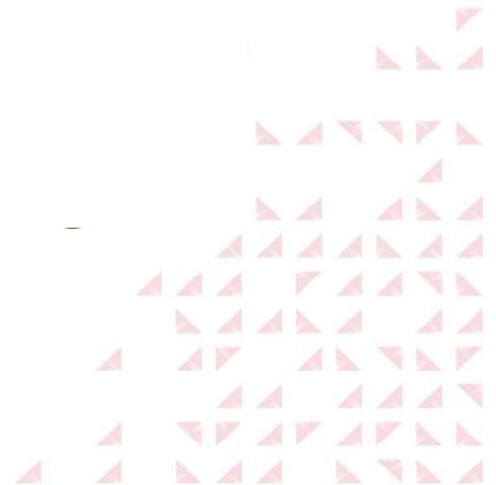
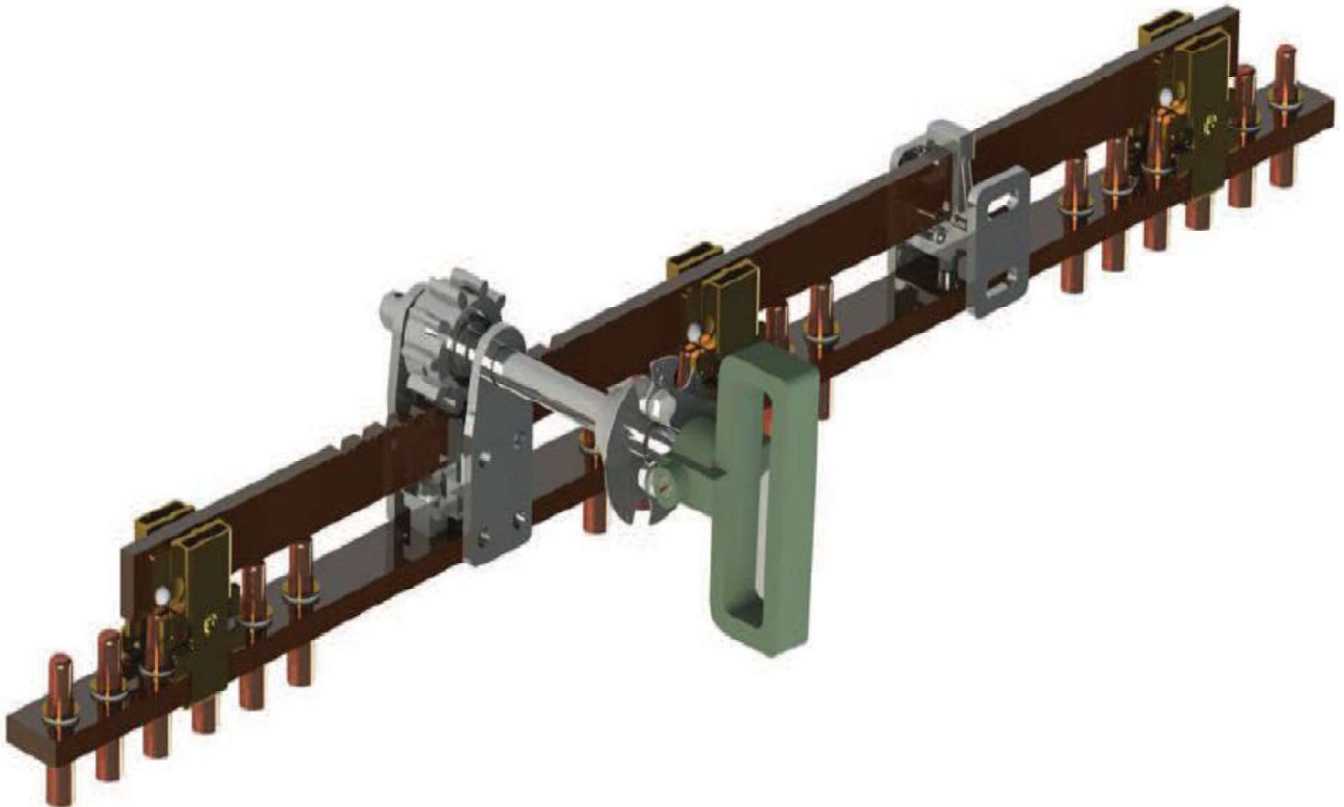


TAP CHANGERS TYPE MHZ



TAP CHANGERS

TYPE MHZ

GENERAL SPECIFICATION

These tap changers are available in one two or three phase applications. Multi layer types are also available. The shaft length is variable. Driving mechanism can be either on the edge or in the middle of the phases. Connection diagrams in page MHZ 2 can be applied in any variation to all types. These tap changers are bolted on to the supports, welded under transformer cover and allow strong construction.

ASSEMBLY

A notch is provided to mark each position. For operation, the notch must be released by applying an axial pull on the control knob. Once the knob is in the desired position it will drop into the respective space by the help of a high tension spring. This process is clearly marked on control knob as;

" LIFT - TURN - SWITCH ON "

This description can be engraved in any language.

MATERIALS

Steel Parts: These parts can be stainless or mild steel. Mild steel parts are cadmium or zinc plated. Upon request galvanizing is also available.

Aluminum Parts : GAISI2Cu

BrassParts : Cu ZN40Pb2 Ms 60 F34 DIN 17 673

Copper Parts : E - Cu F25 DIN 40500

Insulator Parts : Paper phenol - plastic resin based laminates, HP 2061.5 class of DIN 7735.

ON REQUEST

The aluminum parts can be protected by anodic oxidation.

The mild steel parts can be supplied in stainless steel.

The brass and copper parts can be tin, silver or cadmium plated.

CURRENT

CURRENT	CONTACT INNER DIA. (For cable connection)
30 A	ø 3.1 mm.
63 A	ø 5.1 mm.
120 A	ø 8.1 mm.

VOLTAGE CLASS

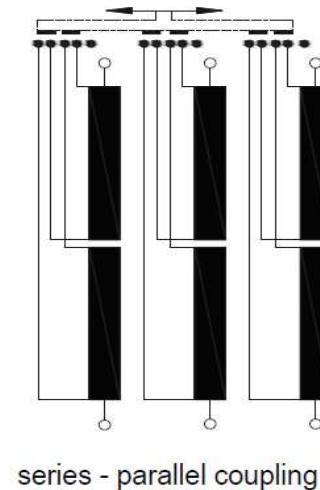
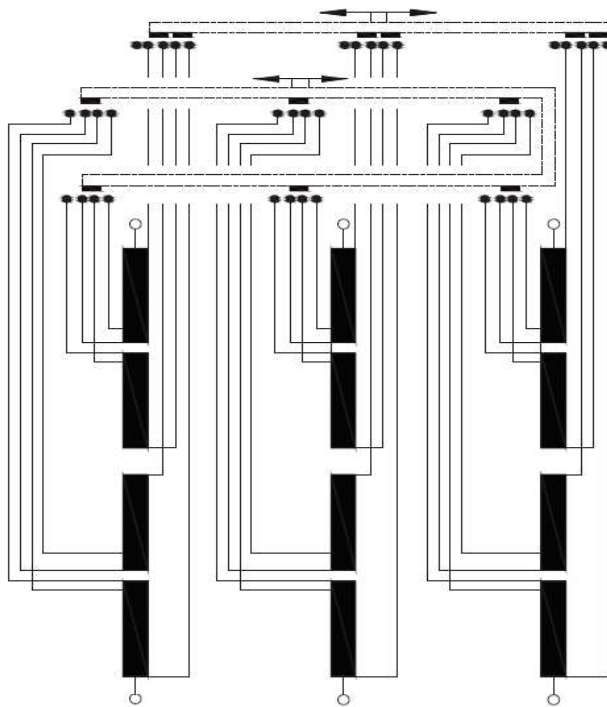
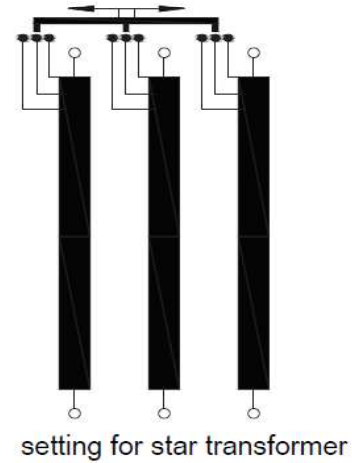
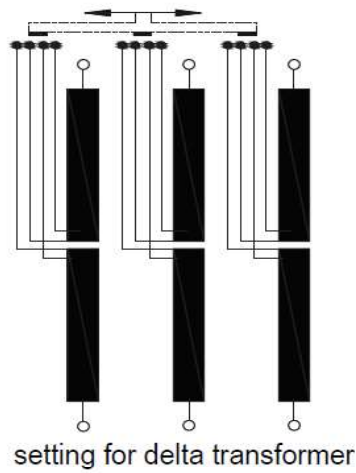
VOLTAGE CLASS	B. I. L.
10 kV	75 kV
15 kV	95 kV
20 kV	125 kV
30 kV	170 kV

Other B. I. L. values are also available upon customer request.



TYPE MHZ THREEPHASE TAP CHANGER

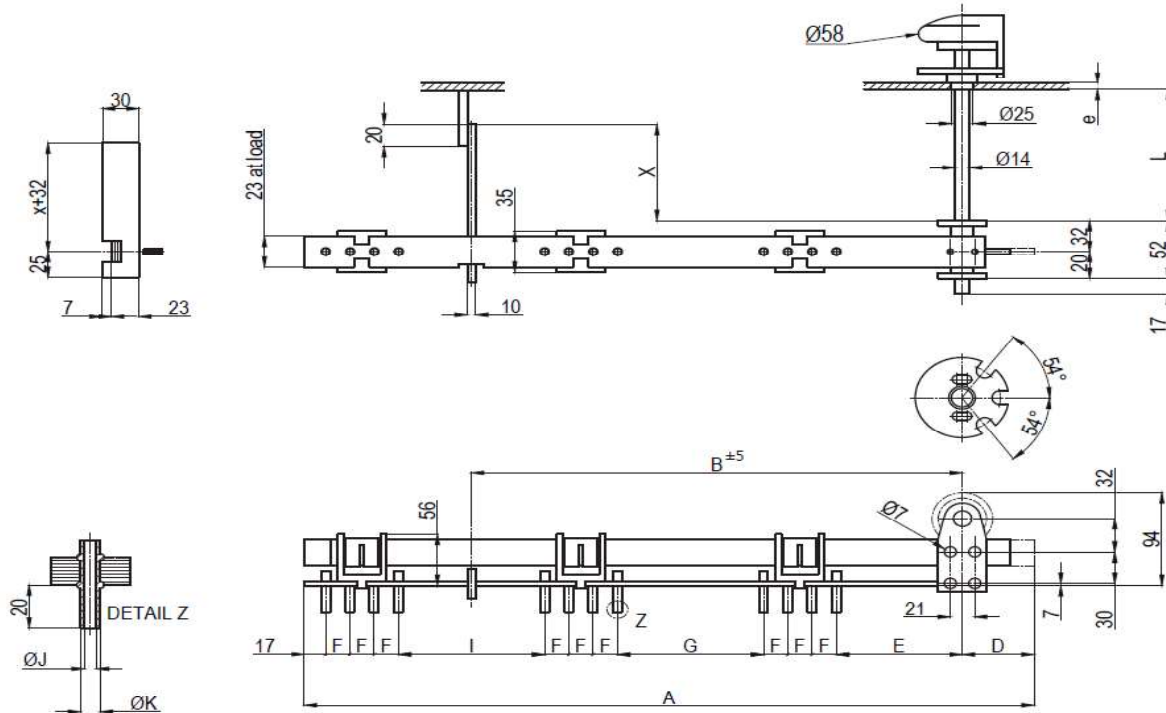
Connection Diagrams



- Typical combination :
- 1 stage, series - parallel coupling
 - 2 stages, delta diagram - setting $\pm 2,5\%$.

