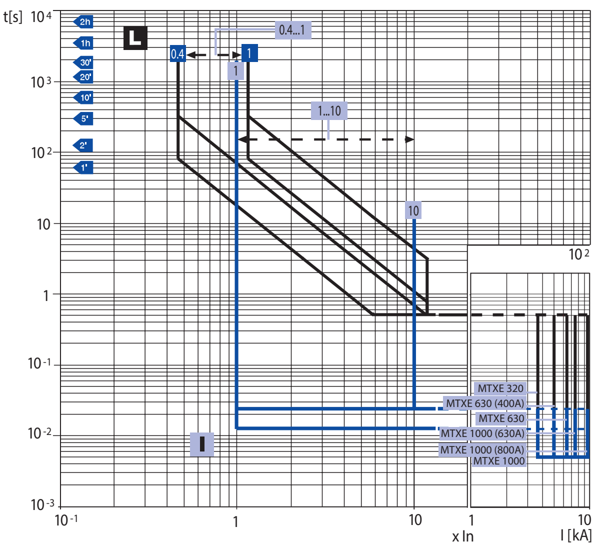
MTXE 160 - SEP/1

SEP/1 Functions L - S



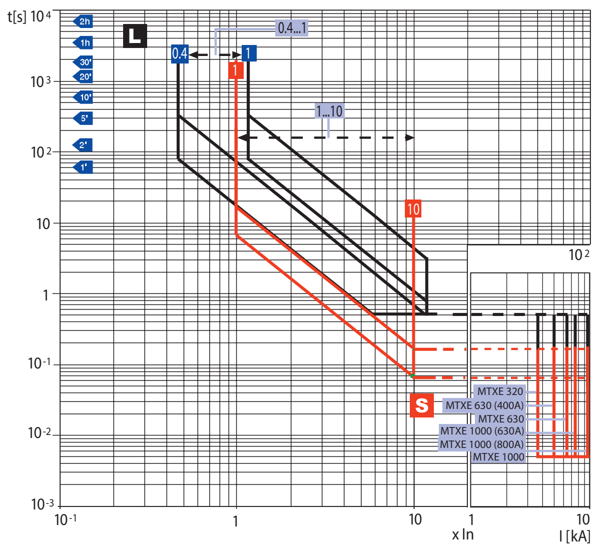
MTXE 320 - MTXE 630 - MTXE 1000

SEP/1 Functions L - I



MTXE 320 - MTXE 630 - MTXE 1000

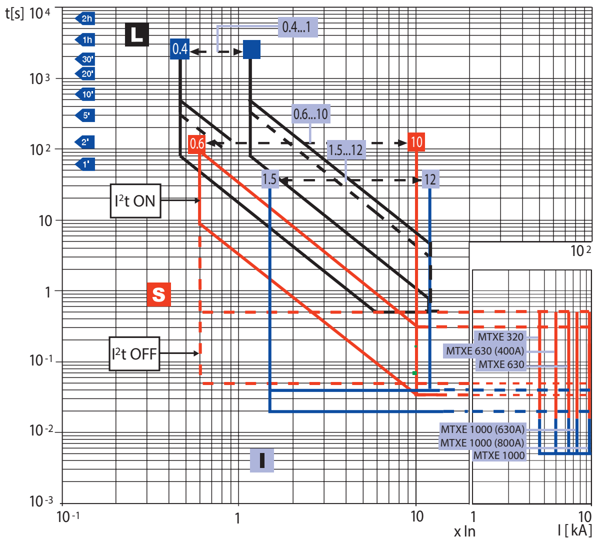
SEP/1 Functions L - S



MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

MTXE 320 - MTXE 630 - MTXE 1000

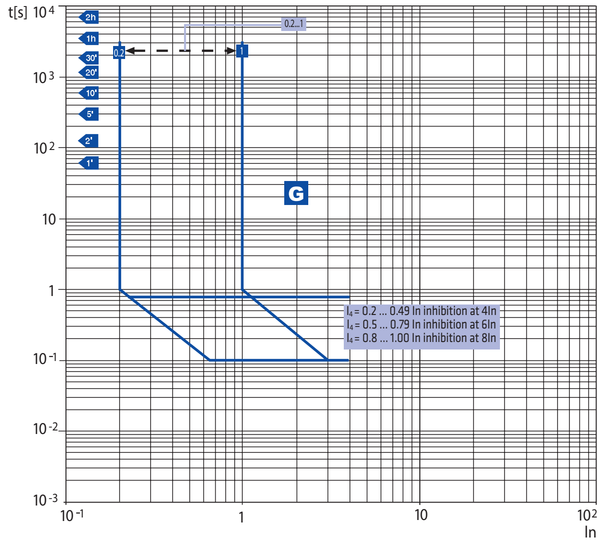
SEP/2 Functions L - S - I



Note: the broken line characteristic of the L function corresponds to the maximum delay (t_1) that can be set at 6xI_1, when using TA of 320A (for MTXE 320) and 630A (for MTXE 630).
For all the sizes of TA t_1=18s, except for TA of 320A (for MTXE 320) and 630A (for MTXE 630) where t_1=10.5s.

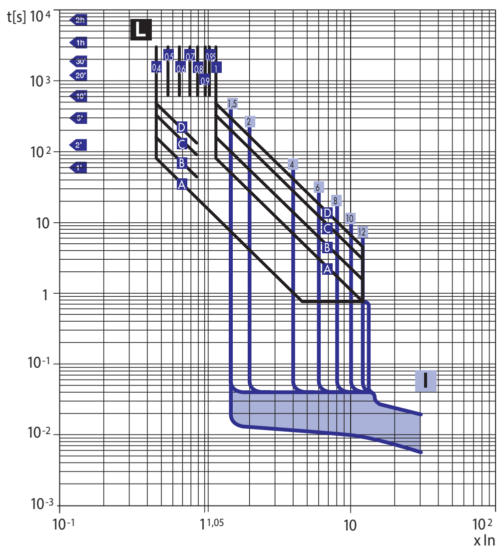
MTXE 320 - MTXE 630 - MTXE 1000

SEP/2 Function G



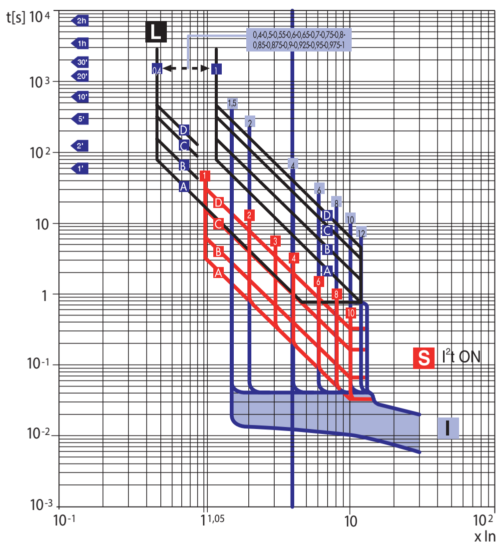
MTSE 1600

SEP/A - Functions LI-I



MTSE 1600

SEP/B - LSI function, S at short inverse time (I2t = cost. ON)



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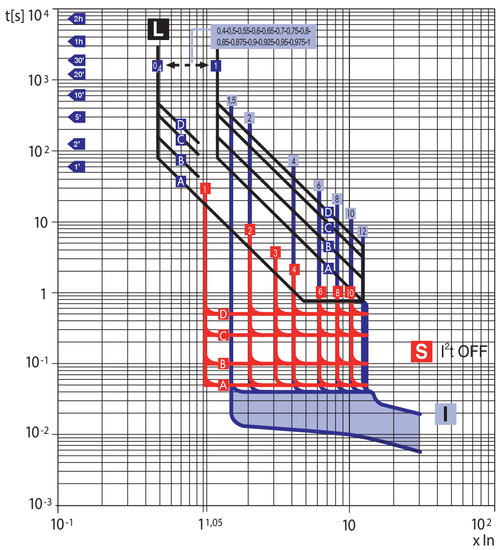
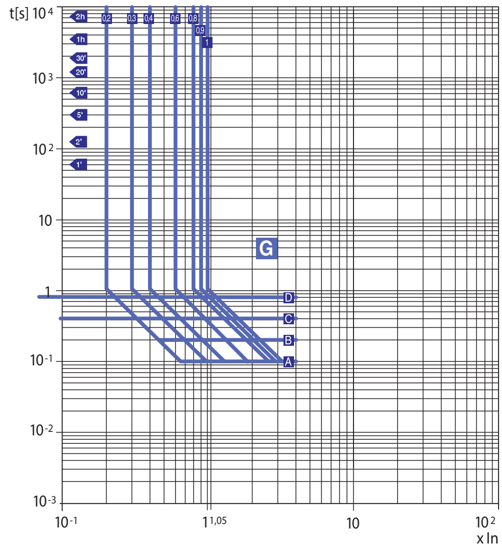
MTSE 1600

SEP/B - LSI function, S at independent time (I2t = cost. OFF)

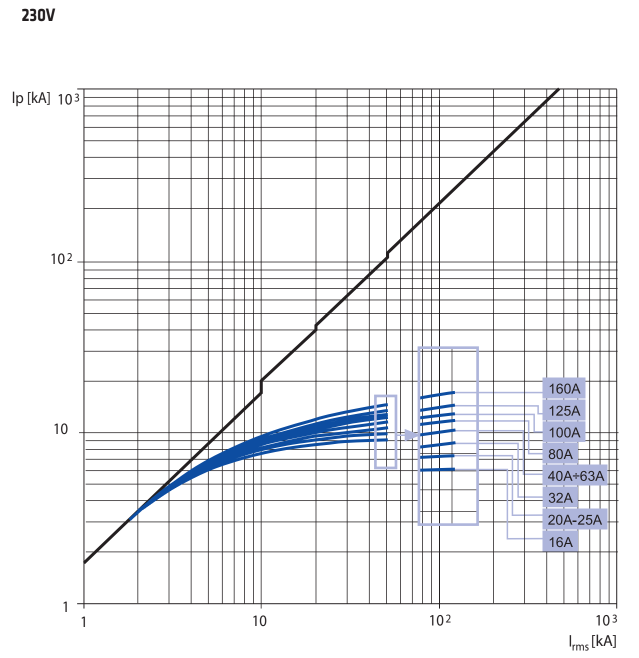


SEP/B- Function G

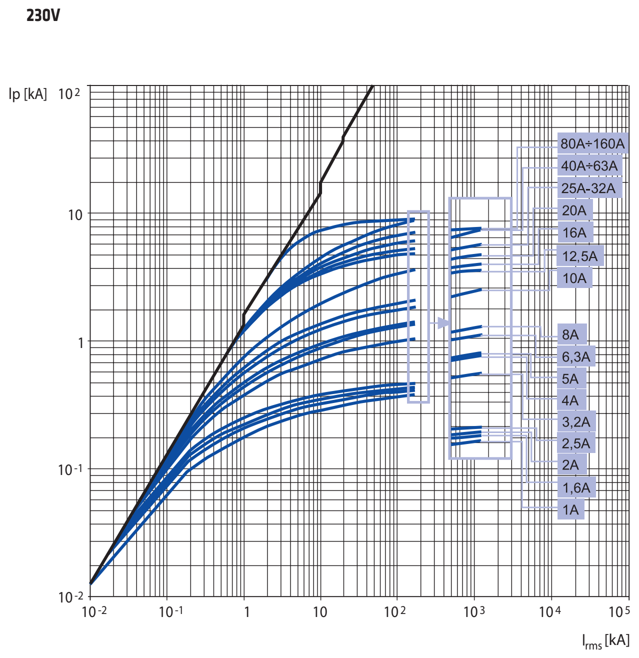


Peak current limitation characteristics - 230V

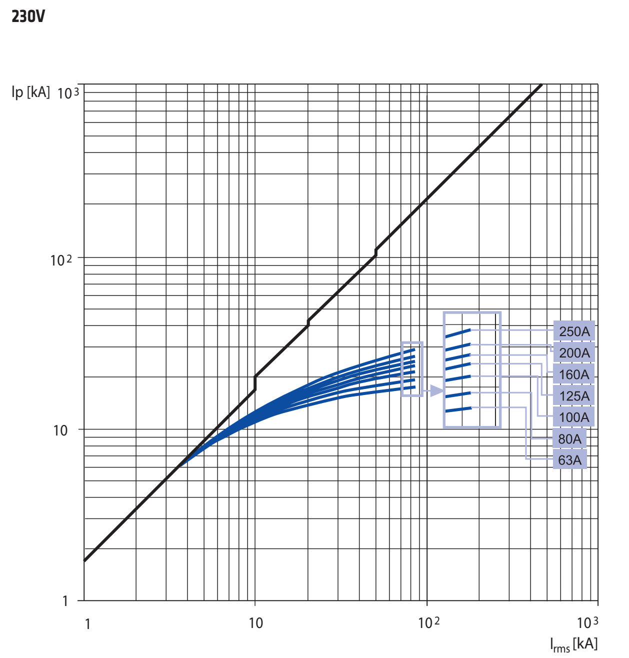
MTX 160c



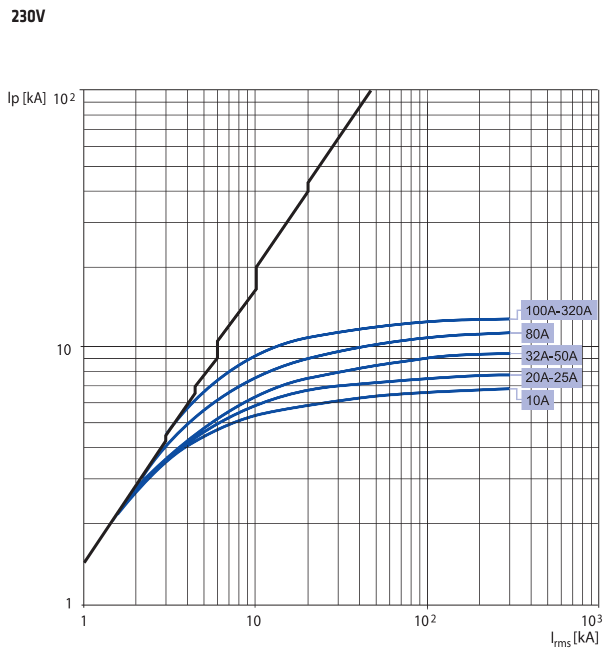
MTX 160 - MTXE 160



MTX 250



MTX 320 - MTXE 320



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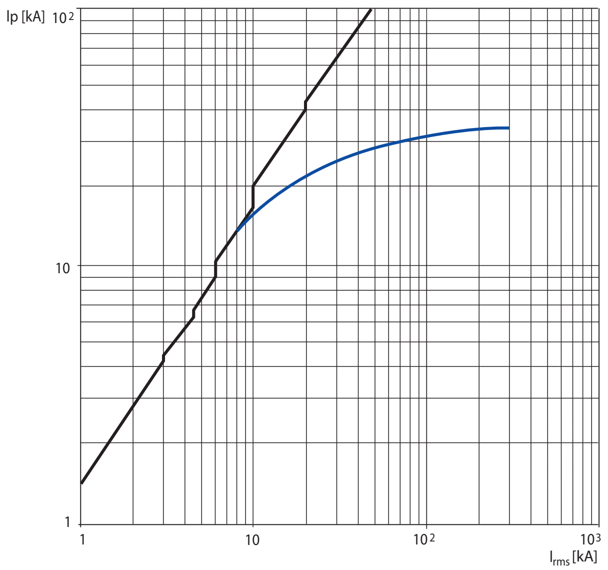
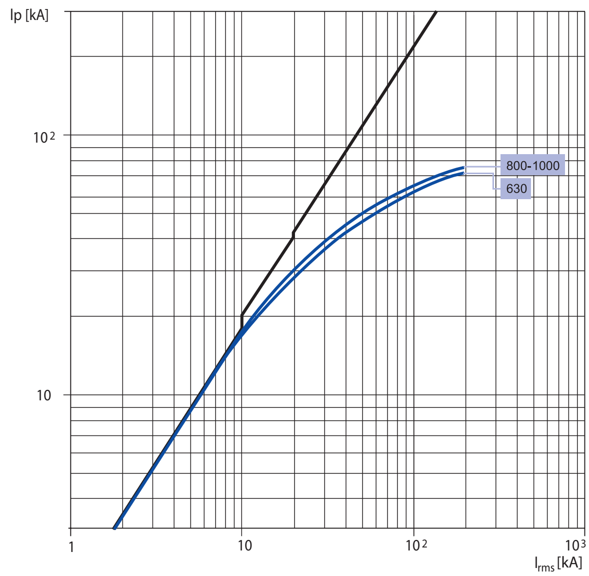
MTX 630 - MTXE 630

230V

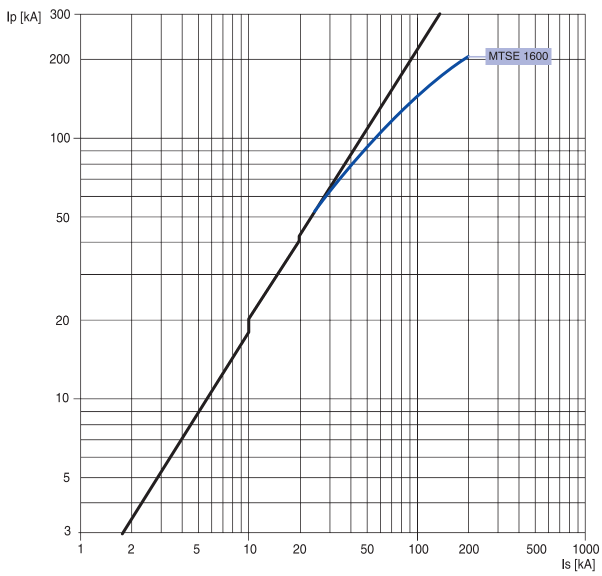


MTX 1000 - MTXE 1000

230V



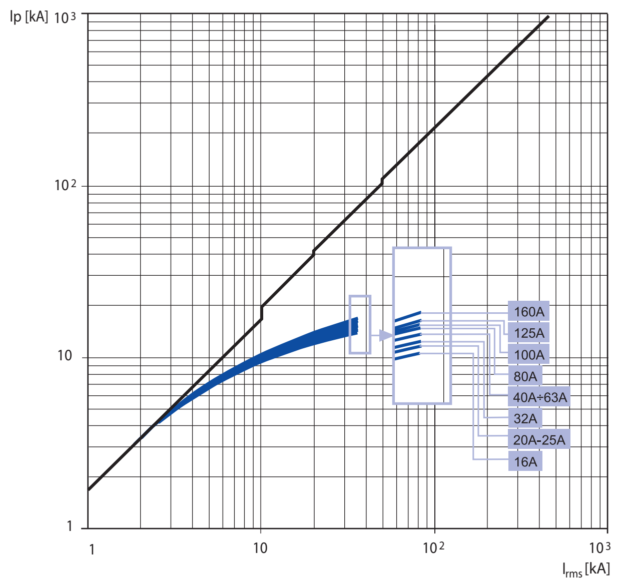
MTSE 1600



Peak current limitation characteristics - 400/440V

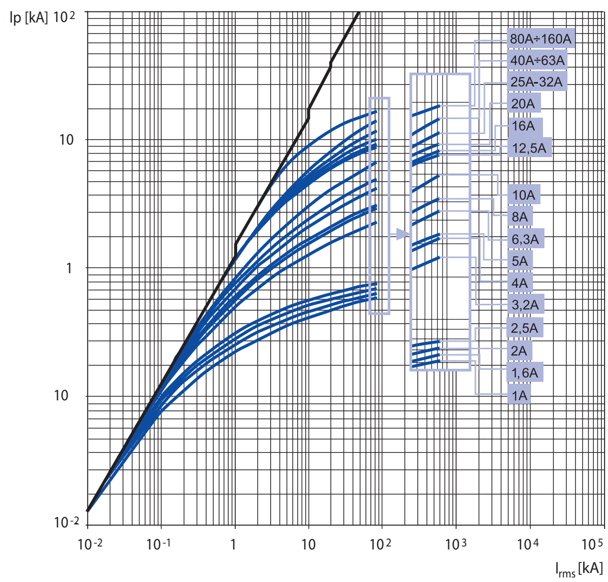
MTX 160c

400/440V



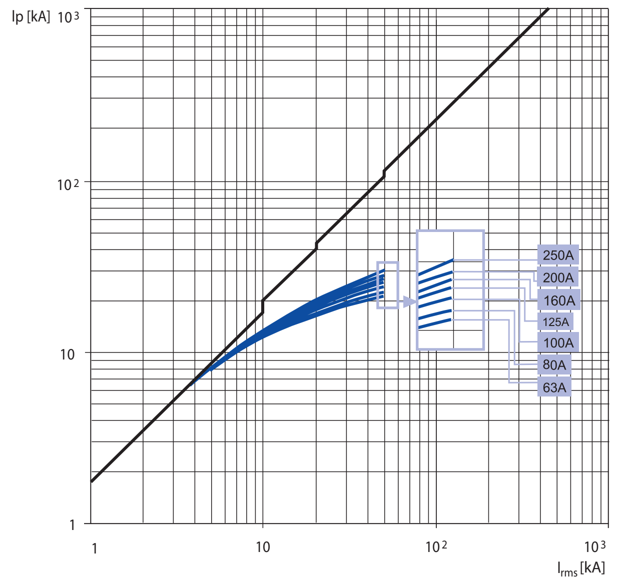
MTX 160 - MTXE 160

400/440V



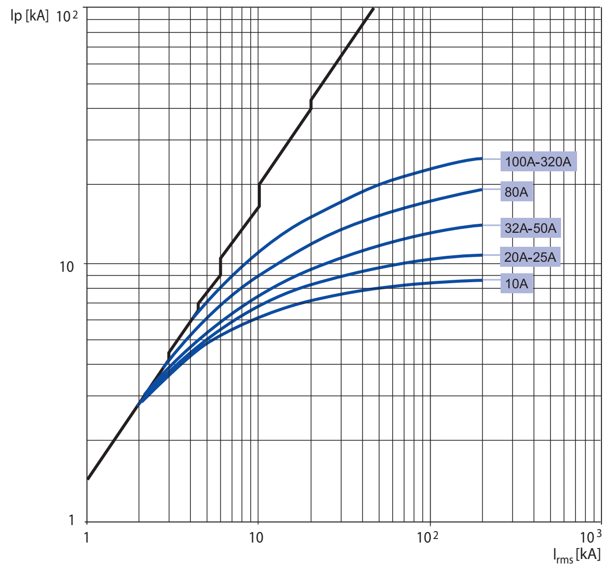
MTX 250

400/440V



MTX 320 - MTXE 320

400/440V



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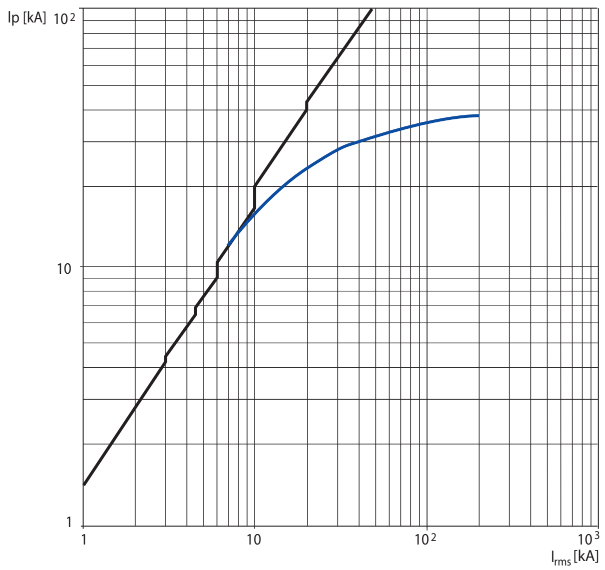
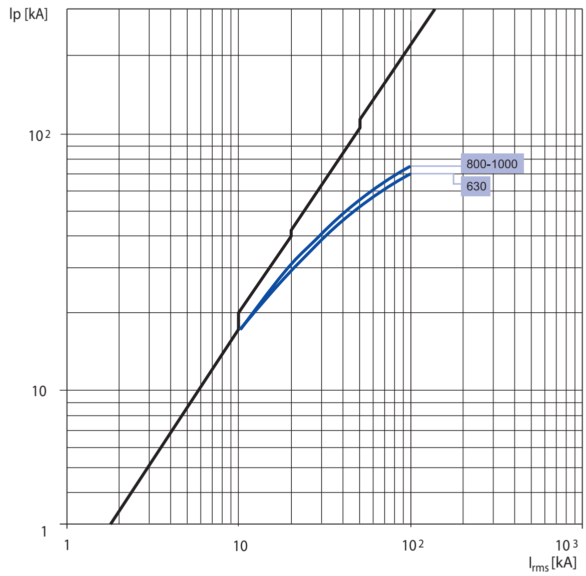
MTX 630 - MTXE 630

400/440V

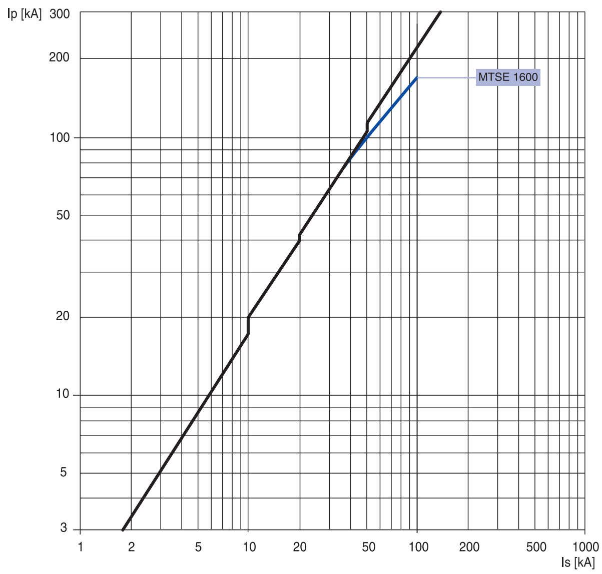


MTX 1000 - MTXE 1000

400/440V

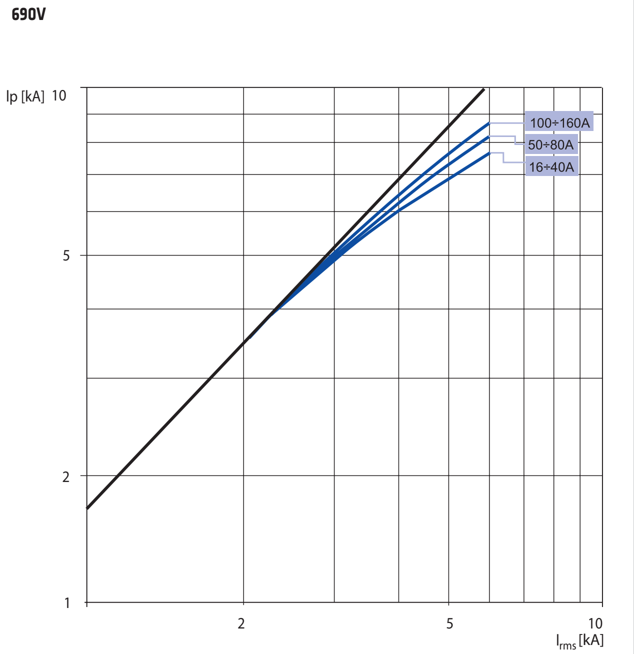


MTSE 1600

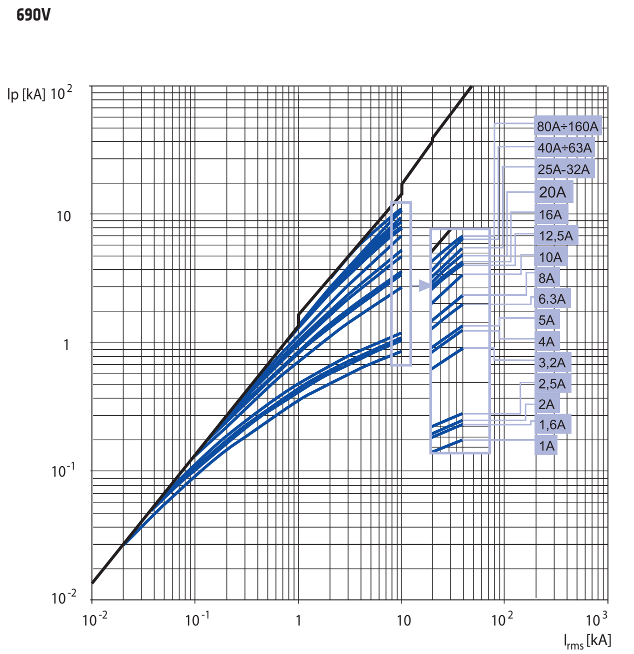


Peak current limitation characteristics - 690V

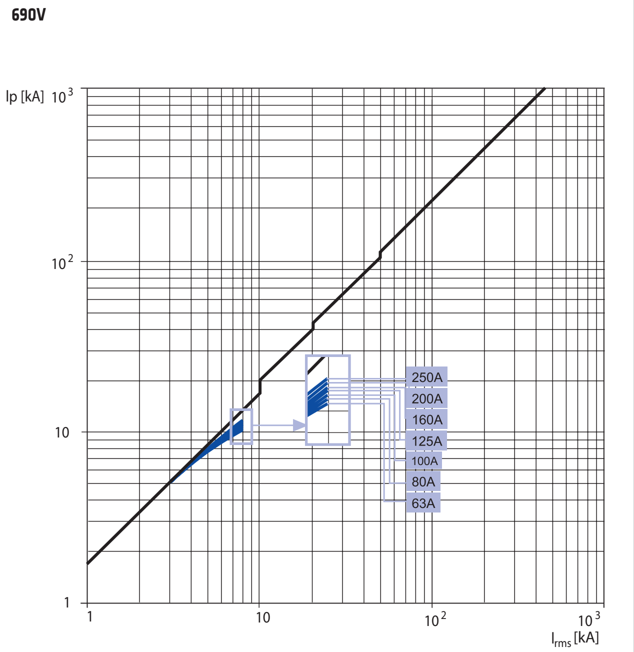
MTX 160c



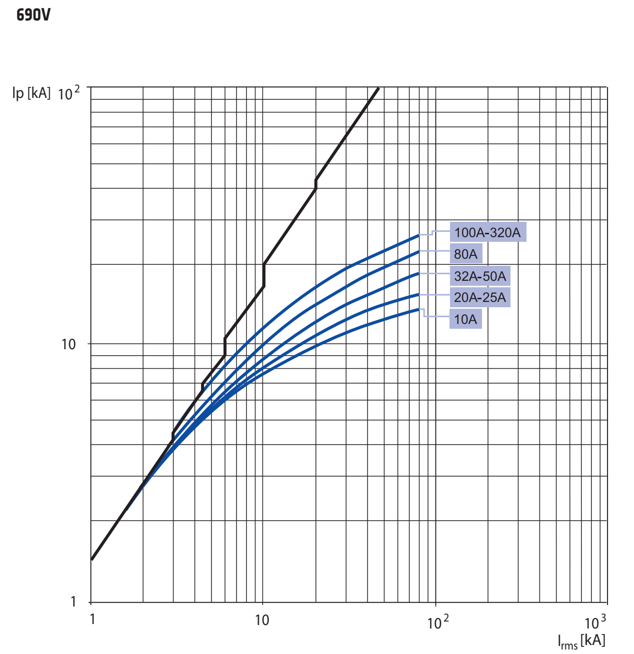
MTX 160 - MTXE 160



MTX 250



MTX 320 - MTXE 320



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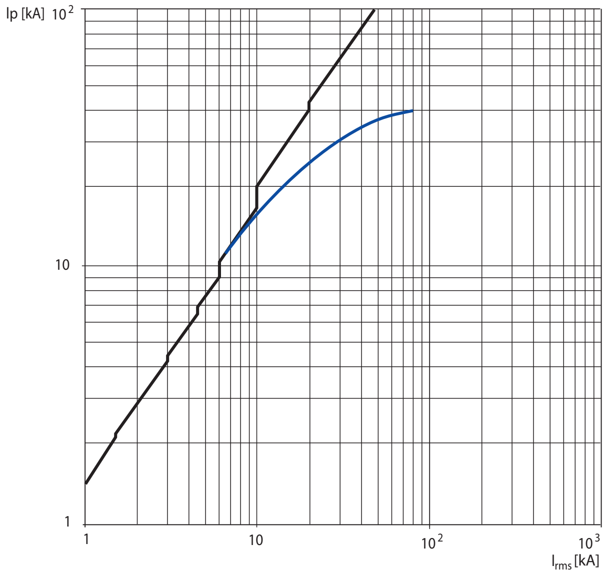
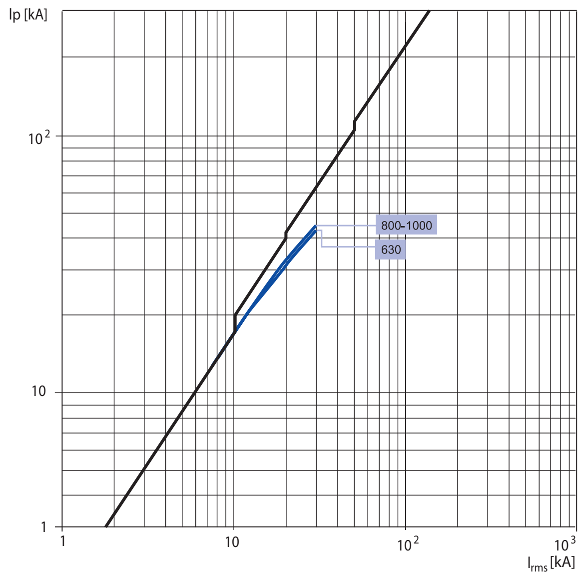
MTX 630 - MTXE 630

690V

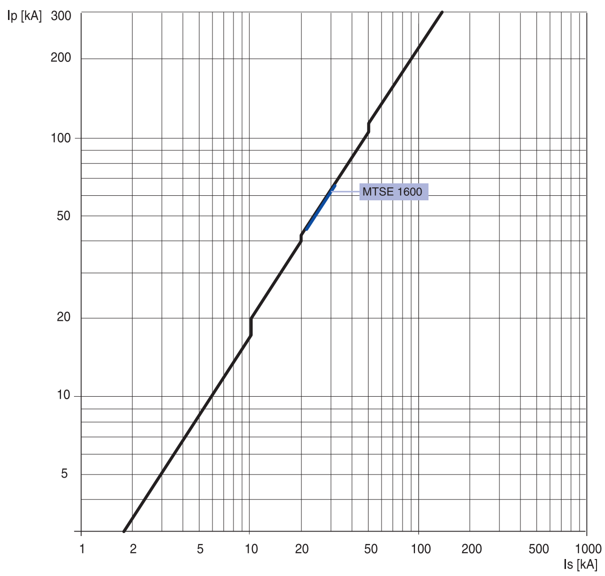


MTX 1000 - MTXE 1000

690V



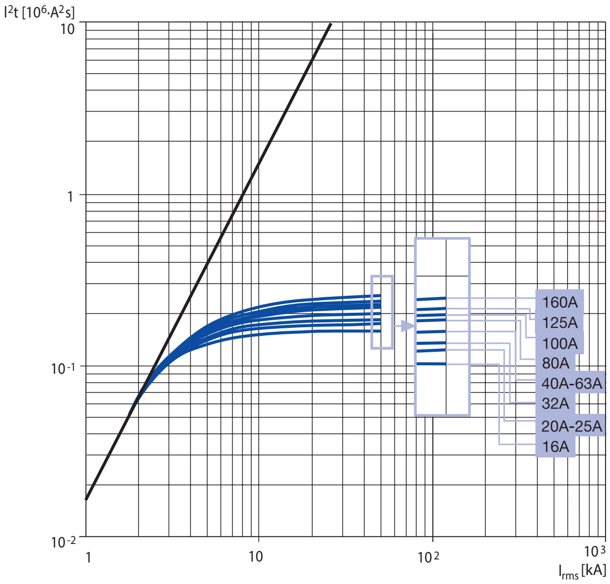
MTSE 1600



Specific let-through energy characteristics - 230V

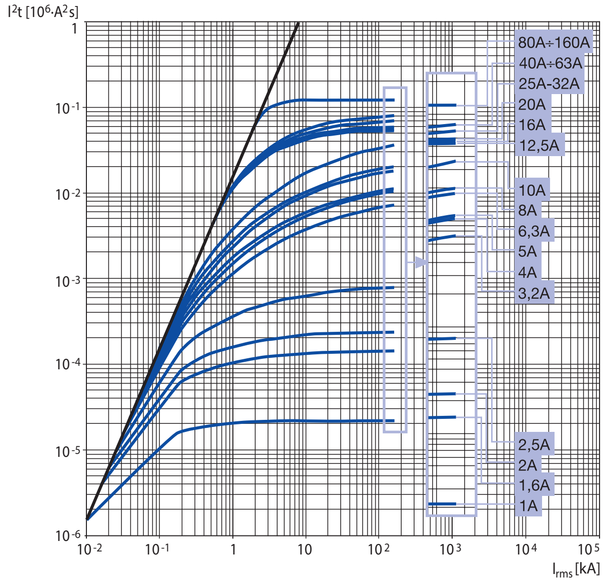
MTX 160c

230V



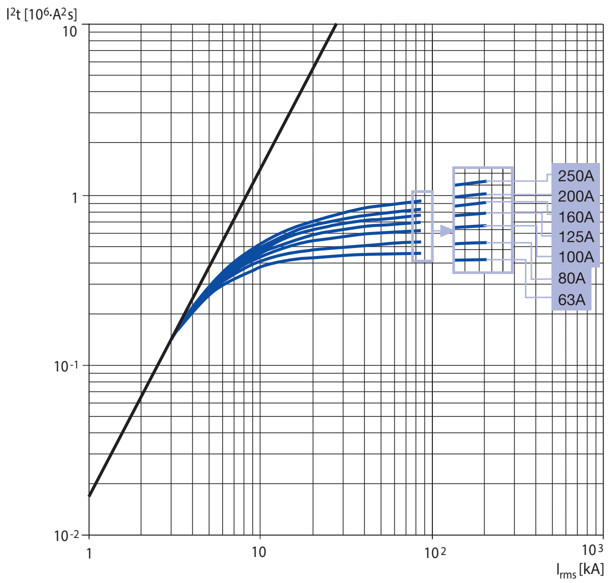
MTX 160 - MTXE 160

230V



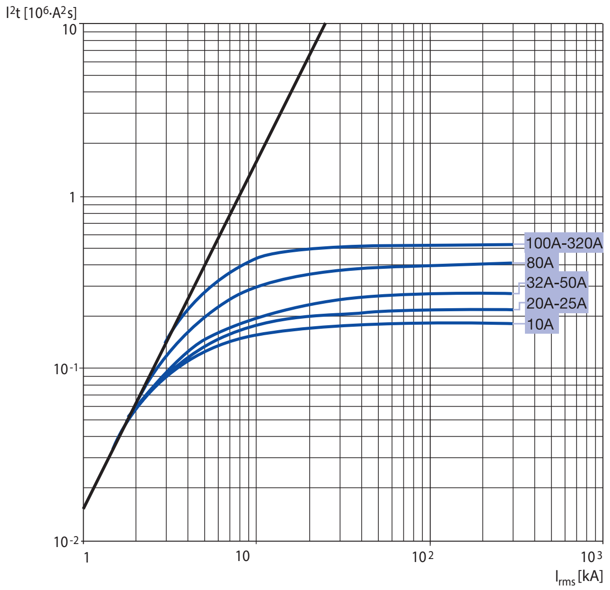
MTX 250

230V



MTX 320 - MTXE 320

230V



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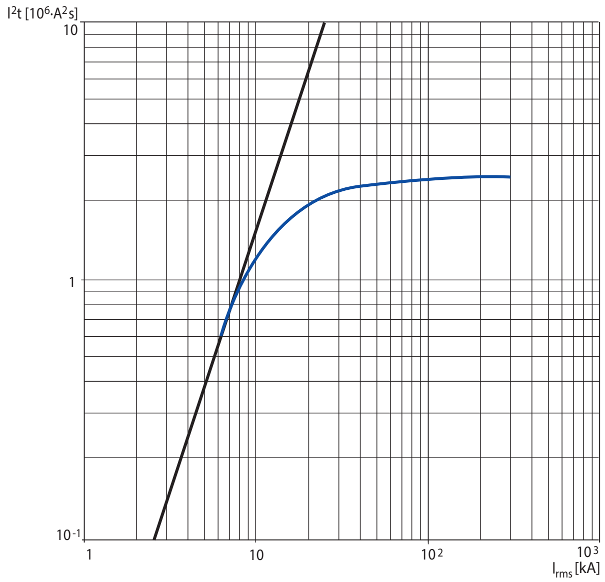
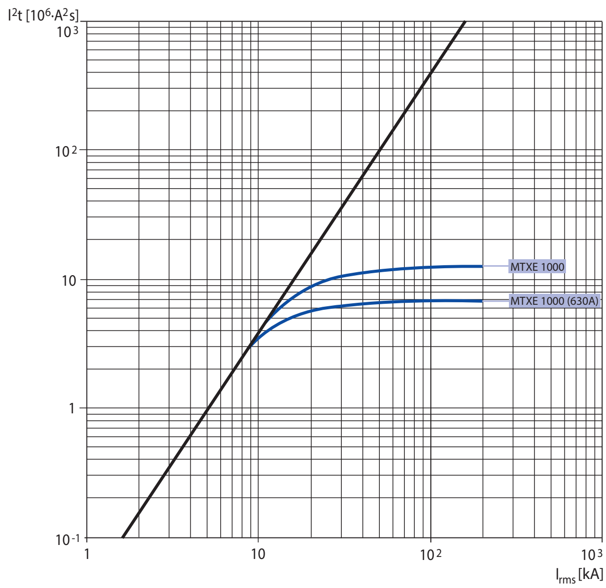
MTX 630 - MTXE 630

230V

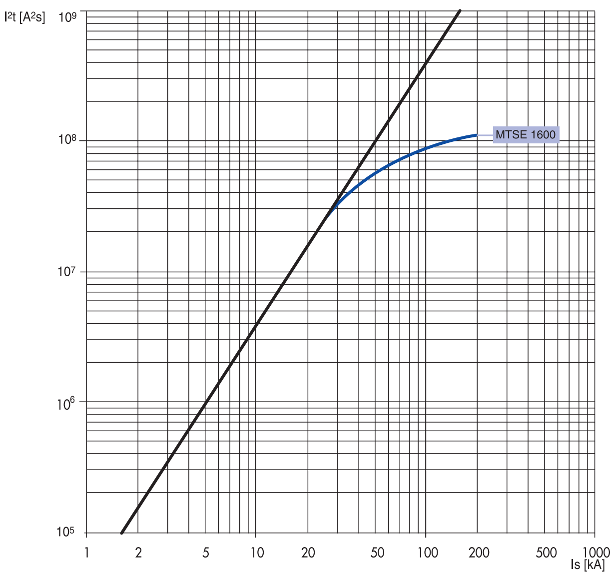


MTX 1000 - MTXE 1000

230V



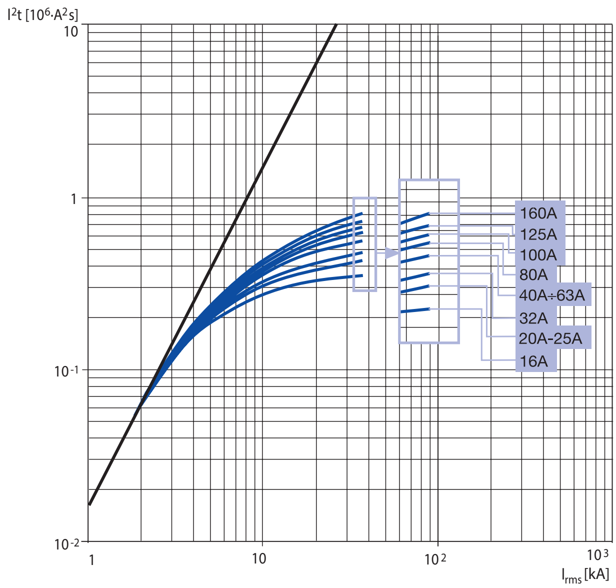
MTSE 1600



Specific let-through energy characteristics - 400/440V

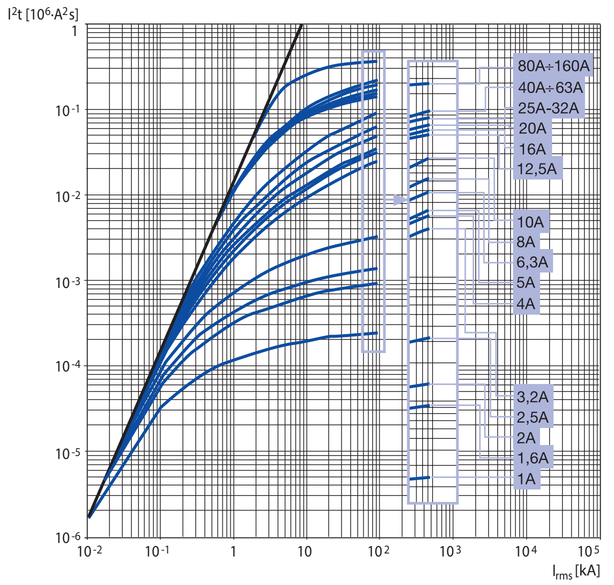
MTX 160c

400/440V



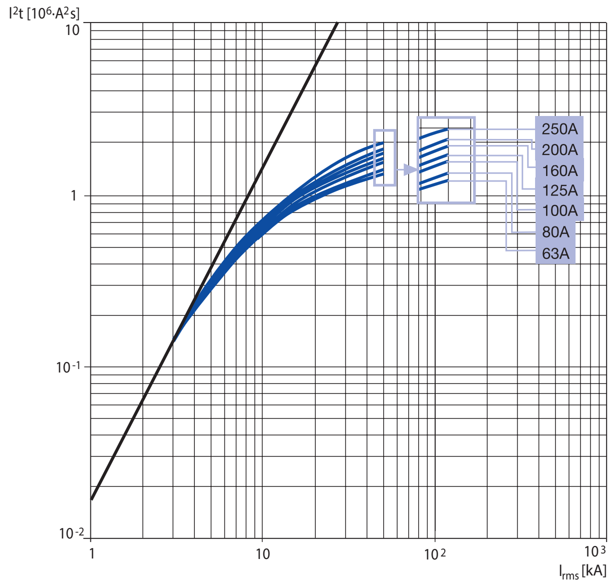
MTX 160 - MTXE 160

400/440V



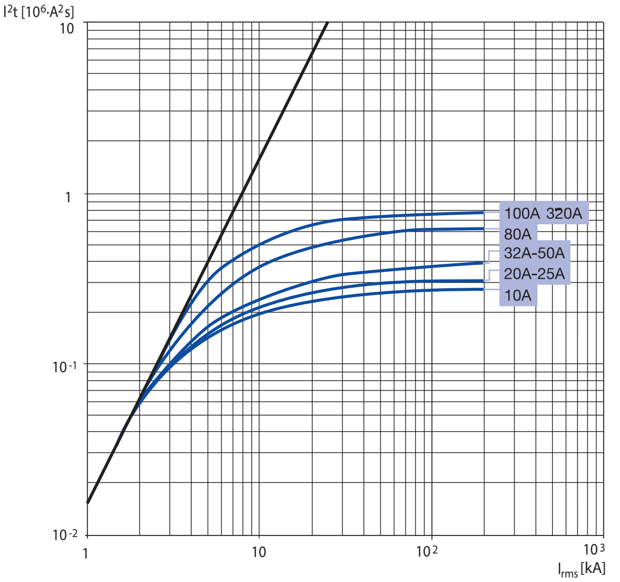
MTX 250

400/440V



MTX 320 - MTXE 320

400/440V



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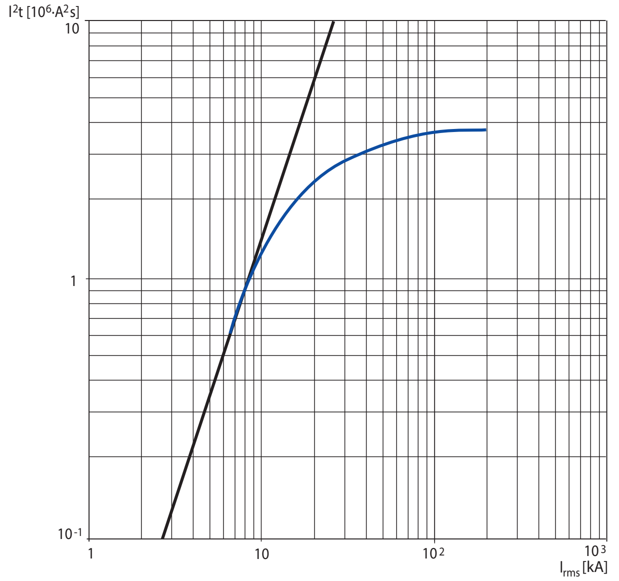
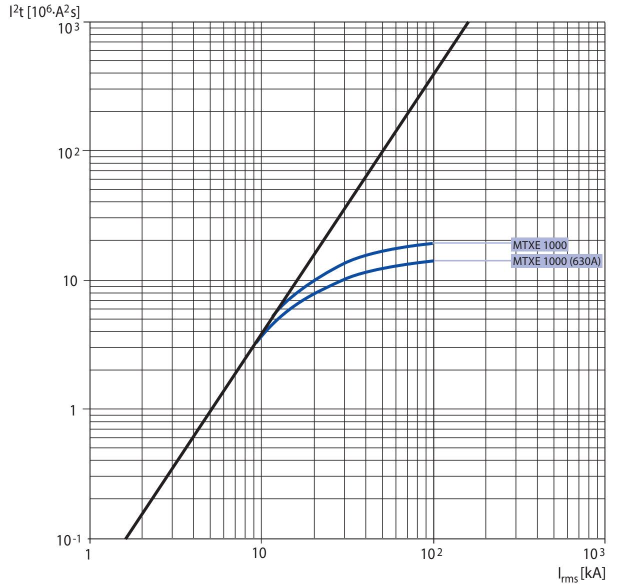
MTX 630 - MTXE 630