TYPE MHZ THREEPHASE TAP CHANGER

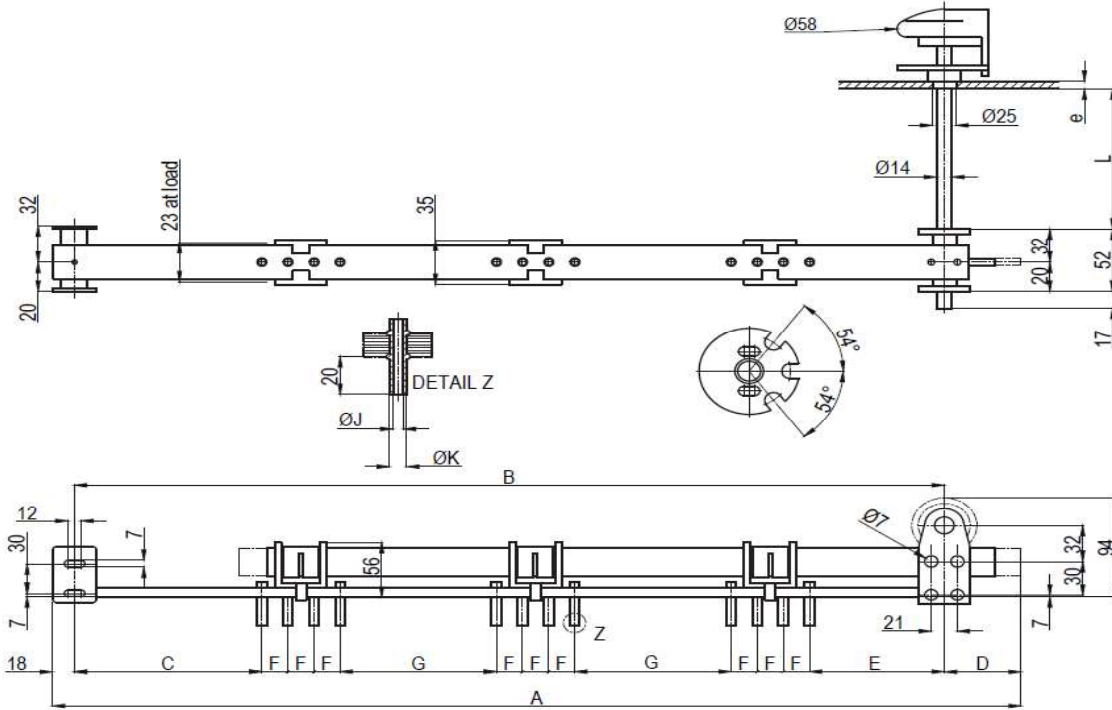
Off-circuit operation can be used in oil Delta diagram 10-30kV
30-63A 2-7P Setting 2.5 % per position (With HP Support)



Voltage class kV	Current A	Number of Positions	A	B	D	E	G	F	I	X min	L	e	Unit No	
													30A J: 3.1 K: 5	63A J: 5.1 K: 7
10	30 or 63	2	347	212	51	61	42	21	50	48	Please quote when ordering	M233D222	M233D223	
		3	431	254	72	61	42	21	50	48		M233D322	M233D323	
		4	515	296	93	61	42	21	50	48		M233D422	M233D423	
		5	599	338	114	61	42	21	50	48		M233D522	M233D523	
		6	683	380	135	61	42	21	50	48		M233D622	M233D623	
		7	767	422	156	61	42	21	50	48		M233D722	M233D723	
		2	384	244	51	76	54	21	60	48		M233D232	M233D233	
15	30 or 63	3	468	286	72	76	54	21	60	48		M233D332	M233D333	
		4	552	328	93	76	54	21	60	48		M233D432	M233D433	
		5	636	370	114	76	54	21	60	48		M233D532	M233D533	
		6	720	412	135	76	54	21	60	48		M233D632	M233D633	
		7	804	454	156	76	54	21	60	48		M233D732	M233D733	
		2	419	271	51	84	65	21	76	48		M233D242	M233D243	
		20	30 or 63	3	503	313	72	84	65	21		76	48	M233D342
4	587			355	93	84	65	21	76	48	M233D442	M233D443		
5	671			397	114	84	65	21	76	48	M233D542	M233D543		
6	755			439	135	84	65	21	76	48	M233D642	M233D643		
7	839			481	156	84	65	21	76	48	M233D742	M233D743		
2	499			344	51	125	90	21	90	88	M233D252	M233D253		
30	30 or 63			3	583	386	72	125	90	21	90	88	M233D352	M233D353
		4	667	428	93	125	90	21	90	88	M233D452	M233D453		
		5	751	470	114	125	90	21	90	88	M233D552	M233D553		
		6	835	512	135	125	90	21	90	88	M233D652	M233D653		
		7	919	554	156	125	90	21	90	88	M233D752	M233D753		

TYPE MHZ THREEPHASE TAP CHANGER

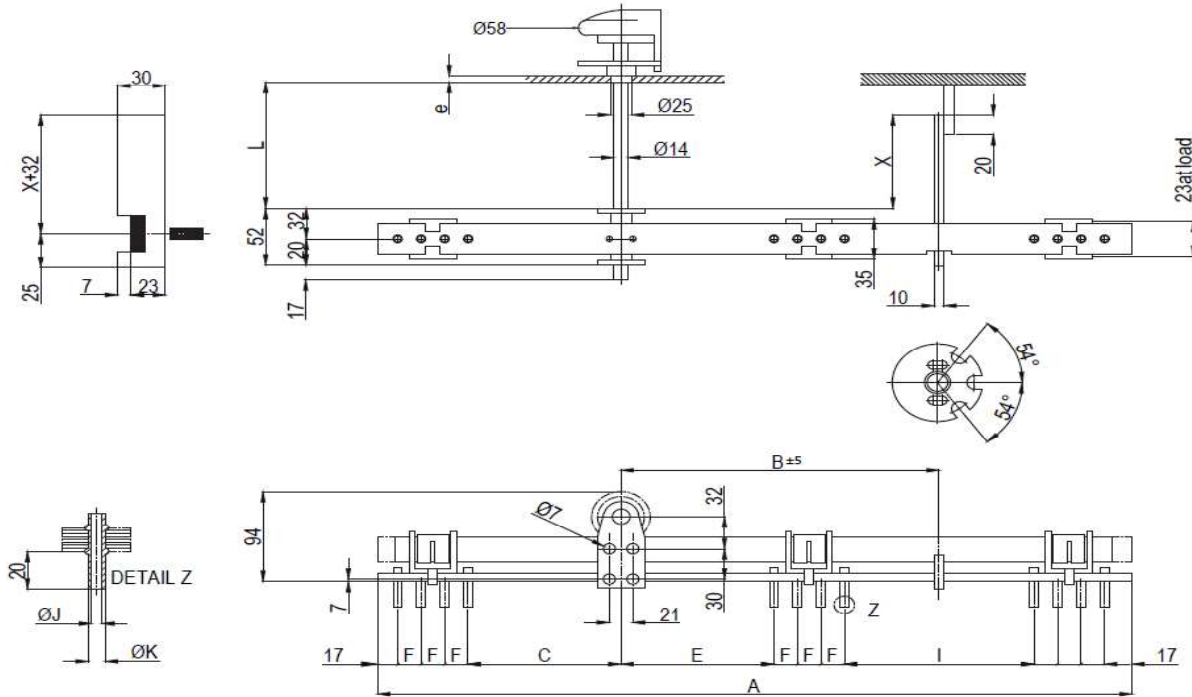
Off-circuit operation can be used in oil Delta diagram 10-30kV
30-63A 2-7P Setting 2.5 per position (With Aluminium Support)



Voltage class kV	Current A	Number of Positions	A	B	C	D	E	F	G	L	e	Unit No	Unit No		
												J: 3.1 K: 5	J: 5.1 K: 7		
10	30 or 63	2	393	324	53	51	61	21	42	Please quote when ordering		M231D222	M231D223		
		3	477	387	53	72	61	21	42			M231D322	M231D323		
		4	561	450	53	93	61	21	42			M231D422	M231D423		
		5	645	513	53	114	61	21	42			M231D522	M231D523		
		6	729	576	53	135	61	21	42			M231D622	M231D623		
		7	813	639	53	156	61	21	42			M231D722	M231D723		
		2	445	376	66	51	76	21	54			M231D232	M231D233		
15	30 or 63	3	529	439	66	72	76	21	54			M231D332	M231D333	M231D232	M231D233
		4	613	502	66	93	76	21	54			M231D432	M231D433	M231D332	M231D333
		5	697	565	66	114	76	21	54			M231D532	M231D533	M231D432	M231D433
		6	781	628	66	135	76	21	54			M231D632	M231D633	M231D532	M231D533
		7	865	691	66	156	76	21	54			M231D732	M231D733	M231D632	M231D633
		2	485	416	76	51	84	21	65			M231D242	M231D243	M231D732	M231D733
		3	569	479	76	72	84	21	65			M231D342	M231D343	M231D242	M231D243
20	30 or 63	4	653	542	76	93	84	21	65	M231D442	M231D443	M231D342	M231D343		
		5	737	605	76	114	84	21	65	M231D542	M231D543	M231D442	M231D443		
		6	821	668	76	135	84	21	65	M231D642	M231D643	M231D542	M231D543		
		7	905	731	76	156	84	21	65	M231D742	M231D743	M231D642	M231D643		
		2	617	548	117	51	125	21	90	M231D252	M231D253	M231D742	M231D743		
		3	701	611	117	72	125	21	90	M231D352	M231D353	M231D252	M231D253		
		4	785	674	117	93	125	21	90	M231D452	M231D453	M231D352	M231D353		
30	30 or 63	5	869	737	117	114	125	21	90	M231D552	M231D553	M231D452	M231D453		
		6	953	800	117	135	125	21	90	M231D652	M231D653	M231D552	M231D553		
		7	1037	863	117	156	125	21	90	M231D752	M231D753	M231D652	M231D653		

TYPE MHZ THREEPHASE TAP CHANGER

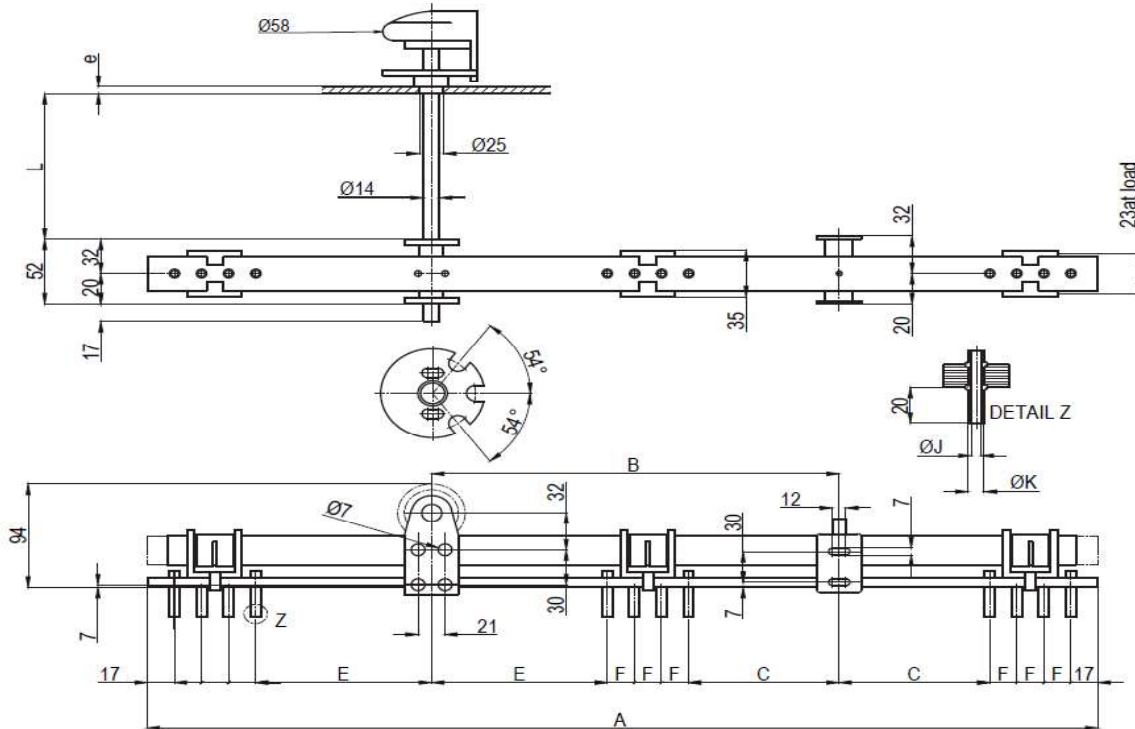
Off-circuit operation can be used in oil Delta diagram 10-30kV
30-63A 2-7P Setting %2.5 per position (With HP Support)