400/440V

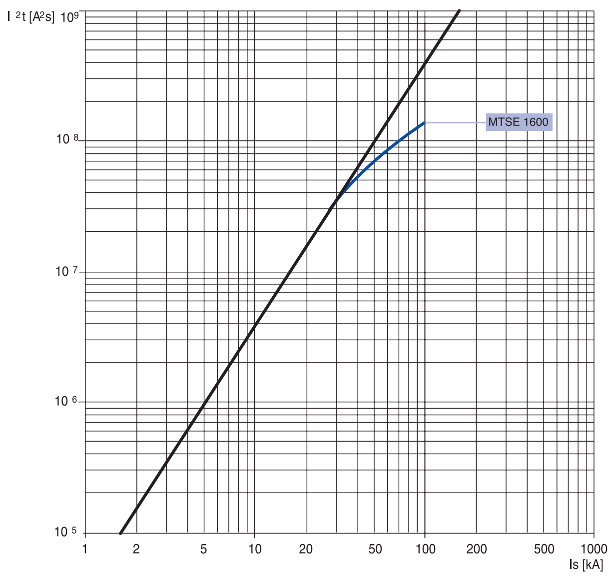


MTX 1000 - MTXE 1000

400/440V

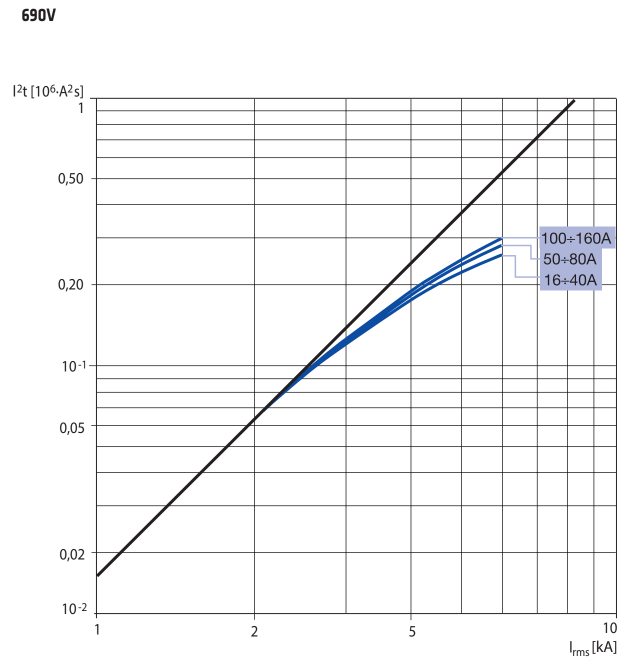


MTSE 1600

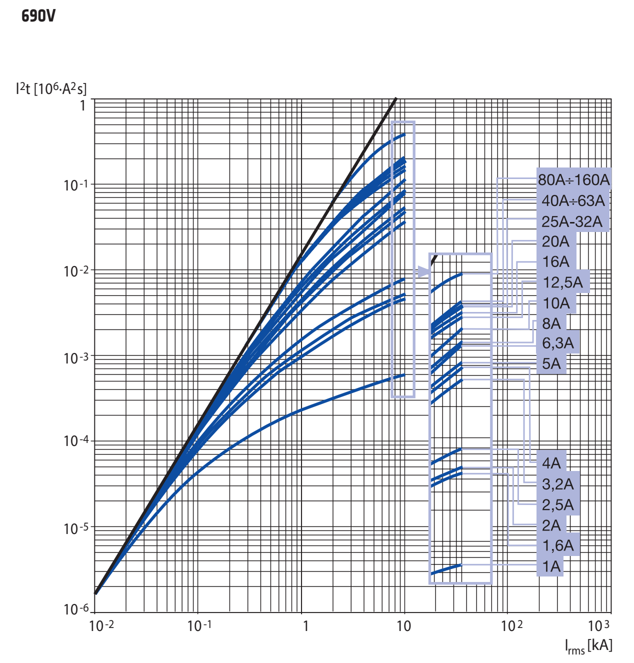


Specific let-through energy characteristics - 690V

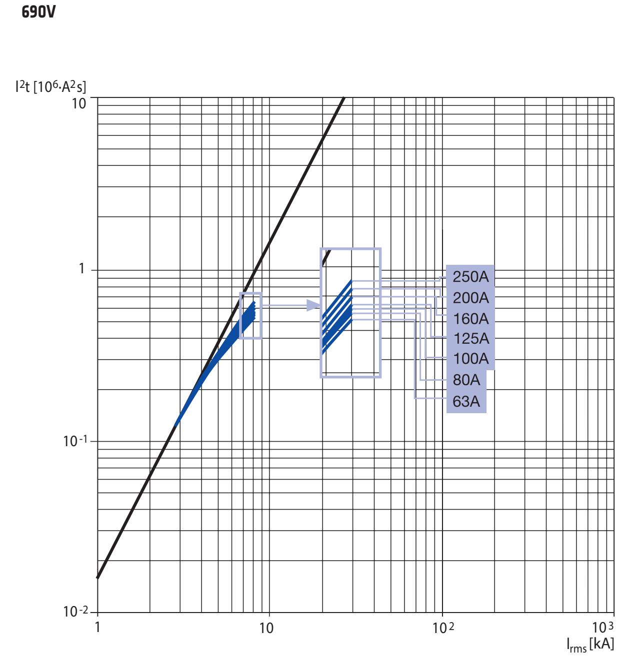
MTX 160c



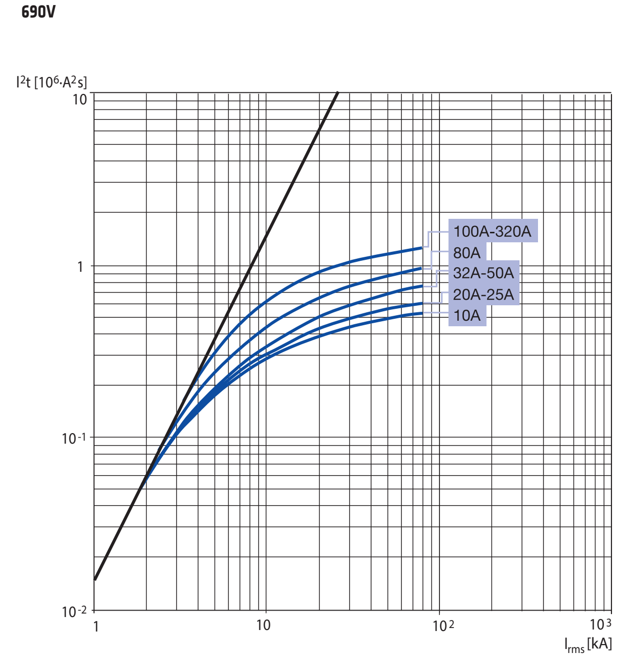
MTX 160 - MTXE 160



MTX 250



MTX 320 - MTXE 320



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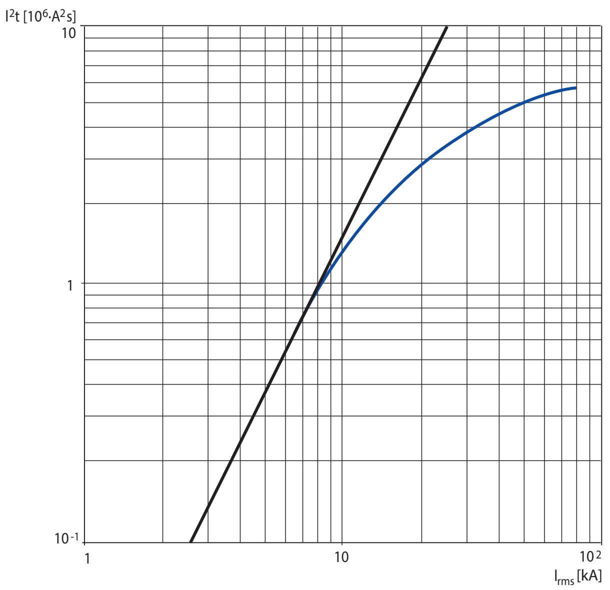
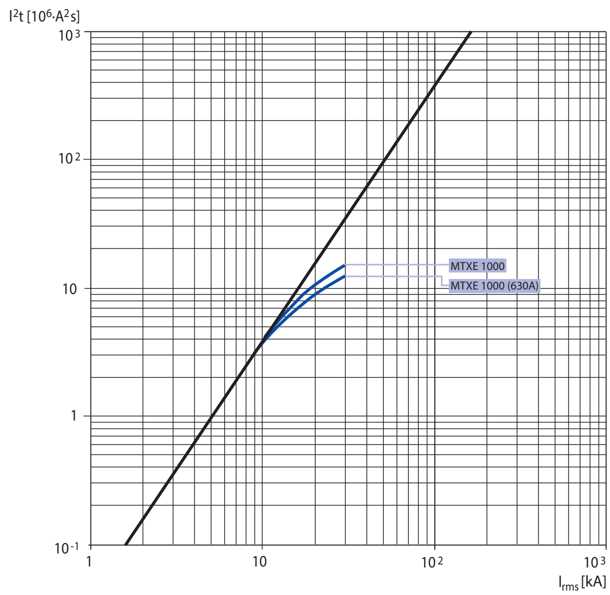
MTX 630 - MTXE 630

690V

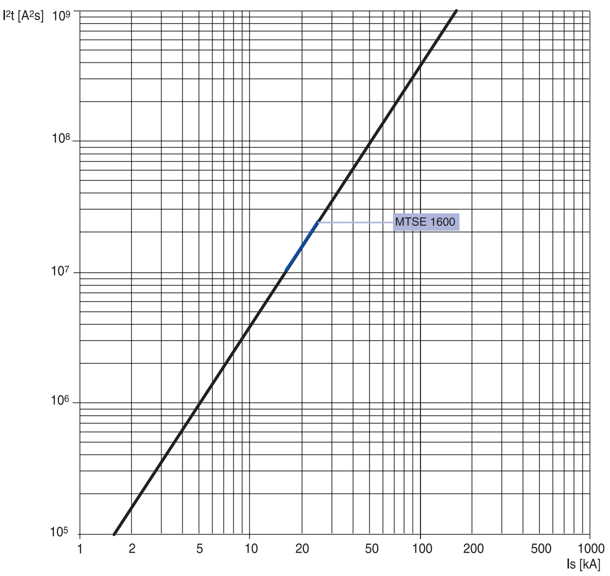


MTX 1000 - MTXE 1000

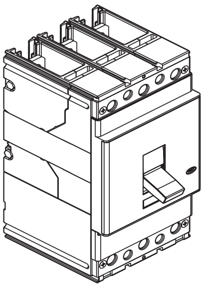
690V



MTSE 1600



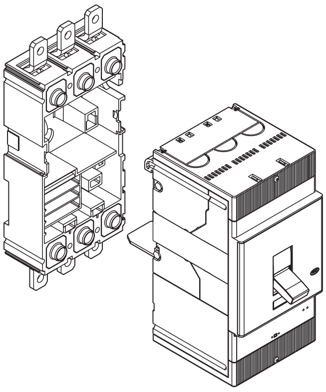
VERSIONS AND ASSEMBLIES



Fixed version

In fixed version, the circuit breaker consists of a single block that rationally encloses and marks off every component inside the device.
Both three and four-pole versions are available in the various sizes. Each of them has:

- a thermomagnetic, magnetic and electronic release
- lever command
- standard FC Cu terminals (front, for copper cables) for MTX 160c
- standard F terminals (front) for all the other sizes
- standardised 45mm front for MTX 160c, MTX/E 160 and MTX 250
- standardised 105mm front for MTX/E 320, MTX/E 630 and MTSE 1600
- standardised 140mm front for MTX/E 1000
- a plate for the front panel of the board
- the possibility of assembly on a back-mounting plate or on DIN rail EN50022 (up to MTX 250)

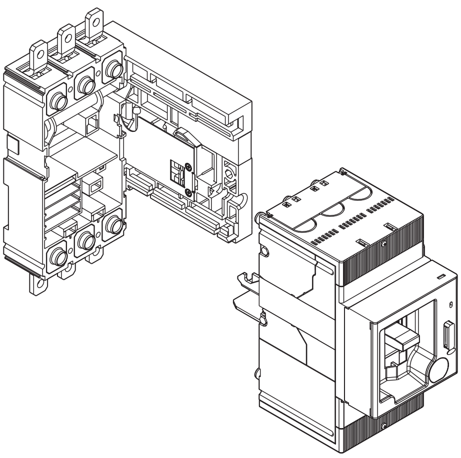


Plug-in version

In addition to the main contacts, the plug-in version has contacts which allow the circuit breaker itself to be removed; the circuit breaker is therefore essentially made up of a fixed part and a moving part.
These circuit breakers consist of:

- a fixed part, to be installed directly on the back-mounting plate of the recess
- a moving part, obtained from the fixed circuit breaker with the addition of the isolation contacts (in line with the connection terminals), the rear frame (for fastening to the fixed part) and the terminal covers.

The circuit breaker is removed by loosening the lower and upper fixing screws. A special block prevents the circuit breaker being inserted or removed when the contacts are closed.
If the circuit breaker is to be equipped with electrical accessories (see the trade catalogue for the options), then it is also necessary to order the socket-outlet/plug connectors or the adapters for isolation of the relative auxiliary circuits.
In the plug-in version, the circuit breaker can assume either the inserted or removed position.

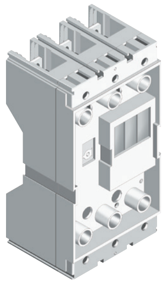


Withdrawable version

In addition to the opening contacts, the circuit breaker also has isolation contacts allowing it to be disconnected from the main circuit. With the aid of the special manoeuvre lever, the isolation position can be reached (with the power and auxiliary circuits disconnected) with the cell door closed - to the great benefit of the operator's safety. The manoeuvre lever can only be inserted when the circuit breaker is switched off.
The MTX/E 320, MTX/E 630 and MTX/E 1000 circuit breakers can only be equipped with pre-cabled electric accessories with the appropriate adapters for auxiliary circuit isolation.
These circuit breakers consist of:

- a fixed part, to be installed on the back-mounting plate of the recess and equipped with side guides to make it easier to remove or insert the moving part This element is always supplied with a special plate for the front panel of the board, which replaces the one supplied with the fixed assembly circuit breaker.
- A moving part, obtained by applying the KIT for transforming the fixed part into a moving part that can be withdrawn from the fixed circuit breaker.
- A compulsory accessory of your choice - the front for lever command, motor command or rotary handle command (to be ordered separately). The application of one of these accessories allows you to perform the insertion/withdrawal manoeuvre with the door closed.

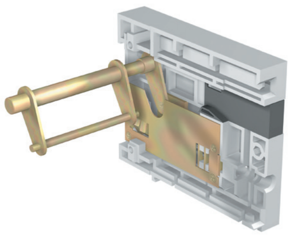
In the withdrawable version, the circuit breaker can assume the inserted, removed or withdrawn position.



Fixed part

This accessory allows you (from MTX/E 160) to produce a plug-in or withdrawable circuit breaker. With the standard supply, the fixed parts are equipped with the following terminals:

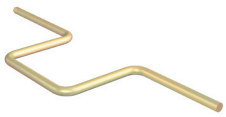
- F terminals (front) for MTX/E 160 and MTX/E 250. For these circuit breakers there is also the possibility to fit the fixed part with the same kits of terminals, terminal covers and phase dividers as envisaged for the fixed circuit breakers.
- The fixed parts of MTX/E 320, MTX/E 630 and MTX/E 1000, on the other hand, are available with different types of front and rear terminals. The fixed parts of MTX/E 320 and MTX/E 630 with F terminals (front) can be equipped with the relative ES, FC Cu and FC CuAl terminals.



Kit for transforming from fixed part of plug-in into fixed part of withdrawable

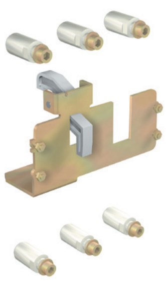
This KIT is needed for the withdrawable configuration of MTX/E 320 and MTX/E 630 circuit breakers only. It must be applied to the fixed part for the withdrawable assembly of the circuit breakers, and consists of:

- transformation KIT with guide
- crank for withdrawal
- plate for the front panel of the board (this replaces the one supplied with the fixed assembly circuit breaker).



Crank for withdrawal

This accessory allows insertion/withdrawal operations with the door closed. The crank is packaged together with the fixed part, and is the same for the entire range of circuit breakers.

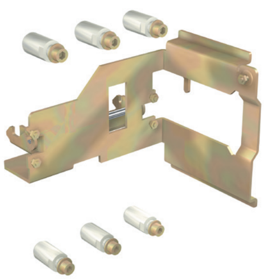


Kit for transforming the fixed version into the moving part of a plug-in circuit breaker

This accessory allows you to transform the fixed circuit breaker with F terminals (front) into the moving part of a plug-in circuit breaker.
The KIT is available for MTX/E 160 - MTX 250 -MTX/E 320 and MTX/E 630, and consists of:

- isolation contacts
- anti-removal safety devices
- assembly screws and nuts
- low terminal covers for the moving part

The plug-in assembly is completed with the relative fixed part.



Kit for transforming the fixed version into the moving part of a withdrawable circuit breaker

This accessory allows you to transform the fixed circuit breaker with F terminals (front) into the moving part of a withdrawable circuit breaker. The KIT is available for MTX/E 320 - MTX/E630 - MTX/E 1000 (up to 800A) and MTSE 1600, and consists of:

- isolation contacts
- a frame
- assembly screws and nuts
- low terminal covers for the moving part

The withdrawable assembly is completed with the relative fixed part and, necessarily, with one of the following accessories: front for lever command, rotary handle command or motor command.

For technical information contact the Technical Assistance Service or visit gewiss.com

Connectors for accessories

Socket-outlet/plug connectors

To allow the moving part of the withdrawable circuit breaker to be inserted and removed, the electrical accessories of the MTX/E 160, MTX 250 and MTXM 250 circuit breakers must be equipped with at least one socket-outlet/plug connector. The correspondences are shown in the table below.

Accessories	3 poles	6 poles	12 poles
Shunt trip release	●		
Undervoltage release	●		
Contact AUX 1Q + 1SY		●	
Contact AUX 2Q		●	
Contact AUX 3Q + 1SY			●
Overlapping solenoid motor command (1)		●	
Contact AUX 2Q + 1SY for MTXE 160 (2)	●	●	
Contact AUX 1S51 + 1Q + 1SY for MTXE 160 (2)	●	●	

(1) Always supplied with overlapping solenoid command.
(2) Both the socket-outlet/plug connectors are required.

Adapters

For the electrical accessories used with the MTX/E 320, MTX/E 630, MTX/E 1000 circuit breakers, and with the MTXM 320, MTXM 400, MTXM 630, MTXM 800 and MTXM 1000 control switch disconnectors in the plug-in or withdrawable version, it is necessary to use - for the moving parts - the adapters coupled with the plug and then connected to the socket-outlet on the fixed part.

Depending on the electrical accessories, it may be necessary to use one or two adapters, assembled on the left and/or right side of the moving part.

Accessories	5-way	6-way	10-way	12-way
Left side				
Shunt trip release	●			
Undervoltage release	●			
Stored energy command			●	
Stored energy motor command			●	
Stored energy motor command + Shunt trip release or Undervoltage release			●	
Right side				
Contact AUX 3Q + 1SY				●
Contact AUX 2Q + 1SY for MTXE 160		●		
Contact AUX 1S51 + 1Q + 1SY for MTXE 160		●		

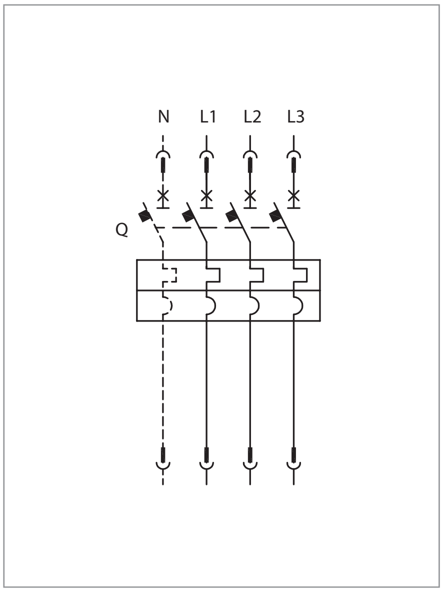
For the withdrawable version of MTSE 1600 and MTSM 1600, special connectors are available: for opening releases, auxiliary contacts and motor command.

MTX wiring diagrams

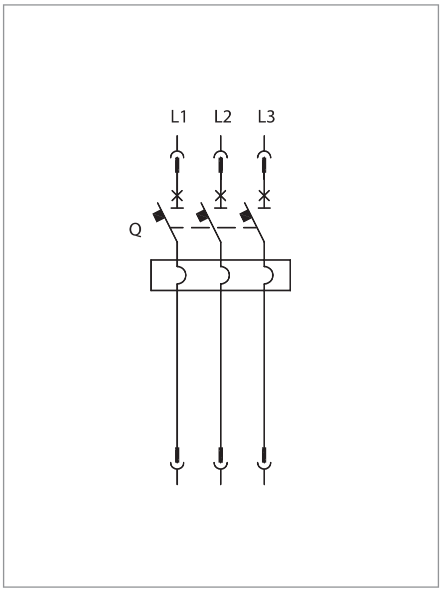
The diagrams show the following conditions:

- open, inserted circuit breakers in plug-in assembly
- open motor start-up contactor
- unpowered circuits
- no tripping of the releases
- motor command with loaded springs

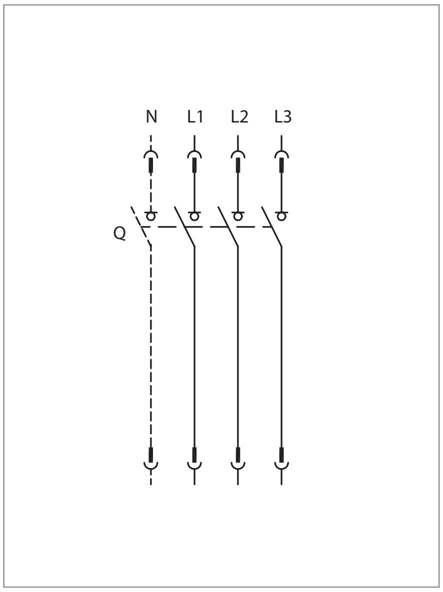
Circuit breaker 3P/4P
with thermomagnetic release



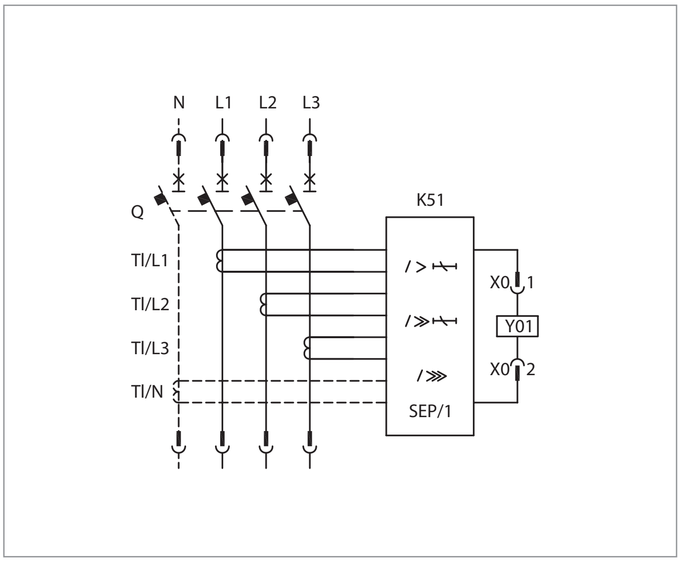
Circuit breaker 3P
with magnetic release



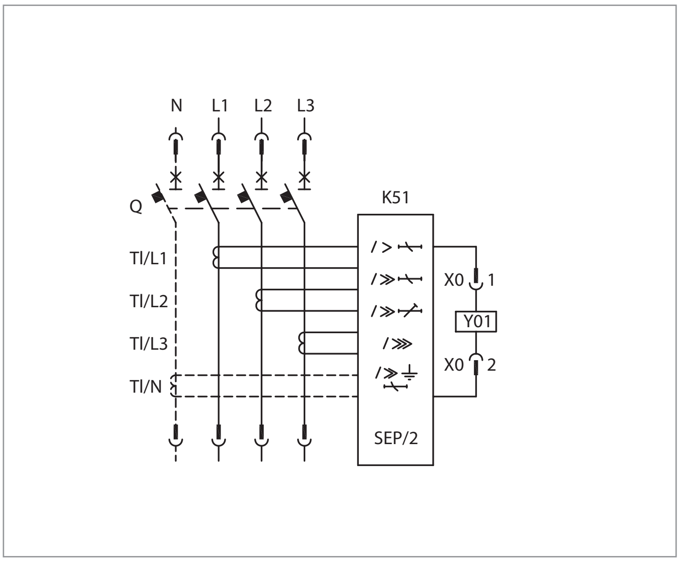
Circuit breaker 3P/4P
for control switch disconnector



Circuit breaker 3P/4P
with SEP/1 electronic release

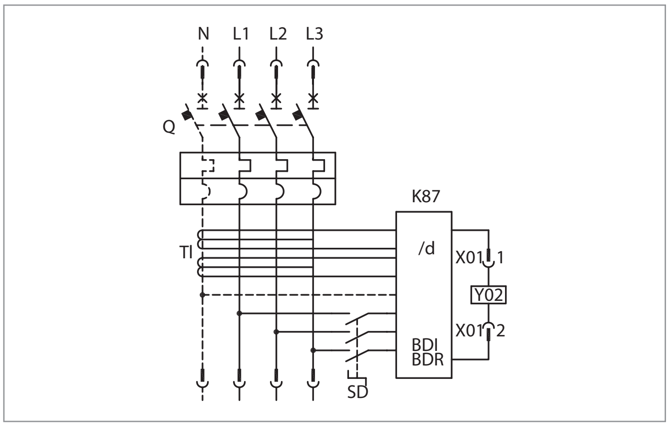


Circuit breaker 3P/4P
with SEP/2 electronic release

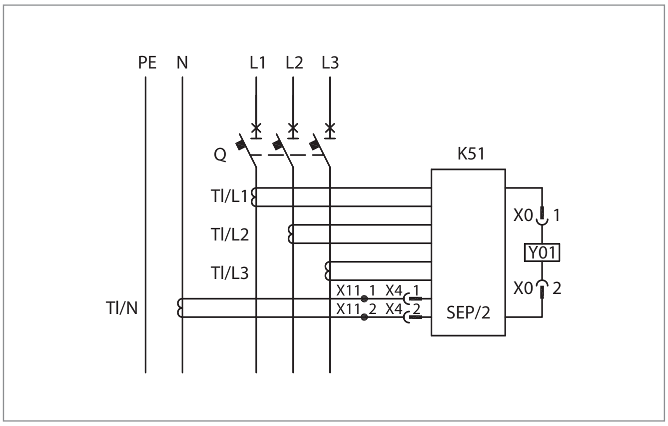


For technical information contact the Technical Assistance Service or visit gewiss.com

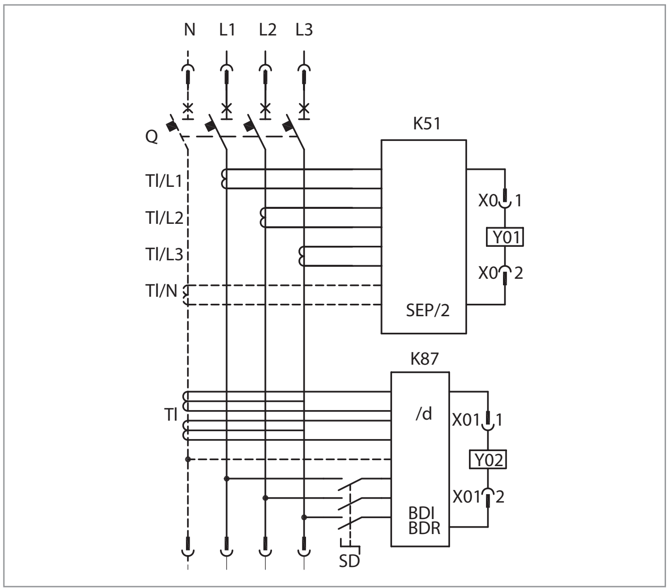
Circuit breaker 3P/4P with BDI/BDR residual current release



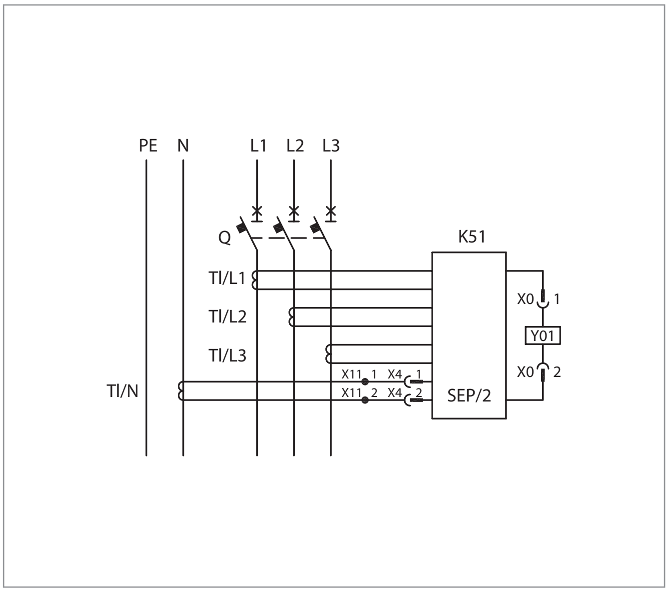
Circuit breaker 3P/4P with BDI/BDR residual current release



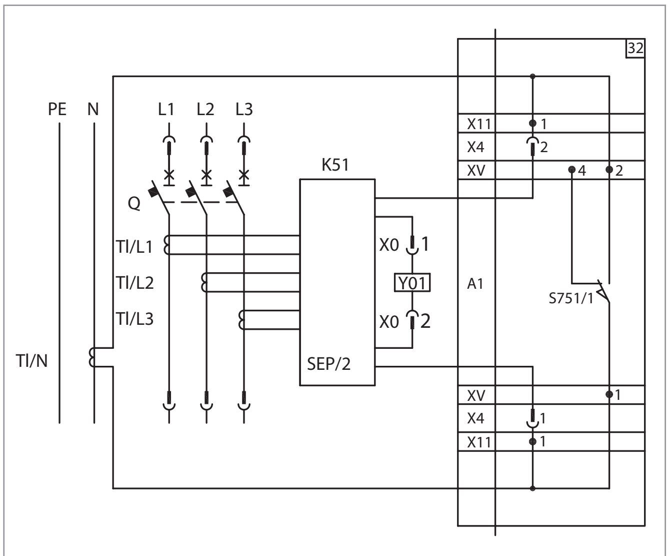
Circuit breaker 3P/4P with SEP/1 - SEP/2 electronic release and BDI/BDR residual current release



Circuit breaker 3P in fixed version, with current transformer on neutral wire outside the circuit breaker



Circuit breaker 3P in plug-in and withdrawable version, with current transformer on neutral wire outside the circuit breaker

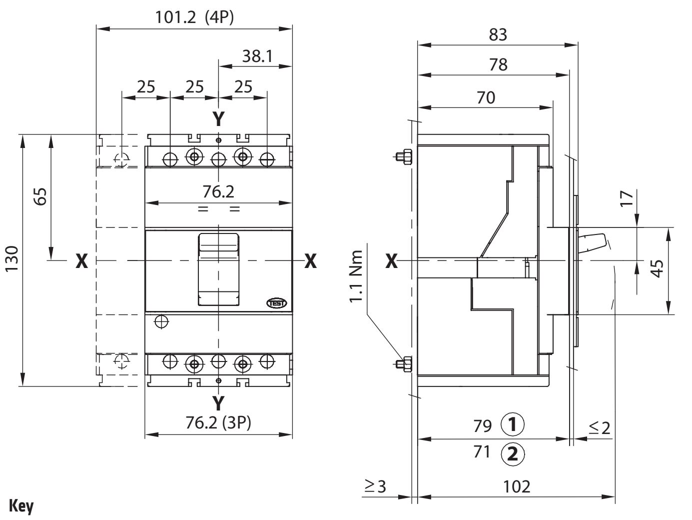


Dimension tables

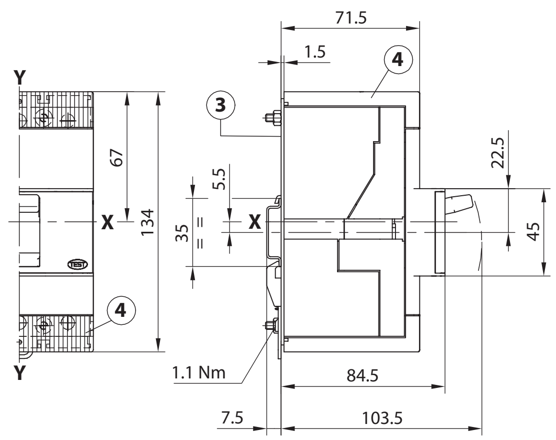
MTX 160c / MTXM 160c - Fixed circuit breaker

CIRCUIT BREAKER

Fixing on sheet metal



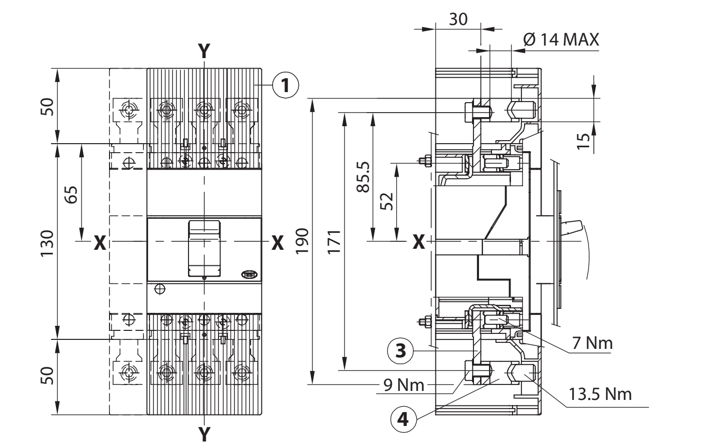
Fixing on DIN 50022 rail



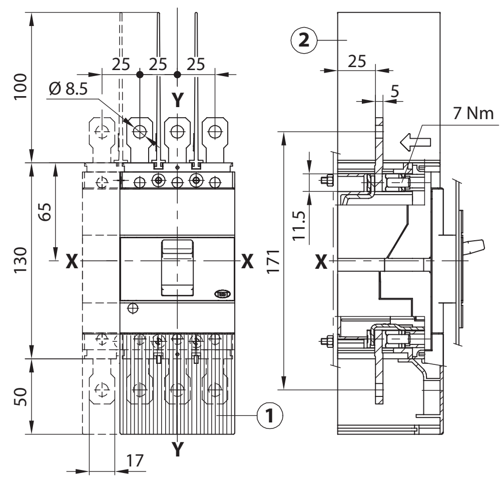
Key
1 Depth of the board when using a circuit breaker with a nose that does not protrude from the cell door, with or without plate
2 Depth of the board when using a circuit breaker with a nose that does not protrude from the cell door, without plate
3 Fixing bracket on the profile
4 Low terminal covers with an IP40 degree of protection

TERMINALS

Front, for copper/aluminium cables - FC Cu/Al

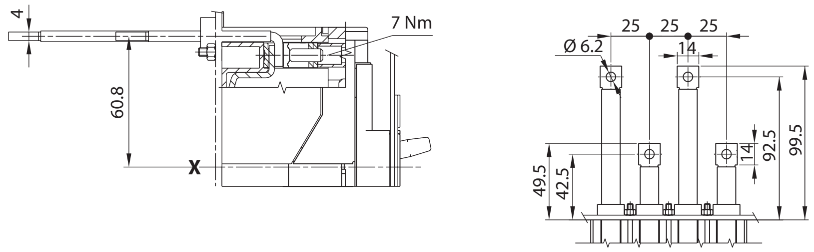


Extended front - EF

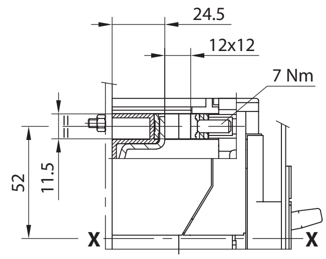


Key
1 High terminal covers with an IP40 degree of protection (compulsory)
2 Insulating barriers between the phases (compulsory if high terminal covers are not used)
3 Extended front terminals
4 Terminals for cables CuAl 95mm²

Horizontal flat rear



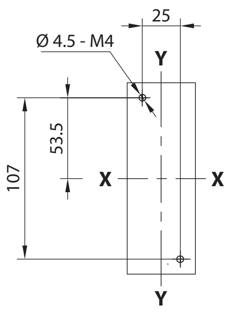
Front, for copper cables - FC Cu

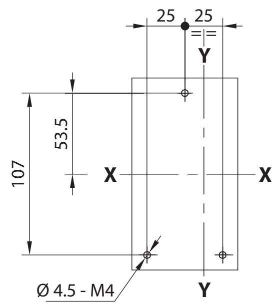


MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

PERFORATION TEMPLATE FOR SHEET METAL SUPPORT

For front terminals

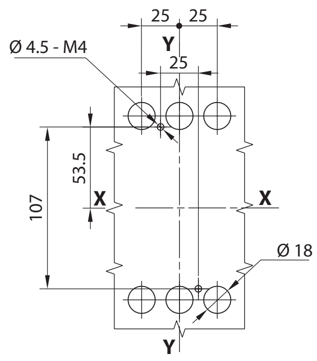


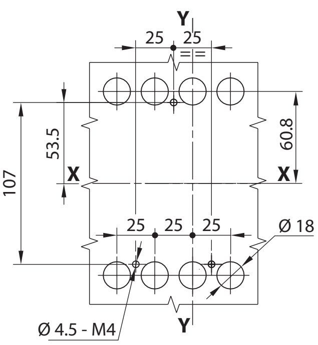


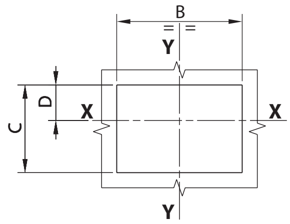
3 POLES

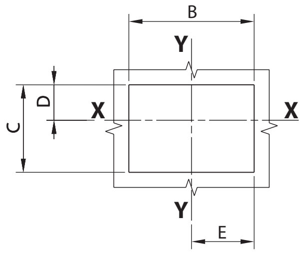
4 POLES

For rear terminals





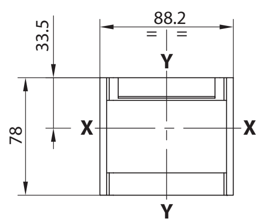




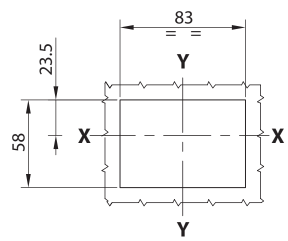
3 POLES

4 POLES

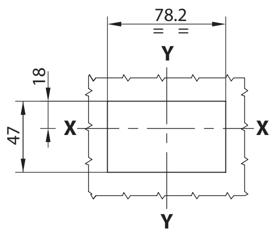
PLATE FOR THE CELL DOOR



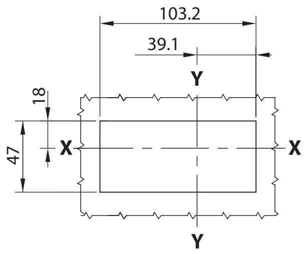
PERFORATION TEMPLATES FOR THE CELL DOOR



With plate and nose,
circuit breaker flush with door (3/4P)



Without plate and nose, circuit
breaker flush with door (3/4P)
or protruding (3P)



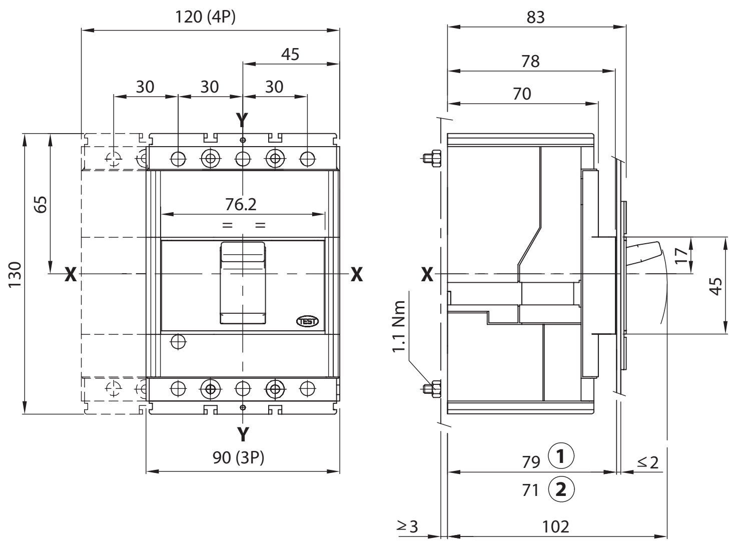
Without plate and nose, circuit
breaker flush with door (4P)

For technical information contact the Technical Assistance Service or visit gewiss.com

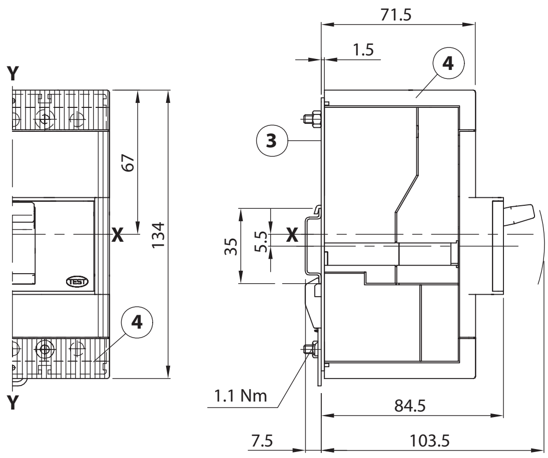
MTX 160 / MTXE 160 - Fixed circuit breaker

CIRCUIT BREAKER

Fixing on sheet metal



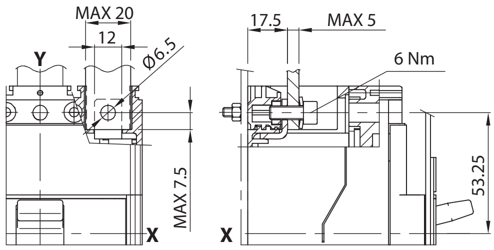
Fixing on DIN 50022 rail



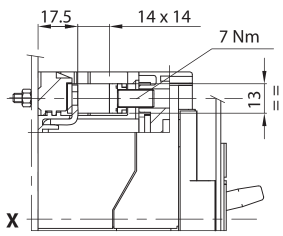
Key
1 Depth of the board when using a circuit breaker with a nose that does not protrude from the cell door, with or without plate
2 Depth of the board when using a circuit breaker with a nose that does not protrude from the cell door, without plate
3 Fixing bracket on the profile
4 Low terminal covers with an IP40 degree of protection

TERMINALS

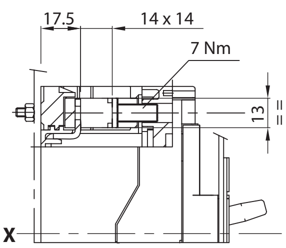
Front - F



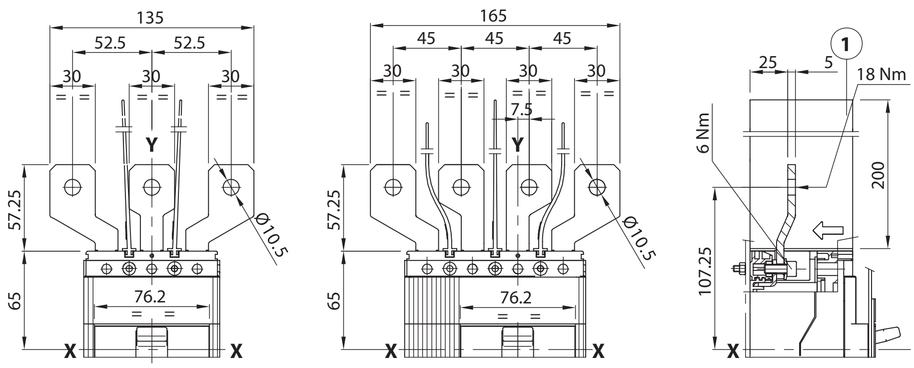
Front, for copper cables - FC Cu



Front, for copper/aluminium cables FC CuAl 95mm²



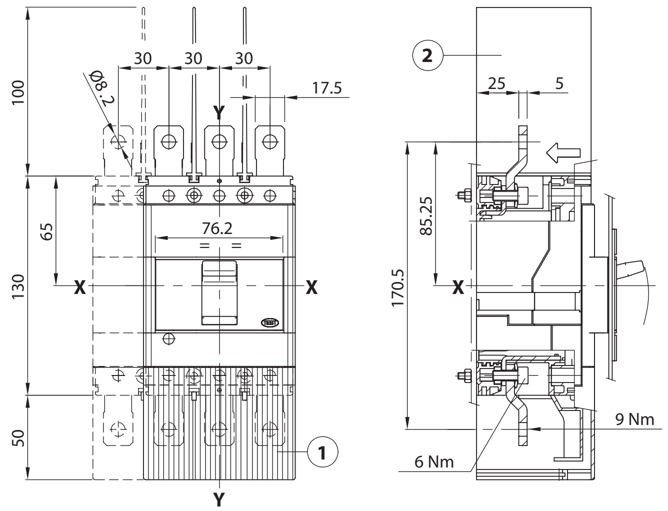
Extended spread front - ES



Key
1 Insulating barriers between the phases (compulsory)

TERMINALS

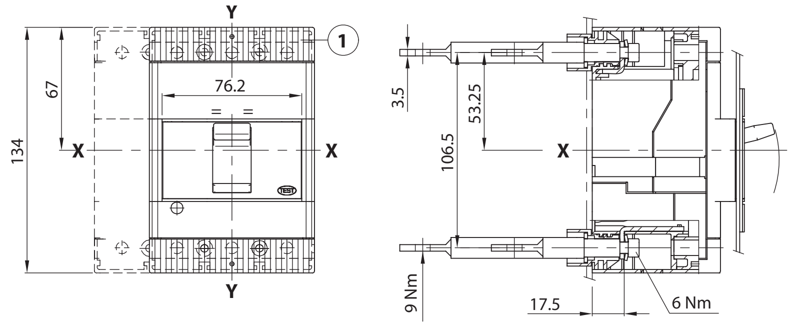
Extended front - EF



Key

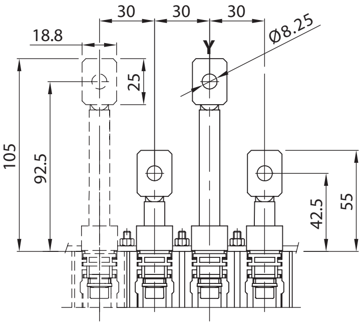
1 High terminal covers with an IP40 degree of protection
2 Insulating barriers between the phases (compulsory without terminal covers as in point 1)

Rear - R



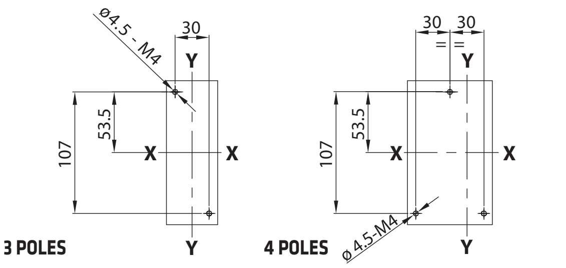
Key

1 Low terminal covers with an IP40 degree of protection



PERFORATION TEMPLATE FOR SHEET METAL SUPPORT

For front terminals



For rear terminals

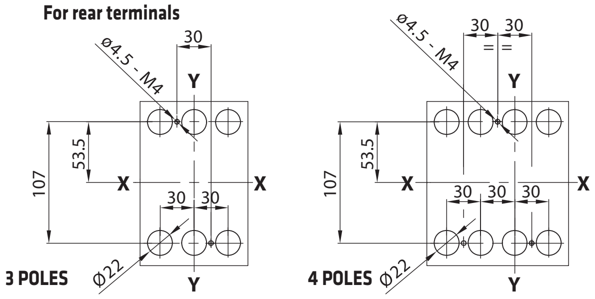
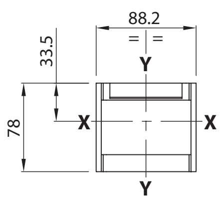
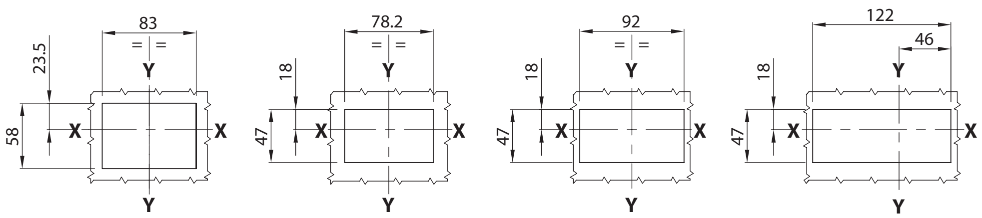


PLATE FOR THE CELL DOOR



PERFORATION TEMPLATES FOR THE CELL DOOR



With plate and nose, circuit breaker flush with door (3/4P)

Without plate and nose, circuit breaker flush with door (3/4P)

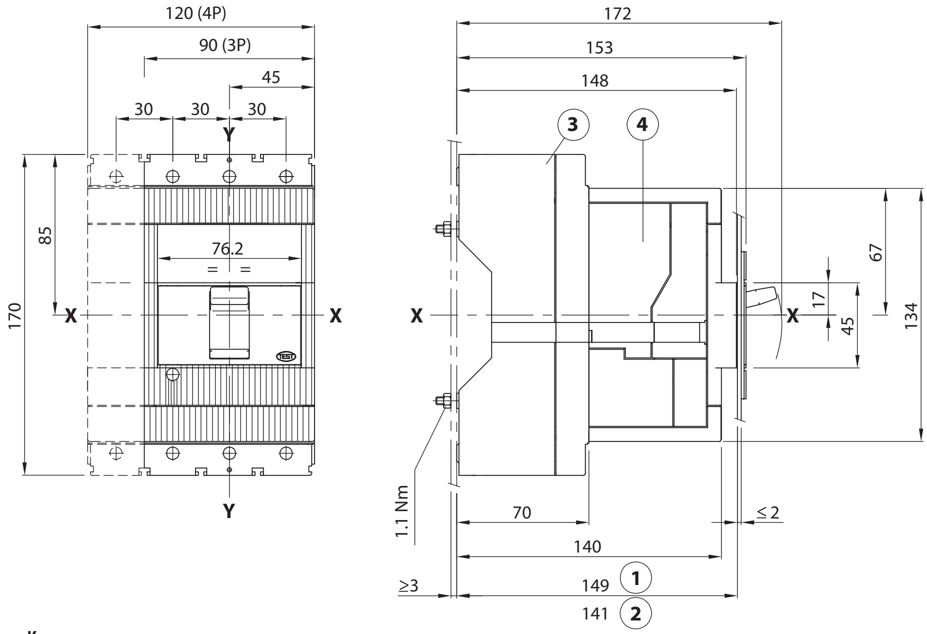
Without plate and nose, circuit breaker protruding (3P)

Without plate and nose, circuit breaker protruding (4P)

MTX 160 / MTXE 160 - Plug-in circuit breaker

CIRCUIT BREAKER

Fixing on sheet metal

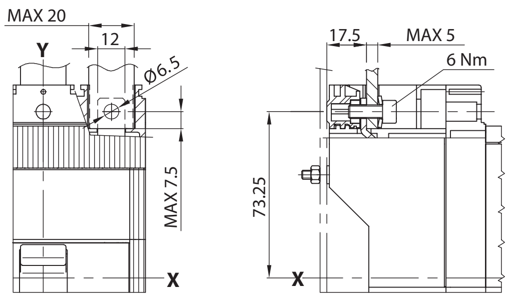


Key

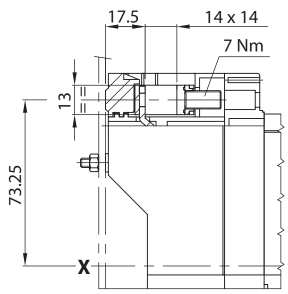
1 Depth of the board when using a circuit breaker with a nose that does not protrude from the cell door, with or without plate
2 Depth of the board when using a circuit breaker with a nose that does not protrude from the cell door, without plate
3 Fixed part
4 Moving part with terminal covers, with IP40 degree of protection