Voltage class kV	Current A	Number of Positions	A	B	C	E	F	I	X min.	L	e	Unit No	
												30A J: 3.1 K: 5	63A J: 5.1 K: 7
10	30 or 63	2	332	128	61	61	21	50	48	Please quote when ordering	M235D222	M235D223	
		3	395	149	61	61	21	50	48		M235D322	M235D323	
		4	458	170	61	61	21	50	48		M235D422	M235D423	
		5	521	191	61	61	21	50	48		M235D522	M235D523	
		6	584	212	61	61	21	50	48		M235D622	M235D623	
		7	647	233	61	61	21	50	48		M235D722	M235D723	
		15	30 or 63	2	372	148	76	76	21		60	48	M235D232
3	435			169	76	76	21	60	48		M235D332	M235D333	
4	498			190	76	76	21	60	48		M235D432	M235D433	
5	561			211	76	76	21	60	48		M235D532	M235D533	
6	624			232	76	76	21	60	48		M235D632	M235D633	
7	687			253	76	76	21	60	48		M235D732	M235D733	
20	30 or 63			2	404	164	84	84	21		76	48	M235D242
		3	467	185	84	84	21	76	48		M235D342	M235D343	
		4	530	206	84	84	21	76	48	M235D442	M235D443		
		5	593	227	84	84	21	76	48	M235D542	M235D543		
		6	656	248	84	84	21	76	48	M235D642	M235D643		
		7	719	269	84	84	21	76	48	M235D742	M235D743		
		30	30 or 63	2	500	212	125	125	21	90	88	M235D252	M235D253
3	563			233	125	125	21	90	88	M235D352	M235D353		
4	626			254	125	125	21	90	88	M235D452	M235D453		
5	689			275	125	125	21	90	88	M235D552	M235D553		
6	752			296	125	125	21	90	88	M235D652	M235D653		
7	815			317	125	125	21	90	88	M235D752	M235D753		

TYPE MHZ THREEPHASE TAP CHANGER

Off-circuit operation can be used in oil Delta diagram 10-30kV
30-63A 2-7P Setting 2.5 % per position (With Aluminium Support)



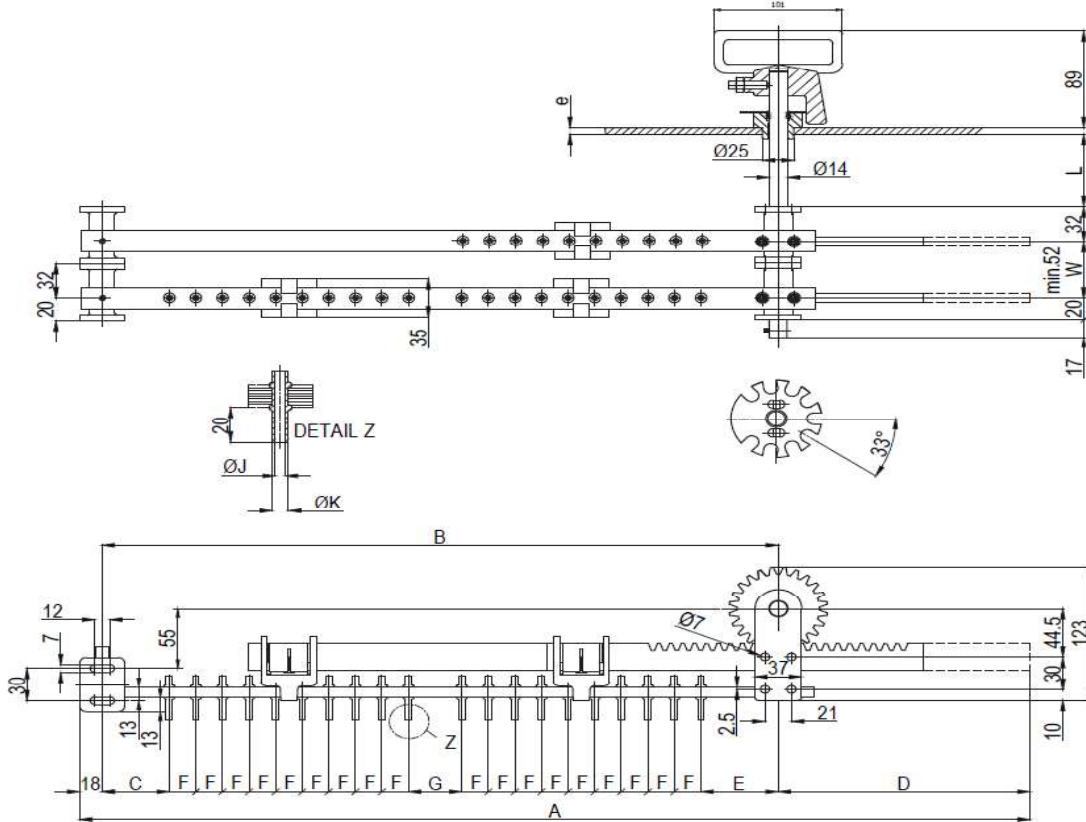
Voltage class kV	Current A	Number of Positions	A	B	C	E	F	L	e	Unit No	
										30A J: 3.1 K: 5	63A J: 5.1 K: 7
10	30 or 63	2	388	156	53	61	21	Please quote when ordering		M234D222	M234D223
		3	451	177	53	61	21			M234D322	M234D323
		4	514	198	53	61	21			M234D422	M234D423
		5	577	219	53	61	21			M234D522	M234D523
		6	640	240	53	61	21			M234D622	M234D623
		7	703	261	53	61	21			M234D722	M234D723
15	30 or 63	2	444	184	66	76	21			M234D232	M234D233
		3	507	205	66	76	21			M234D332	M234D333
		4	570	226	66	76	21			M234D432	M234D433
		5	633	247	66	76	21			M234D532	M234D533
		6	696	268	66	76	21			M234D632	M234D633
		7	759	289	66	76	21			M234D732	M234D733
20	30 or 63	2	480	202	76	84	21			M234D242	M234D243
		3	543	223	76	84	21			M234D342	M234D343
		4	606	244	76	84	21			M234D442	M234D443
		5	669	265	76	84	21			M234D542	M234D543
		6	732	286	76	84	21			M234D642	M234D643
		7	795	307	76	84	21			M234D742	M234D743
30	30 or 63	2	644	284	117	125	21	M234D252	M234D253		
		3	707	305	117	125	21	M234D352	M234D353		
		4	770	326	117	125	21	M234D452	M234D453		
		5	833	347	117	125	21	M234D552	M234D553		
		6	896	368	117	125	21	M234D652	M234D653		
		7	959	389	117	125	21	M234D752	M234D753		

METSON POWER ELECTRICAL SUPPLY, **A:** Ser Tower Busidene, Yesilova Mahallesi, Ayas, ANKARA Yolu Blv. No: 115, 06796 Etimesgut/ ANKARA, Turkey. **M:** metsonpower_turkey@gmail.com



TYPE MHZ THREEPHASE TAP CHANGER

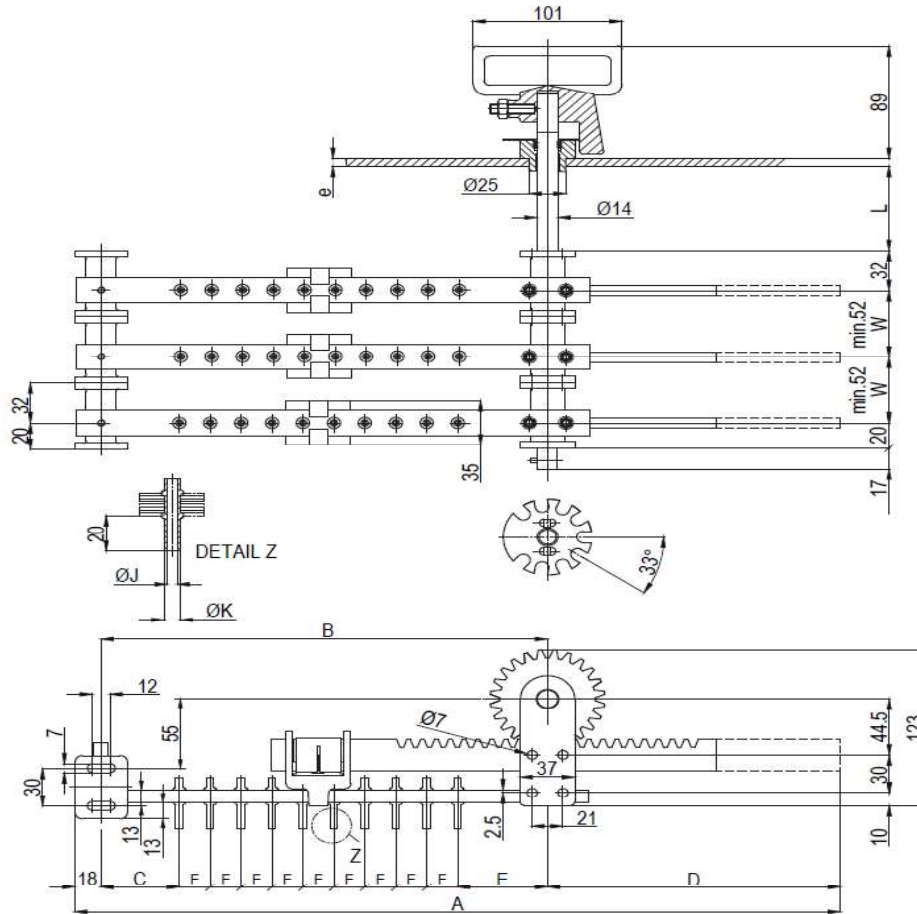
Off-circuit operation can be used in oil Delta diagram 10-30kV
30-63A 8-11P Special diagram. Setting 2.5 % per position (With Aluminium Support)



Voltage class kV	Current A	Number of Positions	Dimensions (mm)								L	W	e	Unit No		
			A	B	C	D	E	G	F	30A J: 3.1 K: 5				63A J: 5.1 K: 7		
10	30 or 63	8	692	492	53	182	61	42	21	Please quote when ordering	M271D822	M271D823				
		9	755	534	53	203	61	42	21				M271D922	M271D923		
		10	818	576	53	224	61	42	21						M271D1022	M271D1023
		11	881	618	53	245	61	42	21							
15	30 or 63	8	732	532	66	182	76	54	21		M271D832	M271D833				
		9	795	574	66	203	76	54	21		M271D932	M271D933				
		10	858	616	66	224	76	54	21		M271D1032	M271D1033				
		11	921	658	66	245	76	54	21		M271D1132	M271D1133				
20	30 or 63	8	761	561	76	182	84	65	21		M271D842	M271D843				
		9	824	603	76	203	84	65	21		M271D942	M271D943				
		10	887	645	76	224	84	65	21		M271D1042	M271D1043				
		11	950	687	76	245	84	65	21	M271D1142	M271D1143					
30	30 or 63	8	868	668	117	182	125	90	21	M271D852	M271D853					
		9	931	710	117	203	125	90	21	M271D952	M271D953					
		10	994	752	117	224	125	90	21	M271D1052	M271D1053					
		11	1057	794	117	245	125	90	21	M271D1152	M271D1153					