TERMINALS

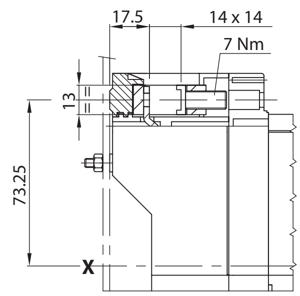
Front - F



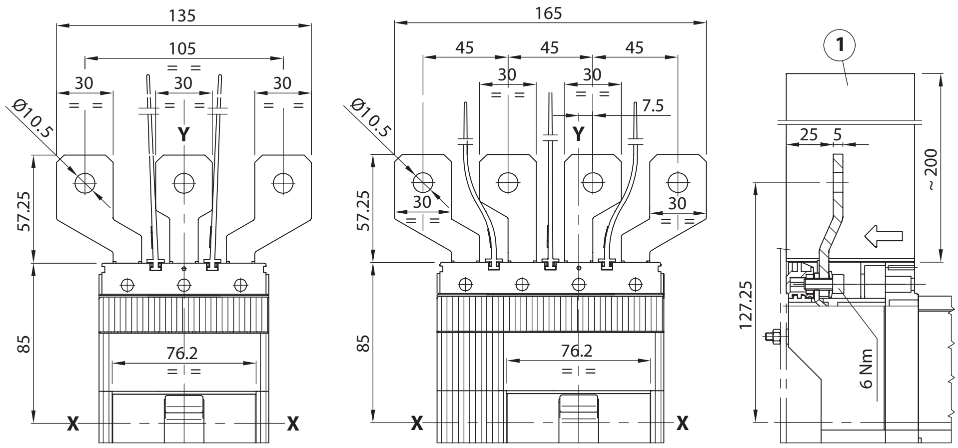
Front, for copper cables - FC Cu



Front, for copper/aluminium cables FC CuAl 95mm²



Extended spread front - ES

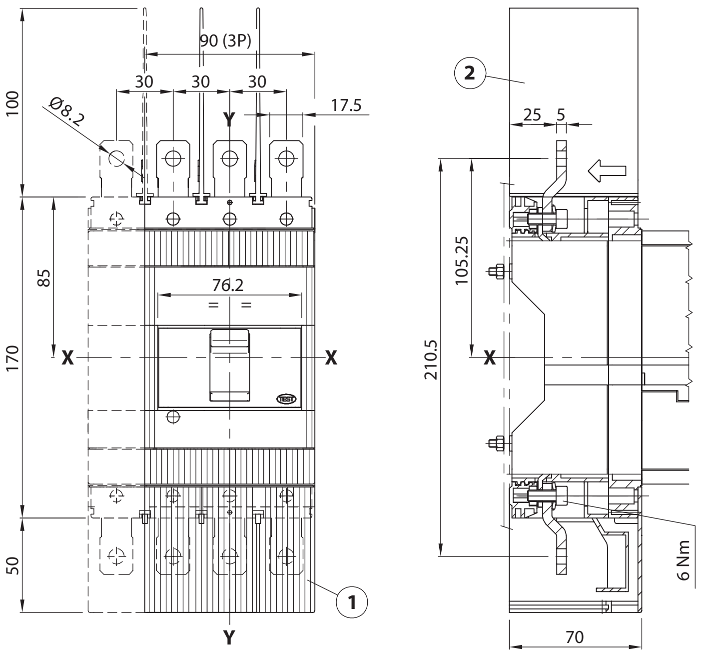


Key

1 Insulating barriers between the phases (compulsory)

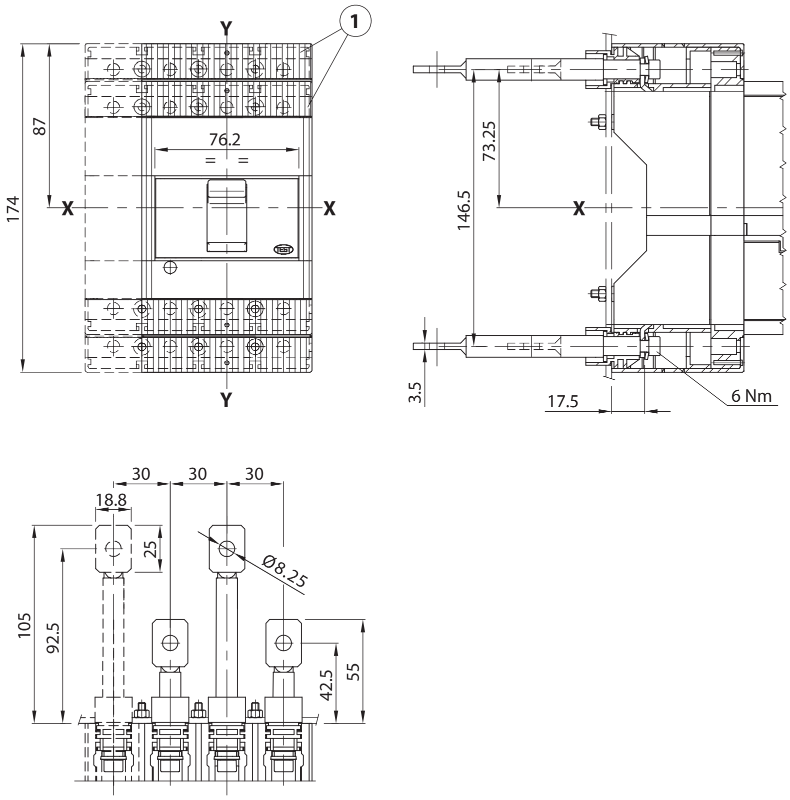
TERMINALS

Extended front - EF



Key
1 High terminal covers with an IP40 degree of protection
2 Insulating barriers between the phases (compulsory without terminal covers as in point 1)

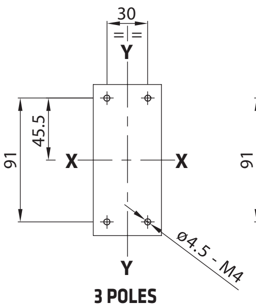
Rear - R



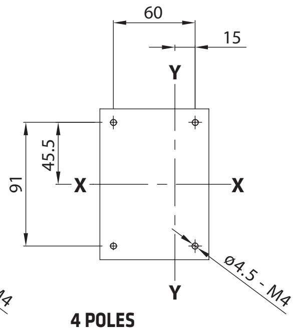
Key
1 Low terminal covers with an IP40 degree of protection

PERFORATION TEMPLATE FOR SHEET METAL SUPPORT

For front terminals

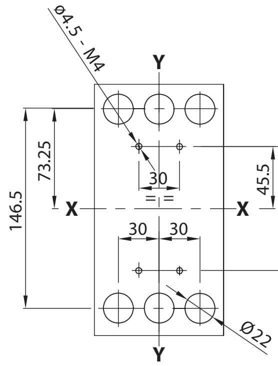


3 POLES

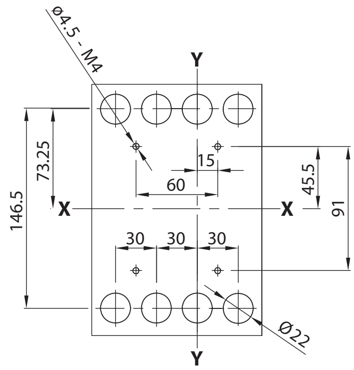


4 POLES

For rear terminals

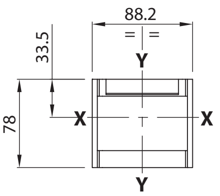


3 POLES

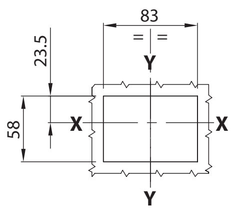


4 POLES

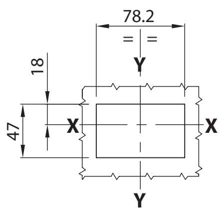
PLATE FOR THE CELL DOOR



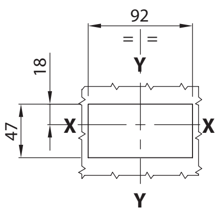
PERFORATION TEMPLATES FOR THE CELL DOOR



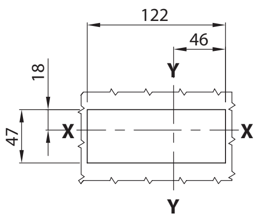
With plate and nose, circuit breaker flush with door (3/4P)



Without plate and nose, circuit breaker flush with door (3/4P)



Without plate and nose, circuit breaker protruding (3P)

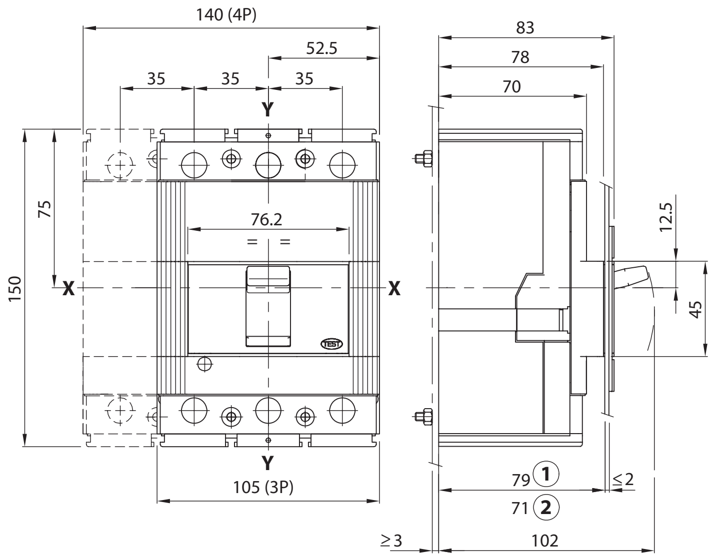


Without plate and nose, circuit breaker protruding (4P)

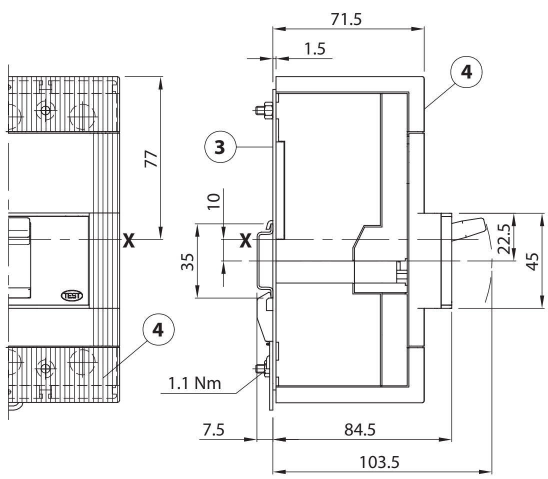
MTX 250 / MTXM 250 - Fixed circuit breaker

CIRCUIT BREAKER

Fixing on sheet metal



Fixing on DIN 50022 rail



Key

1 Depth of the board when using a circuit breaker with a nose that does not protrude from the cell door, with or without plate

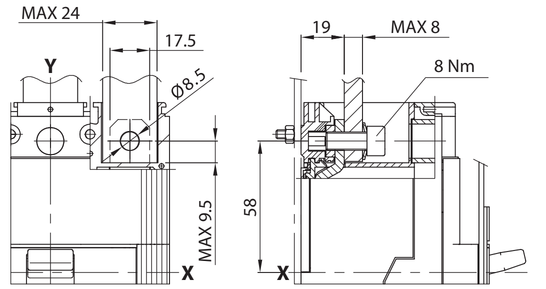
2 Depth of the board when using a circuit breaker with a nose that protrudes from the cell door

3 Fixing bracket on the profile

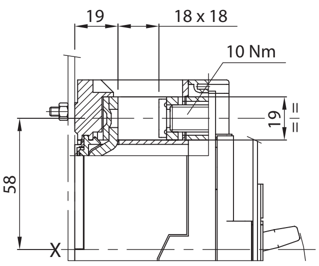
4 Low terminal covers with an IP40 degree of protection

TERMINALS

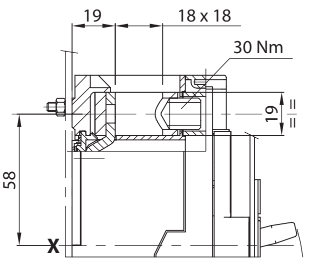
Front - F



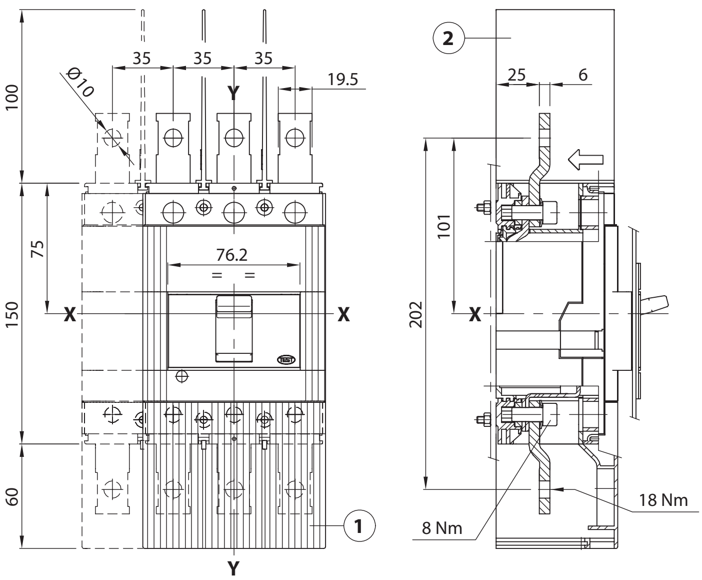
Front, for copper cables - FC Cu



Front, for copper/aluminium cables FC CuAl 185mm²



Extended front - EF



Key

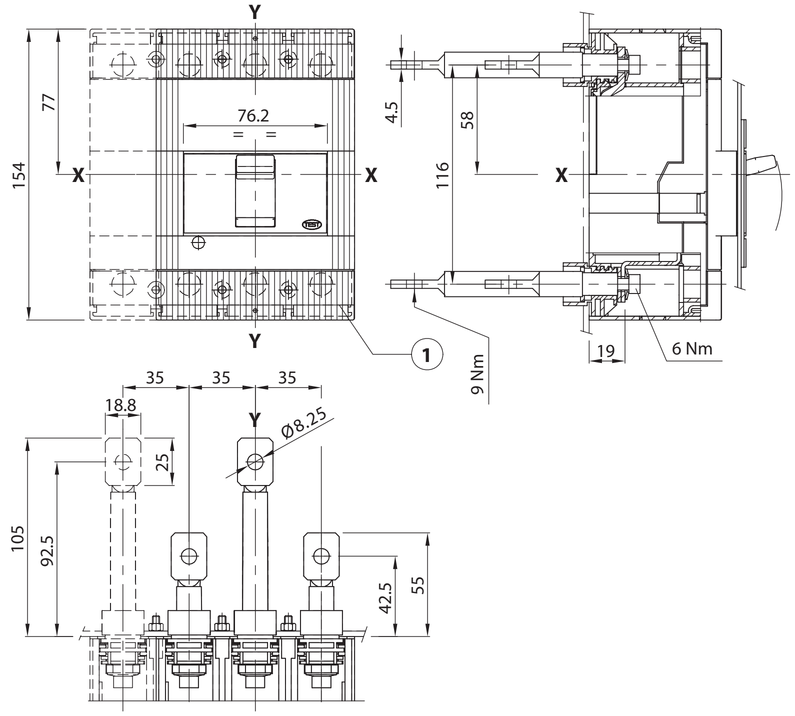
1 High terminal covers with an IP40 degree of protection

2 Insulating barriers between the phases (compulsory without terminal covers as in point 1)

MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

TERMINALS

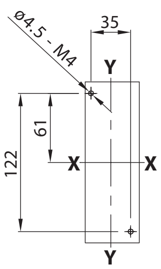
Rear - R



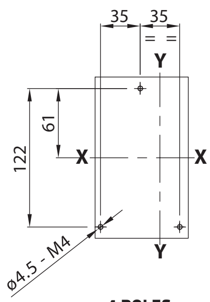
Key
1 Low terminal covers with an IP40 degree of protection

PERFORATION TEMPLATE FOR SHEET METAL SUPPORT

For front terminals

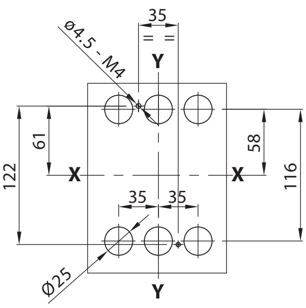


3 POLES

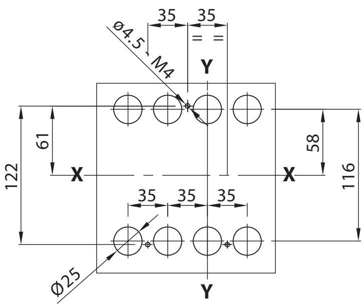


4 POLES

For rear terminals

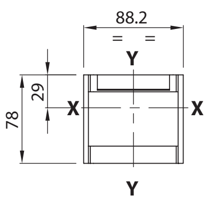


3 POLES

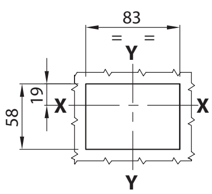


4 POLES

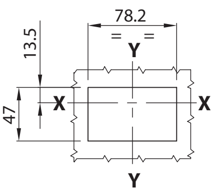
PLATE FOR THE CELL DOOR



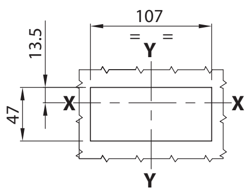
PERFORATION TEMPLATES FOR THE CELL DOOR



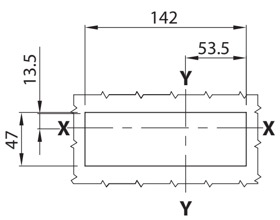
With plate and nose, circuit breaker flush with door (3/4P)



Without plate and nose, circuit breaker flush with door (3/4P)



Without plate and nose, circuit breaker protruding (3P)



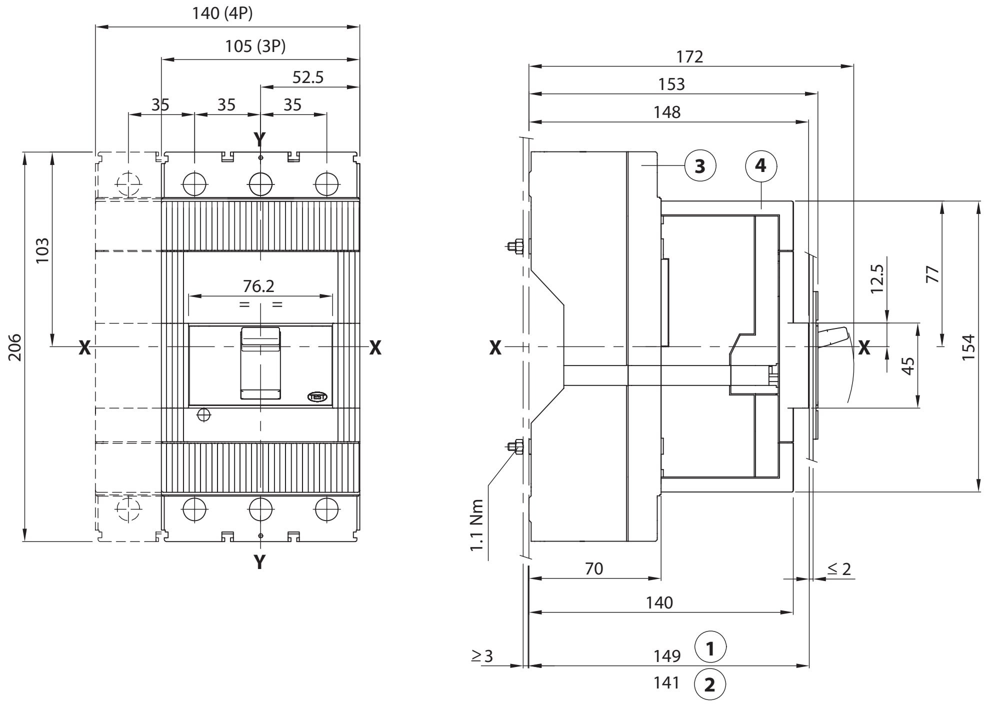
Without plate and nose, circuit breaker protruding (4P)

For technical information contact the Technical Assistance Service or visit gewiss.com

MTX 250 / MTXM 250 - Plug-in circuit breaker

CIRCUIT BREAKER

Fixing on sheet metal

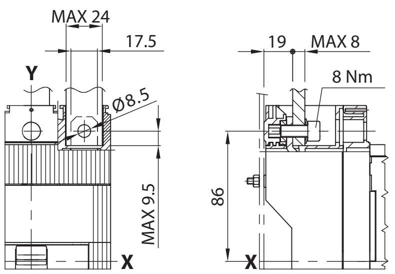


Key

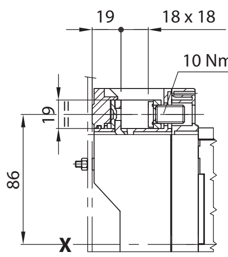
1 Depth of the board when using a circuit breaker with a nose that does not protrude from the cell door, with or without plate
2 Depth of the board when using a circuit breaker with a nose that does not protrude from the cell door, without plate
3 Fixed part
4 Moving part with terminal covers, with IP40 degree of protection

TERMINALS

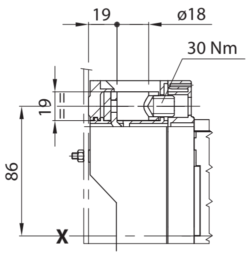
Front - F



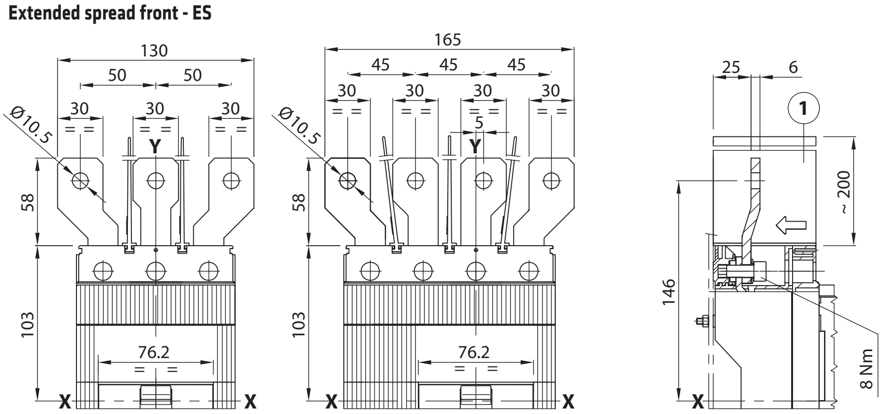
Front, for copper cables - FC Cu



Front, for copper/aluminium cables FC CuAl 185mm²



Extended spread front - ES



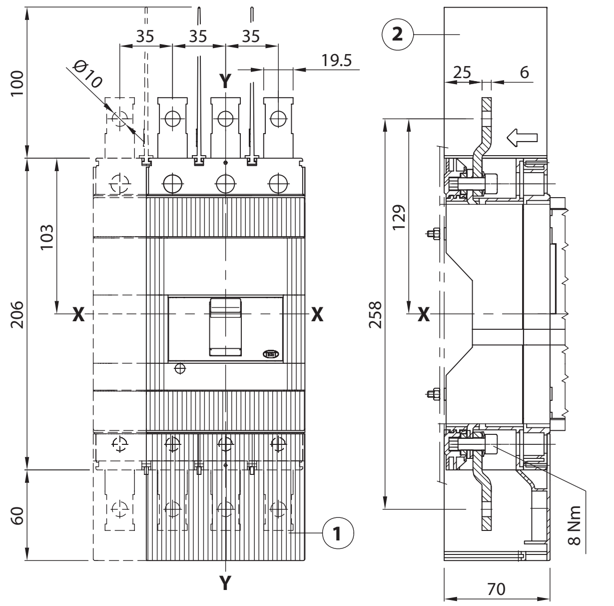
Key

1 Insulating barriers between the phases (compulsory)

MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

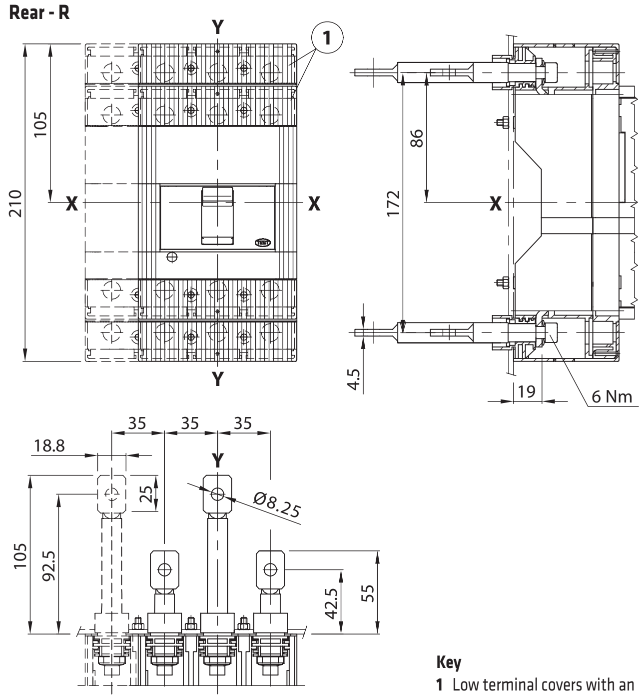
TERMINALS

Extended front - EF



Key
1 High terminal covers with an IP40 degree of protection
2 Insulating barriers between the phases (compulsory without terminal covers as in point 1)

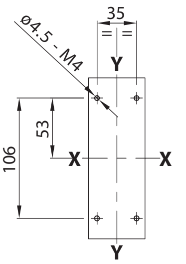
Rear - R



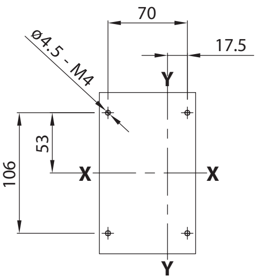
Key
1 Low terminal covers with an IP40 degree of protection

PERFORATION TEMPLATE FOR SHEET METAL SUPPORT

For front terminals

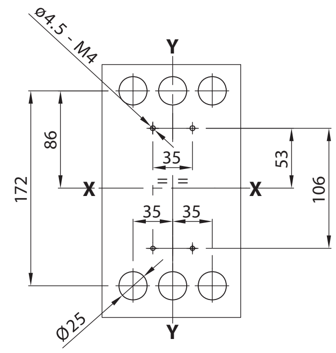


3 POLES

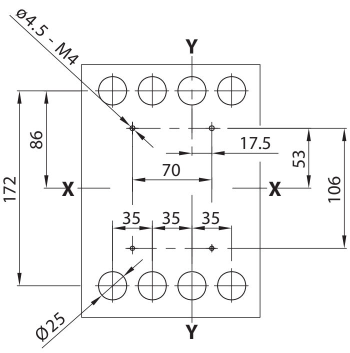


4 POLES

For rear terminals

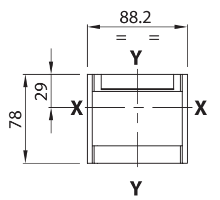


3 POLES

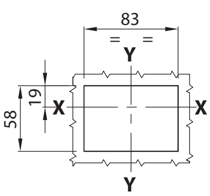


4 POLES

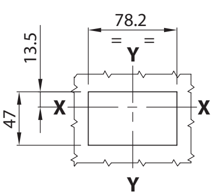
PLATE FOR THE CELL DOOR



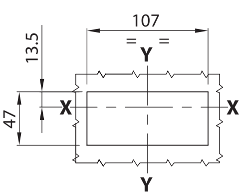
PERFORATION TEMPLATES FOR THE CELL DOOR



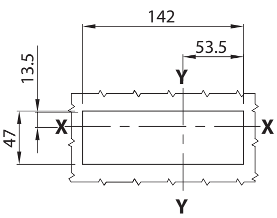
With plate and nose, circuit breaker flush with door (3/4P)



Without plate and nose, circuit breaker flush with door (3/4P)



Without plate and nose, circuit breaker protruding (3P)



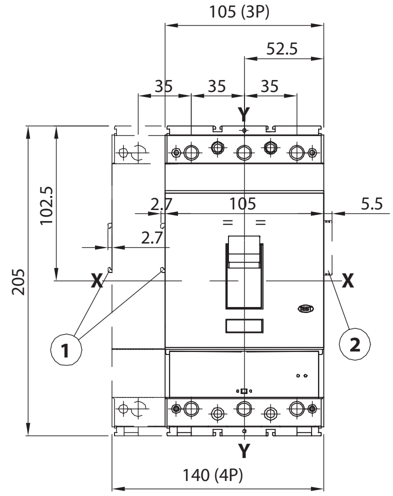
Without plate and nose, circuit breaker protruding (4P)

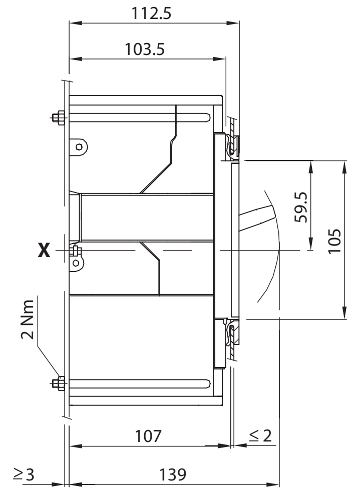
MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

MTX 320 / MTXE 320 / MTXM 320 - Fixed circuit breaker

CIRCUIT BREAKER

Fixing on sheet metal

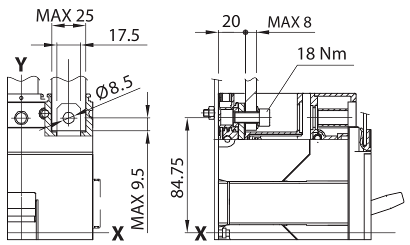




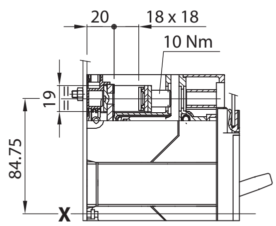
Key
1 Overall dimensions with wired accessories assembled (opening and undervoltage releases, BDI/R residual current releases)
2 Overall dimensions with wired auxiliary contacts assembled (3Q+1SY only)

TERMINALS

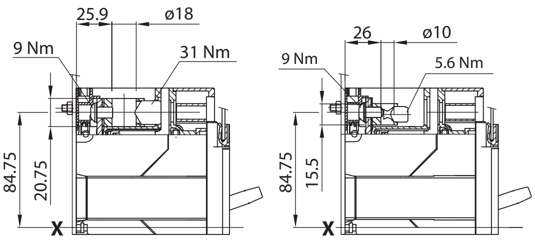
Front - F



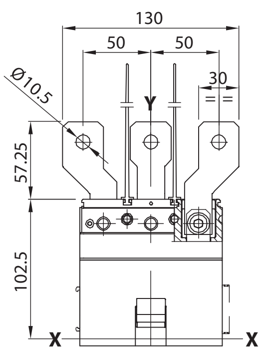
Front, for copper cables - FC Cu

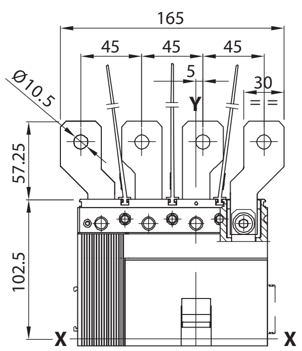


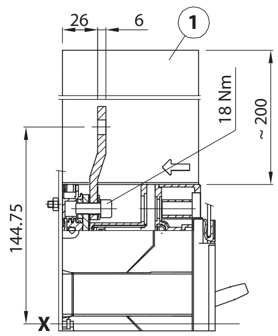
Front, for copper/aluminium cables FC CuAl 95mm²



Extended spread front - ES





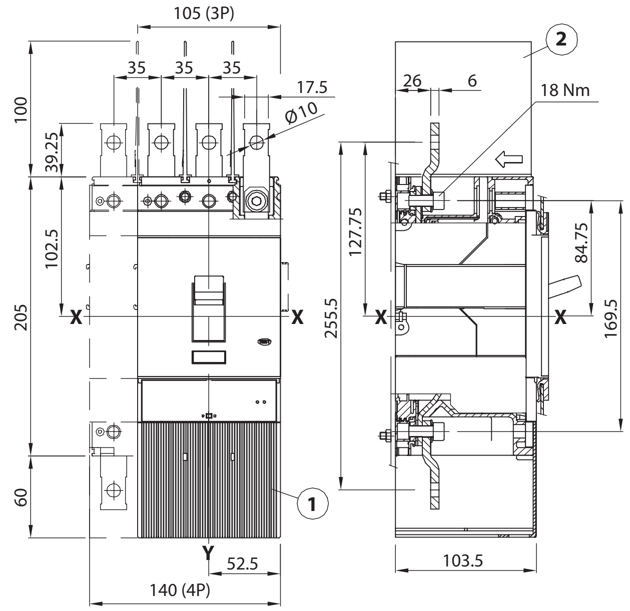


Key
1 Insulating barriers between the phases (compulsory)

For technical information contact the Technical Assistance Service or visit gewiss.com

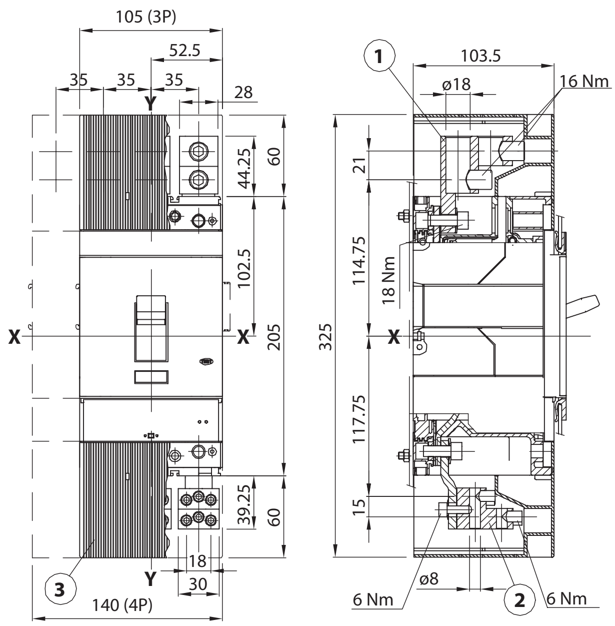
TERMINALS

Extended front - EF



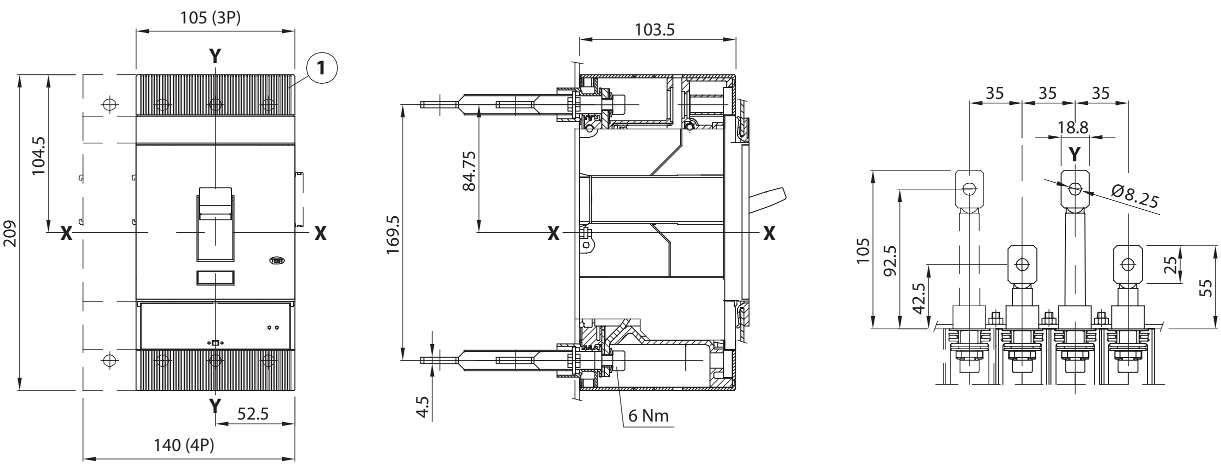
Key
1 High terminal covers with an IP40 degree of protection
2 Insulating barriers between the phases (compulsory without terminal covers as in point 1)

Front, multi-cable - MC



Key
1 Front terminals for connecting cables 2x150mm²
2 Front terminals for multi-cable connection
3 High terminal covers with IP 40 degree of protection

Rear - R

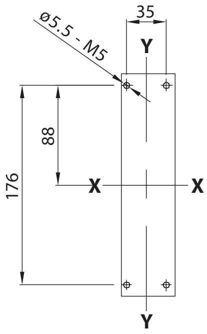


Key
1 Low terminal covers with IP 40 degree of protection

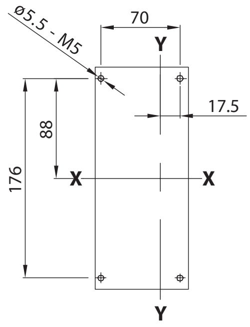
MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

PERFORATION TEMPLATE FOR SHEET METAL SUPPORT

For front terminals

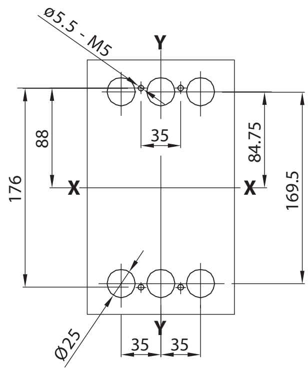


3 POLES

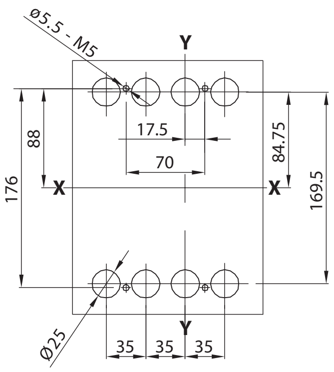


4 POLES

For rear terminals

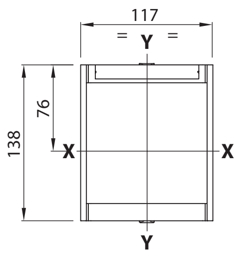


3 POLES

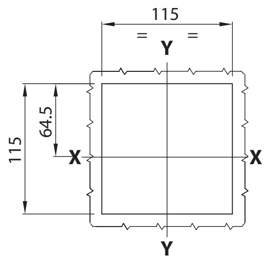


4 POLES

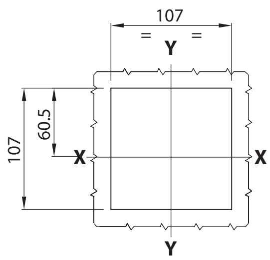
PLATE FOR THE CELL DOOR



PERFORATION TEMPLATES FOR THE CELL DOOR



With plate (3/4P)



Without plate (3/4P)

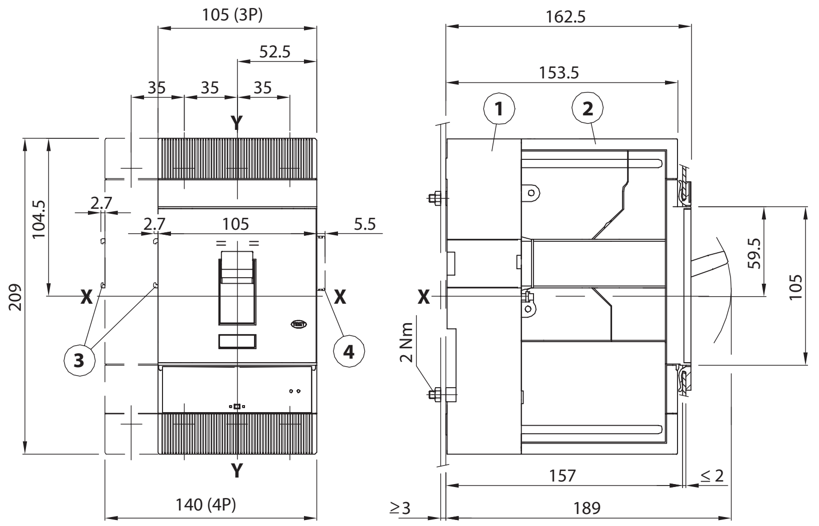
For technical information contact the Technical Assistance Service or visit gewiss.com

MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

MTX 320 / MTXE 320 / MTXM 320 - Plug-in circuit breaker

CIRCUIT BREAKER

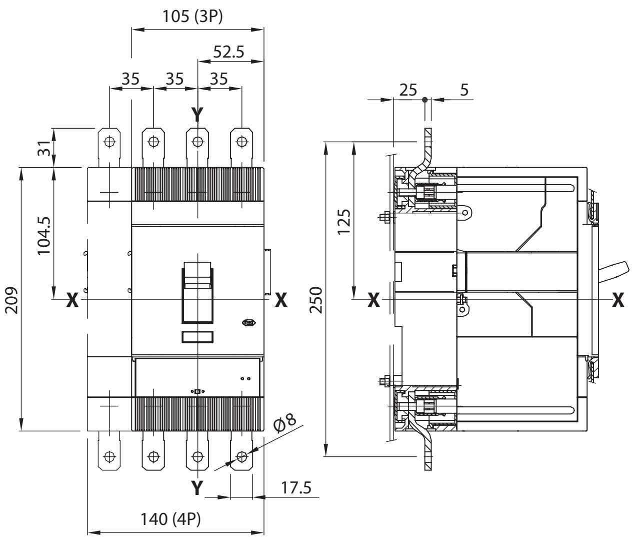
Fixing on sheet metal



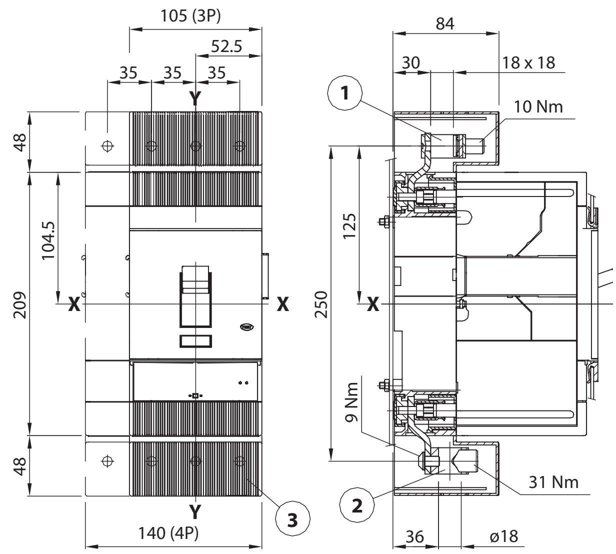
Key
1 Fixed part
2 Moving part with terminal covers, with IP40 degree of protection
3 Overall dimensions with wired accessories assembled (opening and undervoltage releases, BDI/R residual current releases)
4 Overall dimensions with wired auxiliary contacts assembled (3Q+1SY only)

TERMINALS

Front - EF



Front, for copper cables - FC Cu, or copper/aluminium cables - FC CuAl



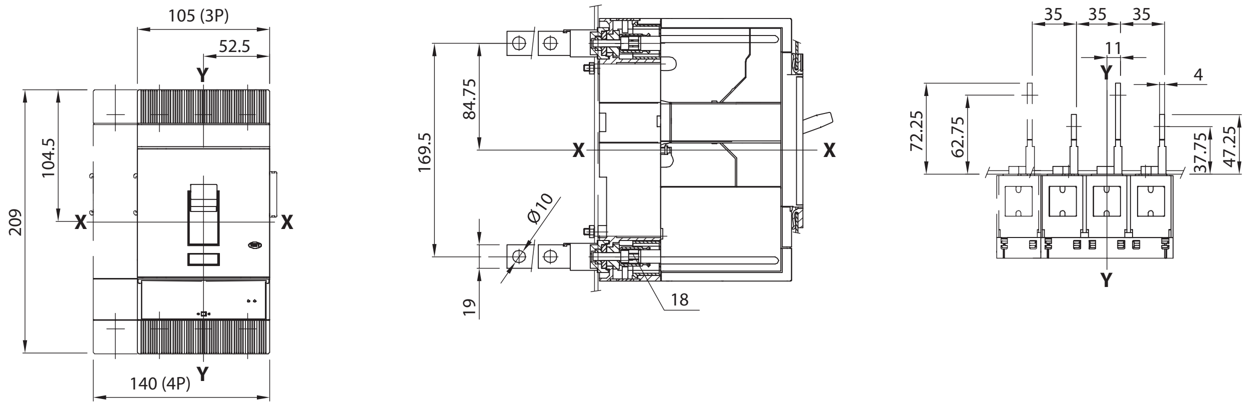
Key
1 For Cu cables
2 For CuAl cables
3 High terminal covers with IP40 degree of protection

For technical information contact the Technical Assistance Service or visit gewiss.com

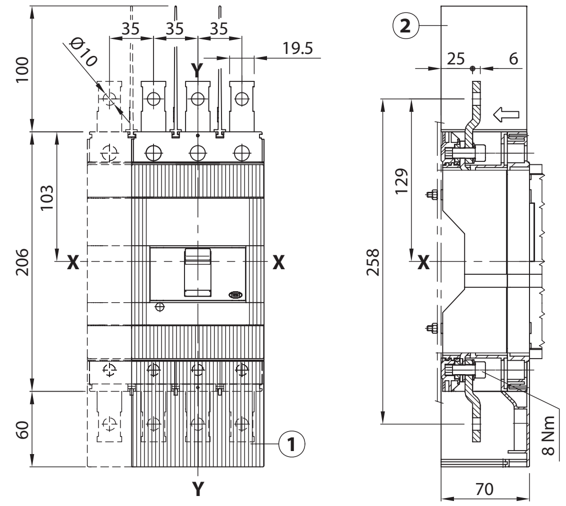
MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

TERMINALS

Vertical flat rear - VR

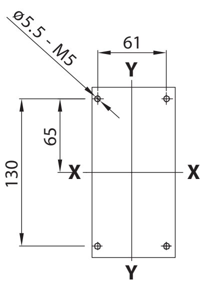


Horizontal flat rear - HR

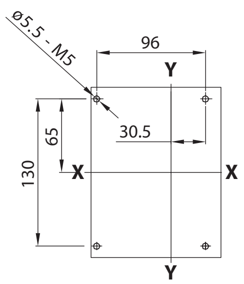


PERFORATION TEMPLATE FOR SHEET METAL SUPPORT

For front terminals

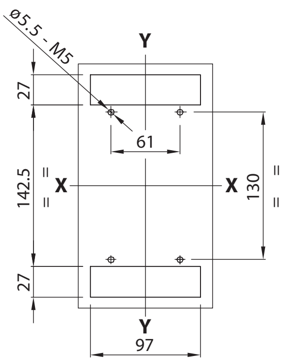


3 POLES

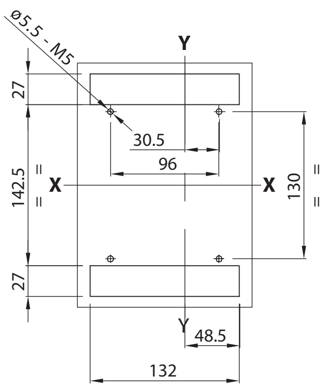


4 POLES

For rear terminals



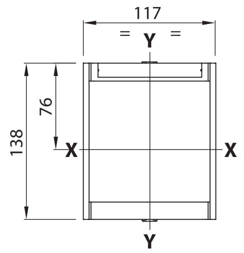
3 POLES

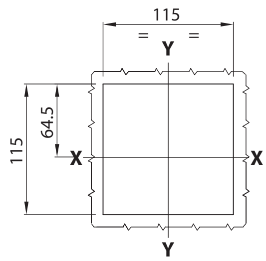


4 POLES

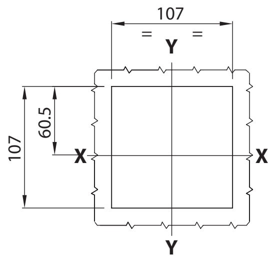
For technical information contact the Technical Assistance Service or visit gewiss.com

PLATE FOR THE CELL DOOR	PERFORATION TEMPLATES FOR THE CELL DOOR





With plate (3/4P)

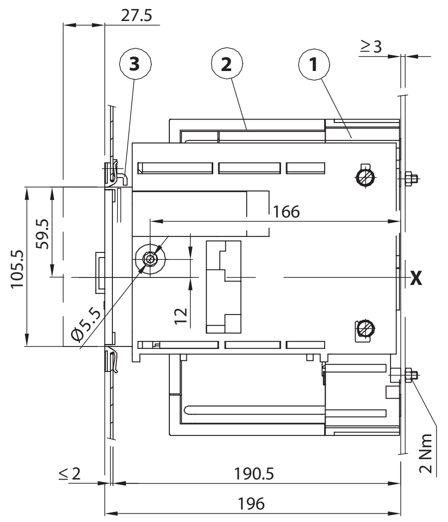


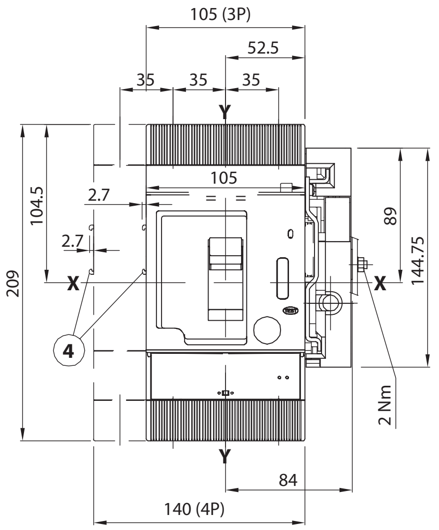
Without plate (3/4P)

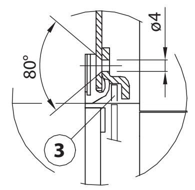
MTX 320 / MTXE 320 / MTXM 320 - Withdrawable circuit breaker

CIRCUIT BREAKER

Fixing on sheet metal



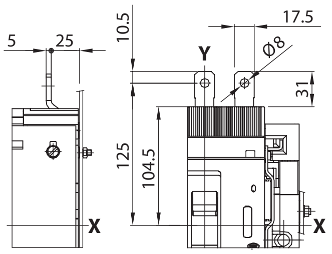




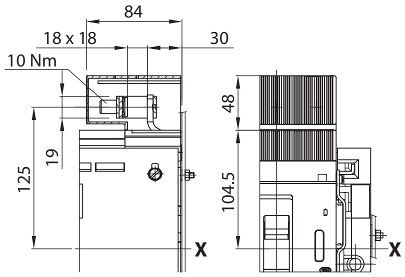
Key
1 Fixed part
2 Moving part
3 Block for the cell door (available upon request)
4 Overall dimensions with wired accessories assembled (opening and undervoltage releases, BDI/R residual current releases)

TERMINALS

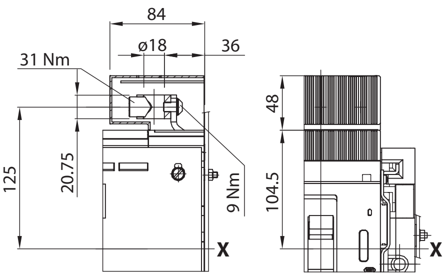
Front - EF



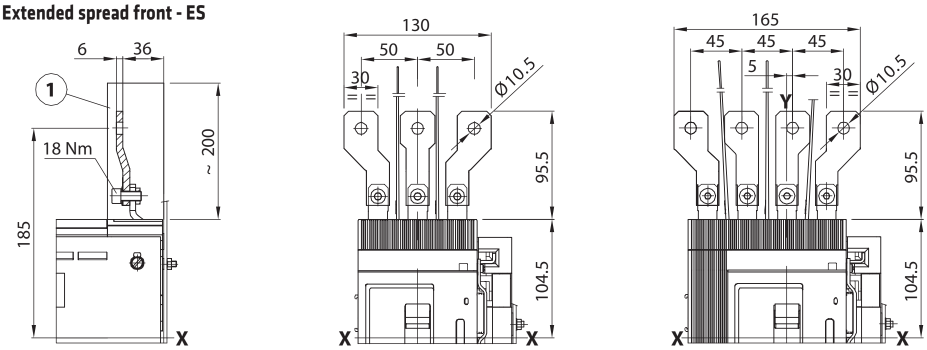
Front, for copper cables - FC Cu



Front, for copper/aluminium cables FC CuAl

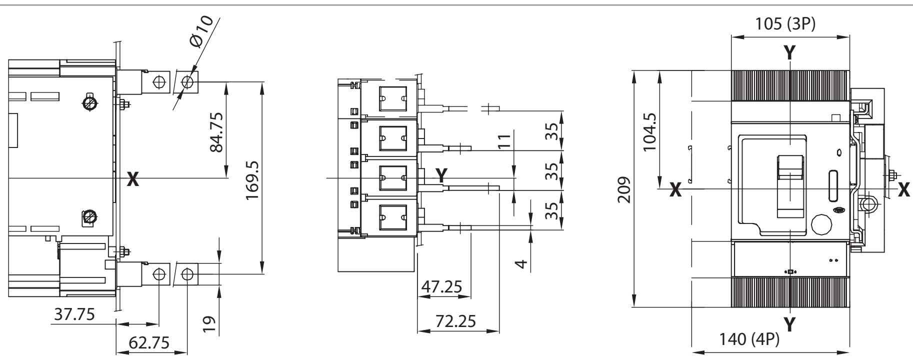


Extended spread front - ES



Key
1 Insulating barriers between the phases (compulsory)

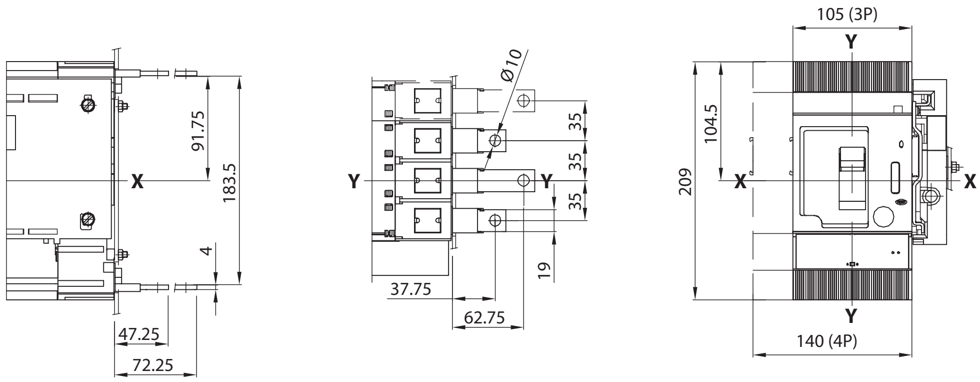
Vertical flat rear - VR



For technical information contact the Technical Assistance Service or visit gewiss.com

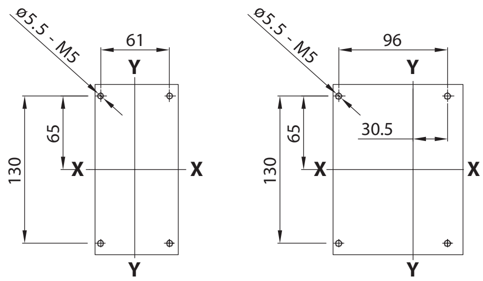
TERMINALS

Horizontal flat rear - HR



PERFORATION TEMPLATE FOR SHEET METAL SUPPORT

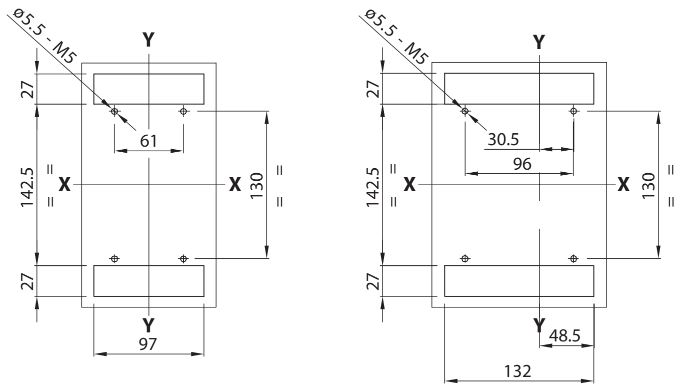
For front terminals



3 POLES

4 POLES

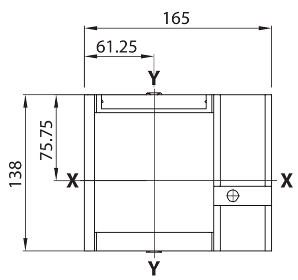
For rear terminals



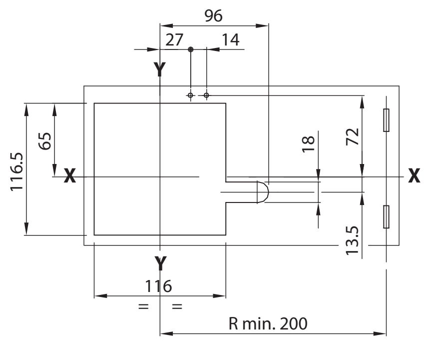
3 POLES

4 POLES

PLATE FOR THE CELL DOOR



PERFORATION TEMPLATES FOR THE CELL DOOR

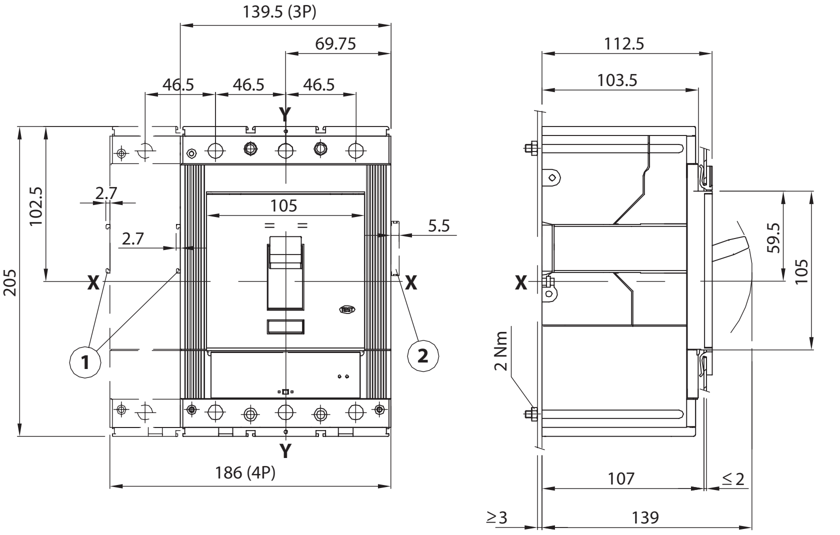


For technical information contact the Technical Assistance Service or visit gewiss.com

MTX 630 / MTXE 630 / MTXM 400 / MTXM 630 - Fixed circuit breaker

CIRCUIT BREAKER

Fixing on sheet metal



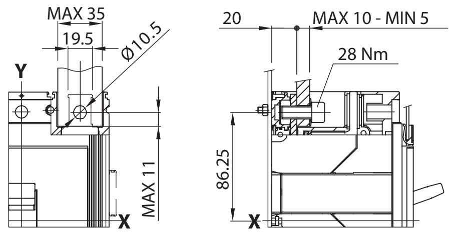
Key

1 Overall dimensions with wired accessories assembled (opening and undervoltage releases, BDI/R residual current releases)

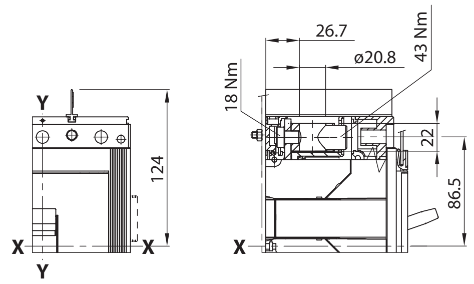
2 Overall dimensions with wired auxiliary contacts assembled (3Q+1SY only)

TERMINALS

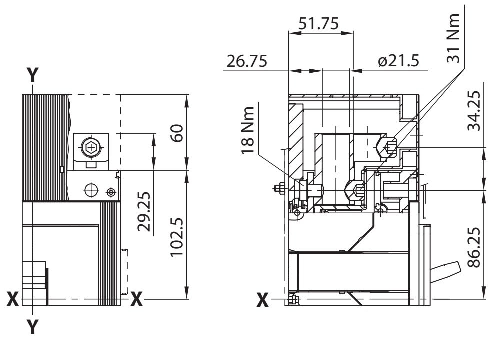
Front - F



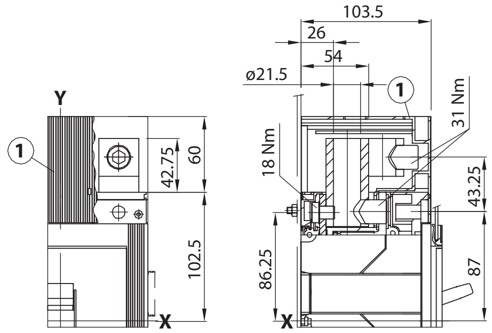
Front, for copper cables - FC Cu 2x240mm²



Front, for copper/aluminium cables FC CuAl 1x240mm²



Front, for copper/aluminium cables FC CuAl 2x240mm²

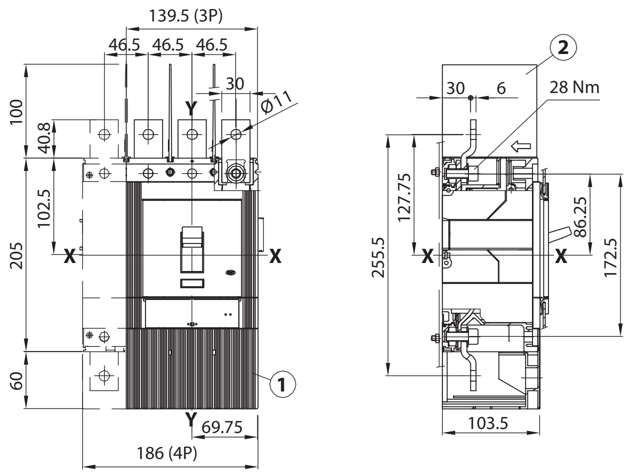


Key

1 High terminal covers with an IP40 degree of protection

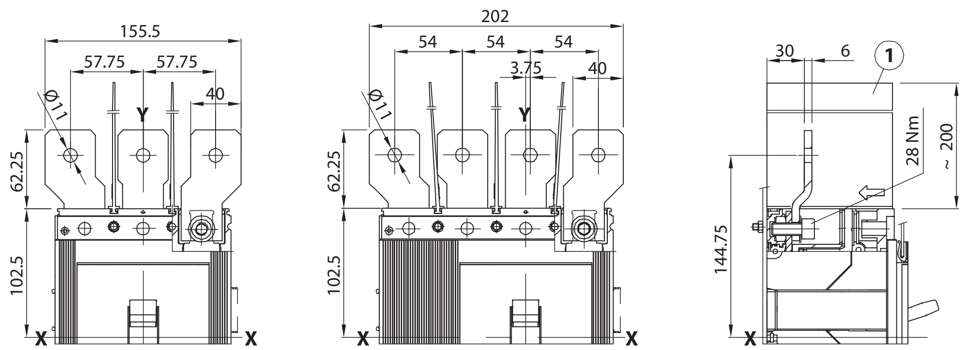
TERMINALS

Extended front - EF



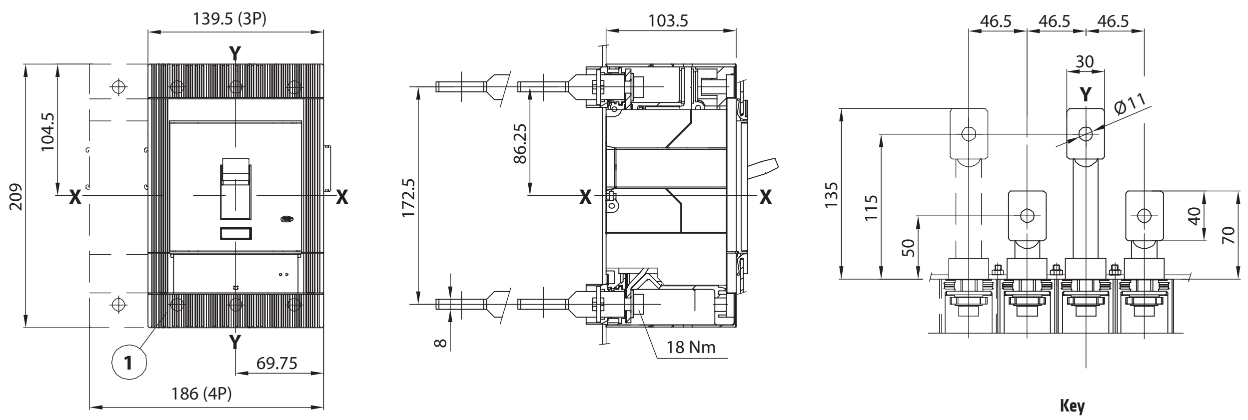
Key
1 High terminal covers with an IP40 degree of protection
2 Insulating barriers between the phases (compulsory without terminal covers as in point 1)

Extended spread front - ES



Key
1 Insulating barriers between the phases (compulsory)

Rear - R

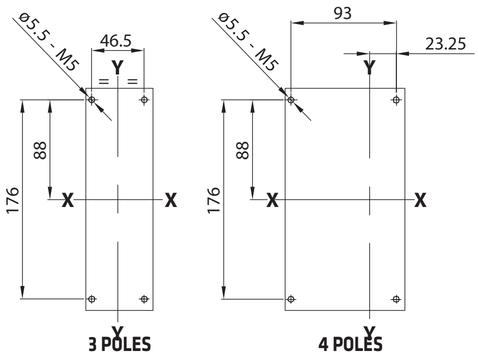


Key
1 Low terminal covers with an IP40 degree of protection

MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

PERFORATION TEMPLATE FOR SHEET METAL SUPPORT

For front terminals



For rear terminals

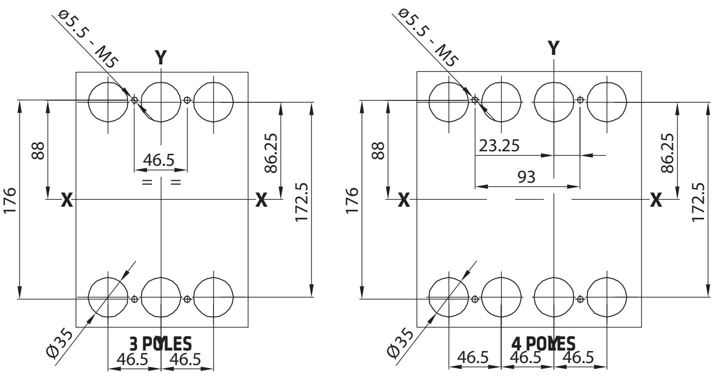
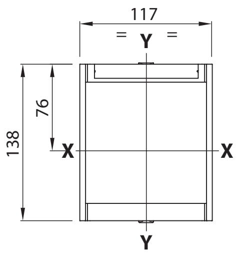
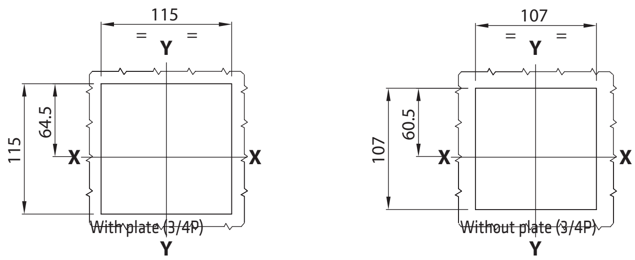


PLATE FOR THE CELL DOOR



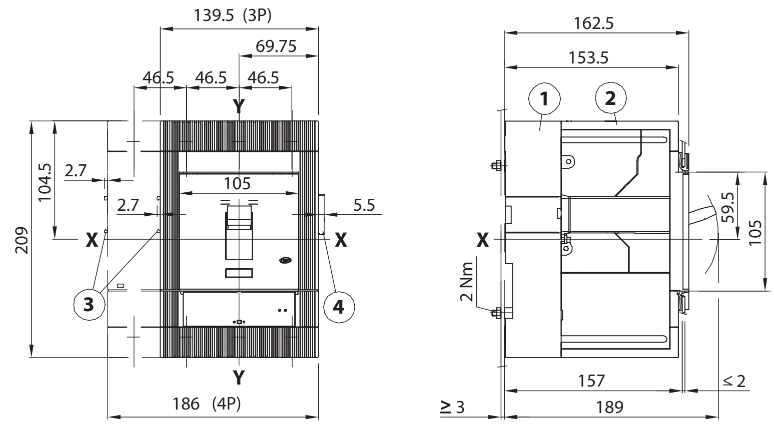
PERFORATION TEMPLATES FOR THE CELL DOOR



MTX 630 / MTXE 630 / MTXM 400 / MTXM 630 - Plug-in circuit breaker

CIRCUIT BREAKER (In_{MAX}=400A)

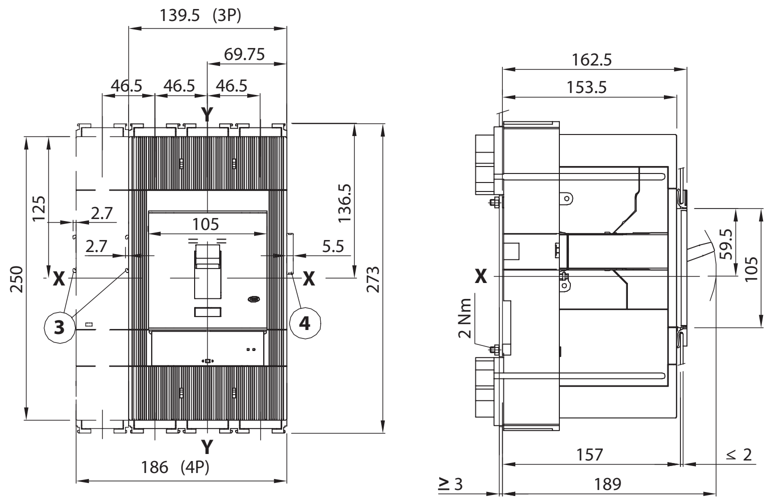
Fixing on sheet metal



Key
1 Fixed part
2 Moving part with terminal covers, with IP40 degree of protection
3 Overall dimensions with wired accessories assembled (opening and undervoltage releases, BDI/R residual current releases)
4 Overall dimensions with wired auxiliary contacts assembled (3Q+1SY only)

CIRCUIT BREAKER (In up to 630A)

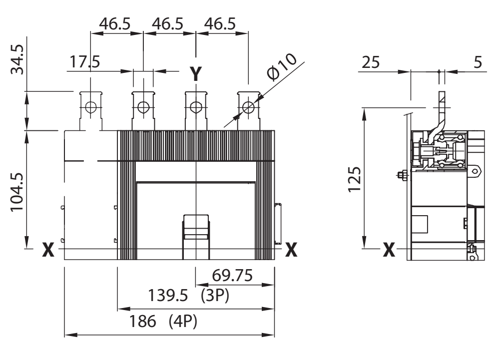
Fixing on sheet metal



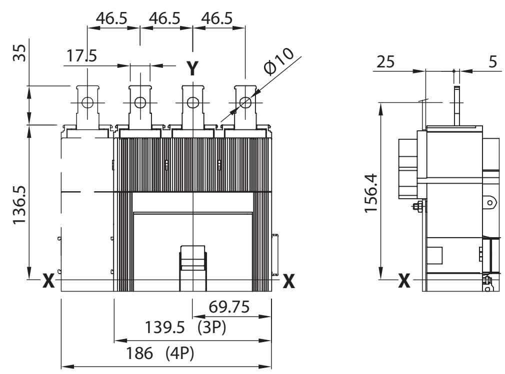
Key
1 Fixed part
2 Moving part with terminal covers, with IP40 degree of protection
3 Overall dimensions with wired accessories assembled (opening and undervoltage releases, BDI/R residual current releases)
4 Overall dimensions with wired auxiliary contacts assembled (3Q+1SY only)

TERMINALS

Front - EF (In_{MAX}=400)



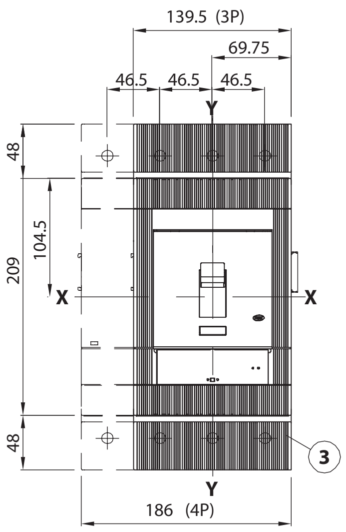
Front - F (up to 630)

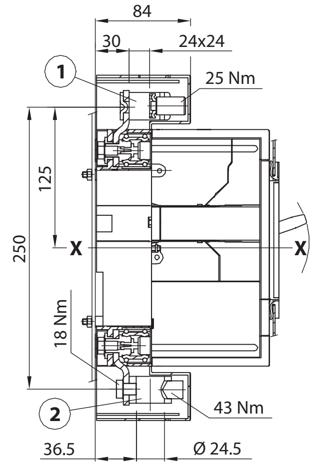


MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

TERMINALS

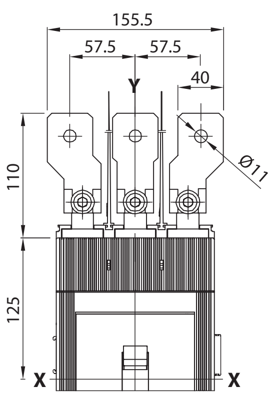
Front for copper cables - FC Cu or copper/aluminium cables - FC CuAl

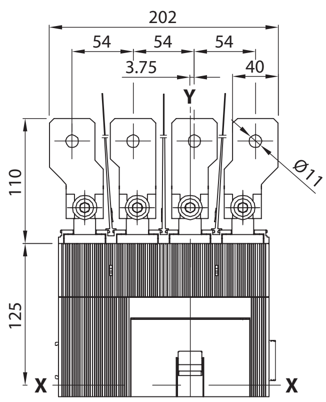


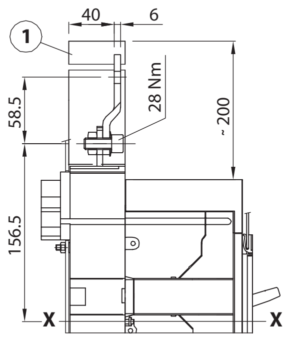


Key
1 For Cu cables
2 For CuAl cables
3 High terminal covers with an IP40 degree of protection

Extended spread front (In=630A) - ES

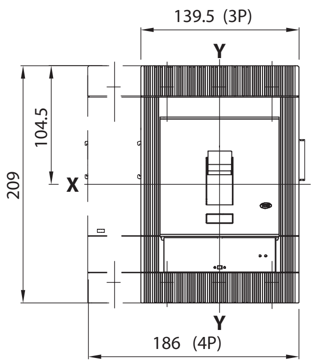


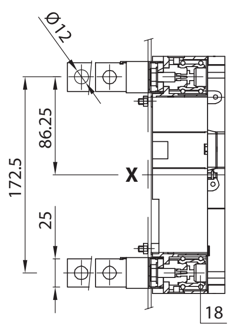


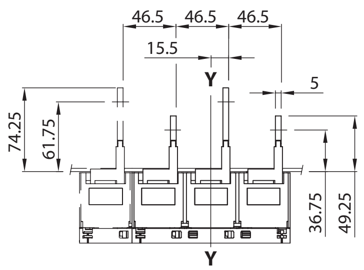


Key
1 Insulating barriers between the phases (compulsory)

Vertical flat rear (In_{MAX}=400A) - VR

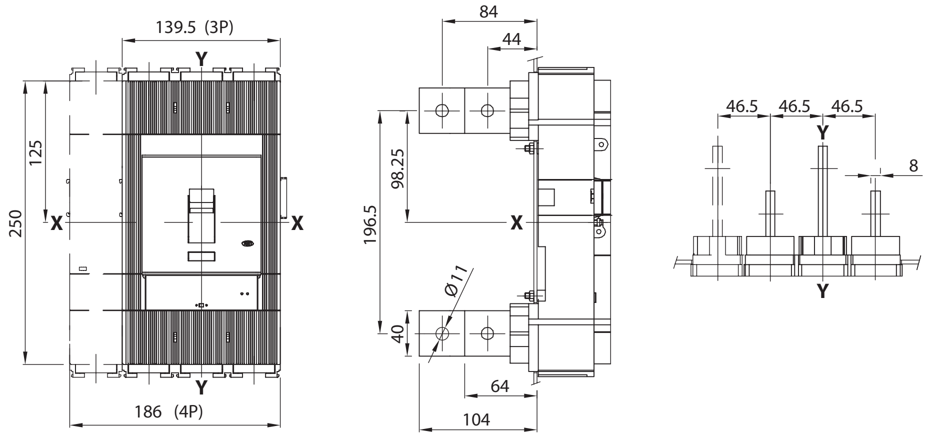




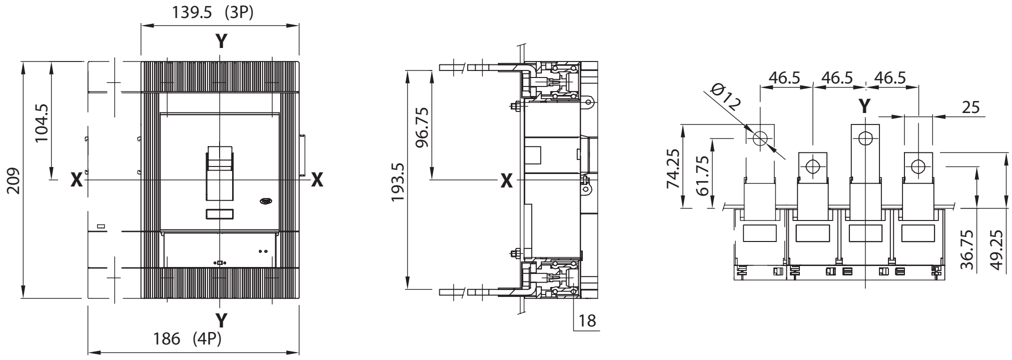


TERMINALS

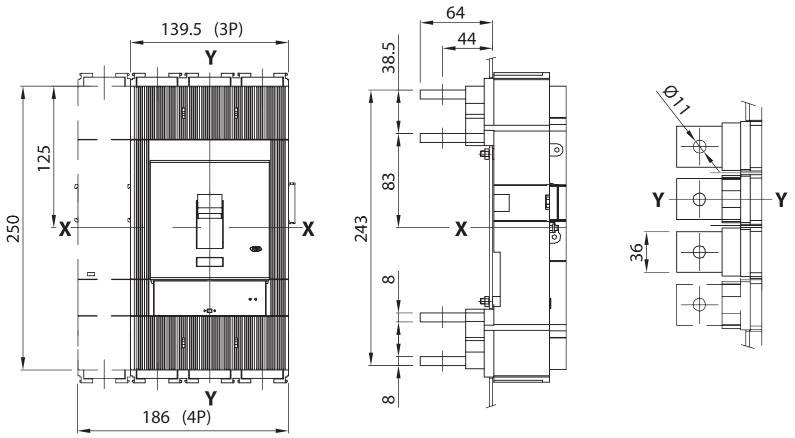
Vertical flat rear (up to 630A) - VR



Horizontal flat rear (In_{MAX}=400A) - HR

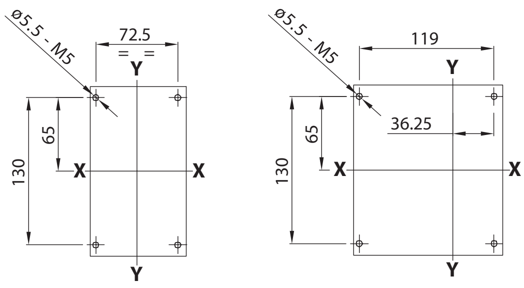


Horizontal flat rear (up to 630A) - HR



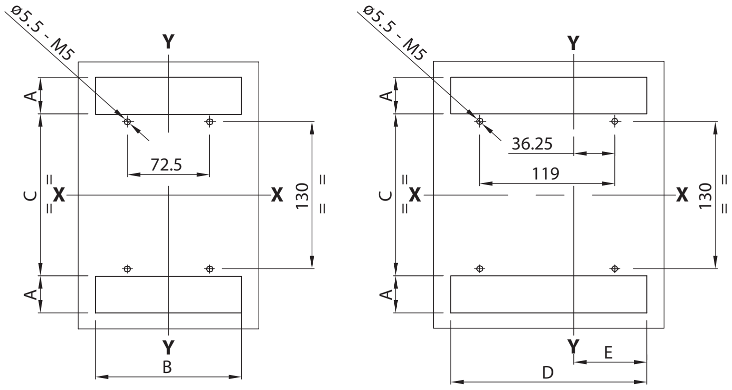
PERFORATION TEMPLATE FOR SHEET METAL SUPPORT

For front terminals 400A



3 POLES **4 POLES**

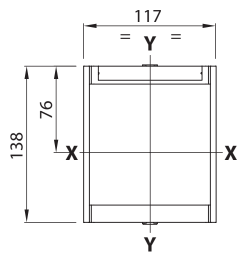
For front terminals 400A - For front terminals 400A - 630A



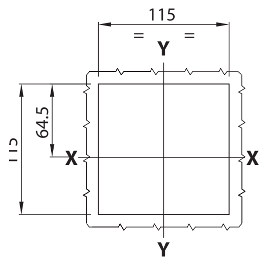
3 POLES **4 POLES**

	A mm	B mm	C mm	D mm	E mm
Rear 400A	32.5	128.5	143	172.5	64.5
Front and rear 630A	61.8	139	142	185.5	69.5

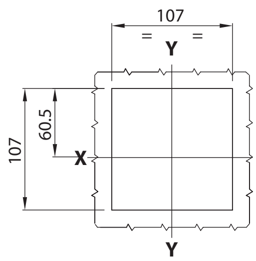
PLATE FOR THE CELL DOOR



PERFORATION TEMPLATES FOR THE CELL DOOR



With plate (3/4P)



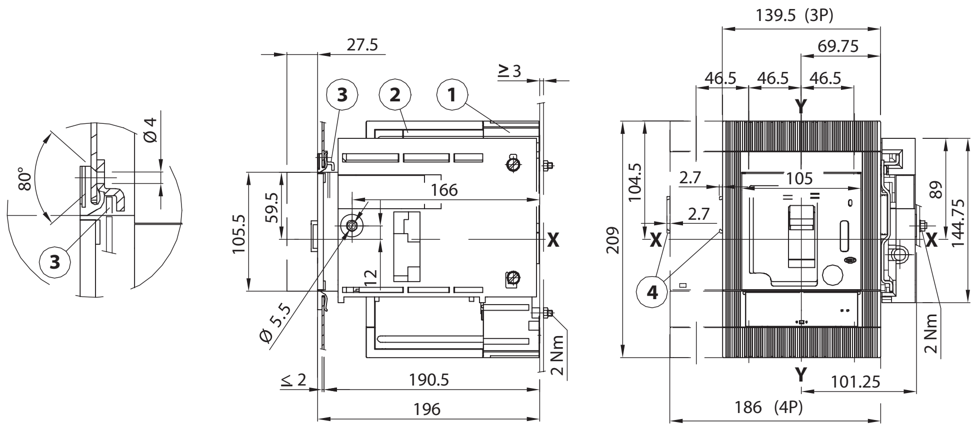
Without plate (3/4P)

For technical information contact the Technical Assistance Service or visit gewiss.com

MTX 630 / MTXE 630 / MTXM 400 / MTXM 630 - Withdrawable circuit breaker

CIRCUIT BREAKER (In_{MAX}=400A)

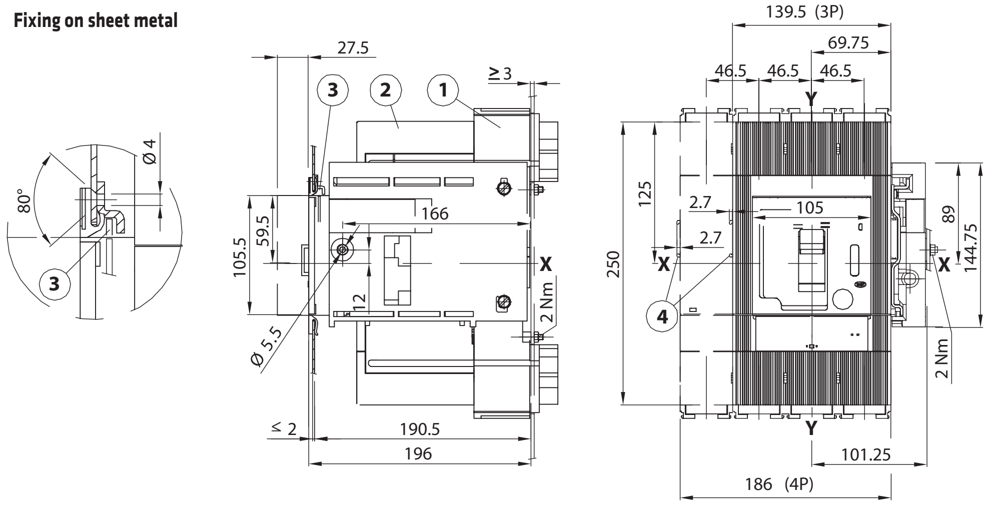
Fixing on sheet metal



Key
1 Fixed part
2 Moving part
3 Block for the cell door (available upon request)
4 Overall dimensions with wired accessories assembled (opening and undervoltage releases, BDI/R residual current releases)

CIRCUIT BREAKER (In up to 630A)

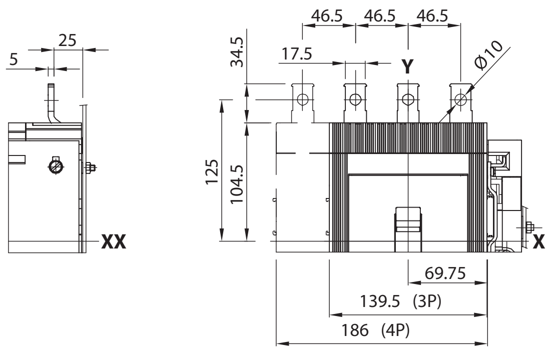
Fixing on sheet metal



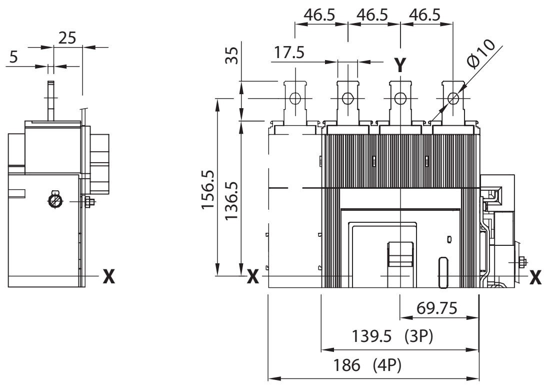
Key
1 Fixed part
2 Moving part
3 Block for the cell door (available upon request)
4 Overall dimensions with wired accessories assembled (opening and undervoltage releases, BDI/R residual current releases)

TERMINALS

Front - EF (In_{MAX}=400)



Front - F (up to 630)

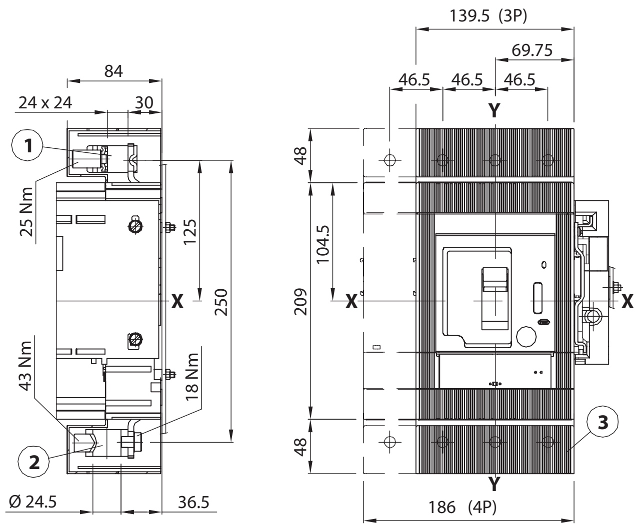


For technical information contact the Technical Assistance Service or visit gewiss.com

MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

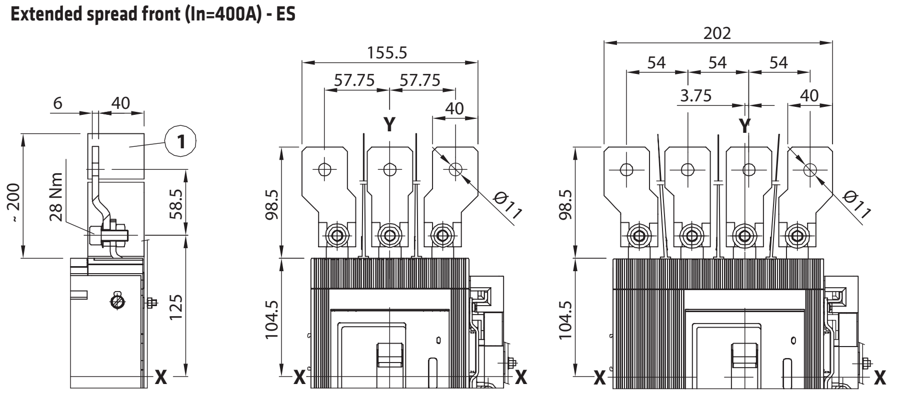
TERMINALS

Front, for copper cables - FC Cu, or copper/aluminium cables (up to 400A) - FC CuAl



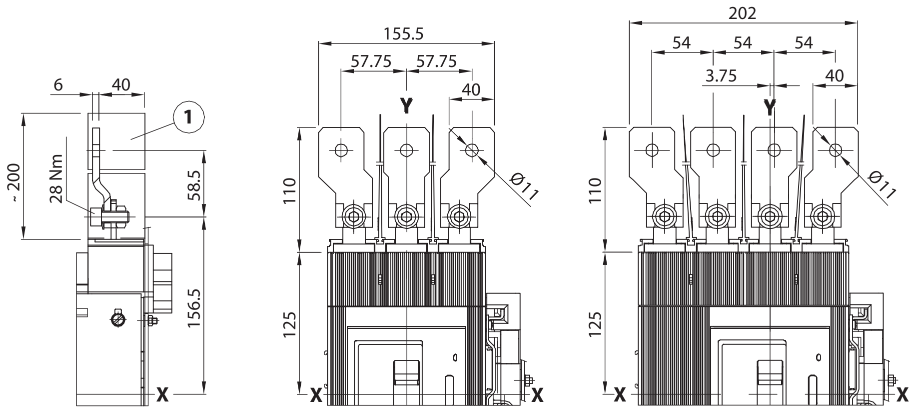
Key
1 For Cu cables
2 For CuAl cables
3 High terminal covers with an IP40 degree of protection

Extended spread front (In=400A) - ES



Key
1 Insulating barriers between the phases (compulsory)

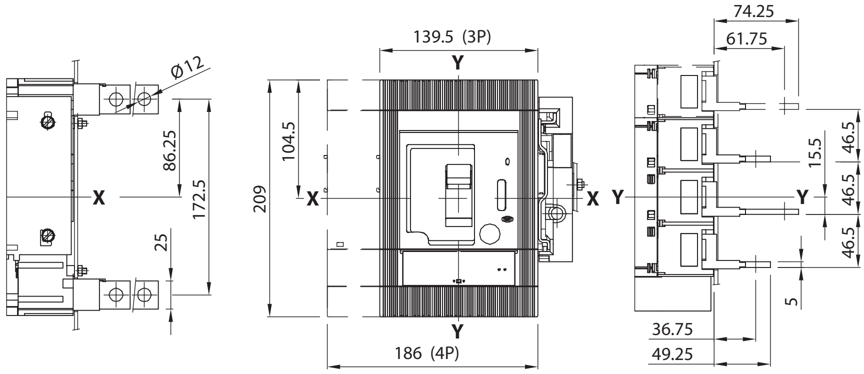
Extended spread front (up to 630A) - ES



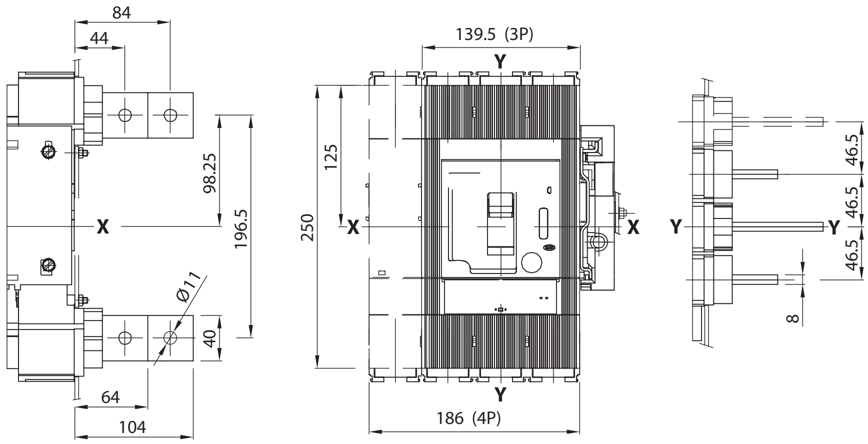
Key
1 Insulating barriers between the phases (compulsory)

TERMINALS

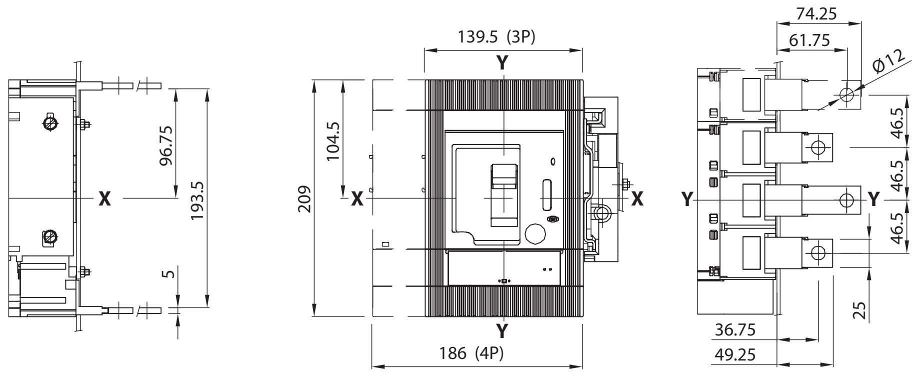
Vertical flat rear (In_{MAX}=400A) - VR



Vertical flat rear (up to 630A) - VR



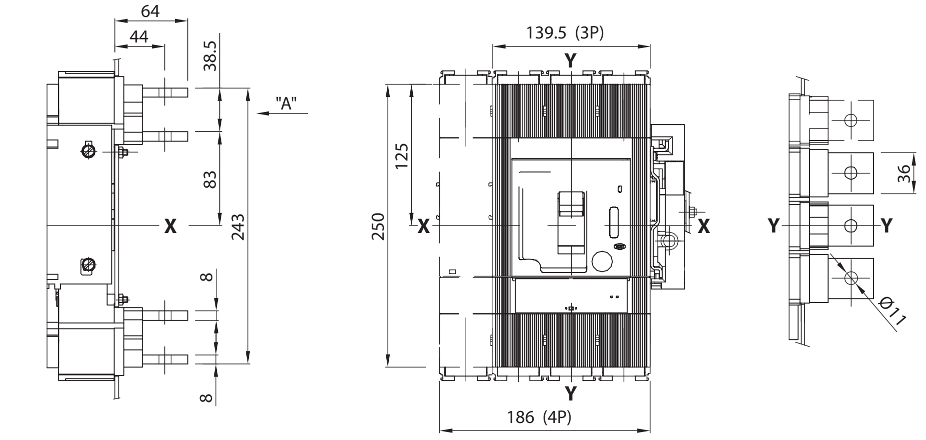
Horizontal flat rear (In_{MAX}=400A) - HR



MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

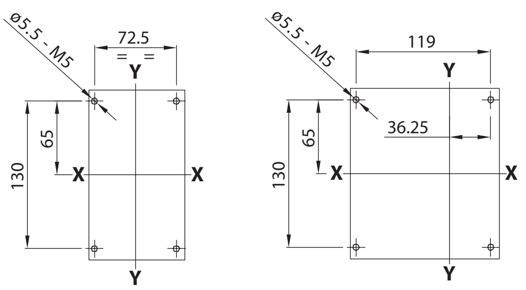
TERMINALS

Horizontal flat rear (up to 630A) - HR



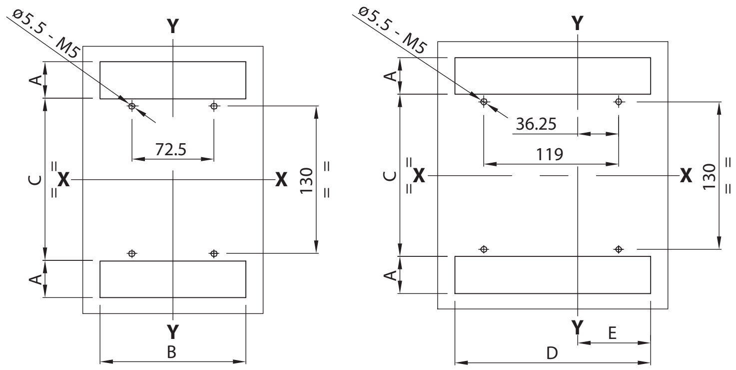
PERFORATION TEMPLATE FOR SHEET METAL SUPPORT

For front terminals 400A



3 POLES **4 POLES**

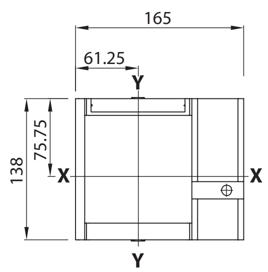
For front terminals 400A - For front terminals 400A - 630A



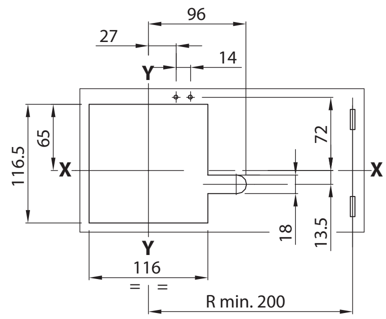
3 POLES **4 POLES**

	A mm	B mm	C mm	D mm	E mm
Rear 400A	32.5	128.5	143	172.5	64.5
Front and rear 630A	61.8	139	142	185.5	69.5

PLATE FOR THE CELL DOOR



PERFORATION TEMPLATES FOR THE CELL DOOR



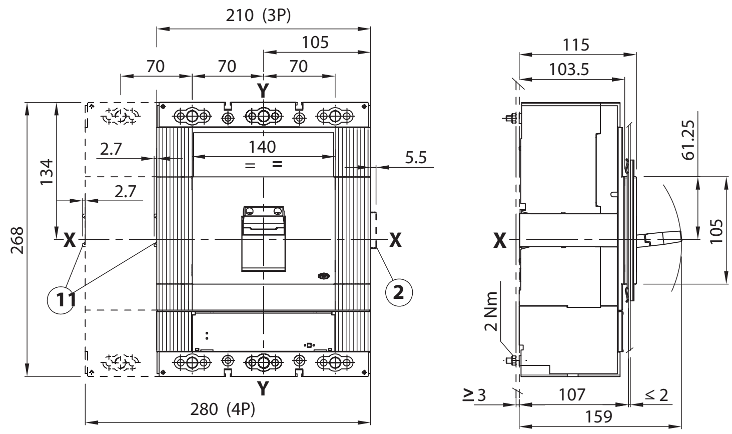
For technical information contact the Technical Assistance Service or visit gewiss.com

MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

MTX 1000 / MTXE 1000 / MTXM 800 / MTXM 1000 - Fixed circuit breaker

CIRCUIT BREAKER

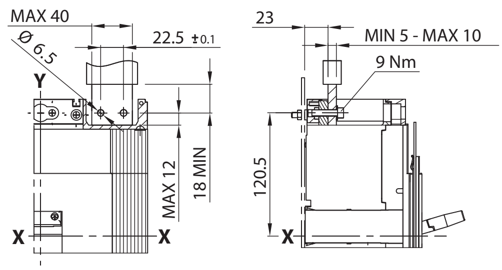
Fixing on sheet metal



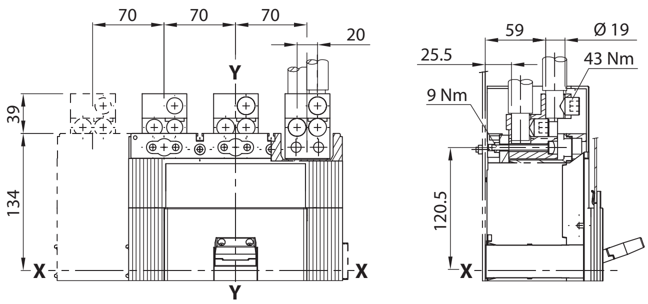
Key
1 Overall dimensions with wired accessories assembled (opening and undervoltage releases, BDI/R residual current releases)
2 Overall dimensions with wired auxiliary contacts assembled (3Q+1SY only)

TERMINALS

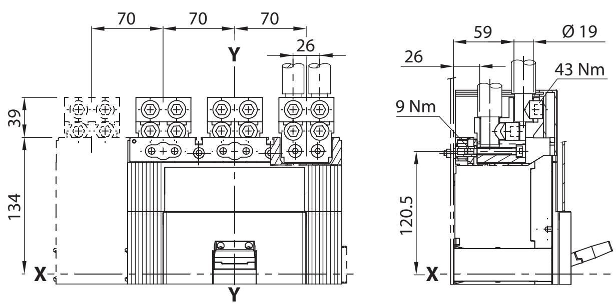
Front - F



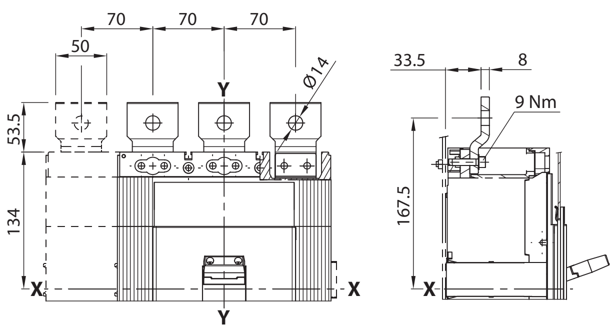
Front, for copper/aluminium cables FC CuAl 3x185mm² (MAX 800A)



Front, for copper/aluminium cables FC CuAl 4x150mm² (up to 1000A)



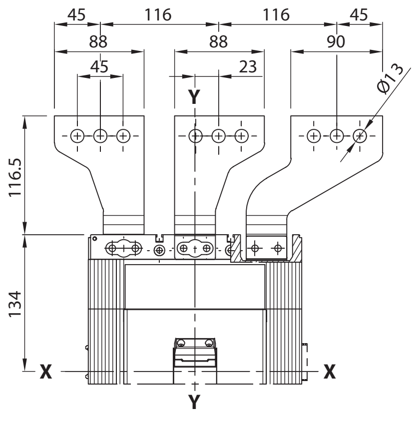
Extended front (MAX 800A) - EF



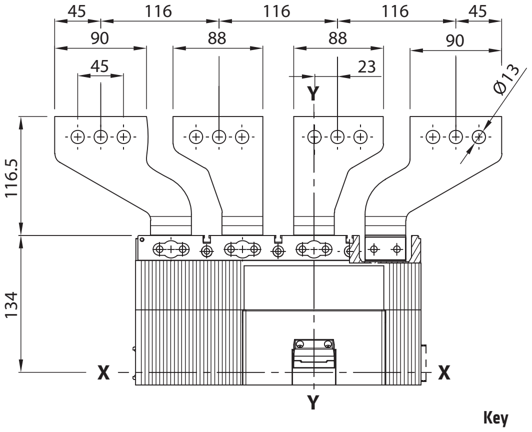
MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