TYPE MHZ THREEPHASE TAP CHANGER

Off-circuit operation can be used in oil Delta diagram 10-30kV
30-63A 8-1P Special diagram. Setting 2.5 % per position (With Aluminium Support)



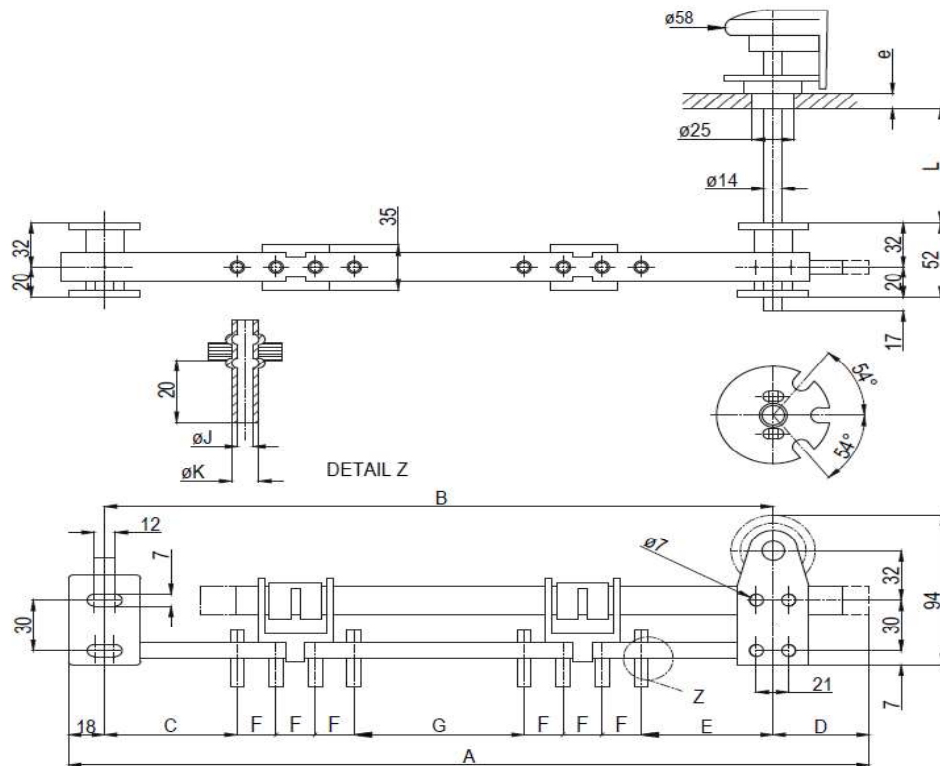
Voltage class kV	Current A	Number of Positions	A	B	C	D	E	F	L	W	e	Unit No 30A J: 3.1 K: 5	Unit No 63A J: 5.1 K: 7
			A	B	C	D	E	F	L	W	e		
10	30 or 63	8	476	282	53	182	61	21	Please quote when ordering			M281D822	M281D823
		9	524	303	53	203	61	21				M281D922	M281D923
		10	572	324	53	224	61	21				M281D1022	M281D1023
		11	620	345	53	245	61	21				M281D1122	M281D1123
15	30 or 63	8	510	310	66	182	76	21				M281D832	M281D833
		9	558	331	66	203	76	21				M281D932	M281D933
		10	606	352	66	224	76	21				M281D1032	M281D1033
		11	654	373	66	245	76	21				M281D1132	M281D1133
20	30 or 63	8	528	328	76	182	84	21				M281D842	M281D843
		9	576	349	76	203	84	21				M281D942	M281D943
		10	624	370	76	224	84	21				M281D1042	M281D1043
		11	672	391	76	245	84	21	M281D1142	M281D1143			
30	30 or 63	8	610	410	117	182	125	21	M281D852	M281D853			
		9	658	431	117	203	125	21	M281D952	M281D953			
		10	706	452	117	224	125	21	M281D1052	M281D1053			
		11	754	473	117	245	125	21	M281D1152	M281D1153			

METSON POWER ELECTRICAL SUPPLY, **A:** Ser Tower Busidance, Yesilova Mahallesi, Ayas, ANKARA Yolu Blv. No: 115, 06796 Etimesgut/ ANKARA, Turkey. **M:** metsonpower_turkey@gmail.com



TYPE MHZ TWOPHASE TAP CHANGER

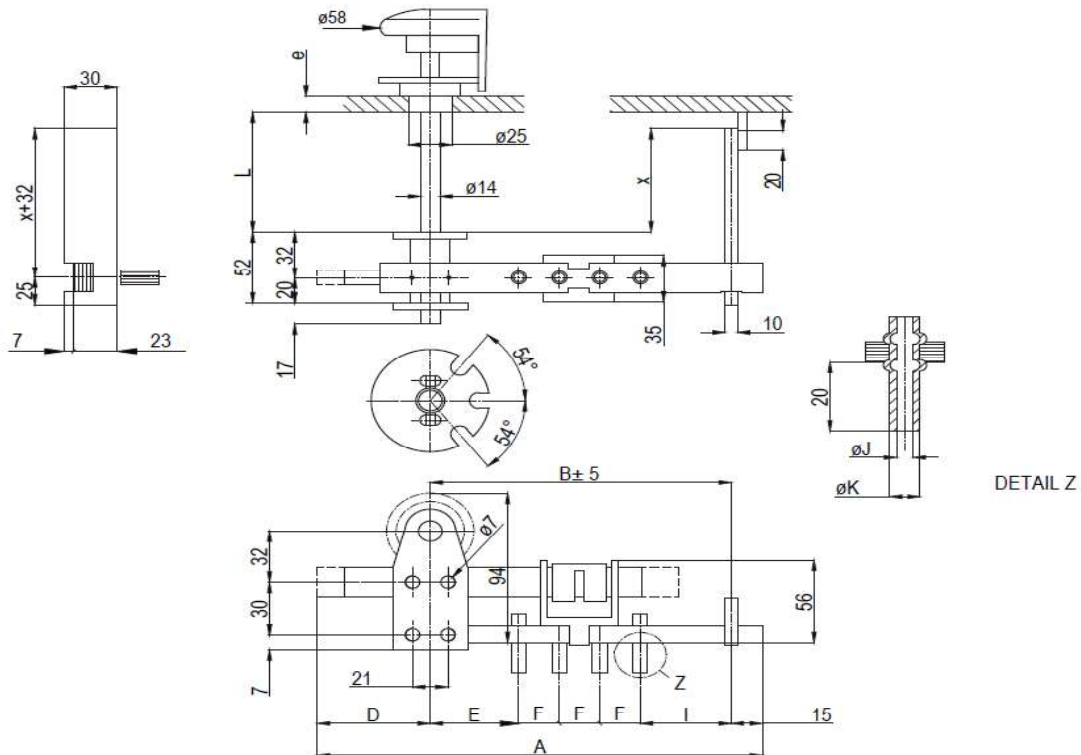
Off-circuit operation can be used in oil Delta diagram 10-30kV
30-63A 2-7P Setting 2.5 % per position (With Aluminium Support)



Voltage class kV	Current A	Number of Positions	A	B	C	D	E	F	G	L	e	Unit No	Unit No		
												30A J: 3.1 K: 5	63A J: 5.1 K: 7		
10	30 or 63	2	309	240	53	51	61	21	42	Please quote when ordering		M221D222	M221D223		
		3	372	282	53	72	61	21	42			M221D322	M221D323		
		4	435	324	53	93	61	21	42			M221D422	M221D423		
		5	498	366	53	114	61	21	42			M221D522	M221D523		
		6	561	408	53	135	61	21	42			M221D622	M221D623		
		7	624	450	53	156	61	21	42			M221D722	M221D723		
		2	349	280	66	51	76	21	54			M221D232	M221D233		
15	30 or 63	3	412	322	66	72	76	21	54			M221D332	M221D333	M221D233	M221D333
		4	475	364	66	93	76	21	54			M221D432	M221D433	M221D433	M221D433
		5	538	406	66	114	76	21	54			M221D532	M221D533	M221D533	M221D533
		6	601	448	66	135	76	21	54			M221D632	M221D633	M221D633	M221D633
		7	664	490	66	156	76	21	54			M221D732	M221D733	M221D733	M221D733
		2	378	309	76	51	84	21	65			M221D242	M221D243	M221D243	M221D243
		20	30 or 63	3	441	351	76	72	84			21	65	M221D342	M221D343
4	504			393	76	93	84	21	65	M221D442	M221D443	M221D443	M221D443		
5	567			435	76	114	84	21	65	M221D542	M221D543	M221D543	M221D543		
6	630			477	76	135	84	21	65	M221D642	M221D643	M221D643	M221D643		
7	693			519	76	156	84	21	65	M221D742	M221D743	M221D743	M221D743		
2	485			416	117	51	125	21	90	M221D252	M221D253	M221D253	M221D253		
30	30 or 63			3	548	458	117	72	125	21	90	M221D352	M221D353	M221D353	M221D353
		4	611	500	117	93	125	21	90	M221D452	M221D453	M221D453	M221D453		
		5	674	542	117	114	125	21	90	M221D552	M221D553	M221D553	M221D553		
		6	737	584	117	135	125	21	90	M221D652	M221D653	M221D653	M221D653		
		7	800	626	117	156	125	21	90	M221D752	M221D753	M221D753	M221D753		

TYPE MHZ MONOPHASE TAP CHANGER

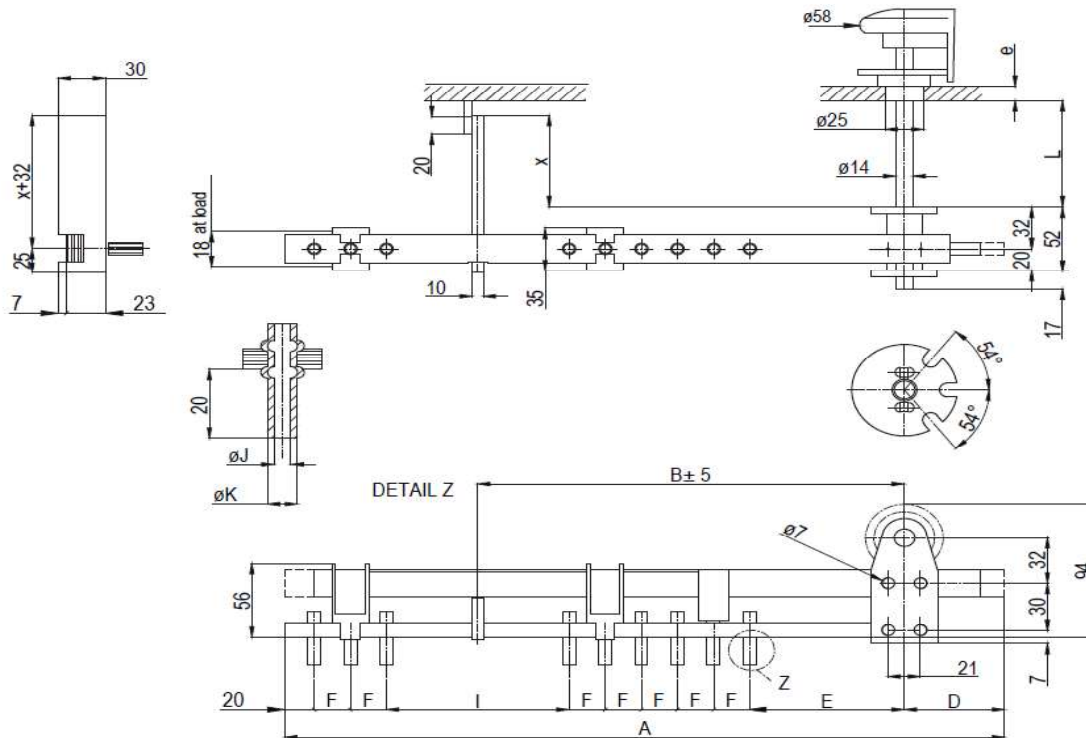
Off-circuit operation can be used in oil Delta diagram 10-30kV
30-63A 2-7P Setting 2.5 % per position (With HP Support)