TERMINALS

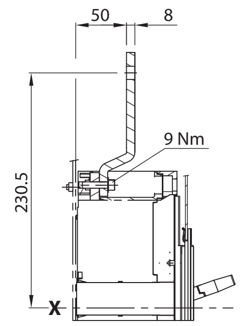
Extended spread front - ES



3 POLES

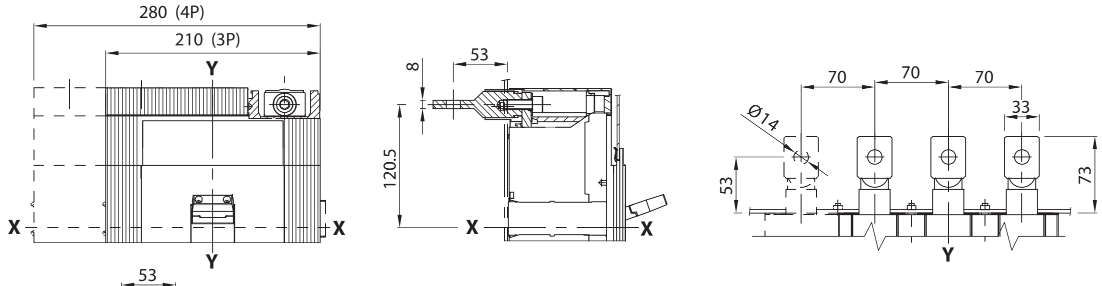


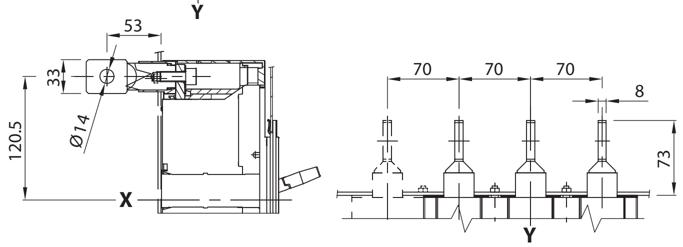
4 POLES



Key
1 Insulating barriers between the phases (compulsory)

Rear - R

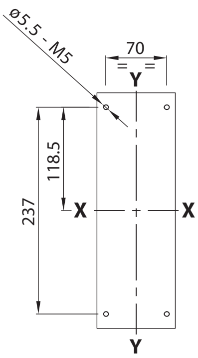




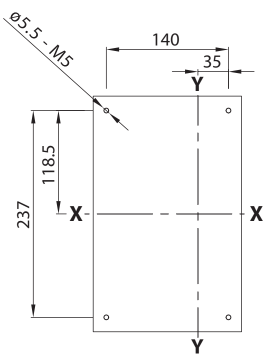
Key
1 Low terminal covers with an IP40 degree of protection

PERFORATION TEMPLATE FOR SHEET METAL SUPPORT

For front terminals F, EF, ES, FC Cu, FC CuAl

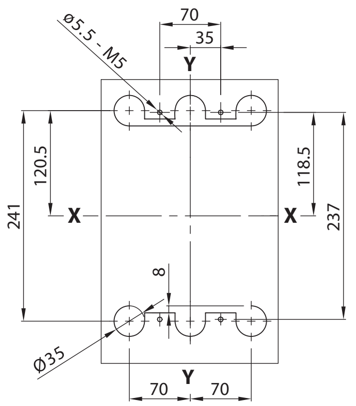


3 POLES

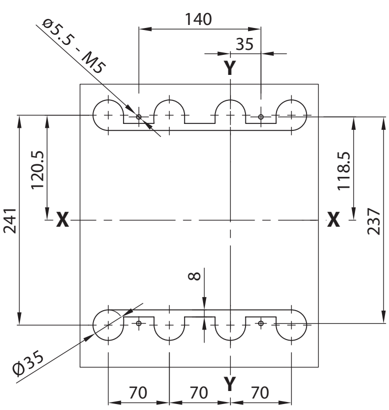


4 POLES

For rear terminals - R



3 POLES

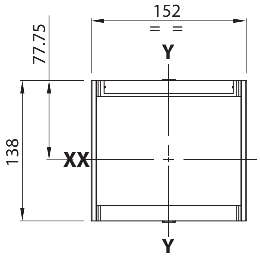


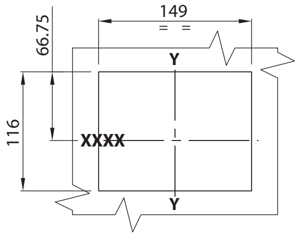
4 POLES

For technical information contact the Technical Assistance Service or visit gewiss.com

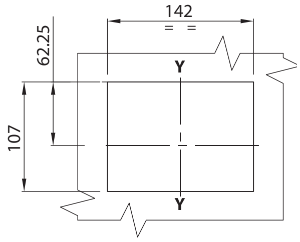
MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

PLATE FOR THE CELL DOOR	PERFORATION TEMPLATES FOR THE CELL DOOR





With plate (3/4P)



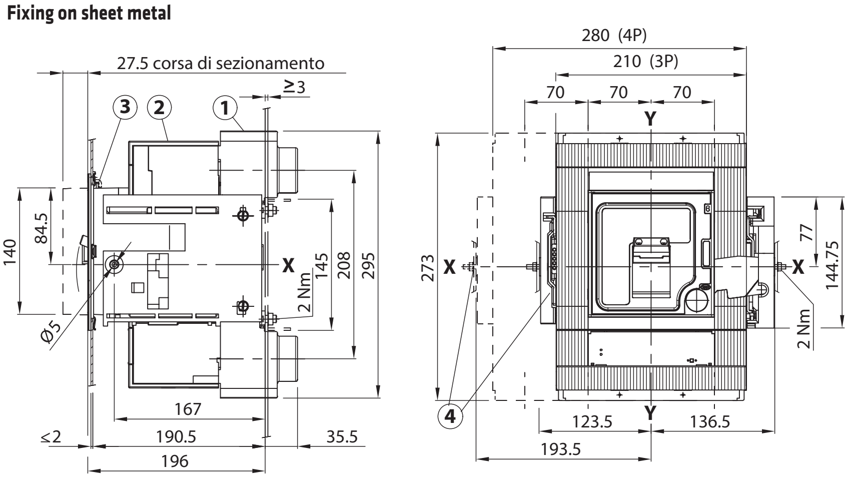
Without plate (3/4P)

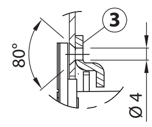
MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

MTX 1000 (up to 800A) / MTXE 1000 (up to 800A) / MTXM 800 - Withdrawable circuit breaker

CIRCUIT BREAKER

Fixing on sheet metal

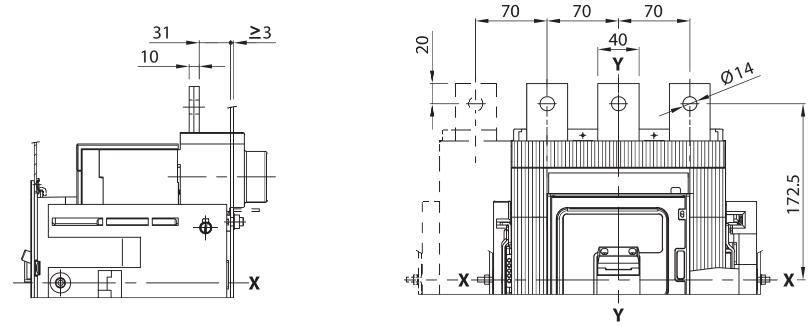




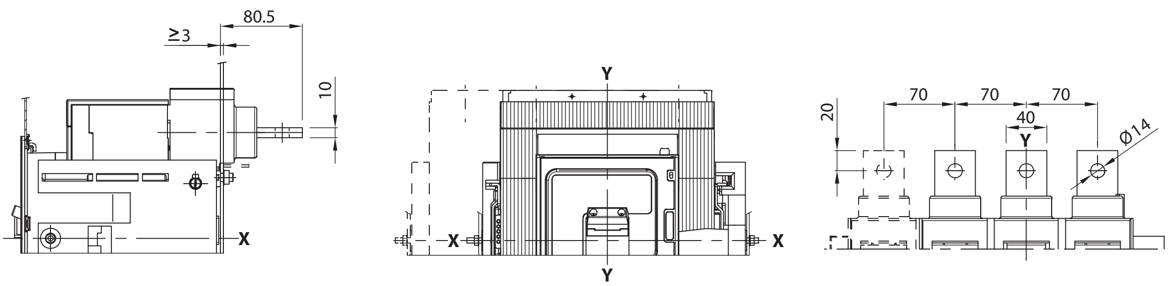
Key
1 Fixed part
2 Moving part
3 Block for the cell door (available upon request)
4 Overall dimensions with wired accessories assembled (opening and undervoltage releases, BDI/R residual current releases)

TERMINALS

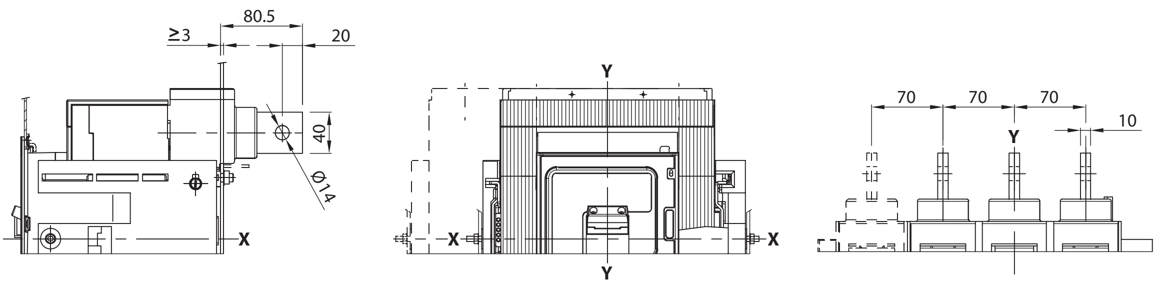
Front - EF



Horizontal flat rear - HR

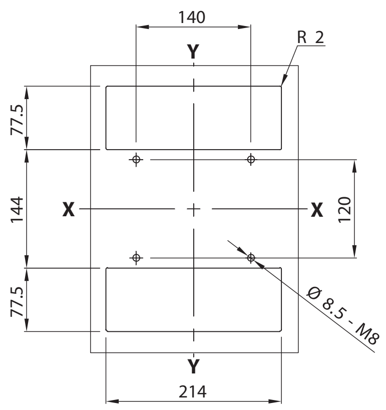


Vertical flat rear - VR

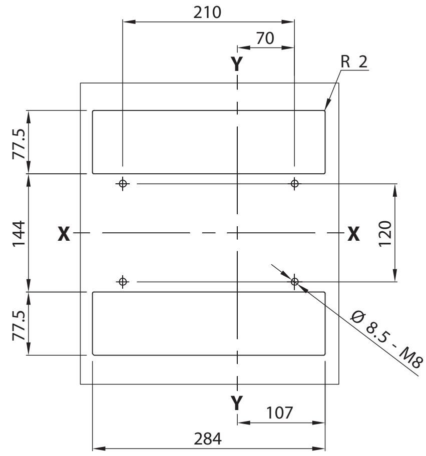


For technical information contact the Technical Assistance Service or visit gewiss.com

PERFORATION TEMPLATE FOR SHEET METAL SUPPORT

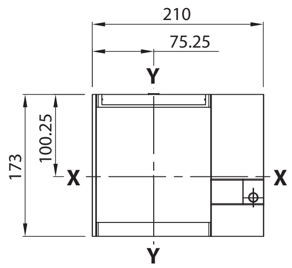


3 POLES

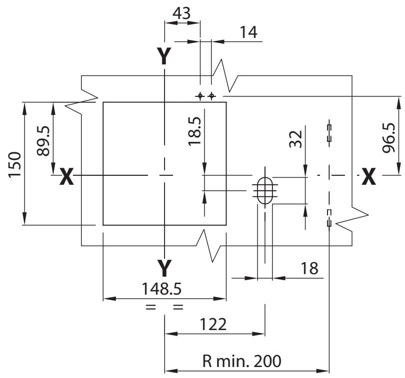


4 POLES

PLATE FOR THE CELL DOOR

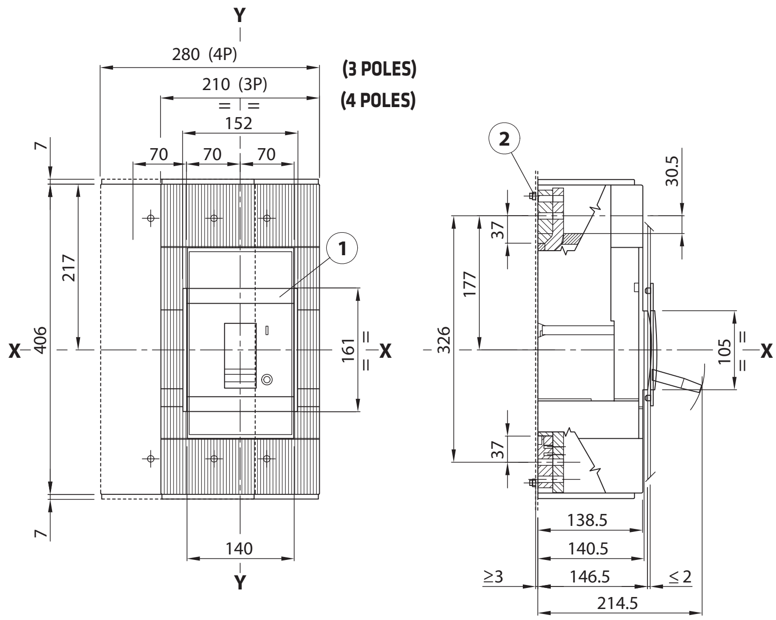


PERFORATION TEMPLATES FOR THE CELL DOOR



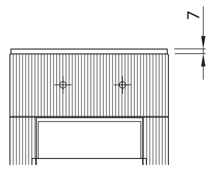
MTSE 1600 / MTSM 1600 - Fixed circuit breaker

FIXED CIRCUIT BREAKER



TERMINAL COVERS

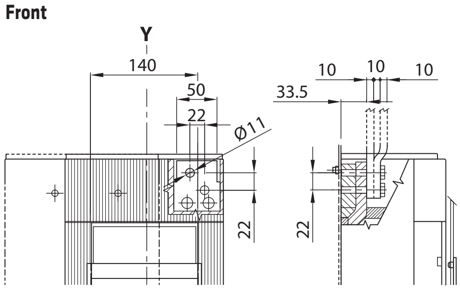
Low



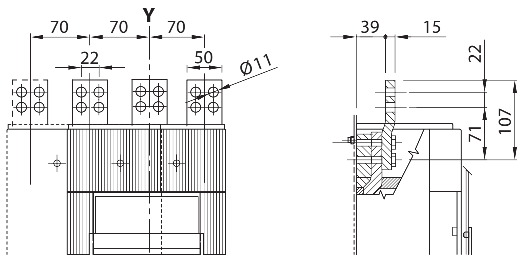
Key
1 Plate for cell door (included)
2 Tightening torque 2 Nm

TERMINALS

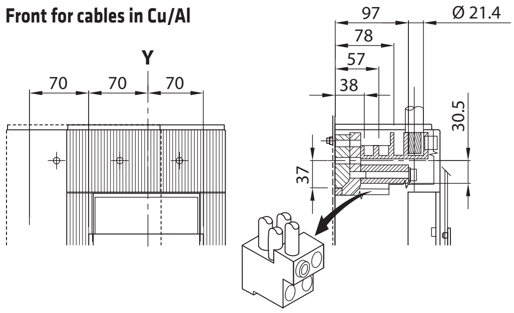
Front



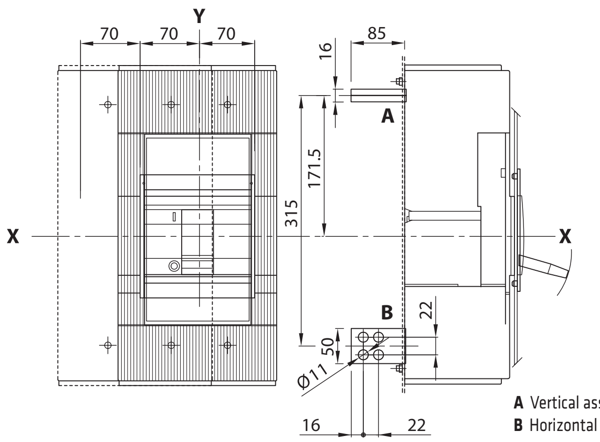
Extended front



Front for cables in Cu/Al

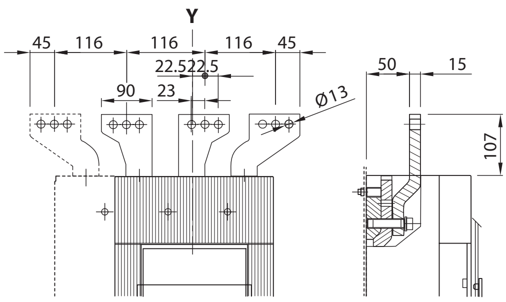


Horizontal rear or vertical flat



A Vertical assembly
B Horizontal assembly

Extended spread front



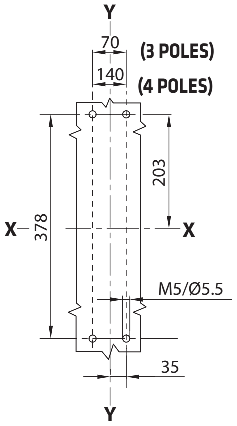
For technical information contact the Technical Assistance Service or visit gewiss.com

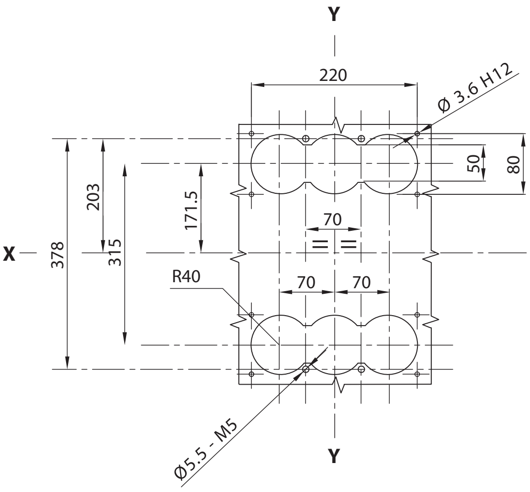
MTSE 1600 - MTSM 1600 - Fixings for fixed circuit breaker

PERFORATION TEMPLATE FOR SHEET METAL SUPPORT

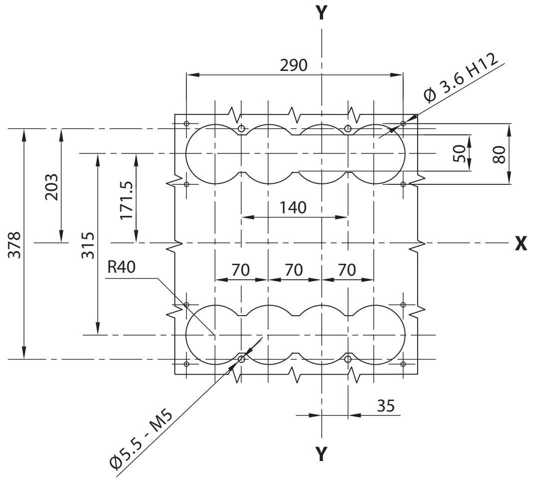
(minimum sheet thickness: 3mm)

For terminals:
Front
Extended front
Front for cables in Cu/Al



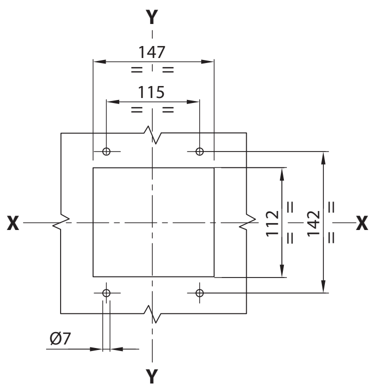


For flat rear terminals



PERFORATION TEMPLATE FOR CELL DOOR AND FOR FIXING THE PLATE

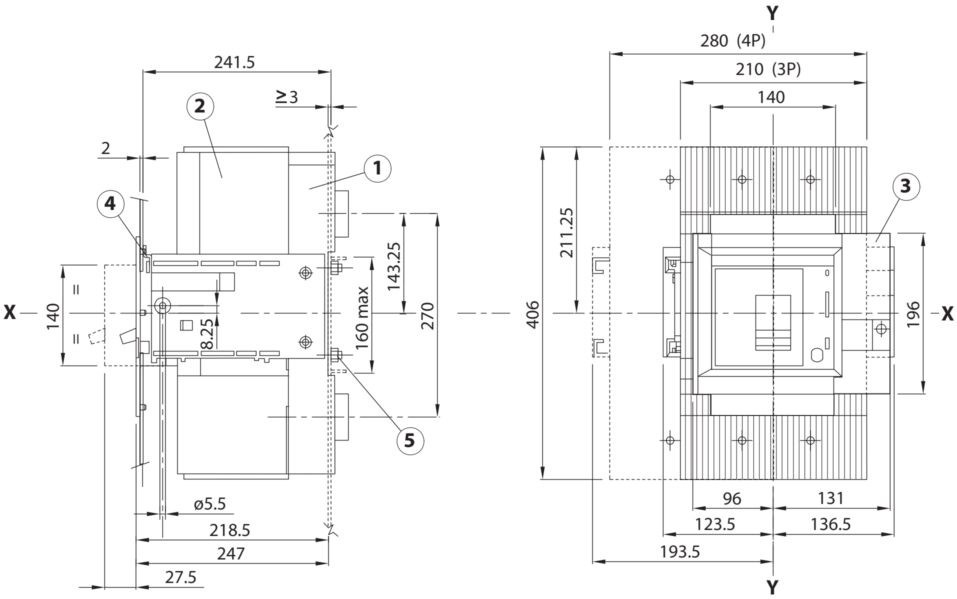
(minimum sheet thickness: 2mm)



MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

MTSE 1600 - MTSM 1600 - Withdrawable circuit breaker

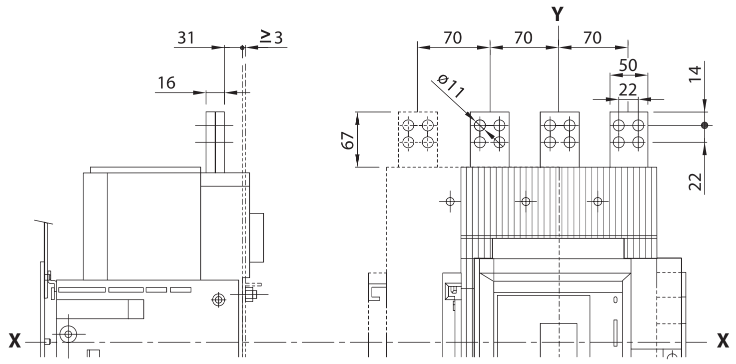
WITHDRAWABLE CIRCUIT BREAKER



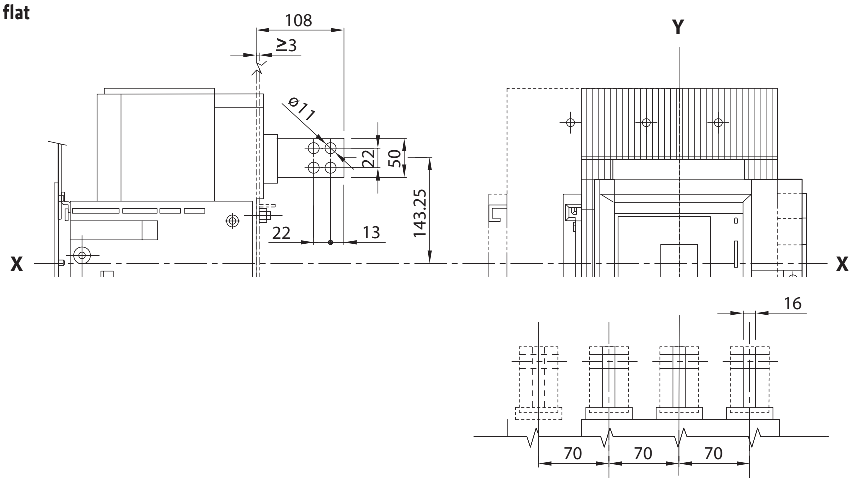
Key
1 Fixed part
2 Moving part
3 Plate for the cell door (supplied)
4 Block for the cell door
5 Tightening torque 9 Nm

TERMINALS

Front



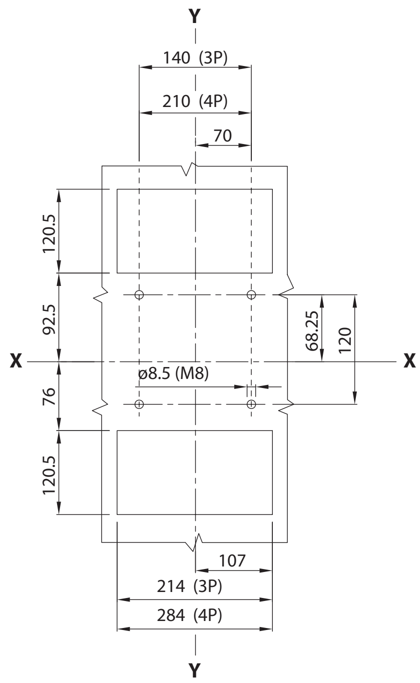
Horizontal rear or vertical flat



MTSE 1600 - MTSM 1600 - Fixings for withdrawable circuit breaker

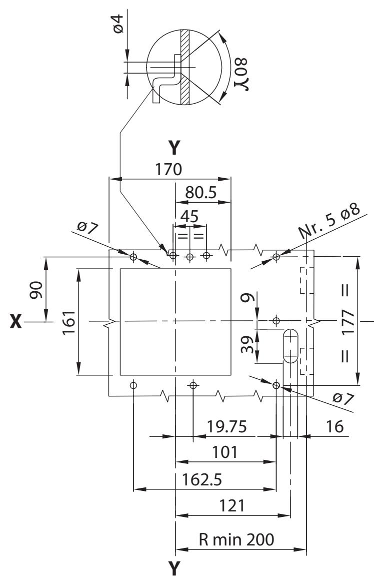
PERFORATION TEMPLATE FOR SHEET METAL OR SUPPORT PROFILE

(minimum sheet thickness: 3mm)



PERFORATION TEMPLATE FOR CELL DOOR AND FOR FIXING THE PLATE

(minimum sheet thickness: 2mm)

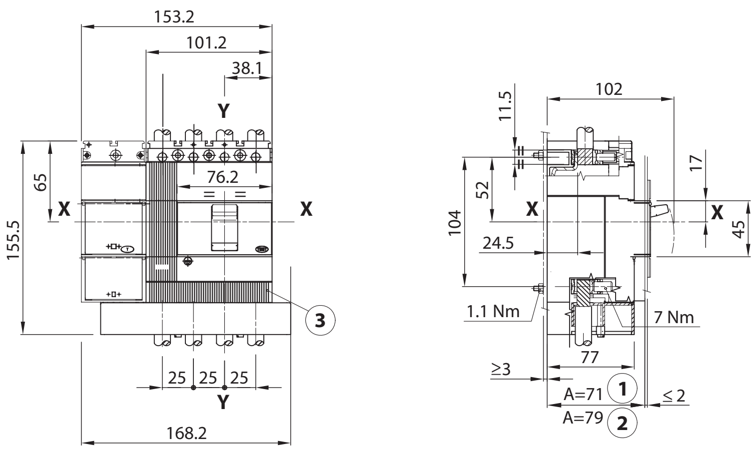


Dimension tables for circuit breakers with residual current release

MTX 160c - MTXM 160c

LOWERED "L" - SHAPED 4P + BDR CIRCUIT BREAKER (for 200mm DIN KIT)

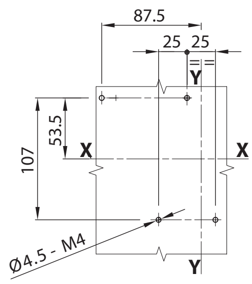
Fixing on sheet metal, front terminals - F



Key
1 Depth of the board when using circuit breaker with protruding nose
2 Depth of the board when circuit breaker nose is flush with the door
3 Terminal covers with IP40 degree of protection

PERFORATION TEMPLATES

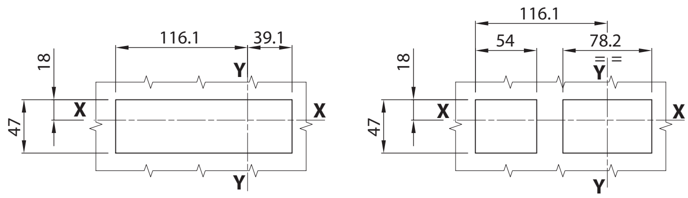
Sheet metal support



Cell door

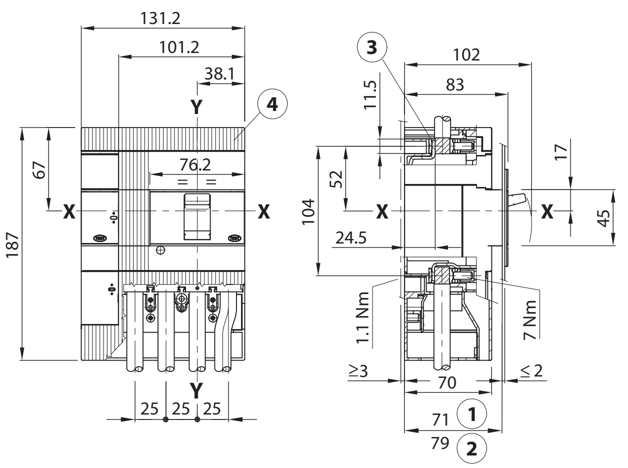
For A = 71 - without plate

For A = 79 - without plate

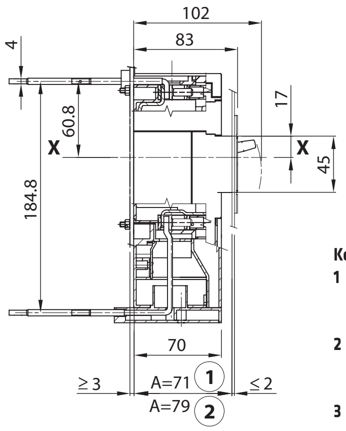


CIRCUIT BREAKER 4P + BDI - BDR "L" - SHAPED

Fixing on sheet metal, front terminals - F



Horizontal flat rear - HR



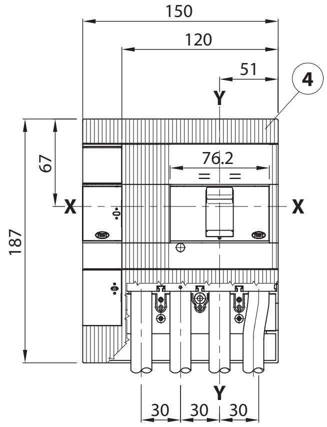
Key
1 Depth of the board when using circuit breaker with protruding nose
2 Depth of the board when circuit breaker nose is flush with the door
3 Front terminals for cable connection
4 Terminal covers with IP40 degree of protection

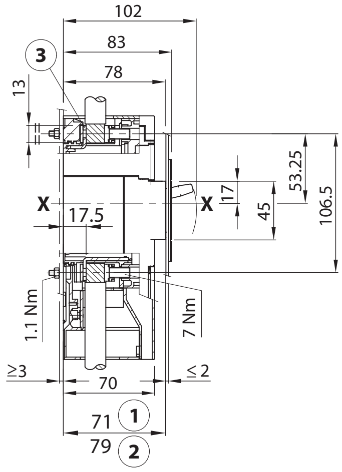
For technical information contact the Technical Assistance Service or visit gewiss.com

MTX 160 - MTXE 160

CIRCUIT BREAKER 4P + BDI - BDR "L" - SHAPED

Fixing on sheet metal, front terminals - F



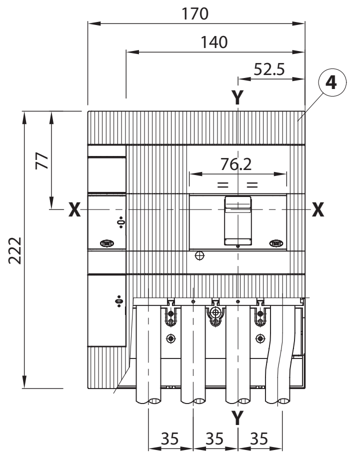


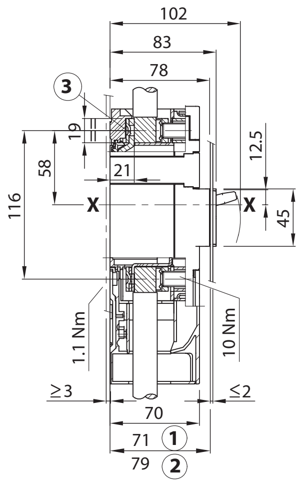
Key
1. Depth of the board when using circuit breaker with protruding nose
2. Depth of the board when circuit breaker nose is flush with the door
3. Front terminals for cable connection
4. Terminal covers with IP40 degree of protection

MTX 250 - MTXM 250

CIRCUIT BREAKER 4P + BDI - BDR "L" - SHAPED

Fixing on sheet metal, front terminals - F



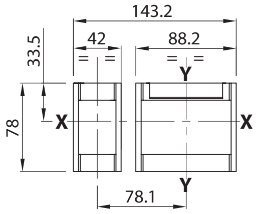


Key
1. Depth of the board when using circuit breaker with protruding nose
2. Depth of the board when circuit breaker nose is flush with the door
3. Front terminals for cable connection
4. Terminal covers with IP40 degree of protection

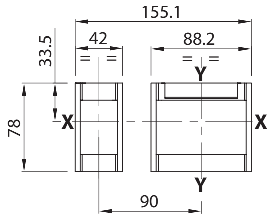
For technical information contact the Technical Assistance Service or visit gewiss.com

PLATE FOR THE CELL DOOR

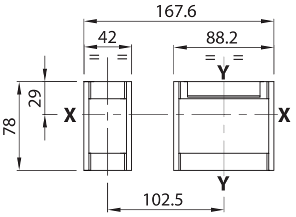
4 POLES



MTX 160c / MTXM 160c



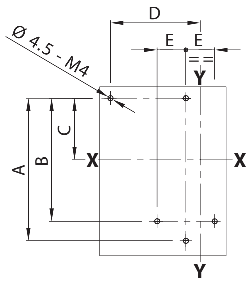
MTX 160 / MTXE 160



MTX 250 / MTXM 250

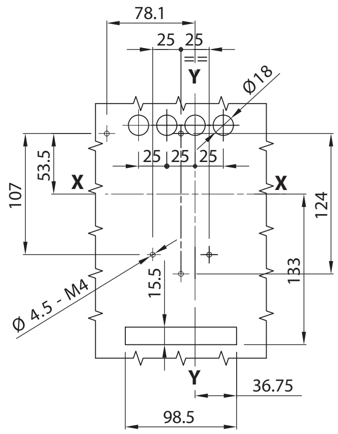
PERFORATION TEMPLATE FOR SHEET METAL SUPPORT

4 POLES



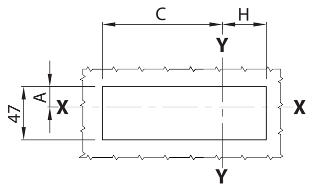
	A mm	B mm	C mm	D mm	E mm	F mm
MTX 160c / MTXM 160c	124	107	53.5	78.1	25	53.1
MTX 160 / MTXE 160	124	107	53.5	90	30	60
MTX 250 / MTXM 250	141.5	122	61	102.5	35	67.5

Horizontal flat rear terminals - HR
(MTX 160c and MTXM 160c only)

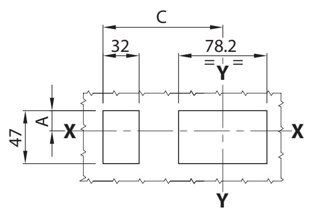


PERFORATION TEMPLATE FOR THE CELL DOOR

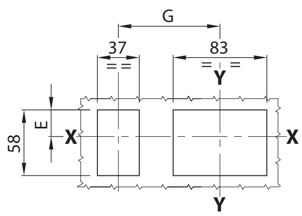
Without plate,
nose protruding



Without plate,
nose not protruding



With plate,
nose not protruding



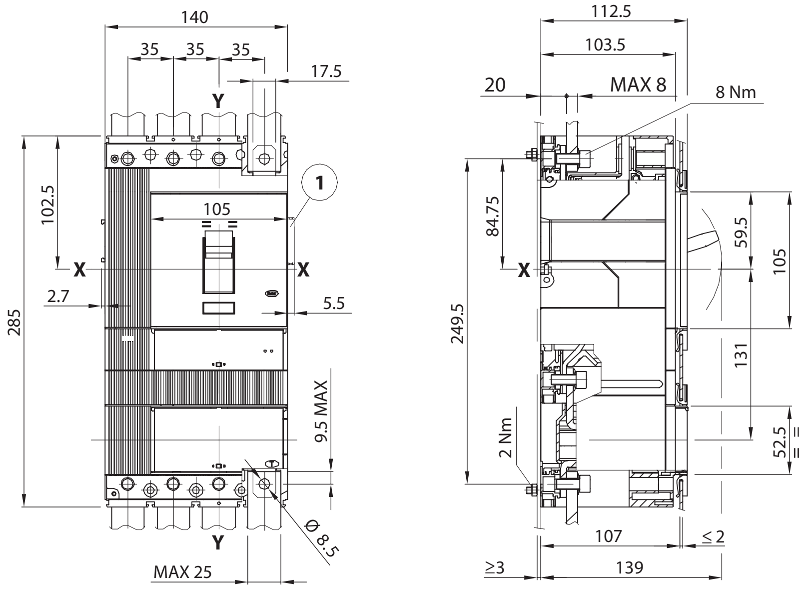
	A mm	C mm	G mm	H mm
MTX 160c / MTXM 160c	18	94.1	78.1	39.1
MTX 160 / MTXE 160	18	106	90	46
MTX 250 / MTXM 250	13.5	118.5	102.5	53.5

For technical information contact the Technical Assistance Service or visit gewiss.com

MTX 320 / MTXE 320 / MTXM 320

CIRCUIT BREAKER 4P + BDI - BDR - UNDER-MOUNTING

Fixing on sheet metal, front terminals - F



Key
1 Overall dimensions with wired auxiliary contacts assembled (3Q+ 1SY)

PERFORATION TEMPLATE FOR SHEET METAL SUPPORT

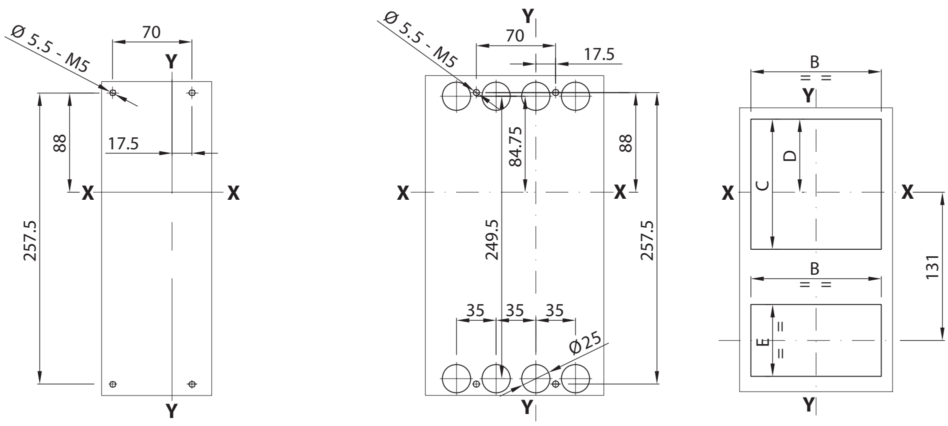
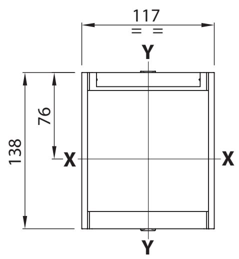
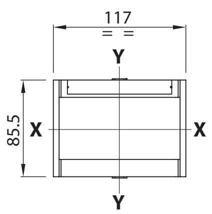


PLATE FOR THE CELL DOOR, AND PLATE FIXING

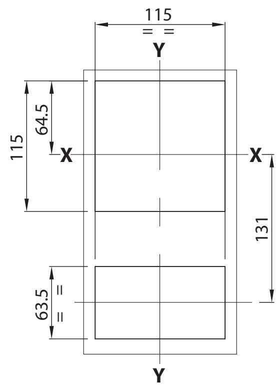
For circuit breakers



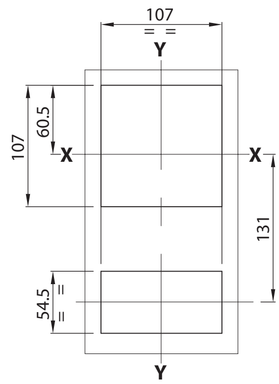
For residual current circuit breakers



With plate



Without plate



For technical information contact the Technical Assistance Service or visit gewiss.com

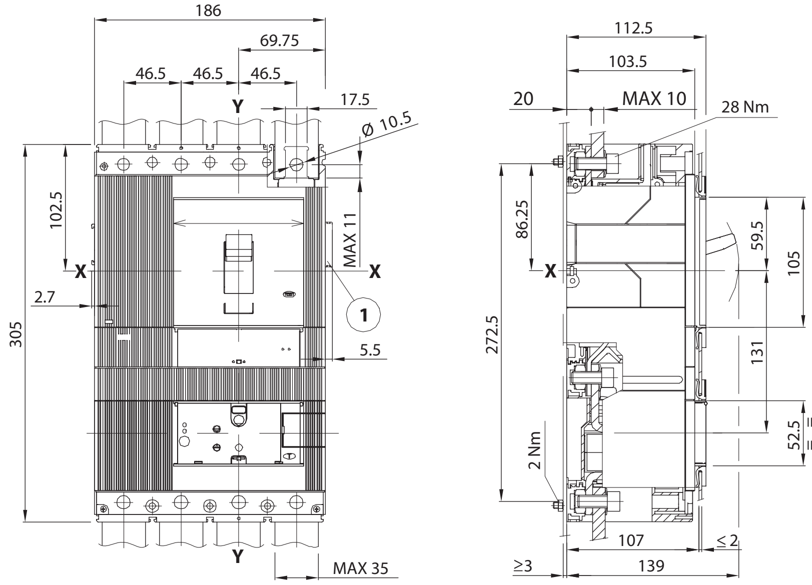
GEWISS

MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

MTX 630 (max 500A) / MTXE 630 (max 400A) / MTXM 400

CIRCUIT BREAKER 4P + BDI - BDR - UNDER-MOUNTING

Fixing on sheet metal, front terminals - F



Key
1 Overall dimensions with wired auxiliary contacts assembled (3Q+ 1SY)

PERFORATION TEMPLATE FOR SHEET METAL SUPPORT

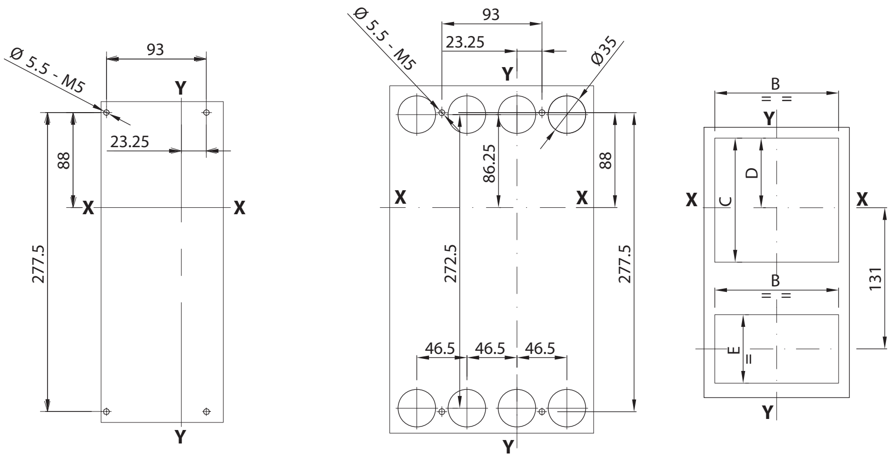
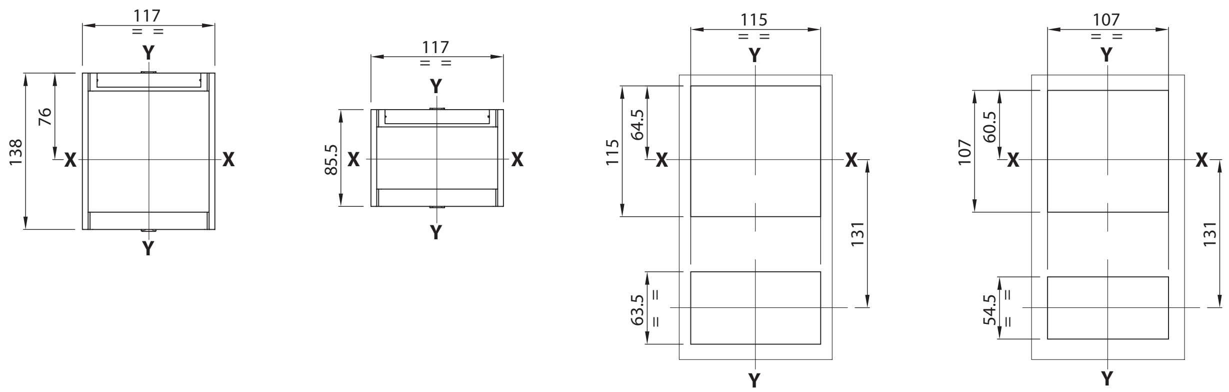


PLATE FOR THE CELL DOOR, AND PLATE FIXING

For circuit breakers **For residual current circuit breakers** **With plate** **Without plate**

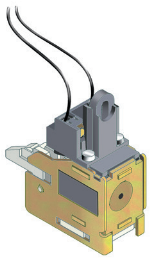


RELEASES AND CONTACTS

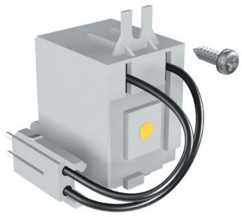
These accessories are pressure-assembled in the special seat in the left part of the circuit breaker, and are fixed with the appropriate screw.
Circuit breakers up to MTX 250 3P/4P and up to MTX/E 1000 3P can be equipped with shunt trip releases or undervoltage releases (but these cannot be assembled simultaneously).
Circuit breakers MTX/E 320, MTX/E 630 and MTX/E 1000 (4-pole version) on the other hand can be equipped with shunt trip releases and undervoltage releases simultaneously, as long as the shunt trip release is positioned in the slot of the third pole.
For the releases dedicated to MTSE1600 and MTSM1600, it is necessary to order the relative connectors for connection to the power supply.

Shunt trip release

This release allows the opening of the circuit breaker via an electric command. The functioning of the release is guaranteed for a voltage between 70% and 110% of the value of the rated power supply voltage Un, in both alternating and direct current. The release is always supplied together with a built-in limit switch contact for cutting the power supply in the open position and with tripped relay.



MTX 160c - MTX/E 160 - MTX 250

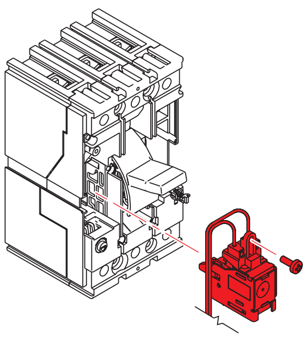


MTX/E 320 - MTX/E 160 - MTX/E 1000

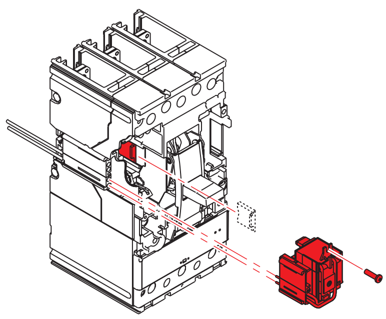
Power supply voltage	Pick-up power					
	MTX 160c - MTX/E 160 MTX 250		MTX/E 320 - MTX/E 630 MTX/E 1000		MTSE 1600 MTSM 1600	
	AC (VA) [1]	DC (W) [1]	AC (VA) [2]	DC (W) [2]	AC (VA)	DC (W)
12V DC		50		150		150
(24 - 30)V AC/DC	50	50	150	150	150	150
(48 - 60)V AC/DC	60	60	150	150	150	150
(110 - 127)V AC - (110 - 125)V DC	50	50	150	150	150	150
(220 - 240)V AC - (220 - 250)V DC	50	50	150	150	150	150
(380 - 440)V AC	55		150		150	
(480 - 525)V AC	55		150		150	
Opening time	15 ms					

[1] Data valid for MTXM 160c, MTXM 250
[2] Data valid for MTXM 320, MTXM 400, MTXM 630, MTXM 800, MTXM 1000

Shunt trip release assembly



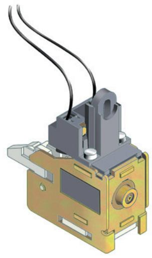
MTX 160c - MTX/E 160 - MTX 250



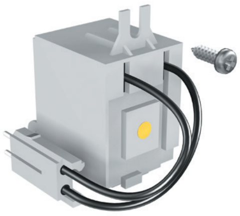
MTX/E 320 – MTX/E 630 – MTX/E 1000

Undervoltage release

This release opens the circuit breaker when the line voltage falls below a pre-fixed threshold (tripping field from 0.7 to 0.35 x Un). After tripping, it is possible to reclose the circuit breaker starting from a voltage greater than 0.85 x Un.
If the release is not powered, the closure of the circuit breaker or the main contacts is inhibited.



MTX 160c - MTX/E 160 - MTX 250

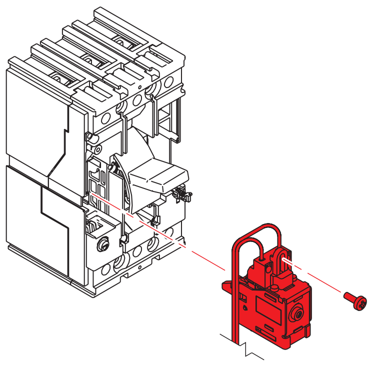


MTX/E 320 - MTX/E 630 - MTX/E 1000

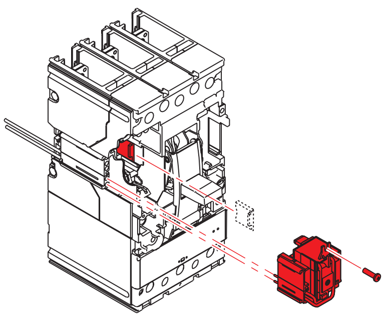
Power supply voltage	Holding power					
	MTX 160c - MTX/E 160 MTX 250		MTX/E 320 - MTX/E 630 MTX/E 1000		MTSE 1600 MTSM 1600	
	AC (VA) (1)	DC (W) (1)	AC (VA) (2)	DC (W) (2)	AC (VA)	DC (W)
(24 - 30)V AC/DC	1.5	1.5	6	3	10	4
48V AC/DC	1	1	6	3	10	4
60V AC					10	4
(110 - 127)V AC - (110 - 125)V DC	2	2	6	3	10	4
(220 - 240)V AC - (220 - 250)V DC	2.5	2.5	6	3	10	4
(380 - 440)V AC	3		6		10	
480V AC					10	
Opening time	15 ms		≤25 ms			

(1) Data valid for MTXM 160c, MTXM 250
(2) Data valid for MTXM 320, MTXM 400, MTXM 630, MTXM 800, MTXM 1000

Undervoltage release assembly



MTX 160c - MTX/E 160 - MTX 250



MTX/E 320 - MTX/E 630 - MTX/E 1000

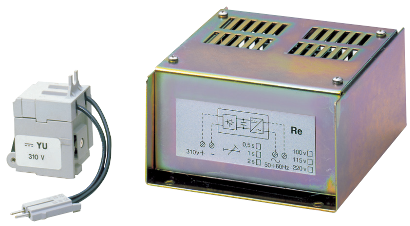
MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

Delay device for undervoltage release

This accessory, coupled with the undervoltage release, allows you to delay (with an adjustable time) the opening of the circuit breaker in the event of a lowering or absence of the power supply voltage to the release, thereby avoiding any untimely tripping caused by temporary malfunctioning. The delay device for the MTSE 1600 is supplied with the relative release coil.