Voltage class kV	Current A	Number of Positions	A	B	D	E	I	F	X min	L	e	Unit No	Unit No		
												30A J: 3.1 K: 5	63A J: 5.1 K: 7		
10	30 or 63	2	188	128	45	61	25	21	48	Please quote when ordering		217D222	217D223		
		3	230	149	66	61	25	21	48			217D322	217D323		
		4	272	170	87	61	25	21	48			217D422	217D423		
		5	314	191	108	61	25	21	48			217D522	217D523		
		6	356	212	129	61	25	21	48			217D622	217D623		
		7	398	233	150	61	25	21	48			217D722	217D723		
		2	208	148	45	76	30	21	48			217D232	217D233		
15	30 or 63	3	250	169	66	76	30	21	48			217D332	217D333	217D232	217D233
		4	292	190	87	76	30	21	48			217D432	217D433	217D332	217D333
		5	334	211	108	76	30	21	48			217D532	217D533	217D432	217D433
		6	376	232	129	76	30	21	48			217D632	217D633	217D532	217D533
		7	418	253	150	76	30	21	48			217D732	217D733	217D632	217D633
		2	224	164	45	84	38	21	48			217D242	217D243	217D732	217D733
		3	266	185	66	84	38	21	48			217D342	217D343	217D242	217D243
20	30 or 63	4	308	206	87	84	38	21	48			217D442	217D443	217D342	217D343
		5	350	227	108	84	38	21	48			217D542	217D543	217D442	217D443
		6	392	248	129	84	38	21	48			217D642	217D643	217D542	217D543
		7	434	269	150	84	38	21	48			217D742	217D743	217D642	217D643
		2	272	212	45	125	45	21	88			217D252	217D253	217D742	217D743
		3	314	233	66	125	45	21	88			217D352	217D353	217D252	217D253
		4	356	254	87	125	45	21	88			217D452	217D453	217D352	217D353
30	30 or 63	5	398	275	108	125	45	21	88	217D552	217D553	217D452	217D453		
		6	440	296	129	125	45	21	88	217D652	217D653	217D552	217D553		
		7	482	317	150	125	45	21	88	217D752	217D753	217D652	217D653		

TYPE MHZ THREEPHASE TAP CHANGER

Off-circuit operation can be used in oil Star diagram 10-30kV
30-63A 2-7P Setting 2.5 % per position (With HP Support)

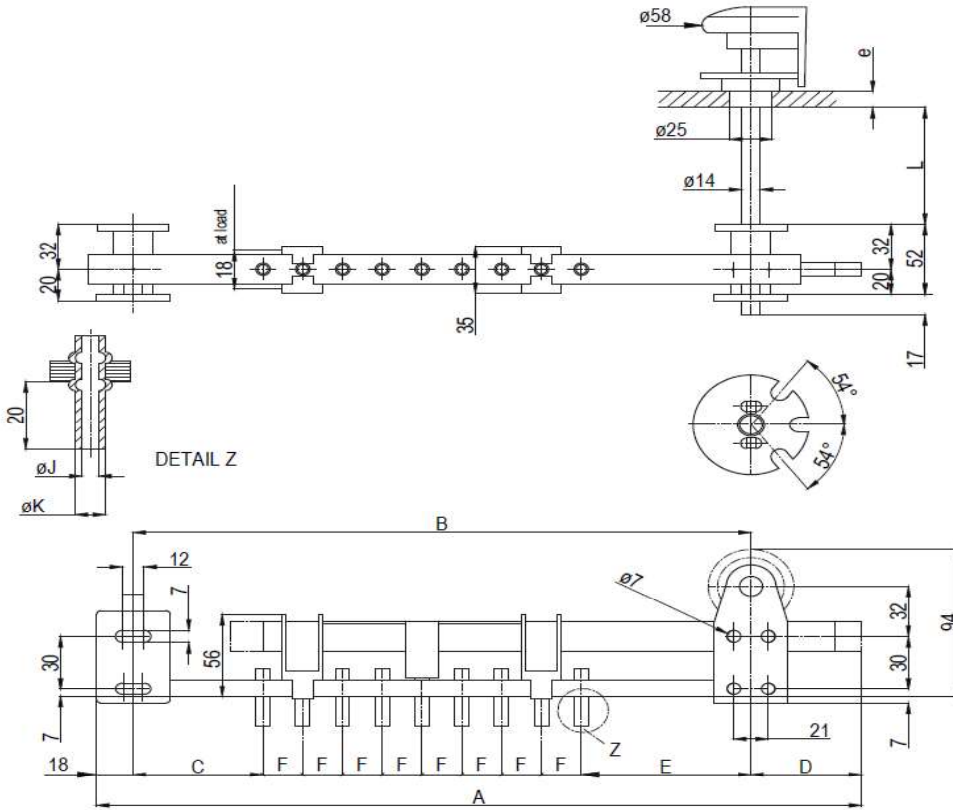


Voltage class kV	Current A	Number of Positions	A	B	D	E	I	F	X min	L	e	Unit No	Unit No
												30A J: 3.1 K: 5	63A J: 5.1 K: 7
10	30 or 63	2	266	149	51	61	50	21	48	Please quote when ordering		M233S222	M233S223
		3	350	191	72	61	50	21	48			M233S322	M233S323
		4	434	233	93	61	50	21	48			M233S422	M233S423
		5	518	275	114	61	50	21	48			M233S522	M233S523
		6	602	317	135	61	50	21	48			M233S622	M233S623
7	686	359	156	61	50	21	48	M233S722	M233S723				
15	30 or 63	2	281	164	51	76	50	21	48			M233S232	M233S233
		3	365	206	72	76	50	21	48			M233S332	M233S333
		4	449	248	93	76	50	21	48			M233S432	M233S433
		5	533	290	114	76	50	21	48			M233S532	M233S533
		6	617	332	135	76	50	21	48			M233S632	M233S633
7	701	374	156	76	50	21	48	M233S732	M233S733				
20	30 or 63	2	289	172	51	84	50	21	48			M233S242	M233S243
		3	373	214	72	84	50	21	48			M233S342	M233S343
		4	457	256	93	84	50	21	48			M233S442	M233S443
		5	541	298	114	84	50	21	48	M233S542	M233S543		
		6	625	340	135	84	50	21	48	M233S642	M233S643		
7	709	382	156	84	50	21	48	M233S742	M233S743				
30	30 or 63	2	330	213	51	125	50	21	88	M233S252	M233S253		
		3	414	255	72	125	50	21	88	M233S352	M233S353		
		4	498	297	93	125	50	21	88	M233S452	M233S453		
		5	582	339	114	125	50	21	88	M233S552	M233S553		
		6	666	381	135	125	50	21	88	M233S652	M233S653		
7	750	423	156	125	50	21	88	M233S752	M233S753				



TYPE MHZ THREPHASE TAP CHANGER

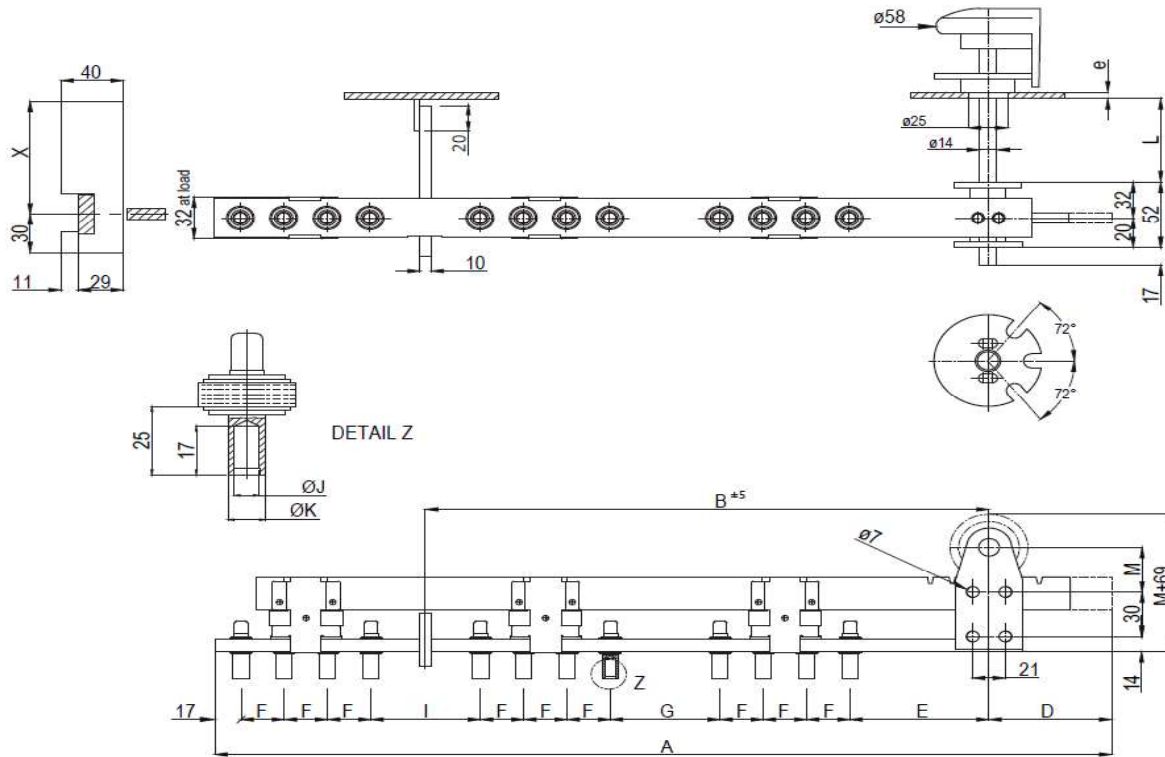
Off-circuit operation can be used in oil Star diagram 10-30kV
30-63A 2-7 Setting 2.5 % per position (With Aluminium Support)



Voltage class kV	Current A	Number of Positions	A	B	C	D	E	F	L	e	Unit No	Unit No
			A	B	C	D	E	F			J: 3.1 K: 5	J: 5.1 K: 7
10	30 or 63	2	288	219	53	51	61	21	Please quote when ordering		M231S222	M231S223
		3	372	282	53	72	61	21			M231S322	M231S323
		4	456	345	53	93	61	21			M231S422	M231S423
		5	540	408	53	114	61	21			M231S522	M231S523
		6	624	471	53	135	61	21			M231S622	M231S623
		7	708	534	53	156	61	21			M231S722	M231S723
20	30 or 63	2	334	265	76	51	84	21			M231S242	M231S243
		3	418	328	76	72	84	21			M231S342	M231S343
		4	502	391	76	93	84	21			M231S442	M231S443
		5	586	454	76	114	84	21			M231S542	M231S543
		6	670	517	76	135	84	21			M231S642	M231S643
		7	754	580	76	156	84	21			M231S742	M231S743
30	30 or 63	2	416	347	117	51	125	21			M231S252	M231S253
		3	500	410	117	72	125	21			M231S352	M231S353
		4	584	473	117	93	125	21			M231S452	M231S453
		5	668	536	117	114	125	21			M231S552	M231S553
		6	752	599	117	135	125	21			M231S652	M231S653
		7	836	662	117	156	125	21			M231S752	M231S753