	MTX 160c - MTX/E 160 - MTX 250 MTX/E 320 - MTX/E 630 - MTX/E 1000	MTSE 1600
Voltage of the release that can be coupled	(220 - 250)V AC/DC	Already coupled
Power supply voltage	(220 - 250)V AC/DC	(110 - 220)V AC
Delay that can be set (s)	0.25 – 0.5 – 0.75 – 1 – 1.25 – 2 – 2.5 – 3	0.5 – 1 – 2 – 3
Tolerance for tripping time	± 15%	n.a.

MTX 160c - MTX/E 160 - MTX 250
MTX/E 320 - MTX/E 630 - MTX/E 1000

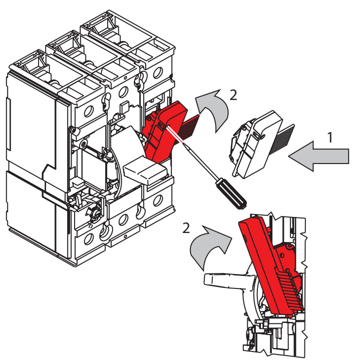


MTSE 1600

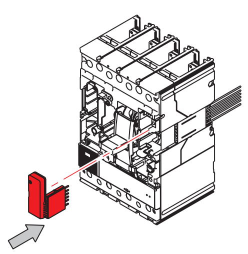
Contacts

Auxiliary contacts - circuit breaker status

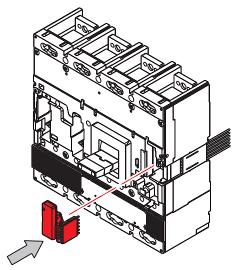
The contacts allow information about the operating status of the circuit breaker to be brought outside the circuit breaker itself. The contacts are directly installed from the front of the circuit breaker, in the special seat in the right-hand part (completely separated from the live parts).
The contacts are supplied pre-wired according to the size of the circuit breaker, and equipped with 1m long free cables or a connector with 1m long cables.
They are available with both alternating and direct current power supply, at various voltages. All signalling is cancelled when the circuit breaker is reset.
For the auxiliary contacts dedicated to MTSE 1600 and MTSM 1600, it is necessary to order the relative connectors for connection to the power supply.



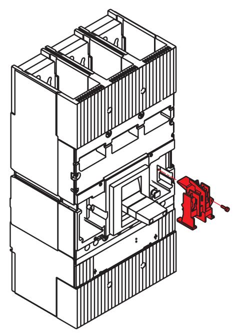
MTX 160c – MTX/E 160 – MTX 250
MTXM 160c - MTXM 250



MTX/E 320 - MTX/E 630
MTXM 320 - MTXM 400 - MTXM 630



MTX/E 1000
MTXM 800 - MTXM
1000



MTSE 1600 - MTSM 1600

For technical information contact the Technical Assistance Service or visit gewiss.com

Electric characteristics - 250V auxiliary contacts				
Compatibility	Power supply voltage	Operating current		Notes
		AC14	DC13	
MTX 160c MTX/E 160 MTX 250	125V	6A	0.3A	(1)
MTX/E 320 MTX/E 630 MTX/E 1000	250V	5A	0.15A	

(1) Data valid for MTXM 160c, MTXM 250, MTXM 320, MTXM 400, MTXM 630, MTXM 800, MTXM 1000

Electric characteristics - 400V auxiliary contacts				
Compatibility	Power supply voltage	Operating current		Notes
		AC	DC	
MTX/E 320 MTX/E 630 MTX/E 1000	125V 250V 400V	/ 12 3	0.5A 0.3 /	(1)
MTSE 1600	125V 250V 400V	/ 6 3	0.3 0.15 /	(2)

(1) Data valid for MTXM 320, MTXM 400, MTXM 630, MTXM 800, MTXM 1000, MTSM 1600
(2) Data valid for MTSM 1600

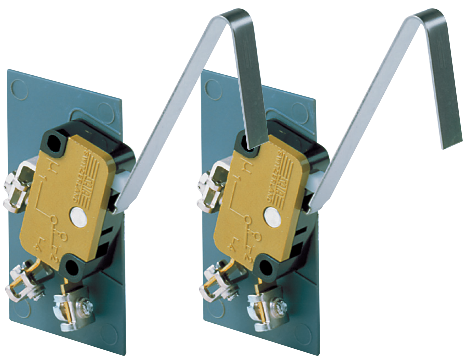
Type of auxiliary contacts and compatibility									
Contact		MTX 160c MTXM 160c	MTX 160	MTXE 160	MTX 250 MTXM 250	MTX/E 320 MTXM 320	MTX/E 630 MTXM 400 MTXM 630	MTX/E 1000 MTXM 800 MTXM 1000	MTSE 1600 MTSM 1600
AUX 250V AC/DC	1Q + 1SY	■	■		■	■	■	■	
AUX 250V AC/DC	3Q + 1SY	■	■		■	■	■	■	
AUX 250V AC/DC	1S51 + 1Q + 1SY			■					
AUX 250V AC/DC	2Q + 1SY			■					
AUX 400V AC	1Q + 1SY					■	■	■	■
AUX 400V AC	2Q					■	■	■	■
AUX 400V AC	1NO + 1NC + 1SY								■

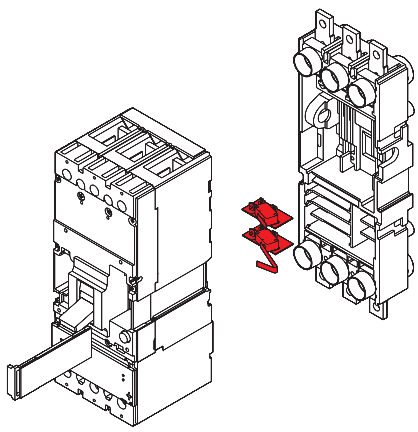
Key: Q = switchover contact for open/closed status
SY = switchover contact for tripped release
S51 = contact signalling tripping of electronic relay
NO = open circuit breaker signal
NC = closed circuit breaker signal

Auxiliary contacts - circuit breaker position

These contacts carry out electrical position signalling of the circuit breaker in relation to the fixed part: inserted or withdrawn.
It is possible to install max. three contacts on the fixed part of the circuit breakers up to MTX/E 630 – MTXM 630. On the fixed part of MTX/E 1000, MTXM 800 and MTXM 1000, up to five auxiliary contacts can be assembled in all combinations (for MTX/E 320, MTX/E 630, MTXM 320, MTXM 400 and MTXM 630 withdrawable version, only one signalling contact for withdrawn circuit breaker can be housed in the compartment nearest the lower terminals).

The following types are available, all with a power supply up to 400V AC – 250V DC:
MTX/E 160 – MTX 250 – MTXM 250
Signalling contacts for inserted circuit breaker (250V AC/DC power supply)
MTX/E 320 – MTXM 320 – MTX/E 630 – MTXM 400 – MTXM 630 – MTX/E 1000 – MTXM 800 – MTXM 1000
Signalling contacts for inserted circuit breaker (for plug-in and withdrawable versions).
Signalling contacts for withdrawn circuit breaker (withdrawable version only).





For technical information contact the Technical Assistance Service or visit gewiss.com

COMMANDS

Remote controls

They allow the remote control of circuit breaker opening and closing. Change from manual to automatic functioning by means of a selector. They always have a padlock-operated lock on the opening function, to disable any remote or local command.

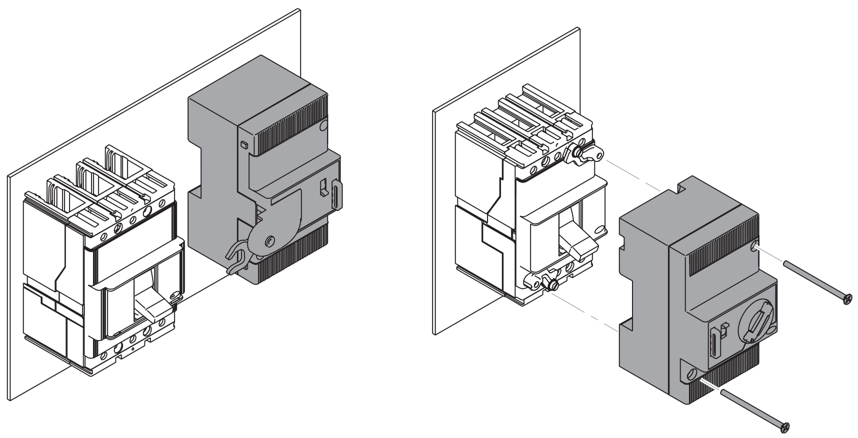
Solenoid command

This type of command is available for moulded-case circuit breakers up to MTX 250 – MTXM 250, controlling both the opening and the closing by acting directly on the command lever.

The command is assembled directly on the front of the circuit breakers, and has a handle for the manoeuvre. In addition, it can also be used on plug-in versions only for moulded-case circuit breakers MTX 250 and MTXM 250..
For moulded-case circuit breakers MTX 160c, MTX/E 160 and MTXM 160 only, there is a solenoid command for installation on a panel or EN50022 DIN rail.

Coupling with the residual current circuit breaker is only allowed with the solenoid command, to ensure access to the user interface of the residual current circuit breaker from the front of the board (assembling the front command, the user interface would, in fact, be too far back and therefore not accessible. This combination can only be installed directly on the back-mounting plate of the board).

Both versions can be used with either 3-pole or 4-pole circuit breakers, and are supplied complete with 1m long cables. The overlapping version also has a 5-pole socket-outlet/plug connector.

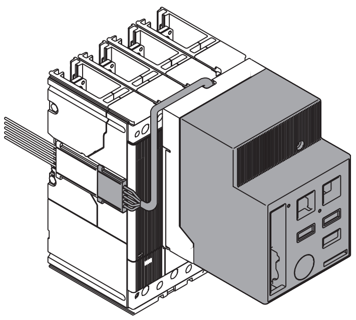


Characteristics of the solenoid commands		
Rated voltage		(110 - 250)V AC/DC
Rated operating voltage		(85 - 110)% Un
Pick-up power		1800 (VA) / 1000 (W)
Power in standby		< 100 (mW)
Duration	**Opening**	< 0.1 s
	Closing	< 0.1 s
Mechanical endurance	**No. of operations**	25000
	No. of operations /h	240 (MTX 160c – MTX/E 160 – MTXM 160) 120 (MTX 250 – MTXM 250)
Degree of protection on the front		IP30
Minimum duration of the command impulse in opening and closing		> 100 (ms)

Note: the unit is permanently powered in standby; a command is applied via an external contact (relay, optoinsulator) in a low power circuit.
Contact characteristics: 24V AC/DC, 50mA AC/DC.

MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

Stored energy command for MTX circuit breakers



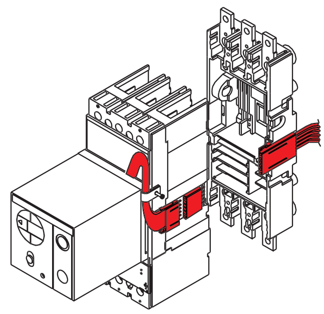
This type of command is available for moulded-case circuit breakers MTX/E 320, MTX/E 630, MTX/E 1000, and for control switch disconnectors MTXM 320, MTXM 400, MTXM 630, MTXM 800 and MTXM 1000, commanding both their opening and their closing. During the opening of the circuit breaker, the spring system recharges automatically and the stored energy is exploited for the closing operation.

The motor command is always supplied with socket-outlet/plug connectors equipped with 1m long cables, and it is always possible to block the circuit breaker in the open position by means of the special padlock-operated lock; in this way, any command - remote or local - is inhibited.
The motor command can be equipped with a key-operated lock (electrical and mechanical) for the opening operation.

The command always has a contact for signalling “auto” or “manual” (not in switchover).

Stored energy command for MTSE 1600 - MTSM 1600 circuit breakers

This type of command uses the same functioning principle as the previous one, and is always supplied complete with a closing release (Ps=100VA AC / 100W DC) and a plate for the cell door.
These motor commands can only be powered via the specific dual slide connectors, which allow you to connect both the motor command and the auxiliary contacts to the relative power supply circuit. These connectors are an alternative to the corresponding connectors for auxiliary contacts, only since they are housed in the same slot.



Characteristics of the stored energy commands

		MTX/E 320 - MTX/E 630 [(1)]		MTX/E 1000 [(2)]		MTSE 1600 [(3)]	
		AC	DC	AC	DC	AC	DC
Rated voltage (V)		220 - 250	24	220 - 250	24	110	24, 48, 60
						120 - 127	110
			220 - 250		220 - 250	220 - 250	120 - 127
						380	220 - 250
Operating voltage (%Un)		85 - 110	85 - 110	85 - 110	85 - 110	85 - 110	85 - 110
Pick-up power		≤ 300 VA	≤ 300W	≤ 400 VA	≤ 400W	660 VA	600W
Operating power		≤ 150 VA	≤ 150W	≤ 150 VA	≤ 150W	180 VA	180W
Duration (s)	**Opening**	1.5		3		0.09	
	Closing	< 0.1		< 0.1		1.2	
	Reset	3		5		2	
Mechanical endurance	**No. of operations**	20000		10000		5000	
Degree of protection on the front		IP30		IP30		IP30	
Minimum duration of the command impulse in opening and closing		≥ 100		≥ 100		≥ 100	

(1) Data valid for MTXM 320, MTXM 400 and MTXM 630
(2) Data valid for MTXM 800 and MTXM 1000
(3) Data valid for MTSM 1600

For technical information contact the Technical Assistance Service or visit gewiss.com

Rotary commands

The rotary handle command facilitates the circuit breaker opening and closing operations. The command has a padlock-operated lock on the opening operation, preventing the closure of the circuit breaker (up to 3 padlocks with a 7mm diameter stem can be used). It is always supplied complete with a cell door lock and, upon request, can be equipped with a key-operated lock on the open position.

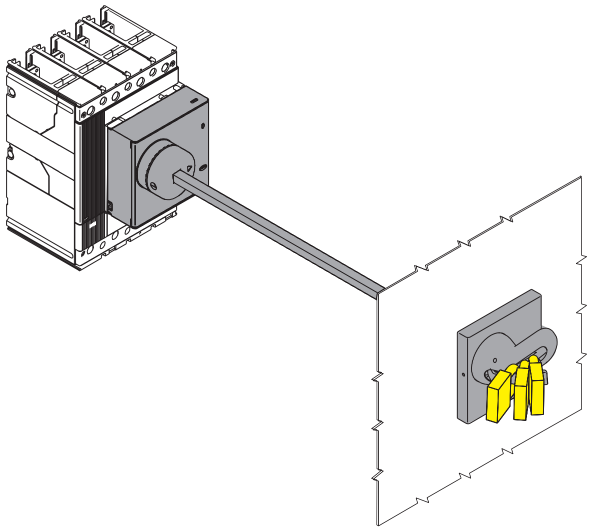
The application of the rotary handle is an alternative to the motor command, the front interlock plate, and the front for lever command.

The rotary handle command is available in the direct version (assembled directly on the front of the circuit breaker) or back-geared version (with shaft extension).
For both versions, there are also emergency handles (red handle with yellow background, suitable for tool machine command).
In addition, there are special versions for the plug-in or withdrawable version of the circuit breakers.

For back-geared command handles of circuit breakers up to MTX/E 1000 and MTXM 1000, there is a KIT that allows you to obtain an IP54 degree of protection.

The release adjustments and rating can still be accessed by the user.

The back-geared handles are supplied complete with shaft extension, barring the handle for the MTSE1600 and MTSM1600 for which the shaft extension must be ordered separately.



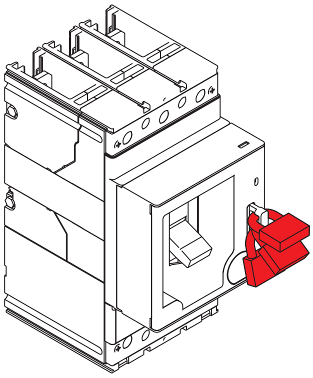
MECHANICAL LOCKS AND INTERLOCKS

Mechanical locks

Front for lever command

This accessory can be used on circuit breakers starting from MTX/E 320 and MTXM 320, in the fixed, plug-in or withdrawable version. In the case of withdrawable circuit breakers, it allows the IP40 degree of protection to be maintained for the entire isolation stroke of the circuit breaker.

It is always supplied together with a padlock-operated lock for the opening position, on which up to 3 padlocks (not supplied) with a 6mm stem diameter can be installed. This prevents the closure of the circuit breaker and the blocking of the cell door.
This accessory can be equipped with a key-operated lock on the open position.

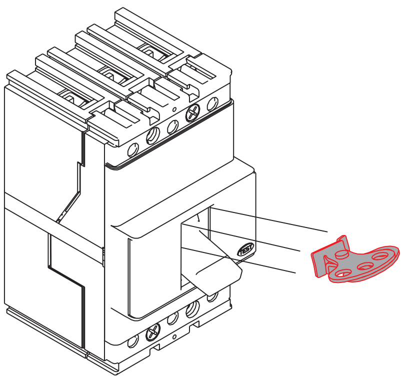


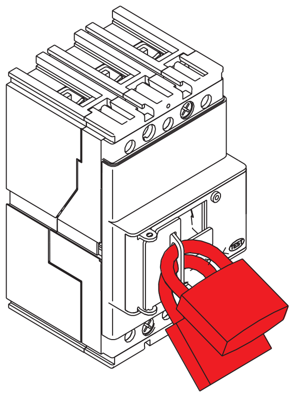
Padlock-operated lock

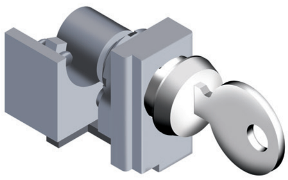
This accessory can be used on circuit breakers up to MTX 250 and MTXM 250 to prevent the closing or opening of the lever. Up to 3 padlocks (not supplied) with a 7mm stem diameter can be installed.

It is available in the plug-in version (device for blocking the closing operation only) or fixed version (plate to be assembled on the front of the circuit breaker, to prevent the opening and closing operations).
The blocking of the opening operation does not prevent the release of the mechanism following a fault.

This lock is incompatible with the front accessories: motor solenoid command, rotary handle, and interlock with front plate.

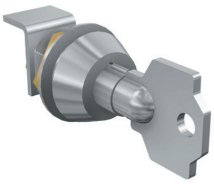






Key-operated lock on the circuit breaker

This accessory can be used on circuit breakers up to MTX 250 and MTXM 250 to prevent the mechanical closing of the lever. It is installed directly on the front of the circuit breaker, in line with the left-hand pole.
It cannot be installed when there is also a front command, a rotary handle command, a motor command, BDI and BDR residual current releases, or on the 3-pole circuit breakers equipped with shunt trip releases or undervoltage releases.
The key-operated lock is of the Ronis 622 type with identical keys.



Key-operated lock for rotary handle command

This accessory is available for circuit breakers up to MTX 250 and MTXM 250, allowing the circuit breaker closure operation to be blocked.
The blocking of the circuit breaker in the open position ensures isolation in compliance with IEC 60947-2.

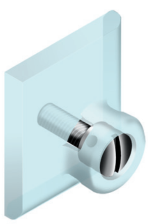
Key-operated lock

This accessory is available for circuit breakers from MTX/E 320 and MTXM 320 onwards, allowing the mechanical operation of the circuit breaker to be blocked. It can be used with the direct or back-geared rotary handle command assembled on the clip only for the circuit breaker, or with the front for the lever command.
The blocking of the circuit breaker in the open position ensures isolation in compliance with IEC 60947-2.

For MTSE 1600 and MTSM 1600 circuit breakers only, there is a key-operated lock for motor command.

Lock in withdrawn position for fixed part

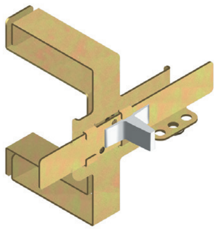
Thanks to this lock, it is possible to equip the rail of the fixed part of the withdrawable circuit breaker with key-operated locks, to prevent the insertion of the plug-in part.
Available for circuit breakers up to MTX/E 1000 and MTXM 1000.



Sealable thermal adjustment lock

This lock is applied to the circuit breaker cover, in line with the regulator of the thermal element of the TM1 thermomagnetic release for MTX 160c, MTX 160 and MTX 250.

Interlocks



Front interlock

This interlock is only available for circuit breakers up to MTX 250 and control switch disconnectors up to MTXM 250. It can be applied on the front of two circuit breakers (both 3-pole and 4-pole) assembled side-by-side in fixed version, and prevents the simultaneous closing of the two circuit breakers. It is fixed directly on the back-mounting plate included in the special board KIT. It is possible to block the position (IO, OO, OI) of the interlock lever using up to three padlocks (not supplied).
The combined interlocking of circuit breakers of different sizes (up to 250A) is also possible.
This interlock is incompatible with the front accessories (solenoid command, rotary handle command) and with the residual current releases.

Interlock on plate

This interlock is available for moulded-case circuit breakers starting from MTX 250 and MTXM 250. It ensures the mechanical interlock of circuit breakers in the fixed, plug-in or withdrawable version. The interlock is of the rear type, and is therefore compatible with the front accessories of the circuit breakers.

Circuit breakers MTX 250, MTX/E 1000, MTXM 250, MTXM 800, MTXM 1000, MTSE 1600 and MTSM 1600 can be interlocked by means of a monobloc plate, while for circuit breakers MTX/E 320, MTX/E 630, MTXM 320, MTXM 400 and MTXM 630 there is a system containing a frame unit and pairs of metal plates to allow the interlock in the combinations listed below.

There are no restrictions on the versions that can be interlocked; for example, a fixed circuit breaker can be interlocked with a switch disconnector in withdrawable version, using the special plate of course.

Possible modular interlock combinations (1)			
GW D8 230	Frame		
GW D8 231	MTX/E320 (F/P/W)	+	MTX/E320 (F/P/W)
GW D8 234	MTX/E630 400A(F/P/W)-630A(F)	+	MTX/E630 400A(F/P/W)-630A(F)
GW D8 235	MTX/E630 400A(F/P/W)-630A(F)	+	MTX/E630 (P/W)
GW D8 236	MTX/E630 (P/W)	+	MTX/E630 (P/W)

(1) It is also possible to interlock the switch disconnectors MTXM 320, MTXM 400 and MTXM 630 in the same assemblies.

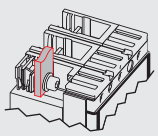
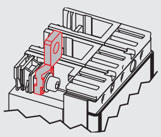
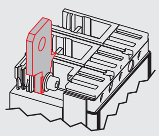
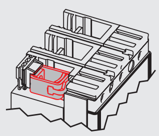
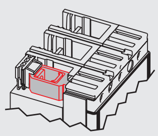
MECHANICAL ACCESSORIES

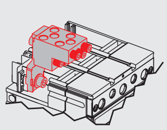
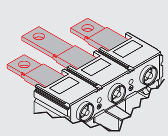
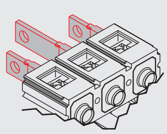
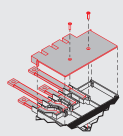
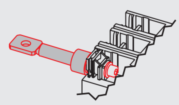
Connection terminals

The standard versions of MTX 160c and MTXM 160c circuit breakers are supplied with front terminals for copper cables (FC Cu), while the rest of the range has front terminals (F).
Only the MTX/E 1000 (with In = 1000A) and MTXM 1000 circuit breakers are supplied with extended front terminals (EF).

Different types of terminals are available (as accessories). These can be combined with the circuit breakers and also be combined in various ways with each other (upper of one type and lower of another type); in this way it is possible to connect the circuit breakers to the system in the manner most suitable for the specific installation requirements.
Two different types of terminal are also available: front (allowing the connection of cables or busbars by intervening directly on the front of the circuit breaker) and adjustable rear (allowing installation in boards with rear access to connections, both cable and busbar).

There are terminals for the direct connection of copper or aluminium cables, and those for the connection of busbars or cable terminals.

Circuit breaker	Terminals				
	F Front	EF Extended front	ES Extended spread front	FC Cu Front for copper cables	FC CuAl Front for copper-aluminum cables
					
MTX/M 160c		F	F	F [1]	F
MTX/E 160	F - P	F	F	F	F
MTX/M 250	F - P	F	F	F	F
MTX/E/M 320	F	F - P	F	F	F
MTXM 400	F	F - W	F	F	F
MTX/E/M 630					
MTXM 800	F (800A)	F [1] - W (800A)	F		F (800A)
MTX/E/M 1000					
MTSE/M 1600	F	F - W	F		F (1250A)

	MC Multi-cable	HR Horizontal flat rear	VR Vertical flat rear	HR for BDI/BDR Horizontal flat rear	R Rear
					
MTX/M 160c		F		F	
MTX/E 160					F
MTX/M 250					F
MTX/E/M 320	F	P	P		F
MTXM 400	F	P-W	P-W		F
MTX/E/M 630					
MTXM 800		W (800A)	W (800A)		F
MTX/E/M 1000					
MTSE/M 1600		F - W	F - W		

[1] Standard supply

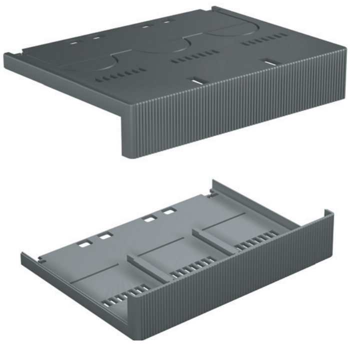
Version key
F = Fix
P = Plug-in
W = Withdrawable

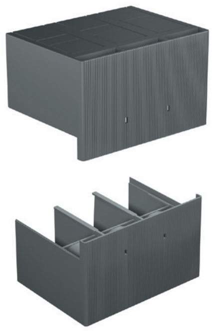
Insulating terminal covers

These accessories are applied to the circuit breaker to avoid any accidental contact with live parts, and therefore guarantee protection against direct contacts. The following types of terminal cover are available:

- low terminal covers, guaranteeing an IP40 degree of protection for fixed circuit breakers with rear terminals, and for the moving parts of plug-in and withdrawable circuit breakers
- high terminal covers, guaranteeing an IP40 degree of protection for fixed circuit breakers with front terminals, extended front terminals, and front terminals for cables.

For the fixed parts of MTX/E 160, MTX 250, MTXM 250 circuit breakers (plug-in version), it is possible to use the same terminal covers as for the corresponding fixed circuit breakers. For the fixed parts of MTX/E 320, MTX/E 630, MTXM 320, MTXM 400 and MTXM 630, there are special terminal covers.
The degree of protection obtained with the terminal covers is valid for a circuit breaker installed in a board.



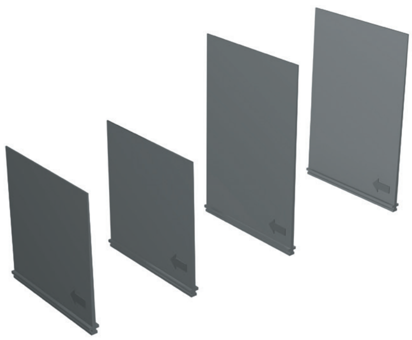


It is possible to apply sealing screws to the terminal covers of fixed circuit breakers, or to the moving parts of plug-in and withdrawable circuit breakers; this prevents them being removed (they can be blocked with wire and lead seal).

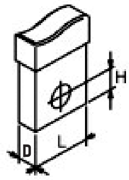
Phase divider screens

These accessories are available for circuit breakers up to 1000A. They allow you to increase the insulation characteristics between the phases in line with the connections. They are assembled from the front (even when the circuit breaker is already installed), by inserting them in the corresponding slots. They are available with a height of 100mm (always supplied with terminals of the extended front type EF) or 200mm (compulsory when using extended spread front terminals ES).

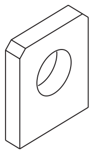
These accessories are incompatible with both high and low insulating terminal covers.
The fixed parts may use the same phase dividers as for the corresponding fixed circuit breakers.



Front terminals - F



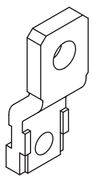
These terminals allow you to connect:
- busbars
- cable terminals

	Circuit breaker	Version	Holes	Busbars / terminals (mm)				Tightening (Nm)	Terminal covers			Phase dividers
				L	H	D	Ø		High	Low	Fixed part	
	MTX/E 160	F - P	1	20	7.5	5	6.5	6	R	R	/	R
	MTX/M 250	F - P	1	24	9.5	8	8.5	8	R	R	/	R
	MTX/E/M 320	F	1	25	9.5	8	8.5	18	R	R	/	R
	MTXM400	F	1	35	11	10[1]	10.5	28	R	R	/	R
	MTX/E/M 630											
	MTX/E 1000 (630A)	F	2	40	12	5	2 x 7	9	R	R	/	R
	MTXM800	F	2	50	12	5	2 x 7	9	R	R	/	R
	MTX/E/M 1000 (800A)											
	MTSE/M 1600 (1250A)	F	3	50	20	8	2 x 11	18	/	R	/	/
	MTSE/M 1600 (1600A)	F	4	50	20	10	2 x 11	18	/	R	/	/

[1] Minimum 5mm   **R** = to be ordered   **S** = included

Extended spread front terminals - EF

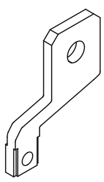
These terminals allow you to connect:
- busbars
- cable terminals

	Circuit breaker	Version	Holes	Busbars (mm)			Terminals		Tightening (Nm)		Terminal covers			Phase dividers
				L	D	Ø	L	Ø	A	B[1]	High	Low	Fixed part	
	MTX/M 160c	F	1	15	5	8.5	15	8.5	7	9	R	/	/	S
	MTX/E 160	F	1	20	4	8.5	20	8.5	6	9	R	/	/	S
	MTX/M 250	F	1	20	6	10	20	10	8	18	R	/	/	S
	MTX/E/M 320	F	1	20	10	10	20	10	18	18	R	/	/	S
		D	1	20	10	8	20	8	/	9	/	/	R	R
	MTXM400	F	2	30	7	11	30	11	28	18	R	/	/	S
	MTX/E/M 630	D	2	30	15	10	30	10	/	18	/	/	R	R
	MTX/E 1000 (630A)	F - W	2	40	5	11[2]	40	11	9	18	R	/	R	R
	MTXM800	F - W	2	50	5	14	50	14[2]	9	30	/	R	R	R
	MTX/E/M 1000 (800A)													
	MTSE/M 1600 (1250A)	F - W	2	50	8	4x11[3]	/	/	45	18	/	R	/	/
	MTSE/M 1600 (1600A)	F - W	2	50	10	4x11[3]	/	/	45	18	/	R	/	/

[1] Screws with resistance class 4.8 (not supplied)   [2] 14mm per W   [3] Use only two diagonal holes   **R** = to be ordered   **S** = included
A= tightening of terminal on circuit breaker
B= tightening of cable/busbar or cable terminal on terminal

Extended spread front terminals - ES

These terminals allow you to connect:
- busbars
- cable terminals

	Circuit breaker	Version	Holes	Busbars (mm)			Terminals		Tightening (Nm)		Terminal covers			Phase dividers
				L	D	Ø	L	Ø	A	B[1]	High	Low	Fixed part	
	MTX/E 160	F - P	1	30	4	10.5	30	10.5	6	18	/	/	/	/
	MTX/M 250	F - P	1	30	4	10.5	30	10.5	8	18	/	/	/	/
	MTX/E/M 320	F	1	30	6	10.5	30	10.5	18	18	/	/	/	/
	MTXM400	F	1	40	10	11	11	11	28	18	/	/	/	/
	MTX/E/M 630	P-W	1	40	10	11	11	11	28	18	/	/	/	/
	MTXM800	F	1	80	5	3 x 13	3 x 45	13	9	30	/	/	/	/
	MTX/E/M 1000													
	MTSE/M 1600 (1600A)	F	2	50	10	3 x 13	4 x 45	13	45	20	/	/		/

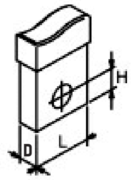
[1] Screws with resistance class 4.8 (not supplied)

A = tightening of terminal on circuit breaker
B = tightening of cable/busbar or cable terminal on terminal

For technical information contact the Technical Assistance Service or visit gewiss.com

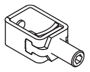
MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

Front terminals for copper cables - FC Cu



These terminals allow you to connect:

- copper cables directly onto the circuit breaker

	Circuit breaker	Version	Holes	Cable (mm²)		Flexible busbars	Tightening (Nm)		Ø (mm)	Terminal covers			Phase dividers
				Rigid	Flexible	L x S x N [1]	A	B		High	Low	Fixed part	
	MTX/M 160c [2]	F	1	2.5 - 70	2.5 - 50	9 x 0.8 x 6	/	7	12	R	R	/	R
	MTX/E 160	F	1	1 - 95	1 - 70	13 x 0.5 x 10	/	7	14	R	R	R	R
	MTX/M 250	F	1	6 - 185	6 - 150	15.5 x 0.8 x 10	/	10	18	R	R	R	R
	MTX/E/M 320	F	1	2.5 - 185	2.5 - 120	15.5 x 0.8 x 10	/	10	18	R	R	R	R
	MTXM400	F	1	16 - 300	16 - 240	24 x 1 x 10	/	25	28	R	R	R	R
	MTX/E/M 630	F	1	16 - 300	16 - 240	24 x 1 x 10	/	25	28	R	R	R	R

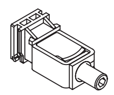
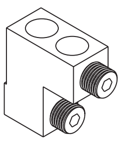
[1] L=width; S=thickness; N=number of reeds [2] Standard supply **R** = to be ordered **S** = included

A = tightening of terminal on circuit breaker
B = tightening of cable/busbar or cable terminal on terminal

Front terminals for copper/aluminium cables - FC CuAl

These terminals allow you to connect:

- copper cables directly onto the circuit breaker

	Circuit breaker	Assembly	Version	Holes	Cable (mm²)	Tightening (Nm)		Ø (mm)	Terminal covers			Phase dividers
					Rigid	A	B		High	Low	Fixed part	
	MTX/M 160c	External	F	1	35 - 95	7	13.5	14	S	/	/	R
	MTX/E 160	Standard	F	1	1 - 95	/	7	14	R	R	R	R
	MTX/M 250	Standard	F	1	70 - 185	/	16	18	R	/	R	R
Standard assembly	MTX/E/M 320	Standard	F	1	6 - 185	9	31	18	R	R	S	/
		External	F	2	35 - 150	18	16	18	S	/	S	R
	MTXM400	External	F	2	95 - 240	18	31	24.5	S	/	S	/
	MTX/E/M 630											
	MTXM800	External	F	3	70 - 185	9	43	19	S	/	/	/
	MTX/E 1000 (800A)											
External assembly	MTX/E/M 1000	External	F	4	70 - 150	9	43	19	S	/	/	/
	MTS/E/M 1600 (1250A)	External	F	4	95 - 240	37	43	21.5	S	/	/	/

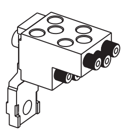
R = to be ordered **S** = included

A = tightening of terminal on circuit breaker
B = tightening of cable/busbar or cable terminal on terminal

Multi-cable terminals - MC

These terminals allow you to connect:

- the cables directly to the circuit breaker

	Circuit breaker	Version	Holes	Cable (mm²)		Tightening (Nm)		Terminal covers			Phase dividers
				Flexible	Rigid	A	B	High	Low	Fixed part	
	MTX/E/M 320	F	6	2.5 - 25	2.5 - 35	18	7	S	/	/	/
	MTXM400	F	6	/	16 - 50	18	5	S	/	/	/
	MTX/E/M 630										

R = to be ordered **S** = included

A = tightening of terminal on circuit breaker
B = tightening of cable/busbar or cable terminal on terminal

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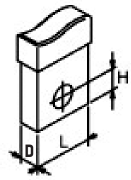
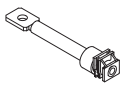
Adjustable rear terminals - R



These terminals can be installed in 4 different positions to facilitate connection. They allow the rear connection of:

- busbars
- cable terminals

	Circuit breaker	Version	Holes	Busbars (mm)			Tightening (Nm)		Terminal covers		Phase dividers
				L	D	Ø	A	B (1)	High	Low	
	MTX/E 160	F	1	20	4	8.5	6	9	/	S	/
	MTX/M 250	F	1	20	6	8.5	6	9	/	S	/
	MTX/E/M 320	F	1	20	10	8.5	6	9	/	S	/
	MTXM400 MTX/E/M 630	F	2	30	7	11	18	18	/	S	/
	MTX/E 1000 (630A)	F	2	40	5	14	18	30	/	S	/
	MTXM800	F	2	50	5	14	18	30	/	S	/
	MTX/E 1000 (800A)	F	2	50	5	14	18	30	/	S	/
	MTX/E/M 1000	F	2	50	6	14	18	30	/	S	/

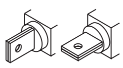
(1) Screws with resistance class 4.8 (not supplied) **R** = to be ordered **S** = included

A = tightening of terminal on circuit breaker
B = tightening of cable/busbar or cable terminal on terminal

Flat rear terminals for fixed parts - HR/HV

These terminals, available in the vertical or horizontal version, allow the rear connection of:

- busbars
- cable terminals

	Circuit breaker	Version	Holes	Busbars (mm)			Terminals		Tightening (Nm)		Terminal covers			Phase dividers
				L	D	Ø	L	Ø	A	B (1)	High	Low	Fixed part	
	MTX/E/M 320	D	1	20	10	10	20	10	/	18	/	/	/	/
	MTXM400 MTX/E 630 (400A)	P-W	1	25	10	12	25	12	/	18	/	/	/	/
	MTX/E/M 630	P-W	2	40	15	11	40	11	/	18	/	/	/	/
	MTX/E 1000 (630A)	P-W	2	40	5	14	40	14	/	30	/	/	/	/
	MTXM800 MTX/E 1000 (800A)	P-W	2	50	5	14	50	14	/	30	/	/	/	/
	MTSE/M 1600 (1250A)	P-W	2	50	8	4x11(2)	/	/	/	20	/	/	/	/
	MTSE/M 1600	P-W	2	50	10	4x11(2)	/	/	/	20	/	/	/	/

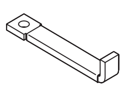
(1) Screws with resistance class 8.8 (not supplied) (2) Use only two diagonal holes

A = tightening of terminal on circuit breaker
B = tightening of cable/busbar or cable terminal on terminal

Horizontal rear terminals - HR (for MTX/M 160c)

These terminals, available in the vertical or horizontal version, allow the rear connection of:

- busbars
- cable terminals

	Circuit breaker	Version	Holes	Busbars (mm)			Terminals		Tightening (Nm)		Terminal covers		Phase dividers
				L	D	Ø	L	Ø	A	B (1)	High	Low	
	MTX/M 160c	F	1	14	5	6.2	14	6.2	7	5	/	S	/
	MTX/M 160c + BDI/BDR	F	1	14	5	6.2	/	/	7	5	/	/	/

(1) Screws with resistance class 8.8 (not supplied) **R** = to be ordered **S** = included

A = tightening of terminal on circuit breaker
B = tightening of cable/busbar or cable terminal on terminal

INSTALLATION ACCESSORIES

Bracket for fixing on DIN profile EN50022

This accessory, applied to circuit breakers up to MTX 250 and switch disconnectors up to MTXM 250, allows them to be assembled on the EN50022 DIN rail.

The bracket is also available for circuit breakers combined with BDI/BDR residual current devices and with the solenoid command.

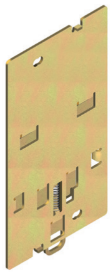
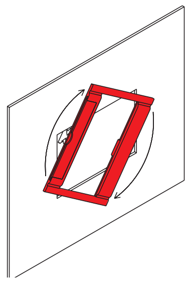


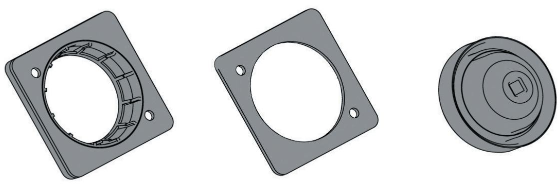
Plate for the cell door

This accessory is always supplied with the circuit breakers, and is assembled without the need for screws.
In the case of circuit breakers combined with a rotary handle or residual current releases, the accessory is supplied together with a special plate (replacing the one supplied with the fixed circuit breaker).



Sealing gasket to protect rotary handles

This ensures an IP54 degree of protection for rotary handles with back-geared command.



ELECTRONIC ACCESSORIES

TEST unit

This allows you to control the tripping of all the electronic releases on the circuit breakers in the various versions (SEP/1 and SEP/2). It also performs a tripping test on the opening solenoid.
The device is powered via a 12V replaceable battery. The control is made by inserting the 2 polarised poles (on one end of the unit) in the two special bushings on the front of the electronic release.
The reduced dimensions of the device make it practically pocket-sized.

For technical information contact the Technical Assistance Service or visit gewiss.com

WIRING DIAGRAMS FOR ACCESSORIES

Key and reference notes

☐	=	Number of the figure in the diagram
*	=	See the note indicated by the letter
A1	=	Circuit breaker applications
A4	=	Devices and approximate connections for command and signalling (outside the circuit breaker)
D	=	Electronic delay device of undervoltage release (outside the circuit breaker)
H, H1	=	Signalling lamps
K51	=	SEP/1 - SEP/2 electronic release (for the characteristics, refer to the appropriate pages)
K87	=	BDI/BDR residual current release
Q	=	Main switch
Q/0,1,2,3	=	Auxiliary contacts of the circuit breaker
R	=	Resistor (see note C)
S4/1-2	=	Contacts activated by the rotary handle of the circuit breaker (see note C)
S75I/1...3	=	Contacts for the electric signalling of circuit breaker in inserted position (only envisaged for circuit breakers in plug-in and withdrawable version)
SC	=	Push-button or contact for circuit breaker closing
SD	=	Switch disconnector for the power supply to the BDI/BDR residual current release
SO	=	Push-button or contact for circuit breaker opening
SY	=	Contact for the electric signalling of circuit breaker open due to tripping of electromagnetic releases YO, YO1, YO2, YU (tripping position)
TI	=	Toroid current transformer
TI/L1	=	Current transformer positioned on phase L1
TI/L2	=	Current transformer positioned on phase L2
TI/L3	=	Current transformer positioned on phase L3
TI/N	=	Neutral current transformer
X1,X2 X5...X9	=	Connectors for the auxiliary circuits of the circuit breaker (in the case of circuit breakers with plug-in version, the withdrawal of the connectors is simultaneous with that of the circuit breaker (see note D)
X11	=	Supporting terminal block
XA1	=	3-way connector for YO/YU (see note D)
XA10	=	6-way connector for solenoid command
XA2	=	12-way connector for auxiliary contacts (see note D)
XA5	=	3-way connector for the electric signalling of circuit breaker open due to tripping of BDI/BDR
XA6	=	3-way connector for contact of electric signalling of circuit breaker open due to tripping of maximum current release (see note D)
XA7	=	6-way connector for auxiliary contacts (see note E)
XA8	=	6-way connector for contacts activated by the rotary handle, or for the motor command
XA9	=	6-way connector for the contacts of electric signalling of pre-alarm and alarm of the BDI/BDR residual current device release, or the opening via the same relay (see note 9)
XO	=	Connector for the opening solenoid YO1
XO1	=	Connector for the opening solenoid YO2
XV	=	Application terminal blocks
YO	=	Opening release
YO1	=	Opening solenoid of the maximum current electronic release
YO2	=	Opening solenoid of the BDI/BDR residual current release
YU	=	Undervoltage release (see note A)

Description of the figures

Fig. 1	Opening release
Fig. 2	Instantaneous undervoltage release (see notes A and C)
Fig. 3	Undervoltage release with electronic delay device outside the circuit breaker (see note B)
Fig. 4	Instantaneous undervoltage release in assembly for tool machines with a contact in series (see notes A, B and C)
Fig. 5	Instantaneous undervoltage release in assembly for tool machines with two contacts in series (see notes A, B and C)
Fig. 6	A changeover contact for the electric signalling of circuit breaker open due to tripping of BDI/BDR residual current release
Fig. 7	Circuits of the BDI/BDR residual current release
Fig. 8	Solenoid command
Fig. 9	Stored energy motor command
Fig. 10	Three changeover contacts for the electric signalling of circuit breaker open or closed, and one changeover contact for the electric signalling of circuit breaker open due to tripping of thermomagnetic releases YO, YO1, YO2, YU (tripping position)
Fig. 11	One changeover contact for the electric signalling of circuit breaker open or closed, and one changeover contact for the electric signalling of circuit breaker open due to tripping of thermomagnetic releases YO, YO1, YO2, YU (tripping position)
Fig. 12	Two changeover contacts for the electric signalling of circuit breaker open or closed
Fig. 13	Two changeover contacts for the electric signalling of circuit breaker open due to tripping of maximum current release (MTX/E 160)
Fig. 14	Two changeover contacts for the electric signalling of circuit breaker open due to tripping of maximum current release (MTX/E/M 320, MTXM 400, MTX/E/M 630, MTXM 800, MTX/E/M 1000)
Fig. 15	First contact of circuit breaker changeover position, for the electric signalling of the inserted status
Fig. 16	Third contact of circuit breaker changeover position, for the electric signalling of the withdrawn status
Fig. 17	Second contact of circuit breaker changeover position, for the electric signalling of the withdrawn status

Incompatibility

It is not possible to simultaneously provide on a single circuit breaker the circuits indicated with the following figures:

1 - 2 - 3 - 4 - 5
4 - 5 - 9
8 - 9
10 - 11 - 12
13 - 14

Notes

A. The undervoltage release is provided for a power supply upstream of the circuit breaker, or an independent power supply: the circuit breaker can be closed only when the release is energised (the closing lock is implemented mechanically).

B. Contacts S4/1 and S4/2 shown in figures 4 and 5 open the circuit when the circuit breaker is open, and reclose it when a manual closure command is made via the rotary handle, in compliance with the Standards regarding tool machines (closure is anyway not possible if the undervoltage release is not powered).

C. Additional external resistor for undervoltage, powered at 250V DC, 380/440V AC and 480/500V AC.

D. Connectors X1, X2, X5, X6, X7, X8 and X9 are supplied upon request. They are always supplied with the circuit breaker.