TYPE MHZ THREPHASE TAP CHANGER

Off-circuit operation can be used in oil Delta diagram 10-30kV
120A 2-5P Setting 2.5 % per position (With HP Support)

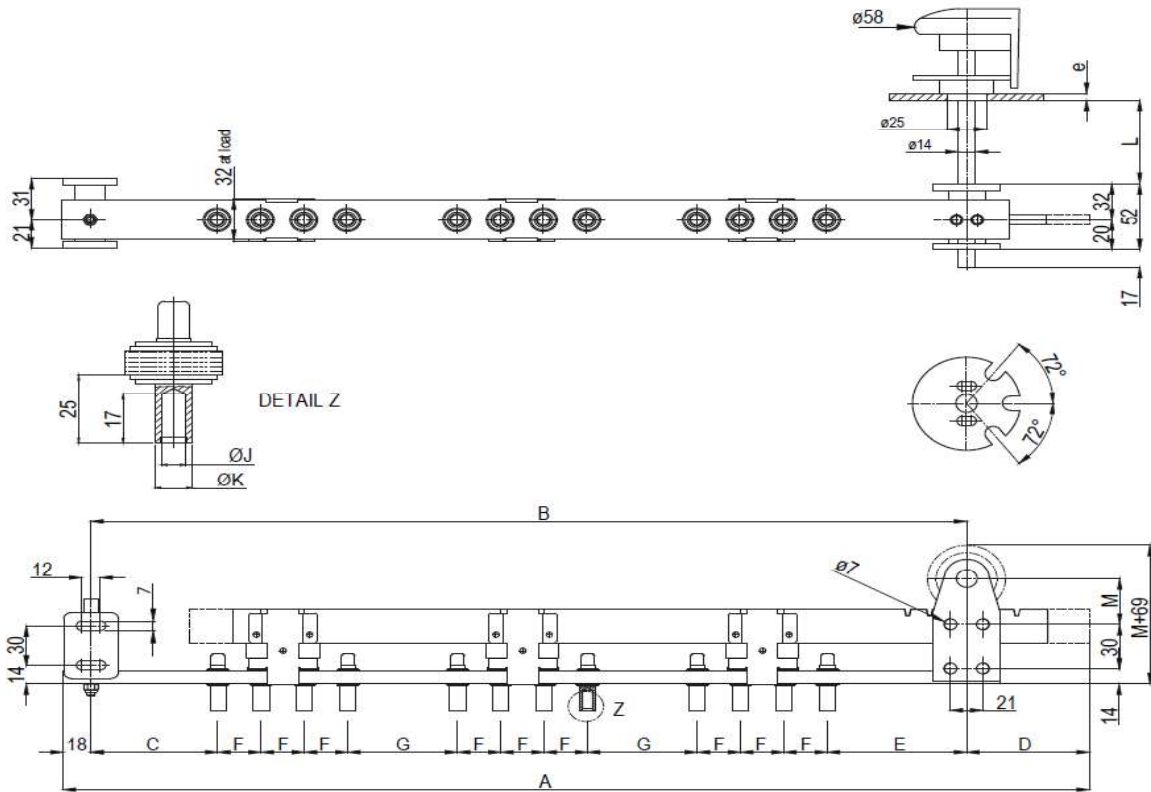


Voltage class kV	Current A	Number of Positions	A	B	D	E	G	I	F	X min	M	L	e	Unit No 120A J: 8,1 K:12
10	120	2	406	251	58	67	48	48	28	48	32	Please quote when ordering		M233D224
		3	518	307	86	67	48	48	28	48	32			M233D324
		4	630	363	114	67	48	48	28	48	32			M233D424
		5	742	419	142	67	48	48	28	48	32			M233D524
20	120	2	475	308	58	90	71	71	28	48	32			M233D244
		3	587	364	86	90	71	71	28	48	32			M233D344
		4	699	420	114	90	71	71	28	48	32			M233D444
		5	811	476	142	90	71	71	28	48	32			M233D544
30	120	2	563	384	58	130	95	95	28	88	32			M233D254
		3	675	440	86	130	95	95	28	88	32			M233D354
		4	787	496	114	130	95	95	28	88	32			M233D454
		5	899	552	142	130	95	95	28	88	32			M233D554



TYPE MHZ THREEPHASE TAP CHANGER

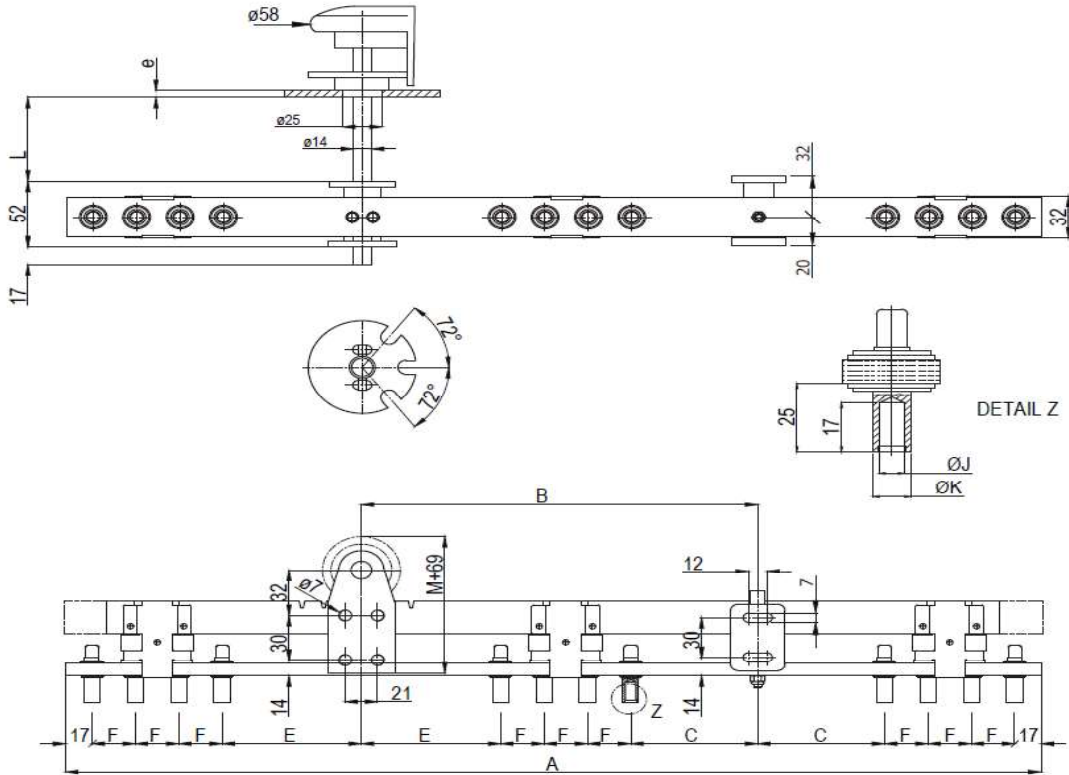
Off-circuit operation can be used in oil Delta diagram 10-30kV
120A 2-5P Setting 2.5 % per position (With Aluminium Support)



Voltage class kV	Current A	Number of Positions	Dimensions (mm)												Unit No 120A J: 8,1 K:12
			A	B	C	D	E	G	F	M	L	e			
10	120	2	466	390	59	58	67	48	28	32	Please quote when ordering	M231D224			
		3	578	474	59	86	67	48	28	32		M231D324			
		4	690	558	59	114	67	48	28	32		M231D424			
		5	802	642	59	142	67	48	28	32		M231D524			
20	120	2	558	482	82	58	90	71	28	32		M231D244			
		3	670	566	82	86	90	71	28	32		M231D344			
		4	782	650	82	114	90	71	28	32		M231D444			
		5	894	734	82	142	90	71	28	32		M231D544			
30	120	2	686	610	122	58	130	95	28	32		M231D254			
		3	798	694	122	86	130	95	28	32		M231D354			
		4	910	778	122	114	130	95	28	32		M231D454			
		5	1022	862	122	142	130	95	28	32		M231D554			

TYPE MHZ THREPHASE TAP CHANGER

Off-circuit operation can be used in oil Delta diagram 10-30kV
120A 2-5P Setting 2.5 % per position (With Aluminium Support)

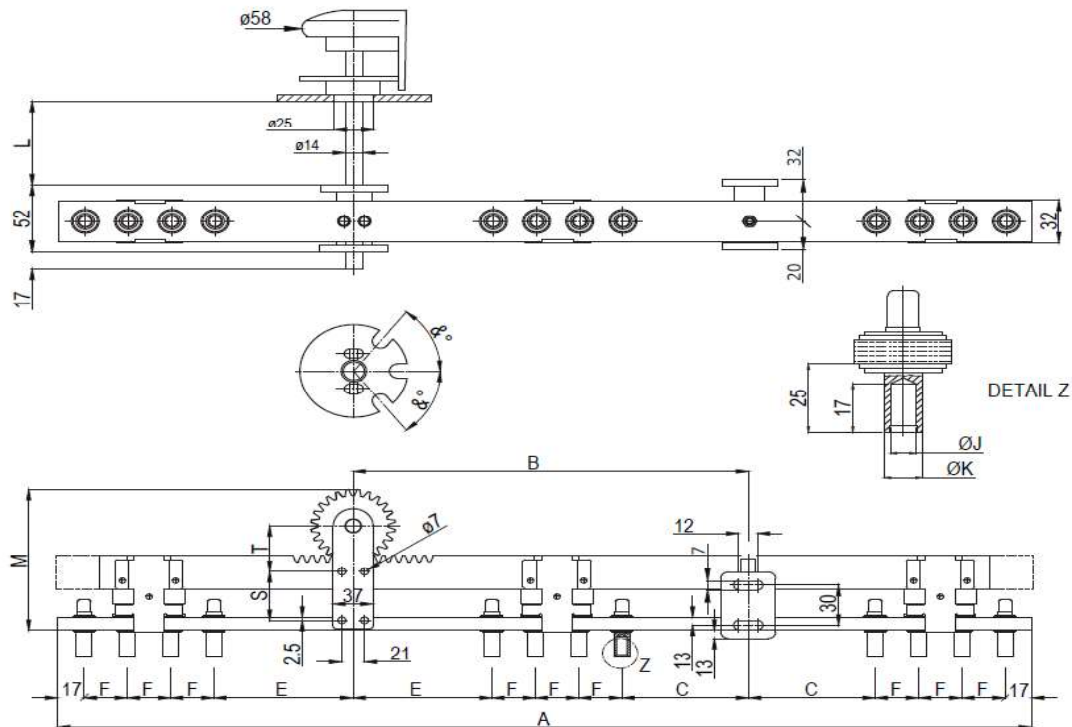


Voltage class kV	Current A	Number of Positions	A	B	C	E	F	M	L	e	Unit No 120A J: 8,1 K:12
10	120	2	454	182	59	67	28	32	Please quote when ordering		M234D224
		3	538	210	59	67	28	32			M234D324
		4	622	238	59	67	28	32			M234D424
		5	706	266	59	67	28	32			M234D524
20	120	2	546	228	82	90	28	32			M234D244
		3	630	256	82	90	28	32			M234D344
		4	714	284	82	90	28	32			M234D444
		5	798	312	82	90	28	32			M234D544
30	120	2	706	308	122	130	28	32			M234D254
		3	790	336	122	130	28	32			M234D354
		4	874	364	122	130	28	32			M234D454
		5	958	392	122	130	28	32			M234D554



TYPE MHZ THREEPHASE TAP CHANGER

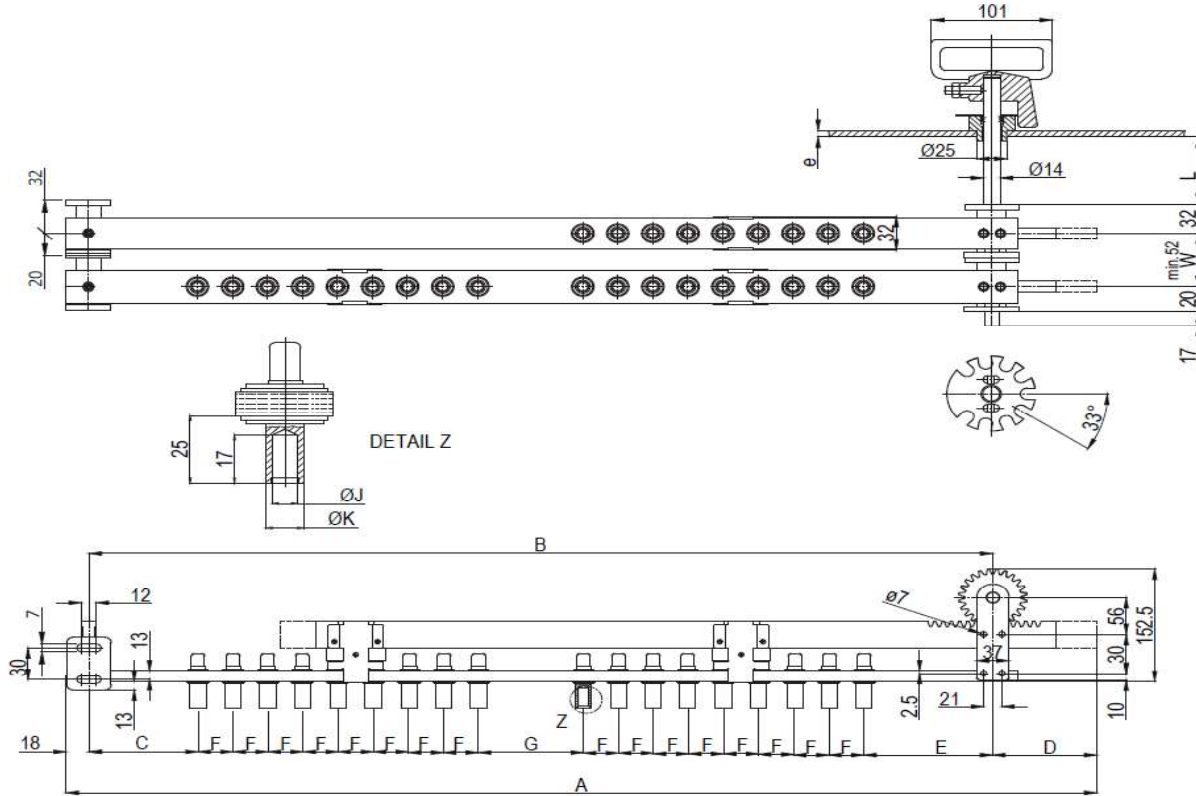
Off-circuit operation can be used in oil Delta diagram 10-30kV
120A 6-11P Setting 2.5 % per position (With Aluminium Support)



Voltage class kV	Current A	Number of Positions	A	B	C	E	S	T	M	F	& °	L	e	Unit No 120A J: 8,1 K:12
10	120	6	790	294	59	67	30	44	129.5	28	44.3°	Please quote when ordering		M234D624
		7	874	322	59	67	30	44	129.5	28	44.3°			M234D724
		8	958	350	59	67	30	56	152.5	28	33°			M234D824
		9	1042	378	59	67	30	56	152.5	28	33°			M234D924
		10	1126	406	59	67	30	56	152.5	28	33°			M234D1024
		11	1210	434	59	67	30	56	152.5	28	33°			M234D1124
20	120	6	882	340	82	90	30	44	129.5	28	44.3°			M234D644
		7	966	368	82	90	30	44	129.5	28	44.3°			M234D744
		8	1050	396	82	90	30	56	152.5	28	33°			M234D844
		9	1134	424	82	90	30	56	152.5	28	33°			M234D944
		10	1218	452	82	90	30	56	152.5	28	33°			M234D1044
		11	1302	480	82	90	30	56	152.5	28	33°	M234D1144		
30	120	6	1042	420	122	130	30	44	129.5	28	44.3°	M234D654		
		7	1126	448	122	130	30	44	129.5	28	44.3°	M234D754		
		8	1210	476	122	130	30	56	152.5	28	33°	M234D854		
		9	1294	504	122	130	30	56	152.5	28	33°	M234D954		
		10	1378	532	122	130	30	56	152.5	28	33°	M234D1054		
		11	1462	560	122	130	30	56	152.5	20	33°	M234D1154		

TYPE MHZ THREPHASE TAP CHANGER

Off-circuit operation can be used in oil Delta diagram 10-30kV
 120A 8-11P Special diagram. Setting. Setting 2.5 % per position (With Aluminium Support)

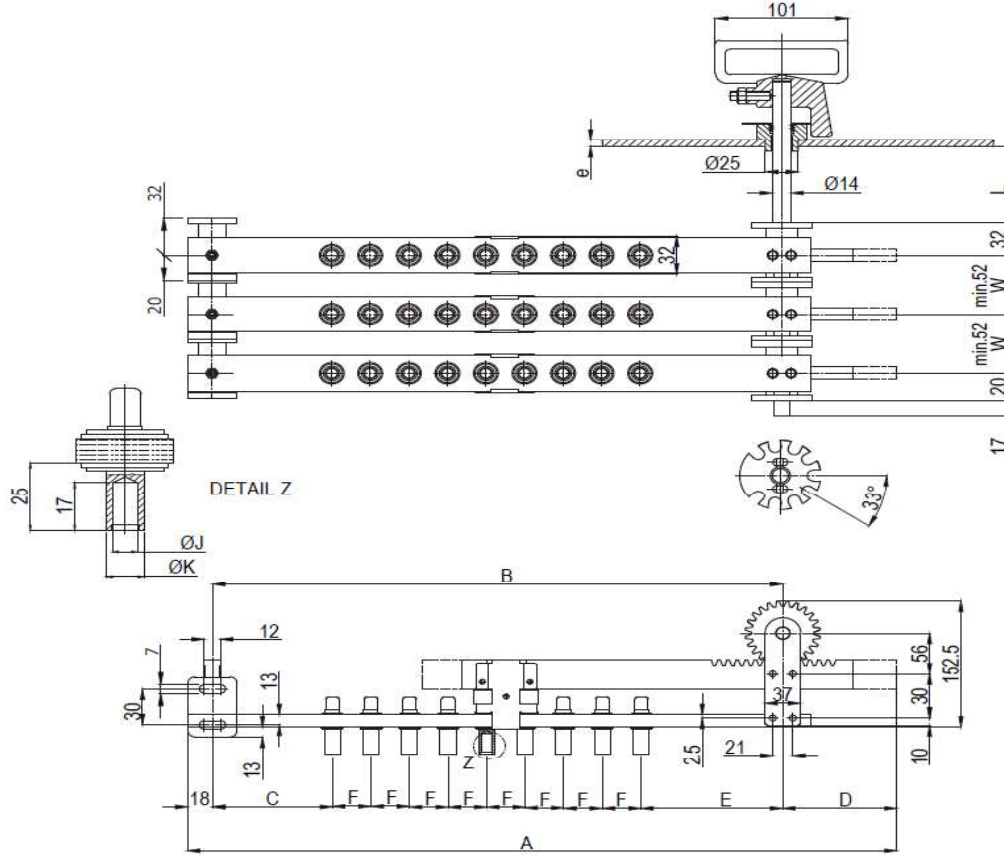


Voltage class kV	Current A	Number of Positions	A	B	C	D	E	G	F	L	W	e	Unit No 120A J: 8,1 K:12
10	120	8	866	622	59	251	67	48	28	Please quote when ordering			M271D824
		9	950	678	59	279	67	48	28				M271D924
		10	1034	734	59	307	67	48	28				M271D1024
		11	1118	790	59	335	67	48	28				M271D1124
20	120	8	935	691	82	251	90	71	28		M271D844		
		9	1019	747	82	279	90	71	28		M271D944		
		10	1103	803	82	307	90	71	28		M271D1044		
		11	1187	859	82	335	90	71	28		M271D1144		
30	120	8	1039	795	122	251	130	95	28		M271D854		
		9	1123	851	122	279	130	95	28		M271D954		
		10	1207	907	122	307	130	95	28		M271D1054		
		11	1291	963	122	335	130	95	28		M271D1154		



TYPE MHZ THREEPHASE TAP CHANGER

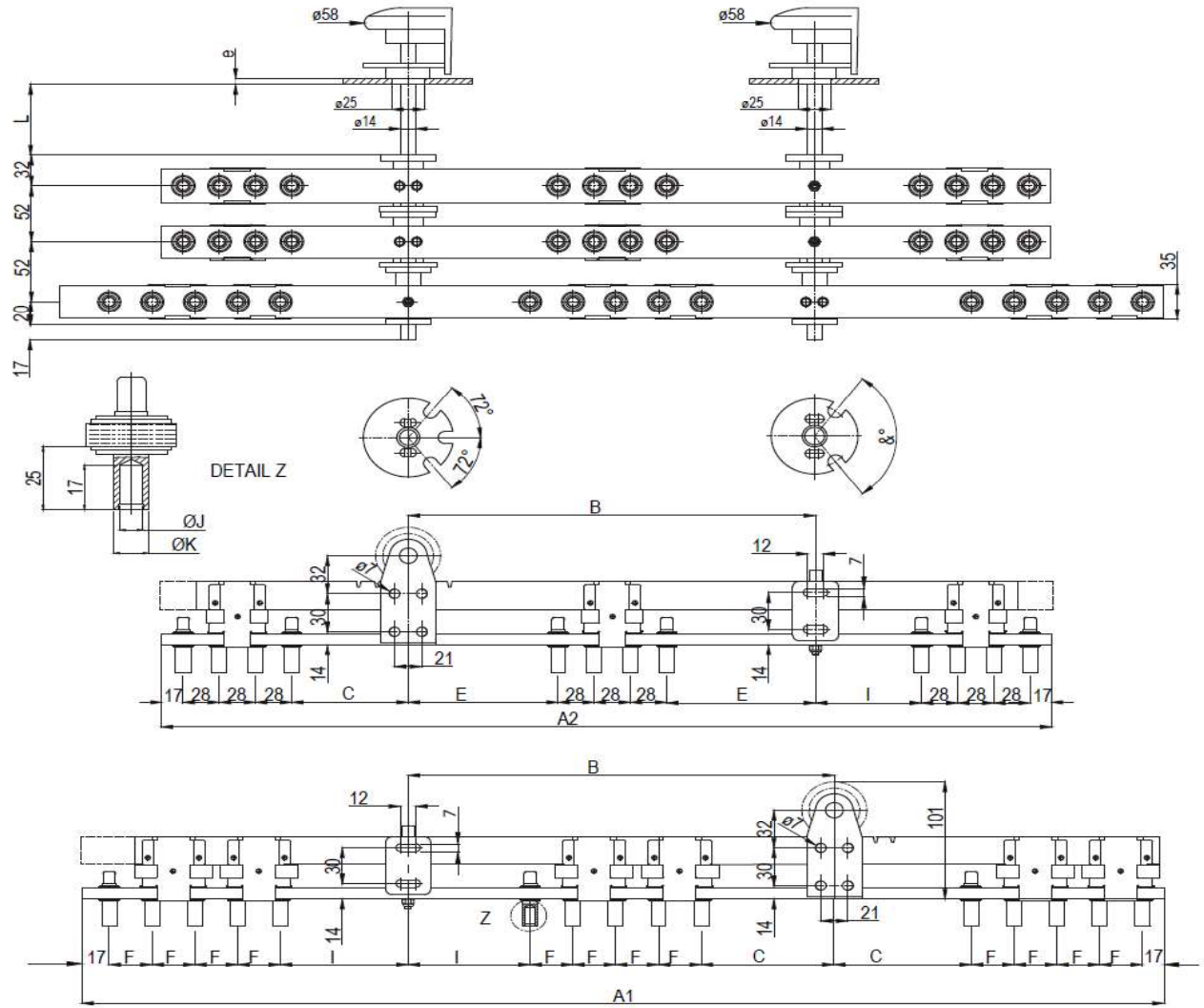
Off-circuit operation can be used in oil Delta diagram 10-30kV
 120A 8-11P Special diagram. Setting 2.5% per position (With Aluminium Support)