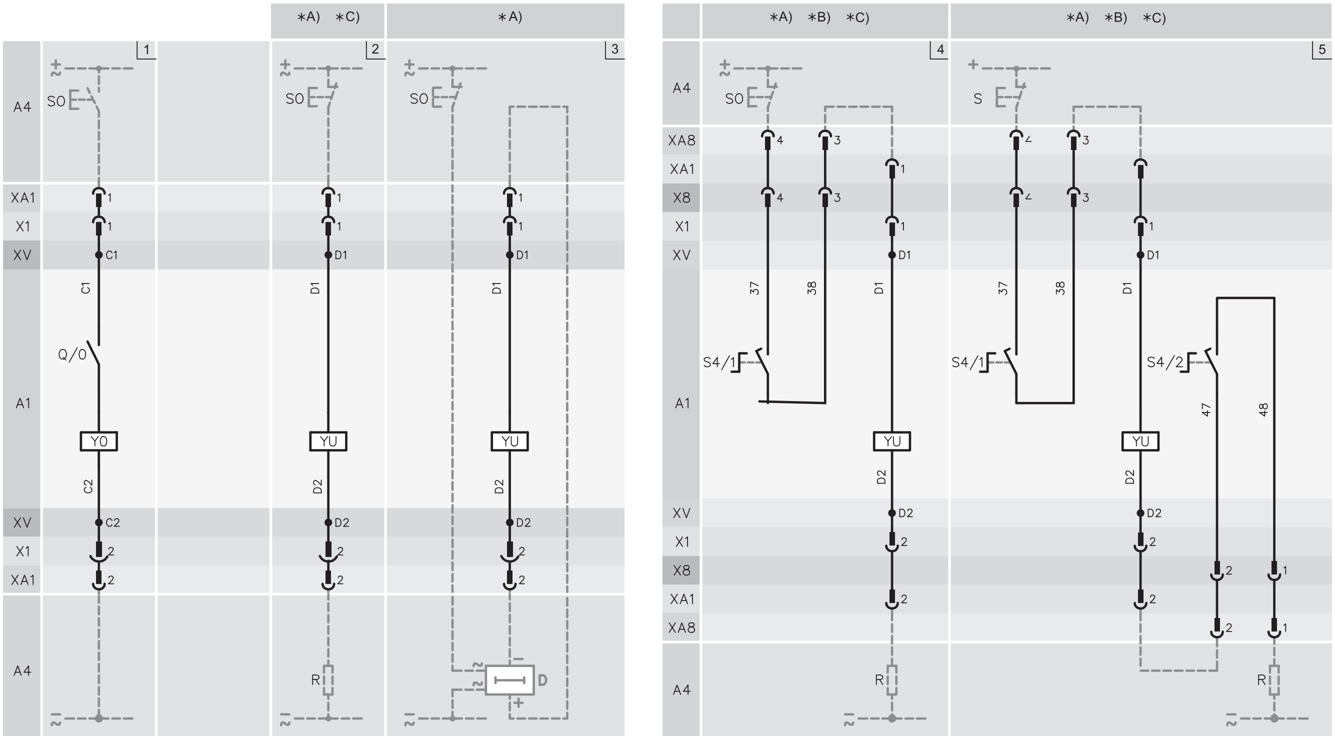
Electric symbols

Graphic signs (STANDARDS IEC 60617 AND CEI 3-14...3-26)

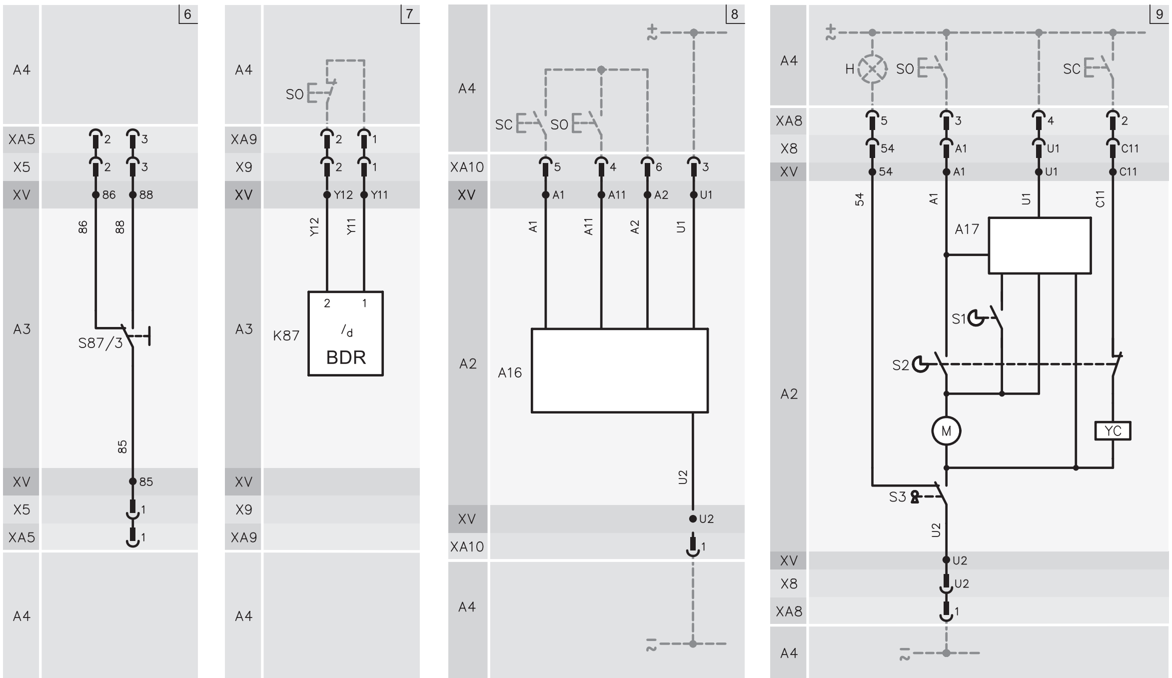
Thermal effect	Conductor connection	Opening position contact (limit switch)	Residual current relay
Electromagnetic effect	Terminal or clamp	Changeover contact with temporary cut-off (contact for limit switch position)	Relay for detecting the absence of phase in a 3-phase system
Timing	Plug and socket (female and male)	Contactor (closing contact)	Relay for detecting rotor blockage via current measurement
Mechanical connection	Resistor (general sign)	Power switch disconnector interruption on automatic opening	Lamp (general sign)
Manual mechanical command (general)	Temperature-dependent resistor	Control switch disconnector	Mechanical interlock between two devices
Rotary command	Motor (general sign)	Control coil (general)	Electric motor command
Push-button command	Asynchronous three-phase squirrel-cage motor	Thermal relay	Motor energised in series
Key control	Current transformer	Instantaneous maximum current relay	Shield (can be designed with any shape)
Cam control	Current transformer with primary consisting of 4 through-conductors and wound secondary, with socket-outlet	Overcurrent relay with adjustable short time delay trip	Equipotentiality
Earth (general sign)	Closing contact	Overcurrent relay with inverse short time delay trip	Voltage transformer
Galvanically separated converter	Opening contact	Maximum current relay with inverse long time delay characteristic	Winding of 3-phase transformer, star connection
Conductors with shielded cable (e.g. two conductors)	Changeover contact with temporary cut-off	Maximum current relay for earth fault, with inverse short time delay characteristic	Current sensor
Conductors with twisted cables (e.g. two conductors)	Closing position contact (limit switch)	Ammeter relay for current unbalance between the phases	

Wiring diagrams (up to MTX/E 1000)

Opening releases

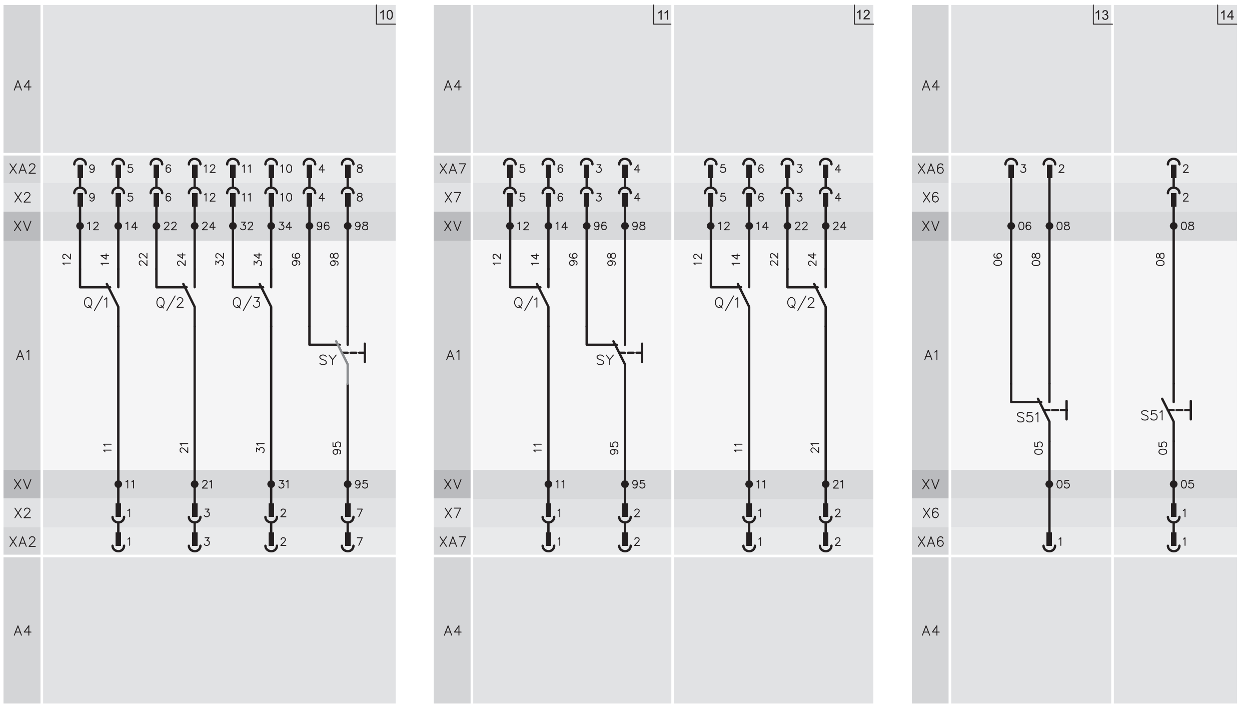


Residual current releases and motorised commands

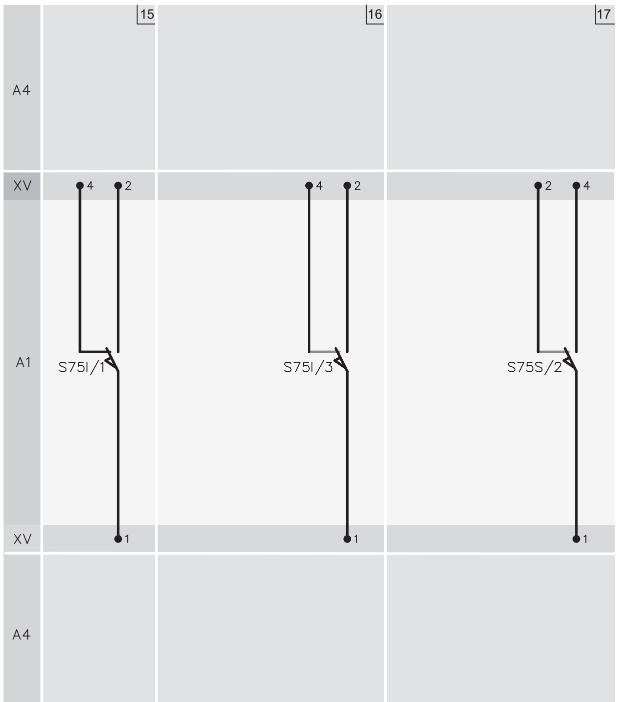


Note: performance of the contact:
125V AC - 6A
125V DC - 0,3A
220V AC - 5A
220V DC - 0,25A

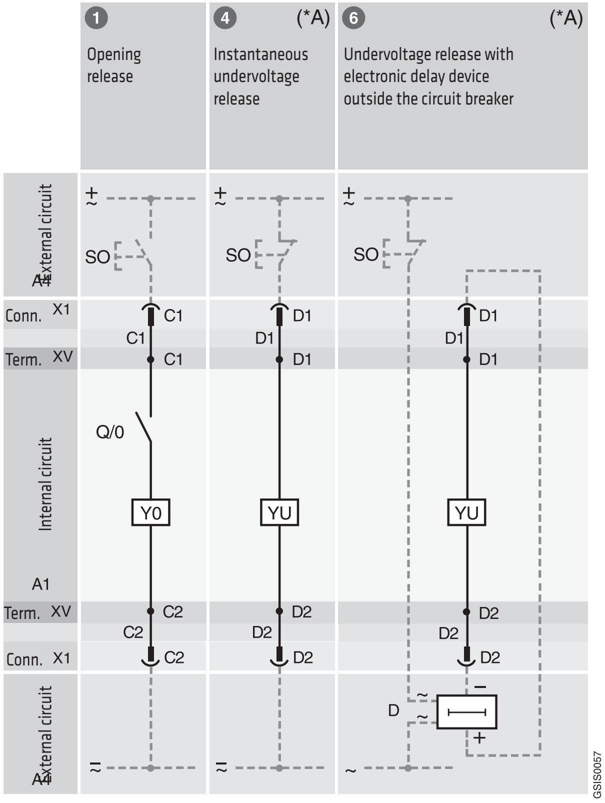
Auxiliary contacts



Position contacts



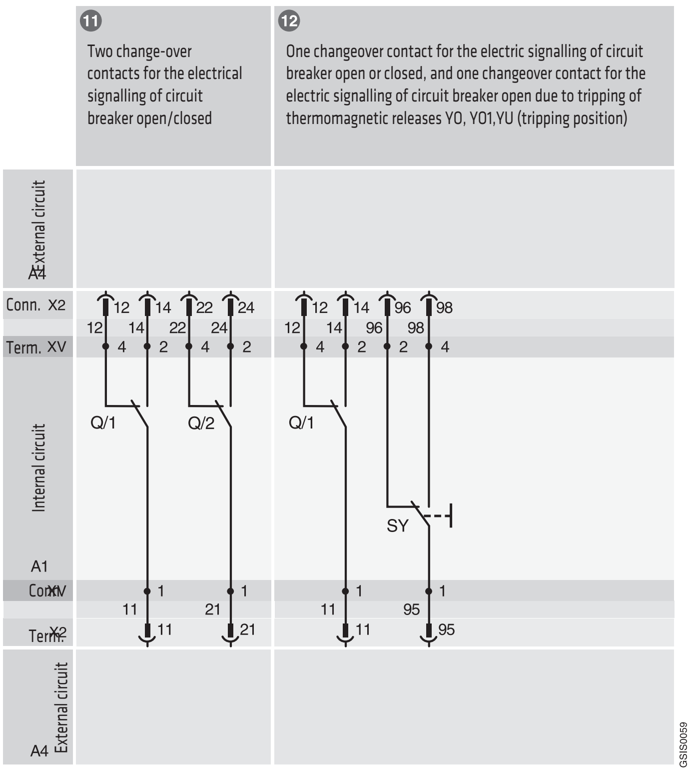
Wiring diagrams (MTSE 1600)



Incompatibility
It is not possible to simultaneously provide on a single circuit breaker the circuits indicated with the following figures:
1-4-6

Notes
(*A) The undervoltage release is supplied for upstream of the circuit breaker or by an independent power supply: the circuit breaker can be closed only when the release is energised (the closing lock is implemented mechanically).

Wiring diagrams - auxiliary contacts



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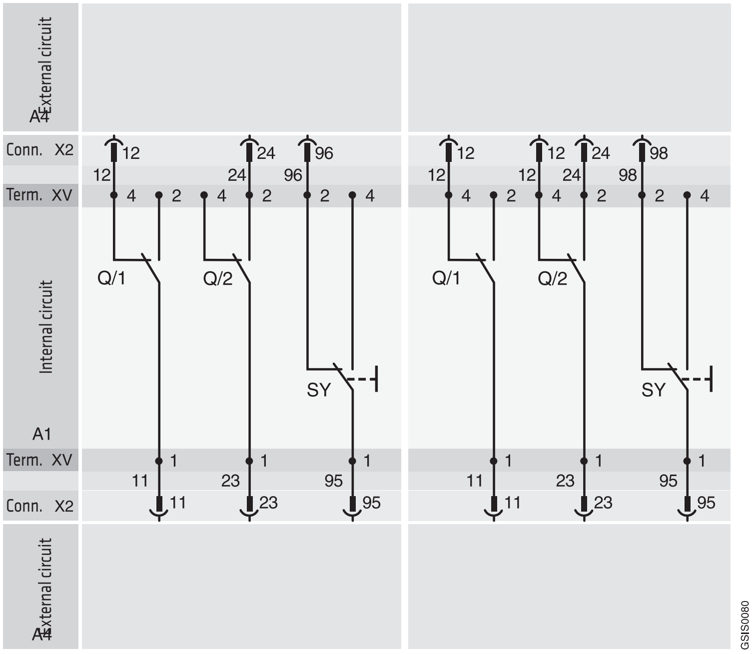
Wiring diagrams - auxiliary contacts

13 14

One contact for the electric signalling of circuit breaker open, one contact for the electric signalling of circuit breaker closed, and one contact for the electric signalling of circuit breaker not open due to tripping of thermomagnetic releases YO, YO1, YU (non-tripping/tripping position), to be used for example for the consent indicated in fig. 8

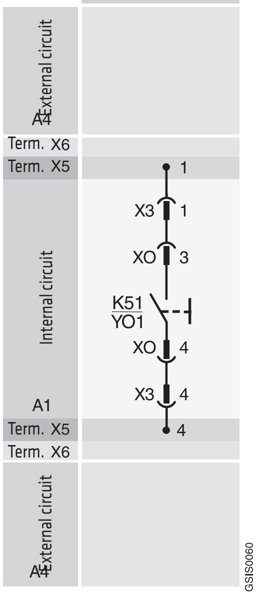


Incompatibility
It is not possible to simultaneously provide on a single circuit breaker the circuits indicated with the following figures:
11-12-13-14

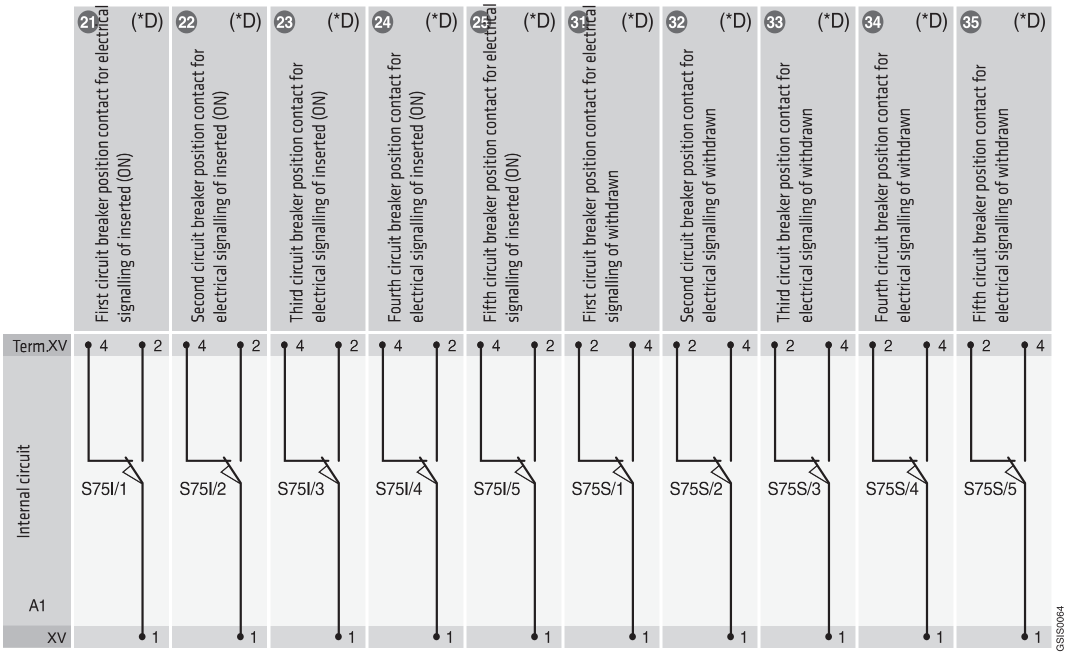
Notes
(*C) The electrical signalling contact for microprocessor overcurrent release, shown in fig. 41, has the following electrical characteristics:
- rated voltage = 125V AC 30V DC
- breaking capacity (resistive load) = 3 W/VA
- maximum interrupted current = 0.5 A.

41 (*C)

Contact for the signalling of release YO1 tripped



Wiring diagrams - position contacts



Incompatibility

The circuits indicated in the following figures cannot be supplied simultaneously on the same circuit breaker:

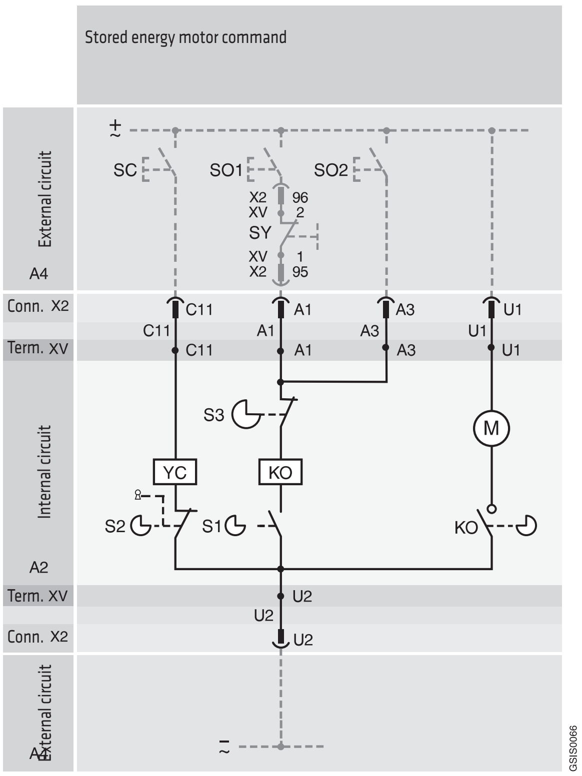
20-21-23

22-32	23-33
24-34	25-35

Notes

(*D) The circuit breaker can be equipped with position contacts S75I and S75S in any combination, with an overall maximum of 5 contacts.

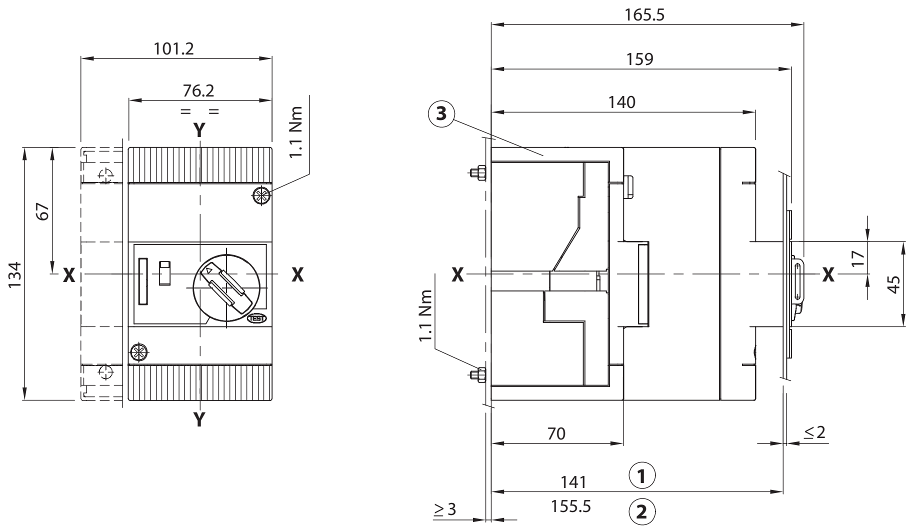
Wiring diagrams - motor commands



Dimension tables for circuit breakers with accessories and versions

Accessories for moulded-case circuit breakers up to MTX 250 - Fixed version

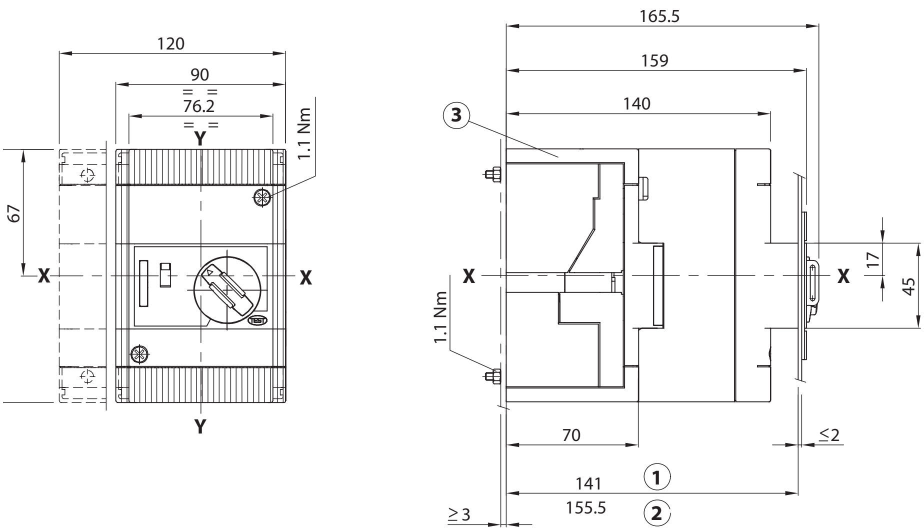
FRONT MOTOR COMMAND - MTX/M 160c



Key

1. Depth of the board when using circuit breaker with protruding nose
2. Depth of the board when circuit breaker nose is flush with the door
3. Terminal covers with IP40 degree of protection

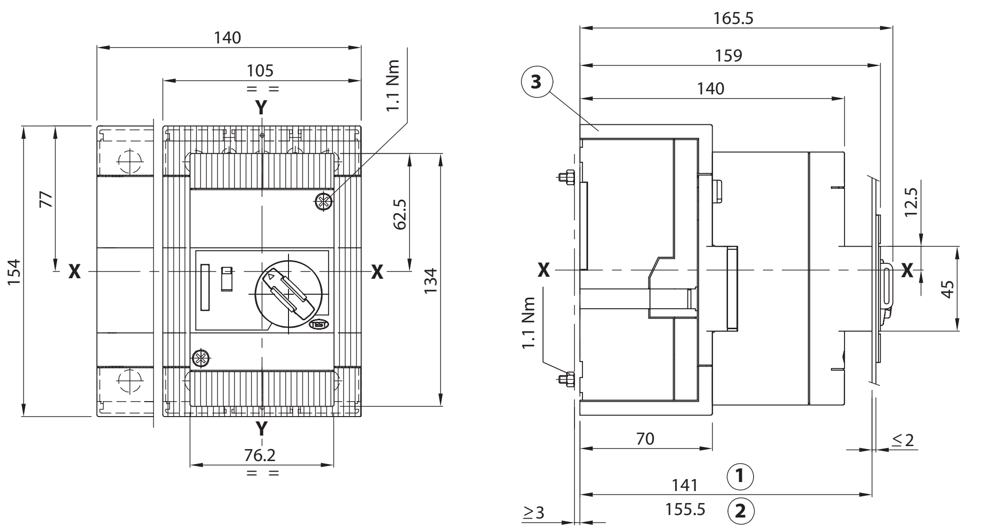
FRONT MOTOR COMMAND - MTX/E 160



Key

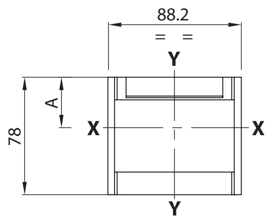
1. Depth of the board when using circuit breaker with protruding nose
2. Depth of the board when circuit breaker nose is flush with the door
3. Terminal covers with IP40 degree of protection

FRONT MOTOR COMMAND - MTX/M 250

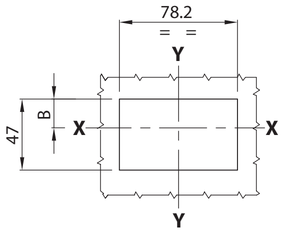


Key
1 Depth of the board when using circuit breaker with protruding nose
2 Depth of the board when circuit breaker nose is flush with the door
3 Terminal covers with IP40 degree of protection

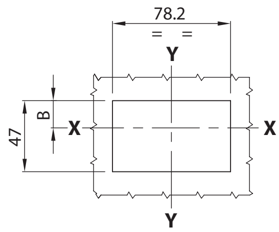
PLATE FOR THE CELL DOOR



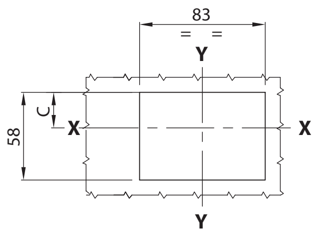
PERFORATION TEMPLATES FOR THE CELL DOOR



Without plate.
Circuit breaker nose protruding.



Without plate.
Circuit breaker nose flush with door.



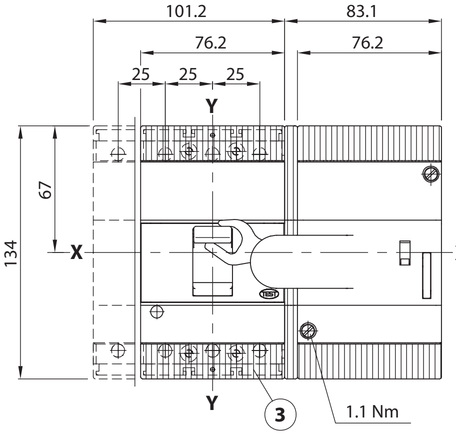
With plate.
Circuit breaker nose flush with door.

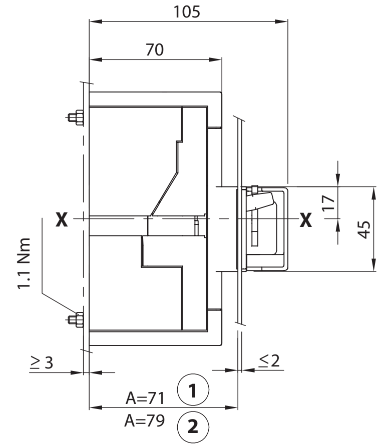
	A mm	B mm	C mm
MTX/M 160c	33.5	18	23.5
MTX/E 160	33.5	18	2.5
MTX/M 250	29	13.5	19

GEWISS

MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

COMBINED MOTOR COMMAND - MTX/M 160c

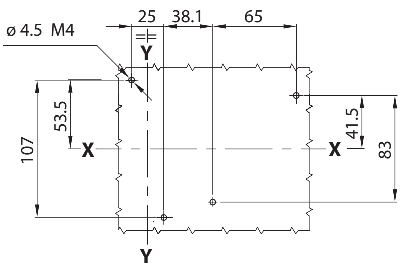




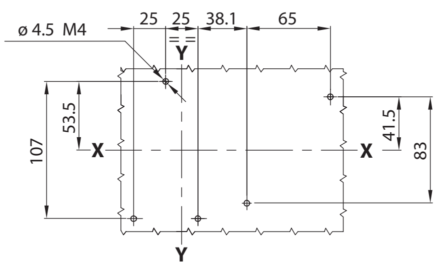
Key
1 Circuit breaker nose protruding
2 Circuit breaker nose flush with door
3 Low terminal covers with IP40 degree of protection

PERFORATION TEMPLATES FOR FIXING SHEET METAL AND THE CELL DOOR

Sheet metal fixing

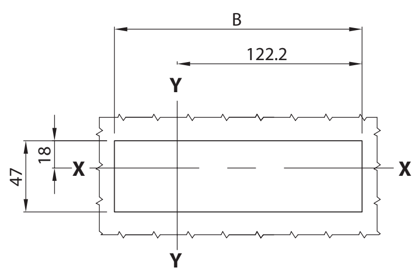


3 POLES



4 POLES

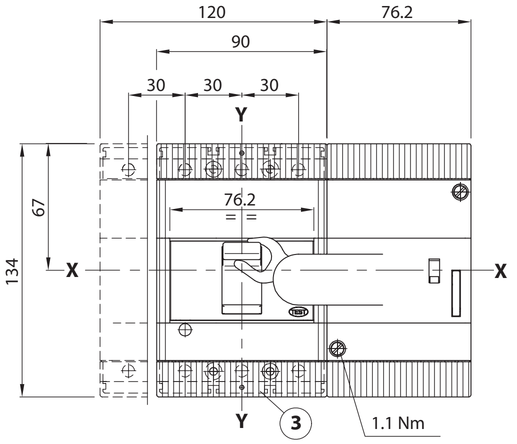
Cell door

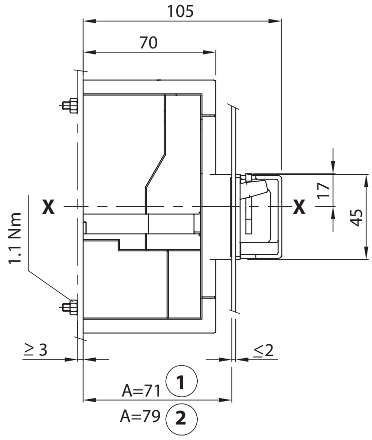


	A mm	B mm
3P	79	161.3
	71	161.3
4P	79	161.3
	71	186.3

MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

COMBINED MOTOR COMMAND - MTX/E 160



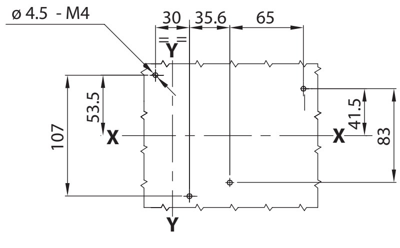


	A mm	B mm
3P	79	161.3
	71	161.3
4P	79	161.3
	71	198.2

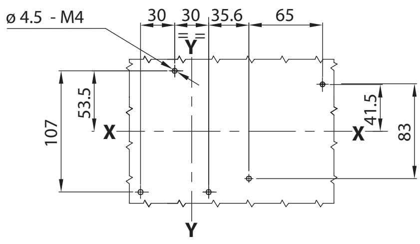
Key
1 Circuit breaker nose protruding
2 Circuit breaker nose flush with door
3 Low terminal covers with IP40 degree of protection

PERFORATION TEMPLATES FOR FIXING SHEET METAL AND THE CELL DOOR

Sheet metal fixing

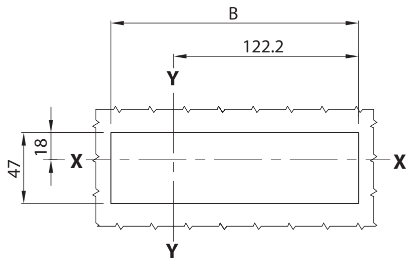


3 POLES



4 POLES

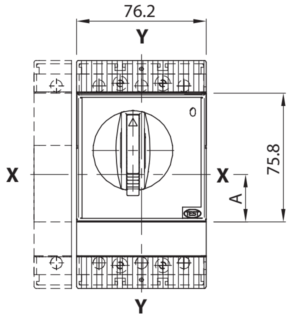
Cell door

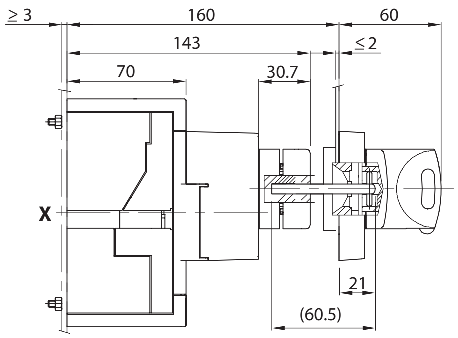


	A mm	B mm
3P	79	161.3
	71	161.3
4P	79	161.3
	71	198.2

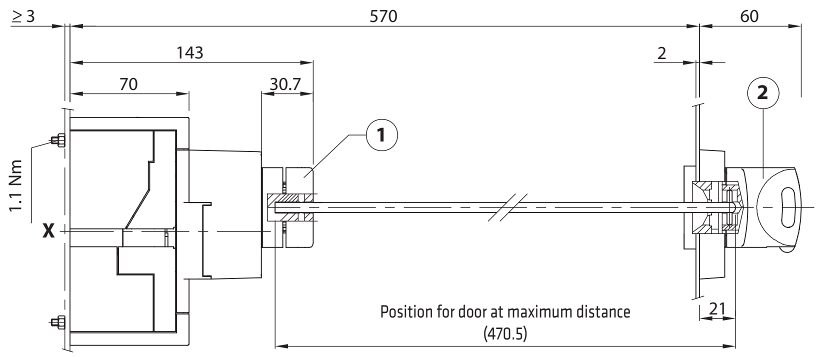
MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

ROTARY HANDLE COMMAND ON THE CELL DOOR





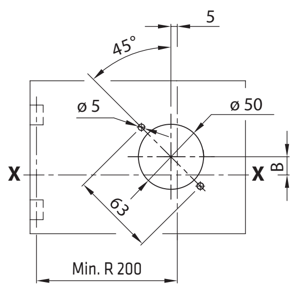
Position for door at minimum distance



Key
1 Transmission assembly
2 Rotary handle command on the cell door

	A mm	B mm
MTX/M 160c **MTX/E 160**	28	14
MTX/M 250	32.5	9.5

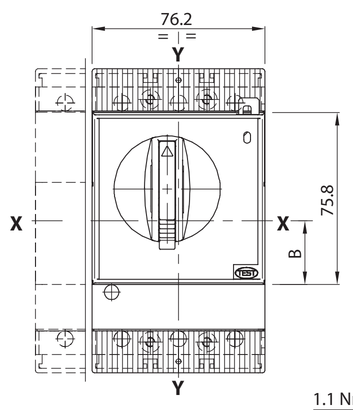
PERFORATION TEMPLATES FOR THE CELL DOOR

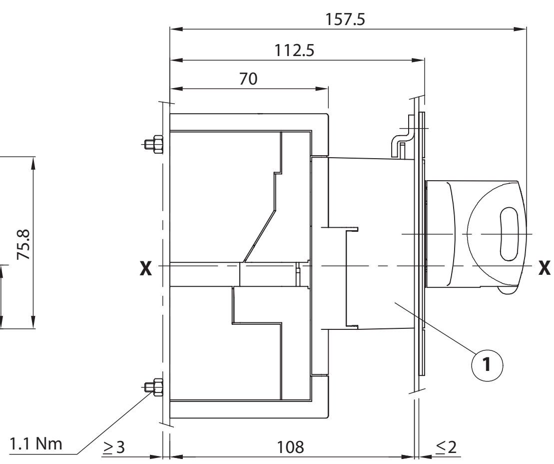


Key
Min. R = minimum radius of rotation for the door pivot

	A mm	B mm
T1-T2	28	14
T3	32.5	9.5

ROTARY HANDLE COMMAND ON THE CIRCUIT BREAKER





Key
1 Rotary handle command on the cell door

	A mm	B mm	C mm	D mm
MTX/M 160c **MTX/E 160**	67.7	28	53.2	60.5
MTX/M 250	63.2	32.5	48.7	56

For technical information contact the Technical Assistance Service or visit gewiss.com

MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

PERFORATION TEMPLATES FOR THE CELL DOOR

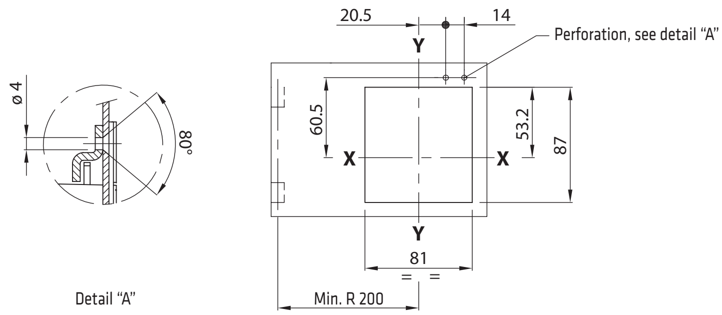
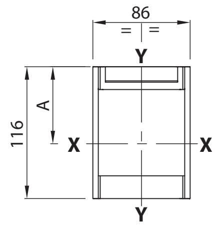
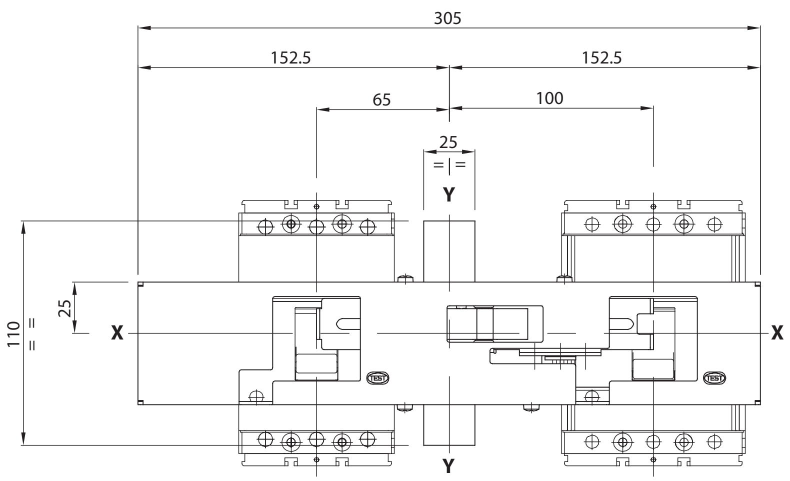
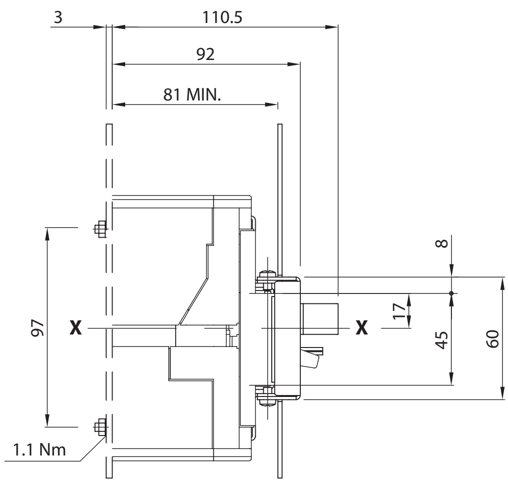


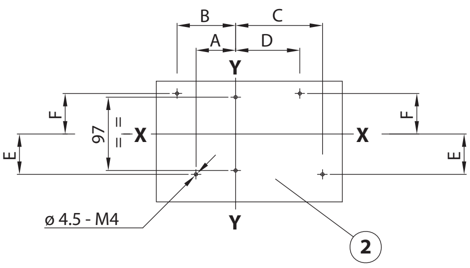
PLATE FOR THE CELL DOOR

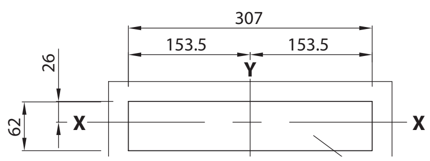


MECHANICAL INTERLOCK BETWEEN TWO CIRCUIT BREAKERS









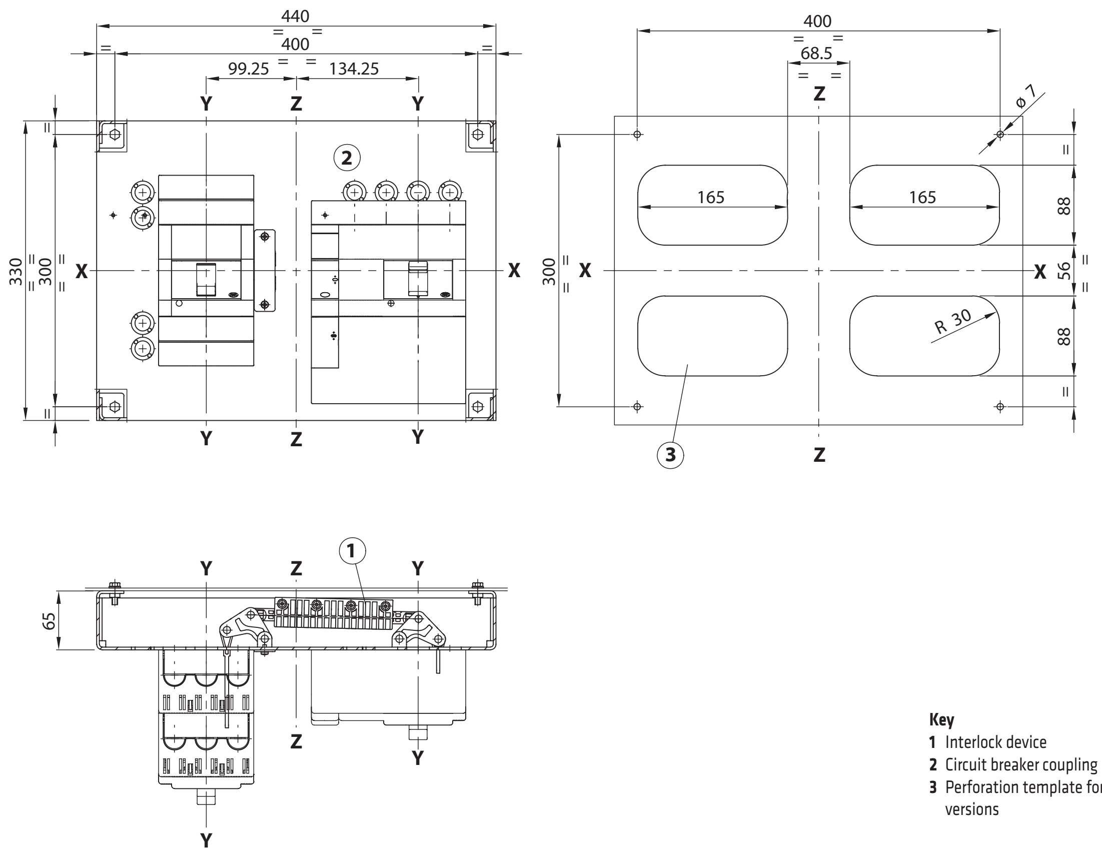
Key
1 Perforation template for the cell door
2 Perforation template for sheet metal support

	A mm	B mm	C mm	D mm	E mm	F mm
MTX/M 160c	52.5	77.5	112.5	87.5	53.5	53.5
MTX/E 160	50	80	115	85	53.5	53.5
MTX/M 250	47.5	82.5	117.5	82.5	56.5	65.5

For technical information contact the Technical Assistance Service or visit gewiss.com

MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

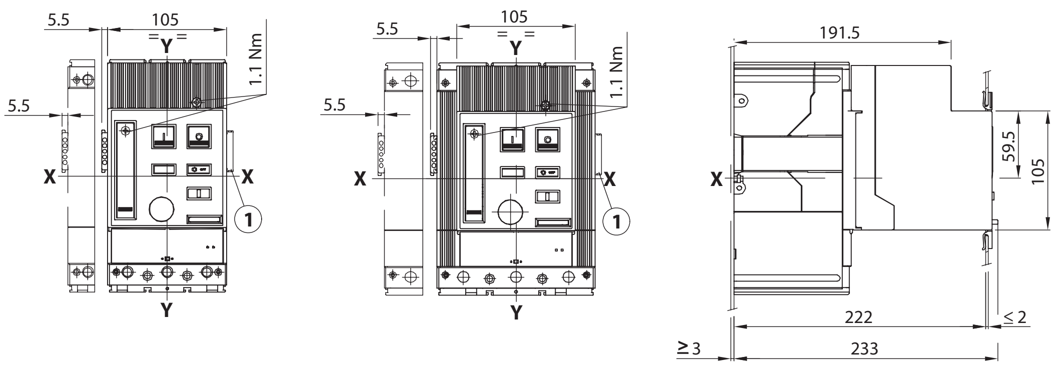
HORIZONTAL REAR MECHANICAL INTERLOCK MTX/M 250



Key
1 Interlock device
2 Circuit breaker coupling plate
3 Perforation template for all terminal versions

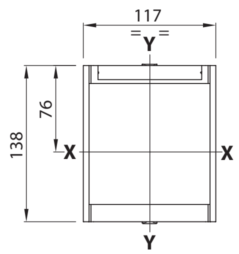
Accessories for moulded-case circuit breakers up to MTX/E/M 320 - MTXM 400 - MTX/E/M 630 - Fixed version

MOTOR COMMAND - MTX/E/M 320 - MTX3 400 - MTX/E/M 630

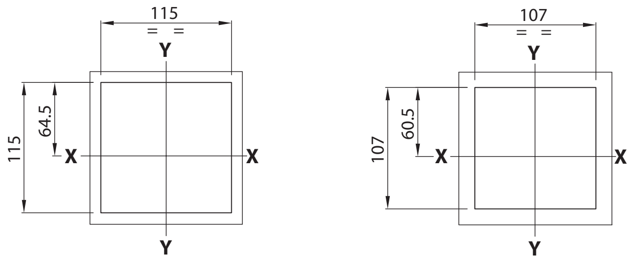


Key
1 Overall dimensions with auxiliary contacts assembled 3Q+1SY

PLATE FOR THE CELL DOOR



PERFORATION TEMPLATES FOR THE CELL DOOR



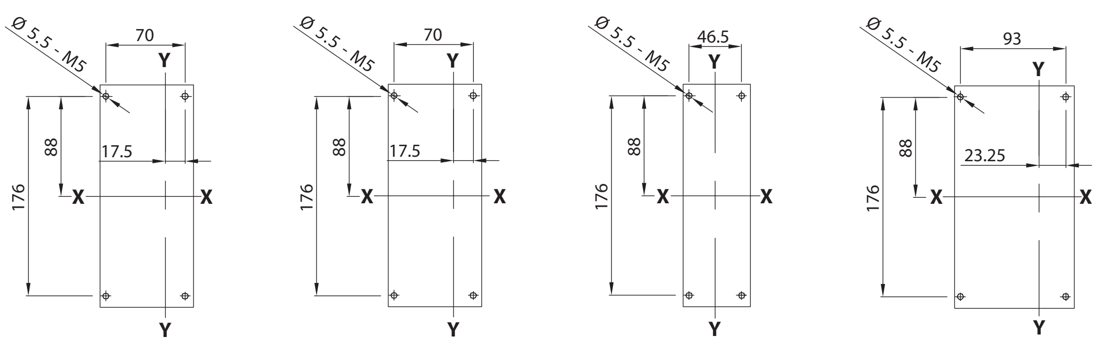
With plate

Without plate

PERFORATION TEMPLATES FOR SUPPORT SHEET METAL

MTX/E/M 320

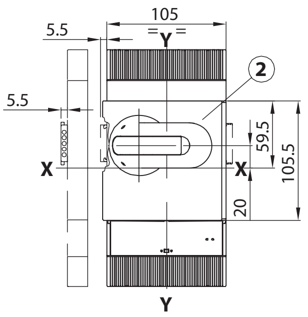
MTXM 400 - MTX/E/M 630

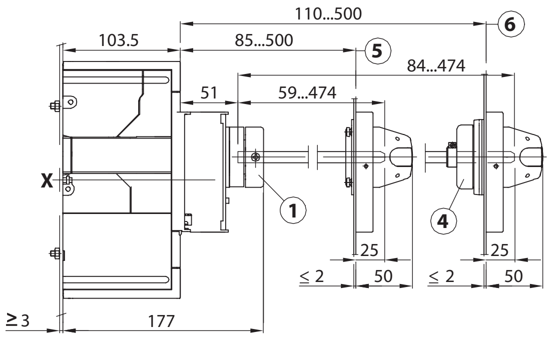


3 POLES **4 POLES** **3 POLES** **4 POLES**

For technical information contact the Technical Assistance Service or visit gewiss.com

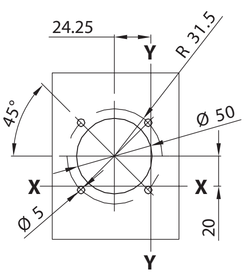
ROTARY HANDLE COMMAND ON THE CELL DOOR

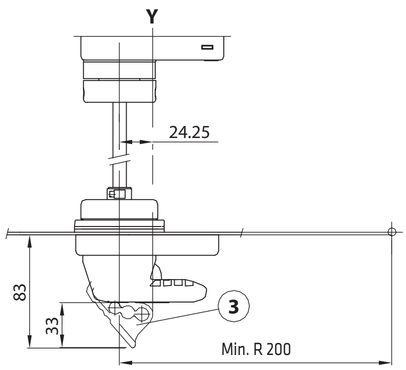




Key
1 Transmission assembly
2 Rotary handle assembly with door lock device
3 Padlock-operated locking device in open position (max 3 padlocks, not supplied)
4 Accessory for IP54 degree of protection (upon request)
5 Min...max distance from the front of the door, without accessory (4)
6 Min...max distance from the front of the door, with accessory (4)

PERFORATION TEMPLATES FOR THE CELL DOOR

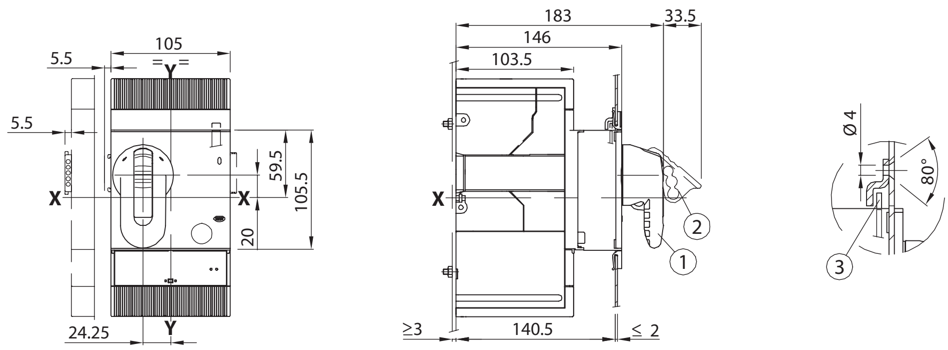




Key
Min. R 200 = minimum radius of rotation for the door pivot

MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

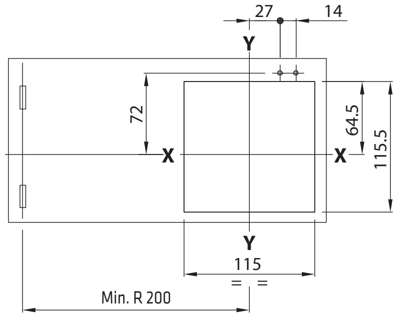
ROTARY HANDLE COMMAND ON THE CIRCUIT BREAKER



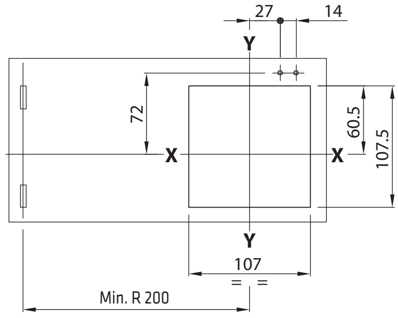
Key
1 Rotary handle command on the circuit breaker
2 Padlock-operated locking device in open position (max 3 padlocks, not supplied)
3 Block for the cell door