Voltage class kV	Current A	Number of Positions						L	W	e	Unit No 120A J: 8,1 K: 12
			A	B	C	D	E				
10	120	8	619	350	59	251	67	28	Please quote when ordering	M271D824	
		9	675	378	59	279	67	28		M271D924	
		10	721	406	59	307	67	28		M271D1024	
		11	777	434	59	335	67	28		M271D1124	
20	120	8	665	396	82	251	90	28		M271D844	
		9	721	424	82	279	90	28		M271D944	
		10	777	452	82	307	90	28		M271D1044	
30	120	11	833	480	82	335	90	28		M271D1144	
		8	745	476	122	251	130	28		M271D854	
		9	801	504	122	279	130	28		M271D954	
		10	857	532	122	307	130	28		M271D1054	
		11	913	560	122	335	130	28		M271D1154	

TYPE MHZ THREEPHASE TAP CHANGER

Off-circuit operation can be used in oil 1 Series parallel coupling 10-30/25-30kV 120A
 2 Delta settings 20-30kV 120A Setting 2.5 % per position. (With Aluminium Support)



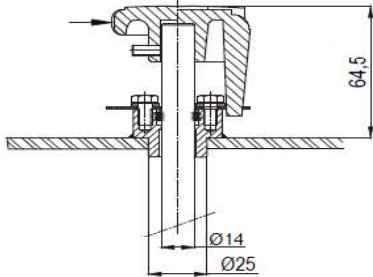
Voltage Class kV		Current A	Number of Positions	Dimensions (mm)							& °	L	e	Unit No
Series Parallel	Delta			A	A1	B	C	E	I	F				
10 - 20	20	120	3	882	714	340	90	128	82	42	108°	Please quote when ordering		M254K374
			4	882	770	340	90	114	82	42	108°			M254K474
			5	882	826	340	90	100	82	42	108°			M254K574
25 - 30	30	120	3	1126	902	448	130	182	122	49	126°			M254K384
			4	1126	958	448	130	168	122	49	126°			M254K484
			5	1126	1014	448	130	154	122	49	126°			M254K584

METSON POWER ELECTRICAL SUPPLY, **A:** Ser Tower Busidance, Yesilova Mahallesi, Ayas, ANKARA Yolu Blv. No: 115, 06796 Etimesgut/ ANKARA, Turkey. **M:** metsonpower_turkey@gmail.com

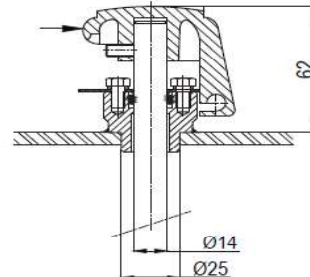


TYPE MHZ THREEPHASE TAP CHANGER

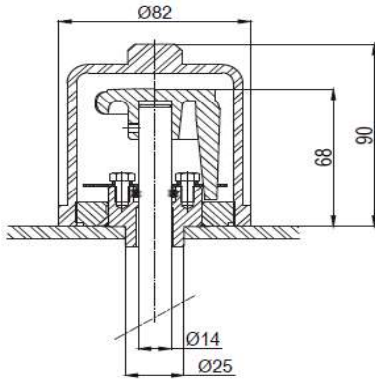
Control Devices



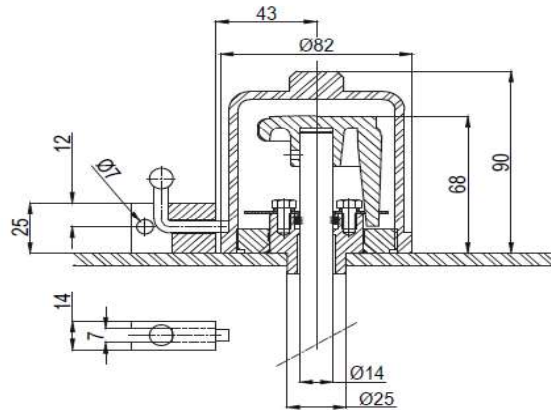
MH342
Standard Type



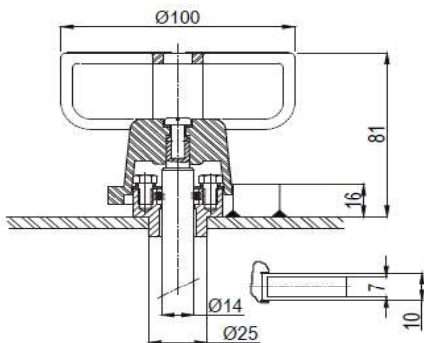
MH342A
Padlockable Type



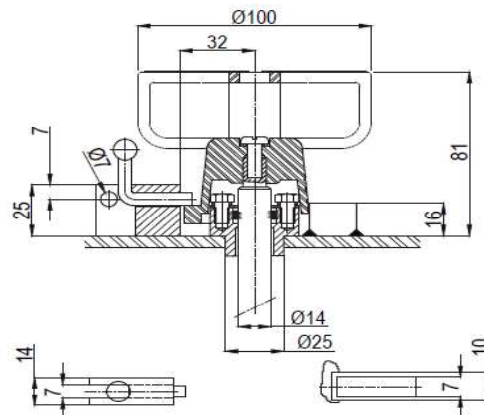
MH341
With Protective Cover
Standard Type



MH341A
With Protective Cover
Padlockable Type



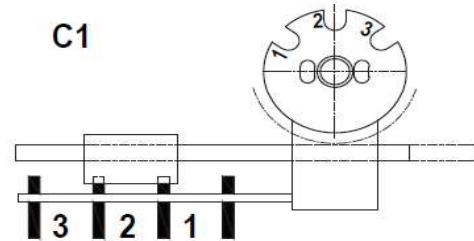
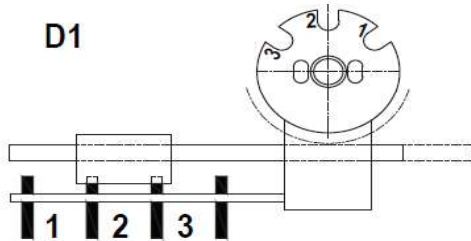
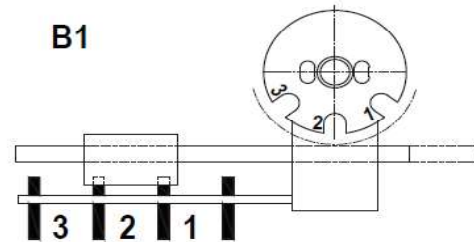
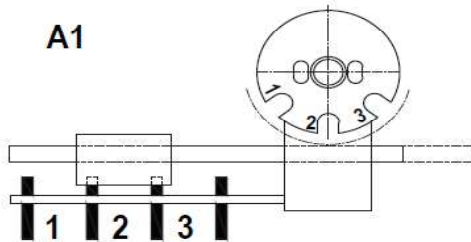
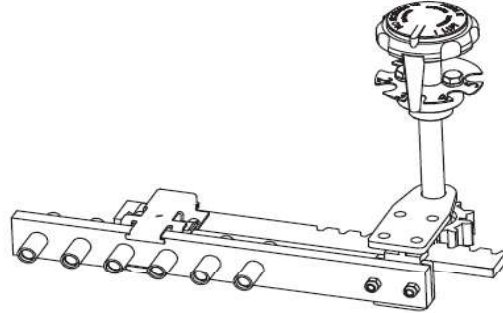
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Standard Type



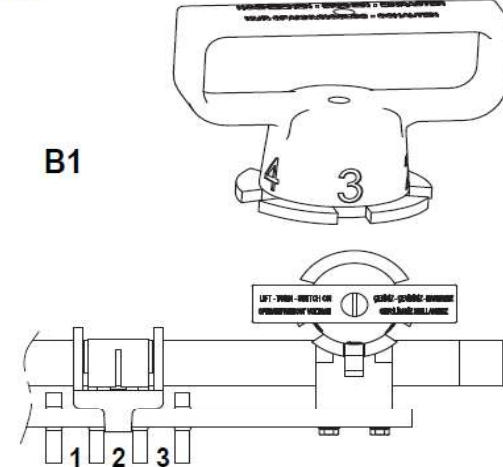
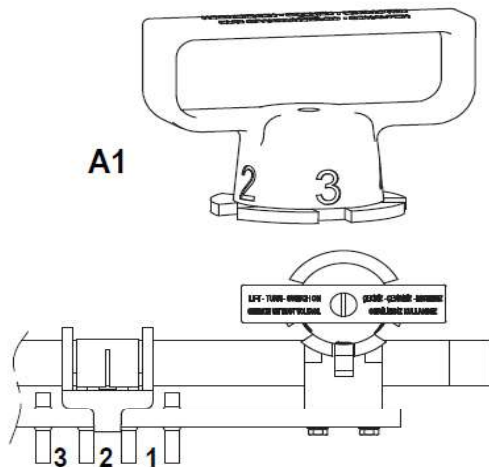
MH353A
Padlockable Type

TYPE MHZ THREEPHASE TAP CHANGER

Numbering

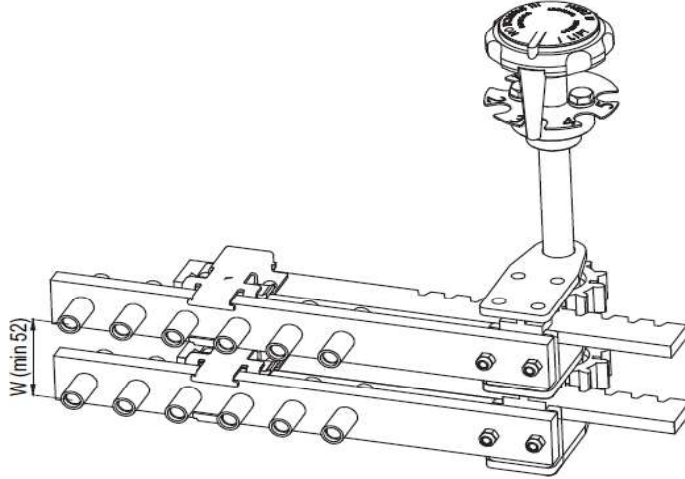


KNOB



TYPE MHZ THREEPHASE TAP CHANGER

Combinations



All the standard series horizontal tap changers can be paired by superimposing several tap changers whose purpose - built steel brackets are assembled by nuts and bolts.

Depending on which system is adopted, the user can:

- either operate the tap changers with one shaft
- or operate part of the tap changers with one shaft and the other part with a second shaft.

If so, please specify the position of the coupling shaft and of the setting shaft.

Note : When ordering, it is essential not to omit dimension "W" the minimum value of which to be set in each case depends on the insulation conditions and on the position of the various tap changers.

WHEN ORDERING PLEASE QUOTE:

- 1 - Tap changer unit no
- 2 - The voltage class current and type of setting or coupling.
- 3 - The service voltages and test voltages at industrial frequency (50 Hz) and on impulse (1/50), on the earth, across phases, across contact of the same phase, across contact and common output.
- 4 - Control device no.
- 5 - The language on the control device.
- 6 - Number of positions.
- 7 - The indication of the repeater disc (A1, B1, C1, D1)
- 8 - Dimensions of the fixed contacts (J and K)
- 9 - L, e, X, W dimensions from the tables.

For special setups not shown in the catalogue please consult us.