PERFORATION TEMPLATES FOR THE CELL DOOR

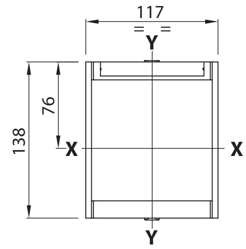
PLATE FOR THE CELL DOOR



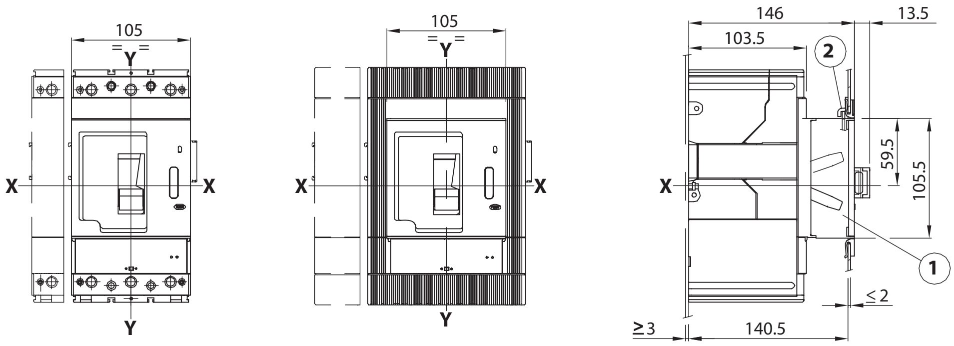
With plate



Without plate

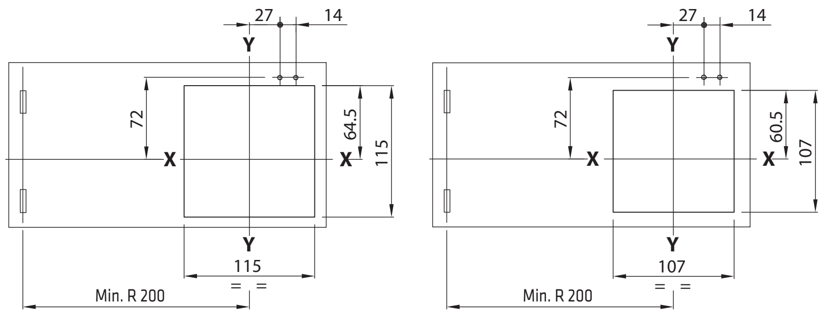


FRONT FOR LEVER COMMAND - MTX/E/M 320 - MTXM 400 - MTX/E/M 630



Key
1 Front for lever command
2 Block for the cell door (available upon request)

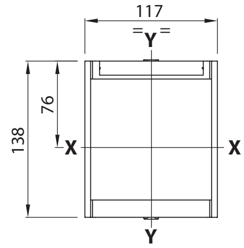
PERFORATION TEMPLATES FOR THE CELL DOOR



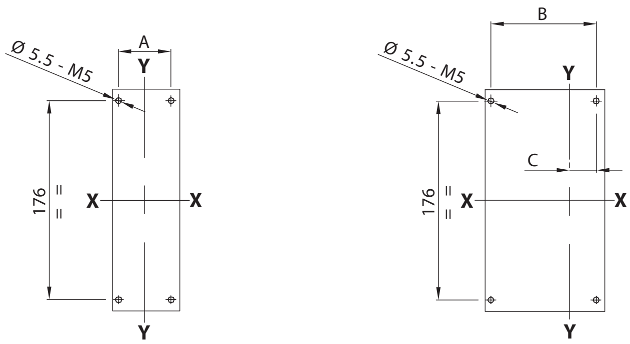
With plate

Without plate

PLATE FOR THE CELL DOOR



PERFORATION TEMPLATES FOR SUPPORT SHEET METAL



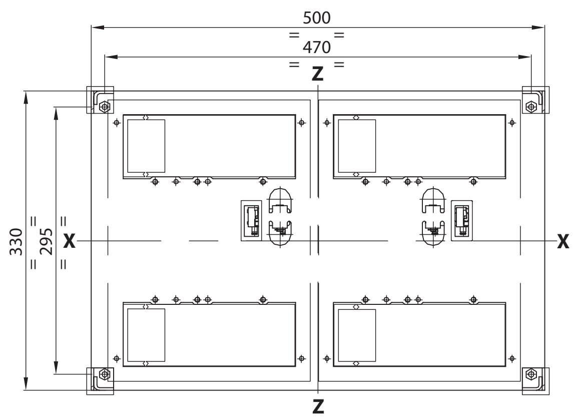
3 POLES

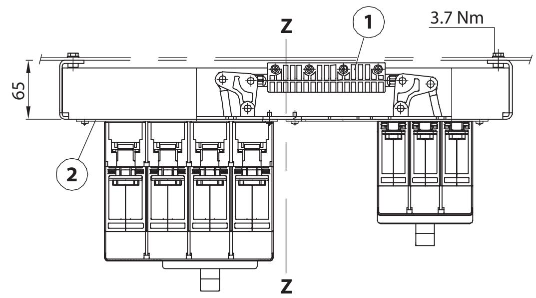
4 POLES

	A mm	B mm	C mm
MTX/E/M 320	50	80	115
MTXM 400 - MTX/E/M 630	47.5	82.5	117.5

MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

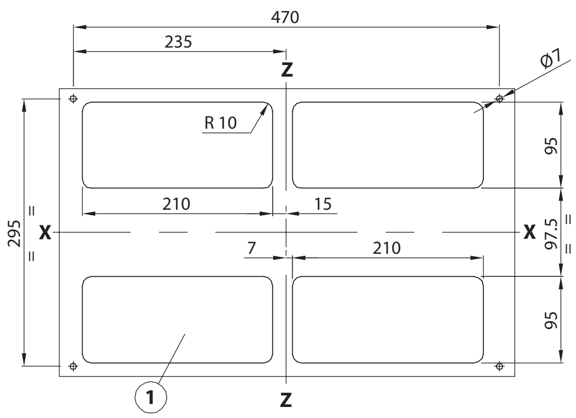
INTERLOCK BETWEEN TWO SIDE-BY-SIDE CIRCUIT BREAKERS





Key
1 Interlock device
2 Circuit breaker coupling plate

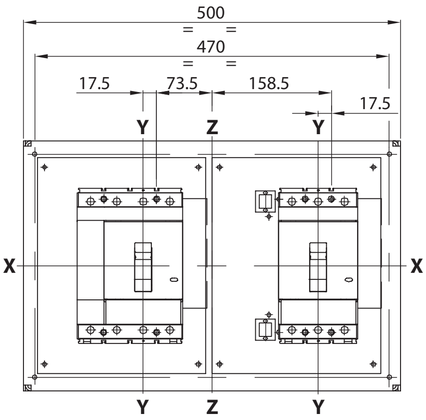
PERFORATION TEMPLATES FOR FIXING THE CIRCUIT BREAKER ON THE SHEET METAL



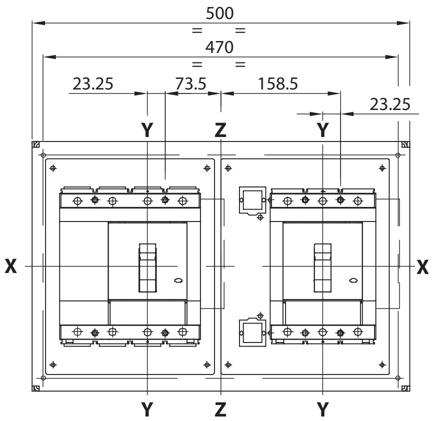
Key
1 Perforation templates for all versions with rear terminals

MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

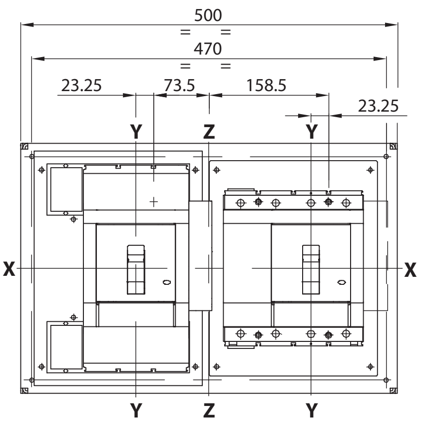
VERSIONS WITH INTERLOCK BETWEEN TWO SIDE-BY-SIDE CIRCUIT BREAKERS



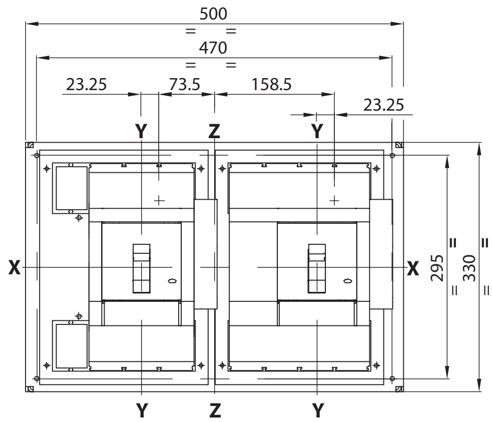
GW D8 231



GW D8 234



GW D8 235



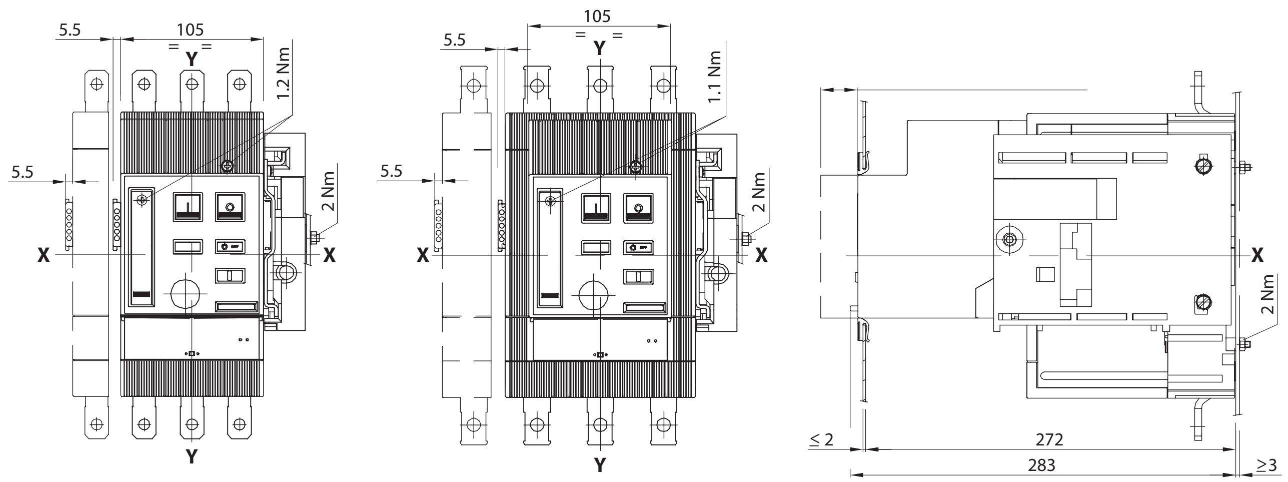
GW D8 236

Code	Interlockable circuit breakers		
GW D8 231	1 MTX/E/M 320	+	1 MTX/E/M 320
GW D8 234	1 MTX/E/M 630 (400A) F-P-W, or 1 MTX/E/M 630 (630A) F	+	1 MTX/E/M 630 (400A) F-P-W, or 1 MTX/E/M 630 (630A) F
GW D8 235	1 MTX/E/M 630 (400A) F-P-W, or 1 MTX/E/M 630 (630A) F	+	1 MTX/E/M 630 (630A) P-W
GW D8 236	1 MTX/E/M 630 (630A) P-W	+	1 MTX/E/M 630 (630A) P-W

For technical information contact the Technical Assistance Service or visit gewiss.com

Accessories for moulded-case circuit breakers up to MTX/E/M 320 - MTXM 400 - MTX/E/M 630 - Withdrawable version

MOTOR COMMAND - MTX/E/M 320 - MTXM 400 - MTX/E/M 630 (400A)



MOTOR COMMAND - MTX/E/M 630 (630A)

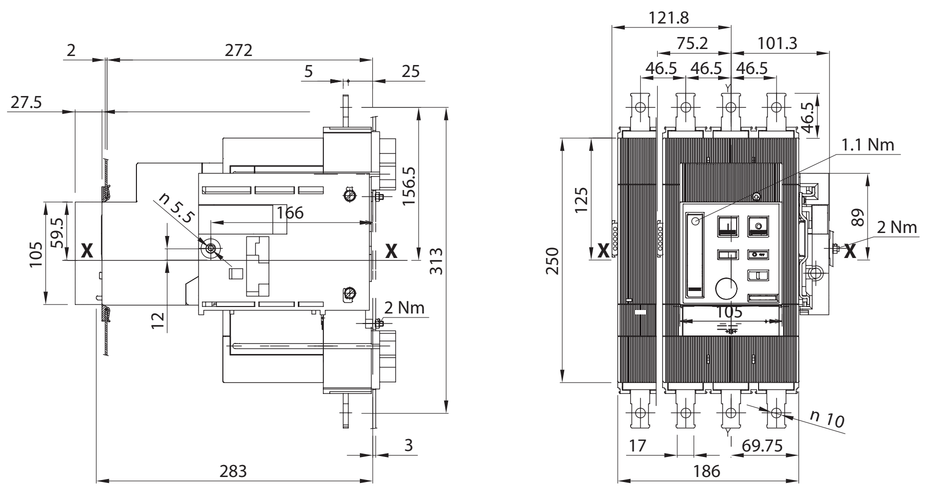
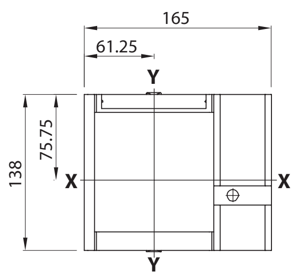
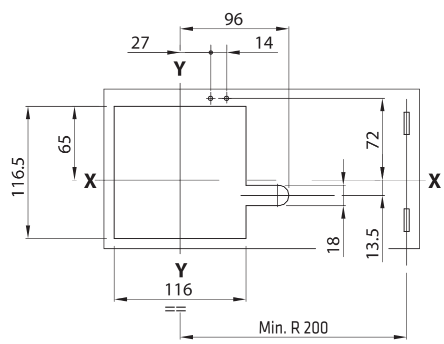


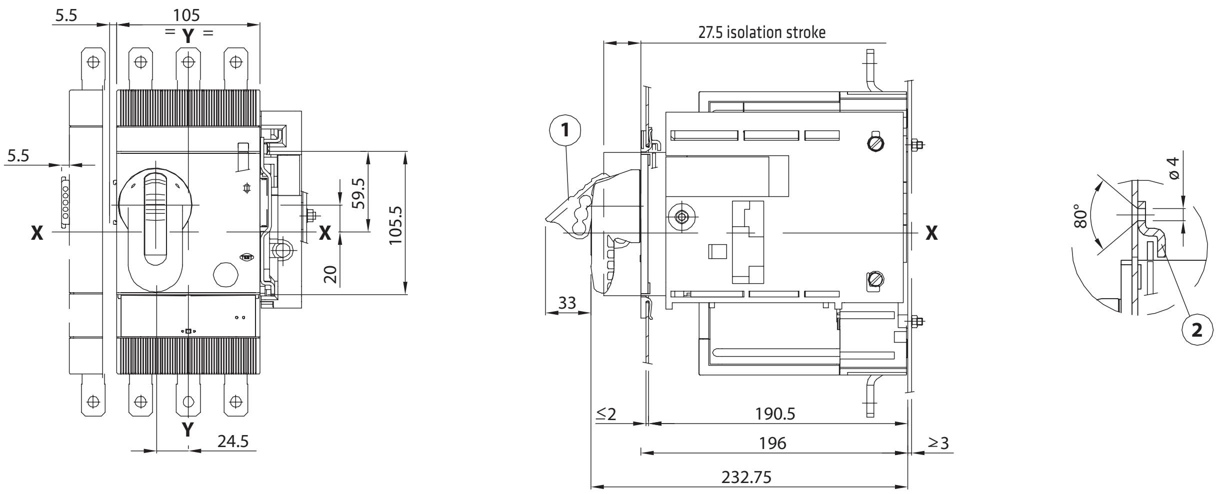
PLATE FOR THE CELL DOOR



PERFORATION TEMPLATES FOR CELL DOOR

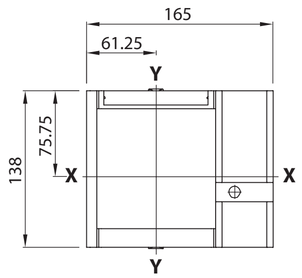


ROTARY HANDLE COMMAND ON THE CIRCUIT BREAKER

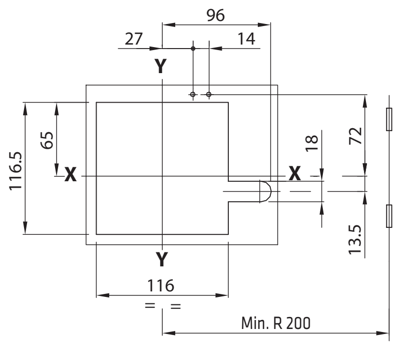


Key
1 Padlock-operated locking device in open position (max 3 padlocks, not supplied)
2 Block for the cell door

PLATE FOR THE CELL DOOR

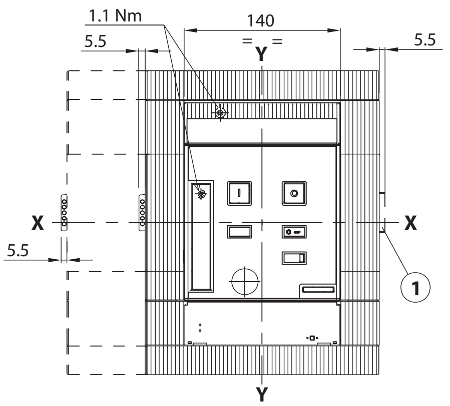


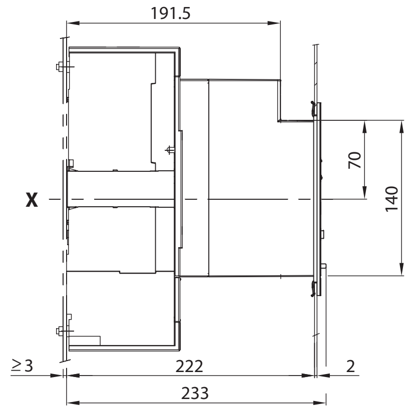
PERFORATION TEMPLATES FOR THE CELL DOOR



Accessories for moulded-case circuit breakers MTXM 800 - MTX/E/M 1000 - Fixed version

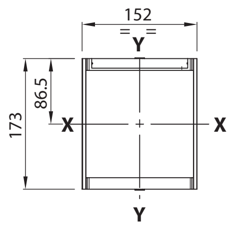
MOTOR COMMAND



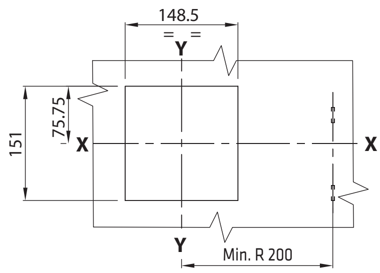


Key
1 Overall dimensions with auxiliary contacts assembled 3Q+1SY

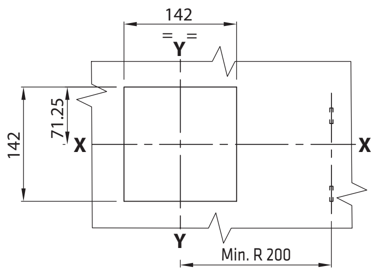
PLATE FOR THE CELL DOOR



PERFORATION TEMPLATES FOR CELL DOOR

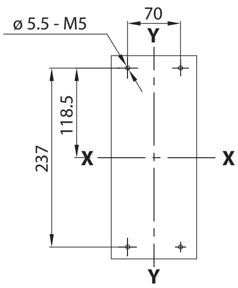


With plate

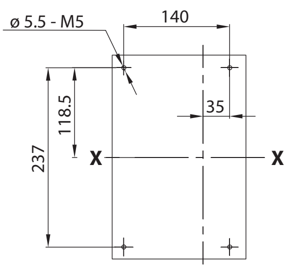


Without plate

PERFORATION TEMPLATES FOR SUPPORT SHEET METAL



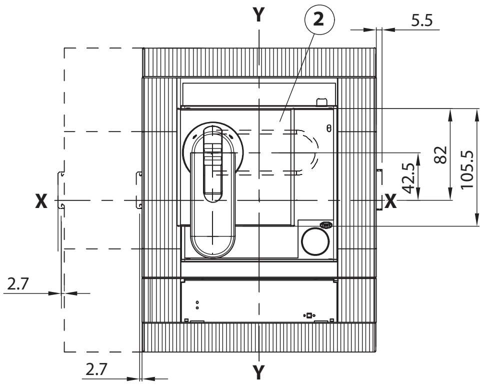
3 POLES

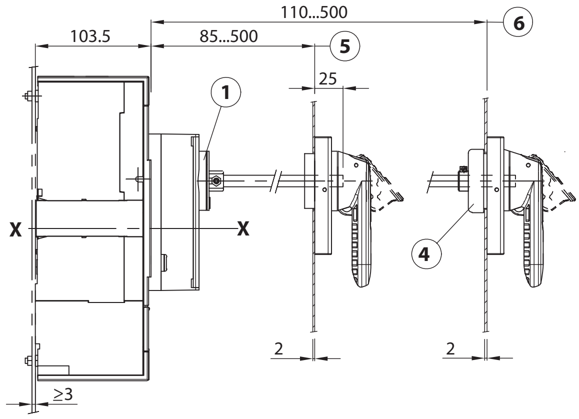


4 POLES

For technical information contact the Technical Assistance Service or visit gewiss.com

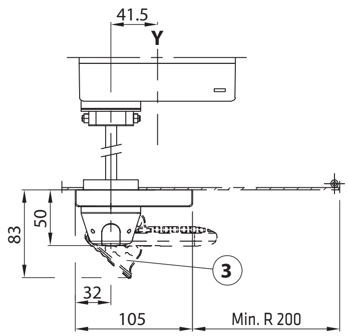
ROTARY HANDLE COMMAND ON THE CELL DOOR

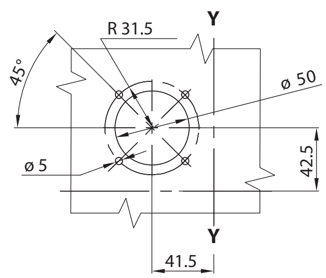




Key
- **1** Transmission assembly
- **2** Handle assembly with door lock device
- **3** Padlock-operated locking device for open position only (max 3 padlocks, not supplied)
- **4** Accessories for IP54 degree of protection
- **5** Min...max distance from the front of the door, without accessory (4)
- **6** Min...max distance from the front of the door, with accessory (4)

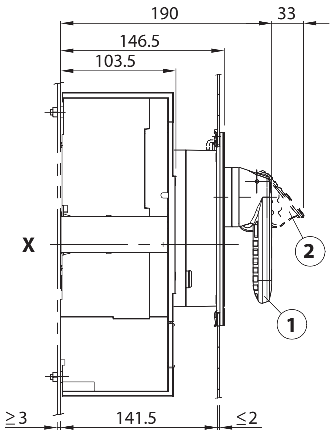
PERFORATION TEMPLATES FOR THE CELL DOOR

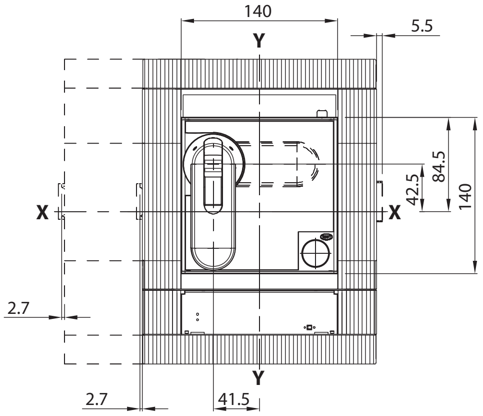


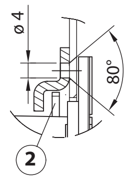


Key
Min. R 200 = minimum radius of rotation for the door pivot

ROTARY HANDLE COMMAND ON THE CIRCUIT BREAKER

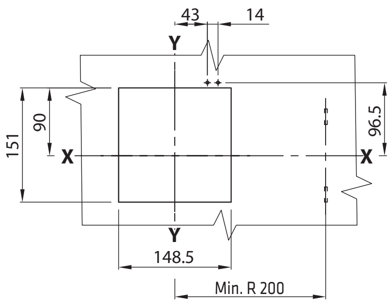




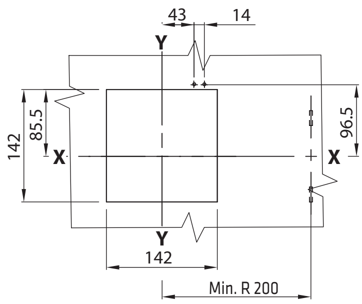


Key
1 Rotary handle command on the circuit breaker
2 Padlock-operated device for open position only (max 3 padlocks, not supplied)

PERFORATION TEMPLATES FOR CELL DOOR

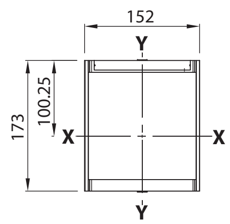


With plate

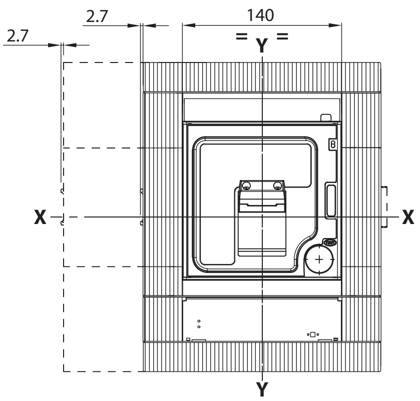


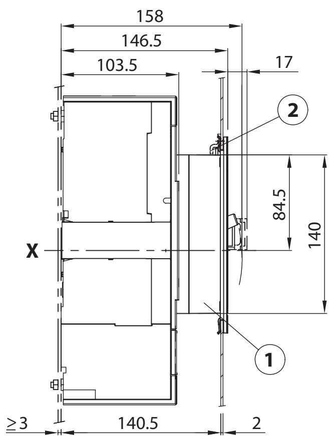
Without plate

PLATE FOR THE CELL DOOR



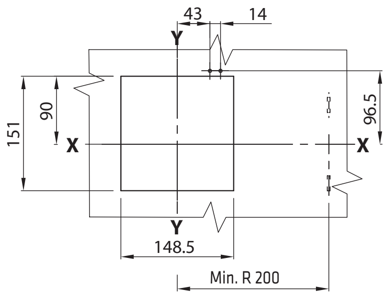
FRONT FOR LEVER COMMAND



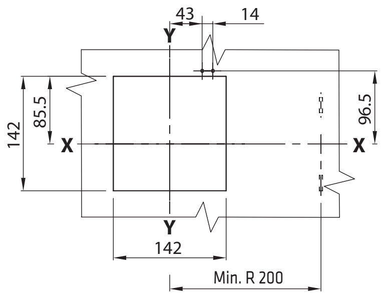


Key
1 Front for lever command
2 Block for the cell door

PERFORATION TEMPLATES FOR CELL DOOR

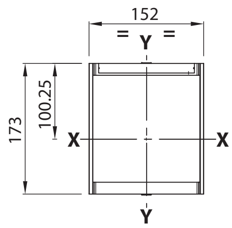


With plate

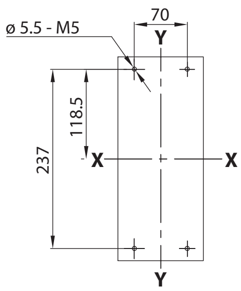


Without plate

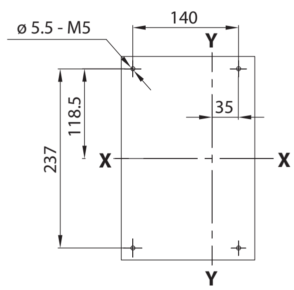
PLATE FOR THE CELL DOOR



PERFORATION TEMPLATES FOR SUPPORT SHEET METAL

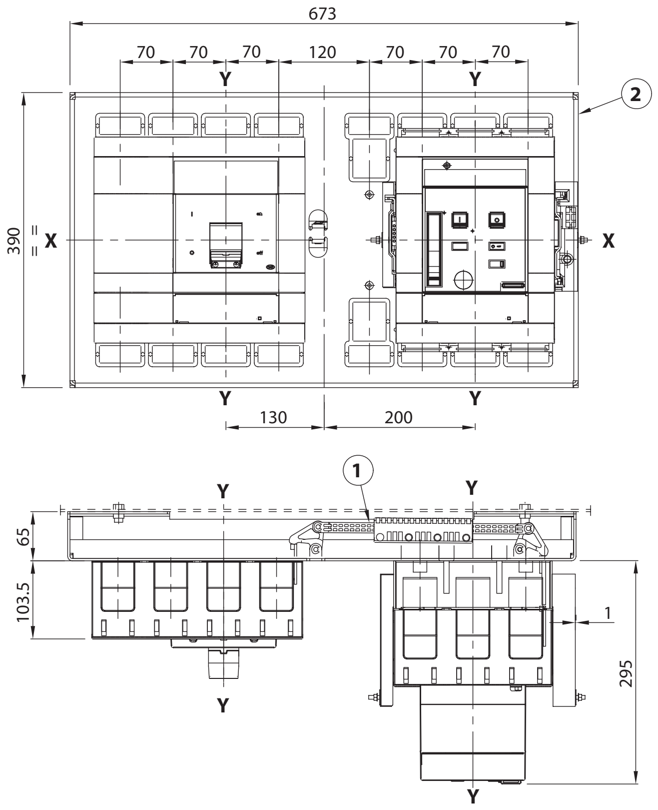


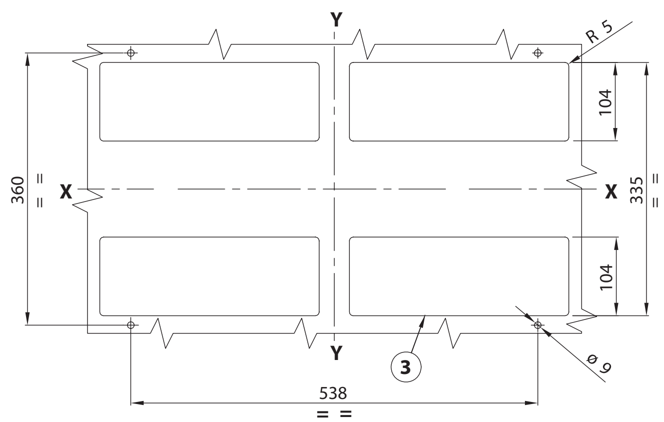
3 POLES



4 POLES

MECHANICAL INTERLOCK (dimensions also valid for withdrawable version)





Key

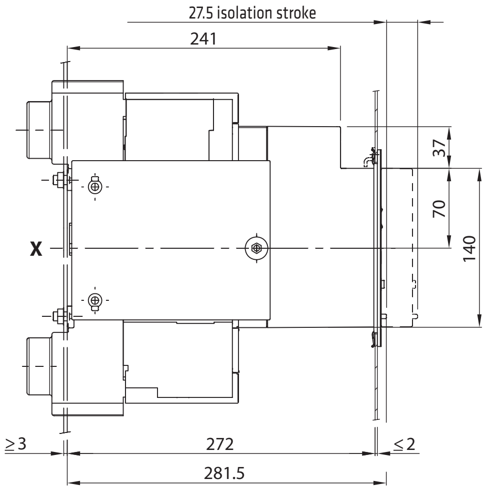
1 Interlock mechanism

2 Circuit breaker coupling plate

3 Perforation templates for any type of terminal

Accessories for moulded-case circuit breakers MTXM 800 - MTX/E/M 1000 - Withdrawable version

MOTOR COMMAND



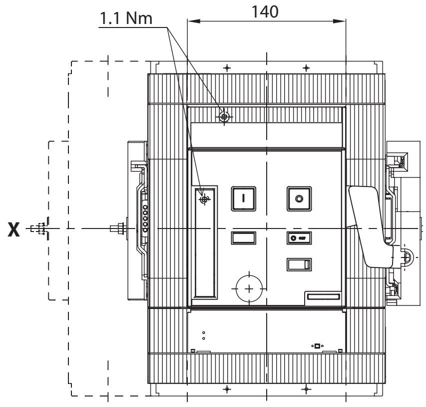
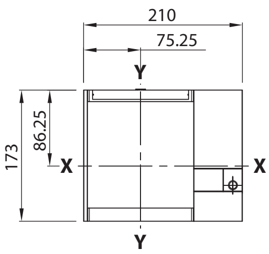
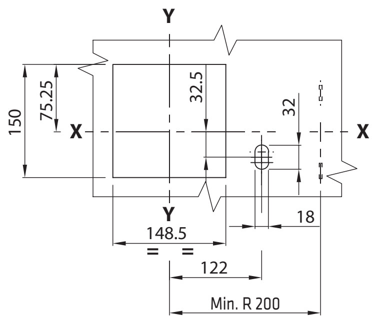


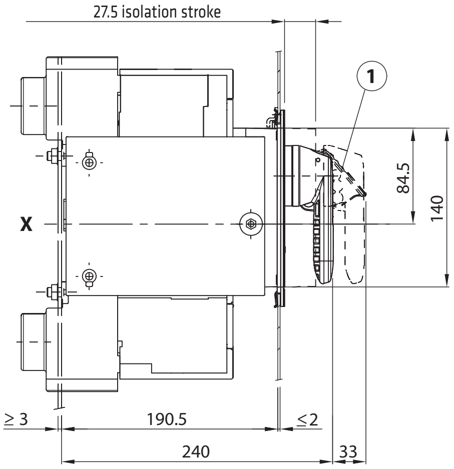
PLATE FOR THE CELL DOOR

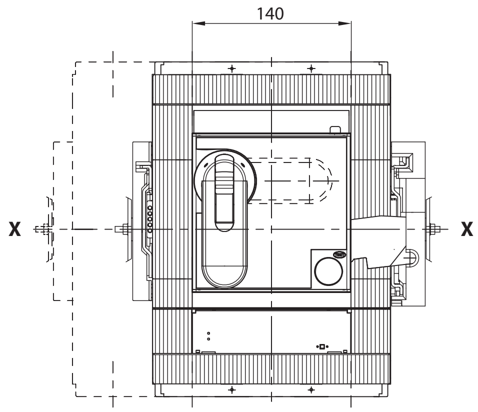


PERFORATION TEMPLATES FOR CELL DOOR



ROTARY HANDLE COMMAND ON THE CIRCUIT BREAKER



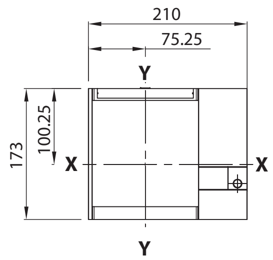


Key

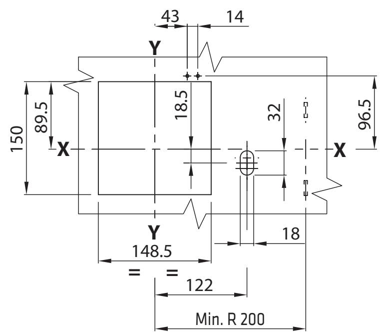
1 Padlock-operated device for open position only (max 3 padlocks, not supplied)

2 Block for the cell door

PLATE FOR THE CELL DOOR

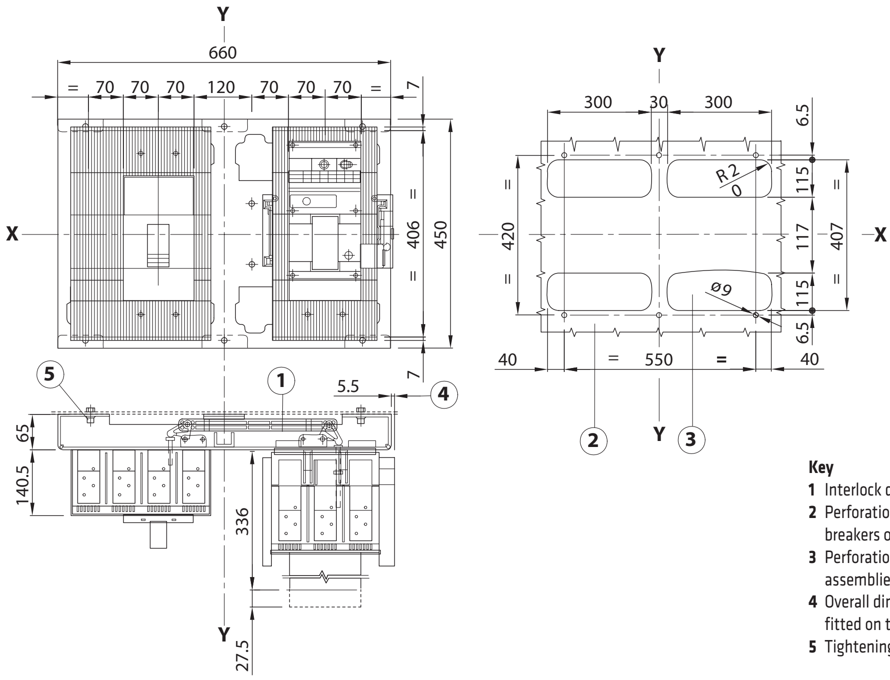


PERFORATION TEMPLATES FOR CELL DOOR



Accessories for moulded-case circuit breakers MTSE/M 1600 - Fixed and withdrawable version

INTERLOCK BETWEEN TWO SIDE-BY-SIDE CIRCUIT BREAKERS

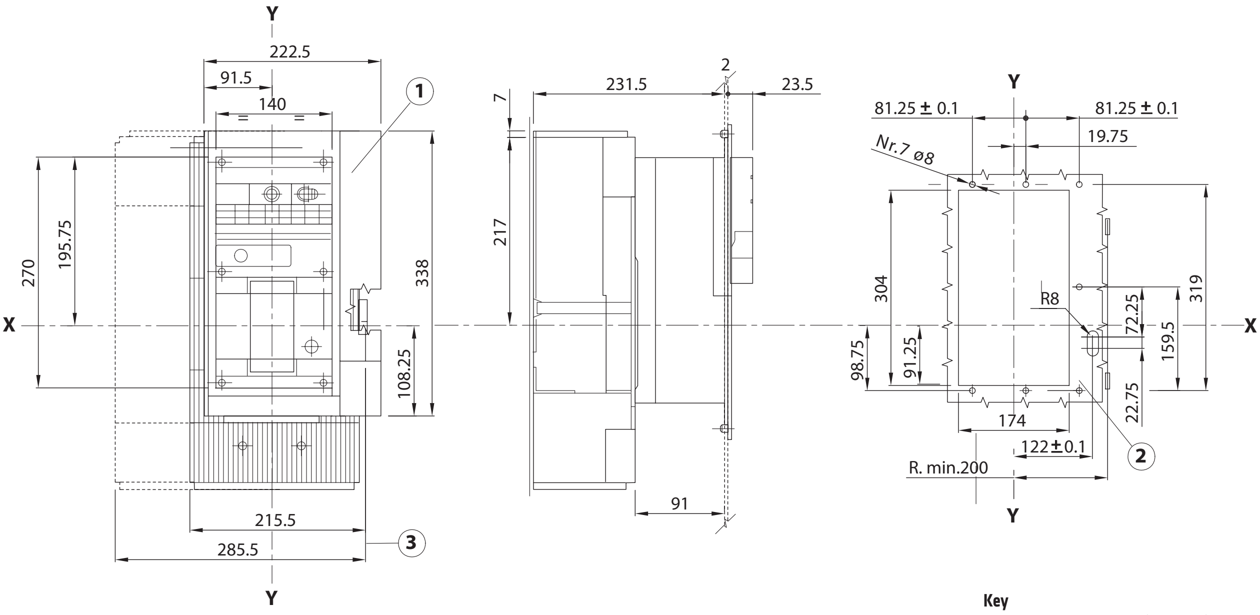


Key

1 Interlock device
2 Perforation template for fixing the circuit breakers on the sheet metal
3 Perforation template for all assemblies with rear terminals
4 Overall dimensions with withdrawable version fitted on the right
5 Tightening torque 9 Nm

Note For the overall dimensions of the circuit breaker, refer to the various assemblies

MOTOR COMMAND FOR FIXED CIRCUIT BREAKER



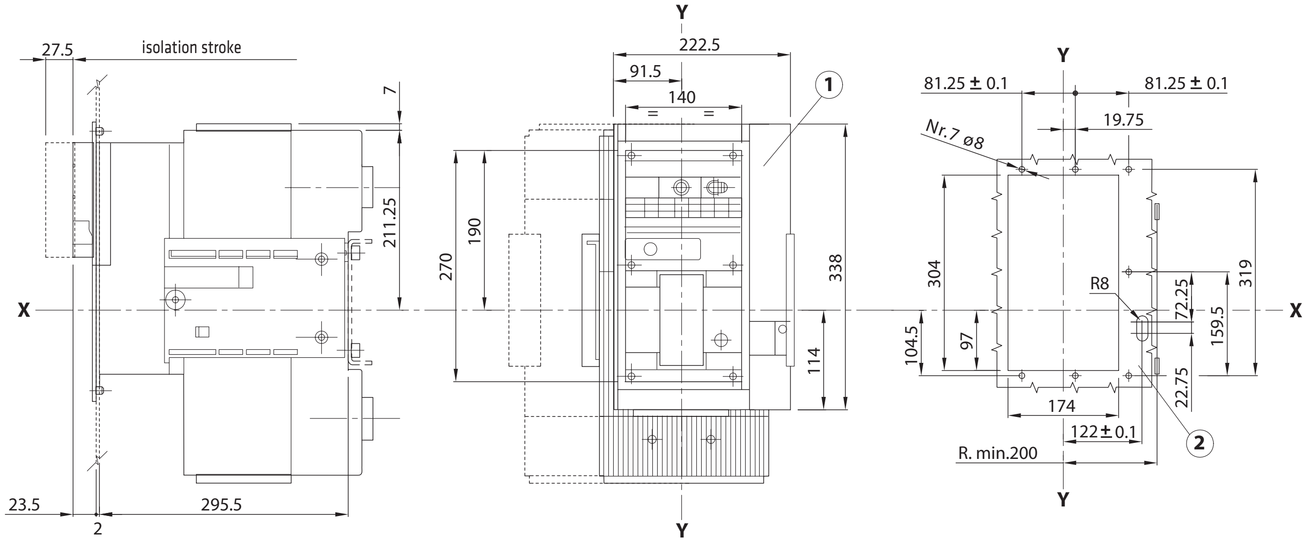
Key

1 Plate for the cell door (included)
2 Perforation template for the cell door
3 Overall dimensions with connectors

Note for the circuit breaker fixing holes, refer to the various assemblies

MOULDED CASE CIRCUIT BREAKERS FOR POWER DISTRIBUTION

MOTOR COMMAND FOR WITHDRAWABLE CIRCUIT BREAKER

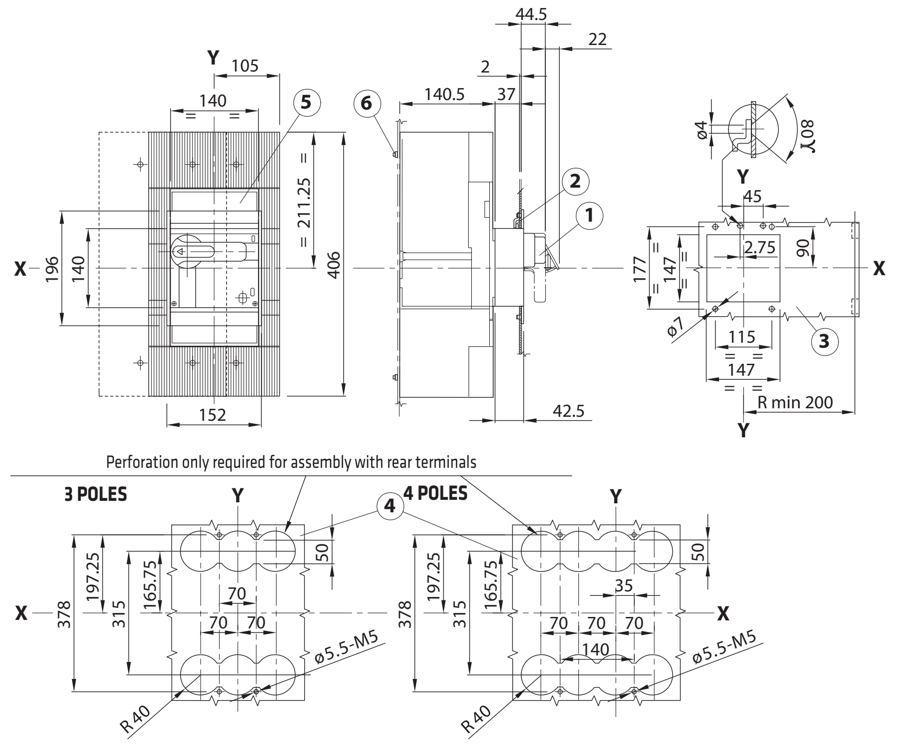


Key
1 Plate for cell door (included)
2 Perforation template for the cell door

Note For the circuit breaker fixing perforations, refer to the various assemblies

Accessories for circuit breakers MTSE/M 1600

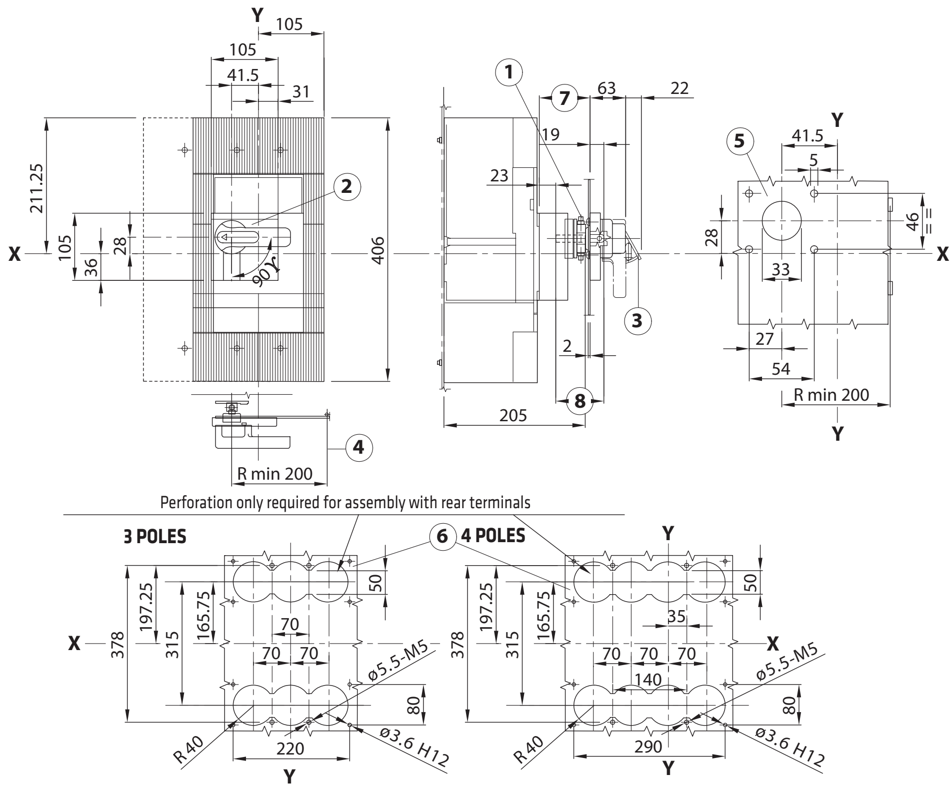
ROTARY HANDLE COMMAND ON FIXED CIRCUIT BREAKER



Key
1 Rotary handle command on the circuit breaker
2 Block for the cell door
3 Perforation of the cell door
4 Perforation template for fixing the circuit breakers on the sheet metal
5 Plate for cell door (included)
6 Tightening torque 2 Nm

Note For the circuit breaker fixing perforations, refer to the various assemblies

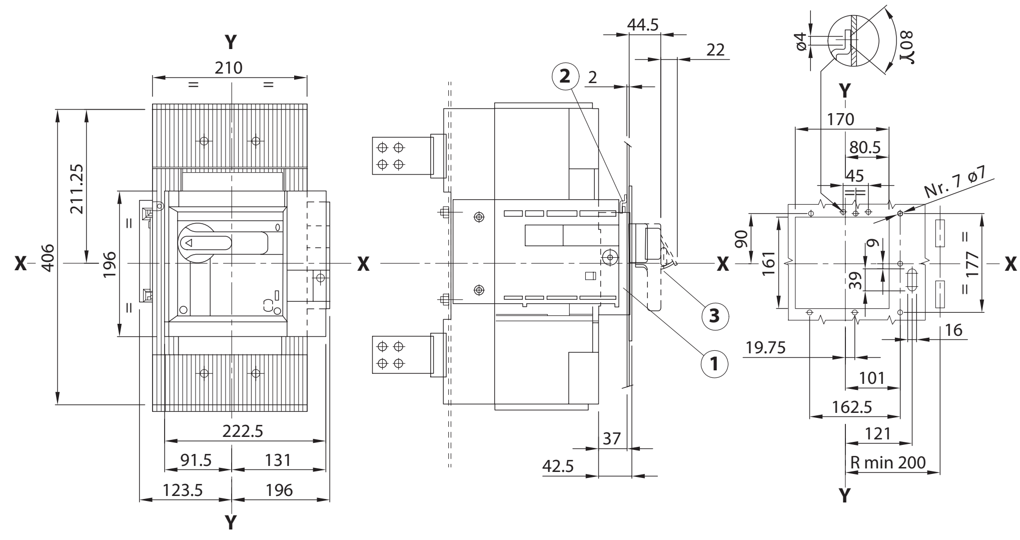
REMOTE ROTARY HANDLE COMMAND, ADJUSTABLE ON THE CELL DOOR, FOR FIXED CIRCUIT BREAKERS



Key
1 Transmission assembly
2 Rotary handle assembly with door lock device
3 Padlock-operated locking device (max 3 padlocks, max ø 6mm, not supplied, for open position only)
4 Minimum radius of rotation for the door pivot
5 Perforation template for the cell door
6 Perforation template for fixing the circuit breakers on the sheet metal
7 72 ... 506mm (with IP54 degree of protection, min 96)
8 Position **7** - 4mm (shaft length)

Note For the circuit breaker fixing holes, refer to the various assemblies

ROTARY HANDLE COMMAND ON WITHDRAWABLE CIRCUIT BREAKER

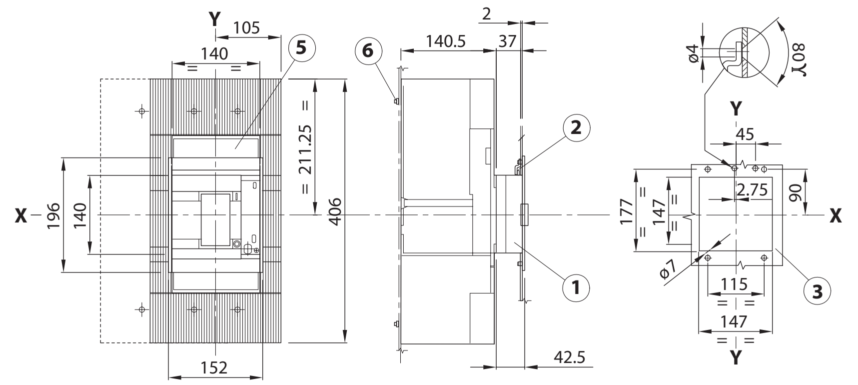


Key

1 Rotary handle command on the circuit breaker
2 Block for the cell door
3 Padlock-operated device for open position (max 3 padlocks, max ø 6mm, not included)

Note For the circuit breaker fixing perforations, refer to the various assemblies

FRONT FOR LEVER COMMAND

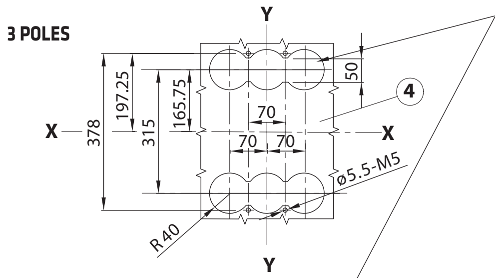


Key

1 Front for lever command
2 Block for the cell door
3 Perforation of the cell door
4 Perforation template for fixing the circuit breakers on the sheet metal
5 Plate for cell door (included)
6 Tightening torque 2 Nm

Note For the circuit breaker fixing perforations, refer to the various assemblies

3 POLES



Perforation only required for assembly with rear terminals

4 POLES