

# CMO Series

**MOTORIZED CHANGE OVER SWITCHES**



CS2



CS3



CS4



CS5

General Information

**MOTORIZED CHANGE OVER SWITCHES TECHNICAL DATA**

Type	CS2				CS3		CS4		CS5					
Rated current (In)	160A	200A	250A	315A	400A	500A	630A	800A	1000A	1250A	1600A	2000A	2500A	3150A
Rated insulation c.a./AC (Ui) (V)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
voltage c.c./DC (Ui) (V)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Rated thermal current (Ith) (A)	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150
<b>Rated operational current (Ie)</b>														
400V (A)	160	200	250	250/315	400	400/500	630	630/800	1000	1250	1600	2000	2500	3150
AC-21A/B 500V (A)	160	200	250	250/315	400	400/500	630	630/800	1000	1250	1250	1600	2000	2500
690V (A)	160	200	250	250/315	400	400/500	630	630/800	1000	1250	1250	1250	1250	1250
400V (A)	160	200	250	250/315	400	400/500	630	630/800	1000	1250	1250	1250	-	-
AC-22A/B 500V (A)	160	200	250	250/250	400	400/400	630	630/800	1000	1250	-	-	-	-
690V (A)	160	200	250	250/250	400	400/400	630	630/800	1000	1250	-	-	-	-
400V (A)	160	200	250	250/250	400	400/400	630	630/800	1000	1250	-	-	-	-
AC-23A/B 500V (A)	125	160	200	200/200	315	315/315	500	500/500	800	1000	-	-	-	-
690V (A)	100	125	160	160/160	250	250/250	400	400/400	630	800	-	-	-	-
220V (A)	160	200	250	250/315	400	400/500	630	630/800	1000	1250	1600	2000	-	-
DC-21A/B (1) 420V (A)	160	200	250	250/315	400	400/500	630	630/800	-	-	-	-	-	-
560V (A)	-	-	-	-	400	400/500	630	630/800	-	-	-	-	-	-
220V (A)	160	200	250	250/315	400	400/500	630	630/800	1000	1250	-	-	-	-
DC-22A/B (1) 420V (A)	160	200	250	250/250	400	400/400	630	630/800	-	-	-	-	-	-
560V (A)	-	-	-	-	400	400/400	630	630/800	-	-	-	-	-	-
220V (A)	160	200	250	250/250	400	400/400	630	630/800	630	800	-	-	-	-
DC-23A/B (1) 420V (A)	160	200	250	250/250	400	400/400	630	630/800	-	-	-	-	-	-
560V (A)	-	-	-	-	400	400/400	630	630/800	-	-	-	-	-	-
Rated making capacity at 400V AC23 (A)	1600	2000	2500	2500	4000	4000	6300	6300	10000	12500	-	-	-	-
Rated breaking capacity at 400V AC23 (A)	1280	1600	2000	2000	3200	3200	5040	5040	8000	10000	-	-	-	-
Short-circuit withstand current 1 sec. (kA)	8	8	8	8	13	13	26,5	26,5	50	50	50	50	50	50
Short-circuit withstand current 0,25 sec (kA)	16	16	16	16	26	26	53	53	100	100	100	100	100	100
Short-circuit making capacity (400V) (kA)	13,5	13,5	13,5	13,5	26	26	30	30	105	105	105	105	105	105
Rated operational power AC-23A (400V) (kA)	85	105	130	130	210	210	330	330	525	630	630	630	-	-
<b>Rated fuse short-circuit current</b>														
Back up fuse (A)	160	200	250	250	400	400	630	630	1000	1000	-	-	-	-
R.M.S. value (kA)	100	100	50	50	50	50	50	50	100	100	-	-	-	-
Peak value (kA)	20	20	25	25	30	30	40	40	90	100	-	-	-	-
Mechanical endurance (n°)	10000	10000	10000	10000	8000	8000	8000	8000	4000	4000	4000	4000	2500	2500
Electrical endurance (n°)	2000	2000	2000	2000/200	1500	1500/200	1500	1500/200	1000	1000	500	500	500	500
Power losses for pole (W)	1,6	2,4	3,8	6,0	9,4	14,8	15,6	25,7	27,3	42,7	38,3	61,3	91,7	145,5
Cable section (mmq)	120	120	120	185	2x150	2x150	2x185	2x240	-	-	-	-	-	-
Bars dimension (mm)	20x5	20x5	20x5	10x6	2x25x5	2x25x5	2x32x6	2x40x6	2x50x6	2x50x8	3x50x8	3x50x12	4x50x12	6x50x12
Change over time (I-II or II-I) (sec)	1,8	1,8	1,8	1,8	1,8	1,8	2,8	2,8	3	3	3,8	3,8	3,8	3,8
DC voltage supply ± 10% (V)	12/24	12/24	12/24	12/24	24	24	24	24	24	24	24	24	24	24
min (V)	18	18	18	18	18	18	18	18	18	18	18	18	18	18
AC voltage supply ± 10% (V)	-	-	-	-	230	230	230	230	230	230	230	230	230	230
Power motor consumption (A)	3	3	3	3	4+7	4+7	4	4	5+6	5+6	5+6	5+6	5+6	5+6
Net weight 3P (Kg)	5,5	5,5	5,5	5,5	17	17	22	22	37	37	51	51	70	70
4P (Kg)	6	6	6	6	18	18	24	24	37	37	53	53	74	74

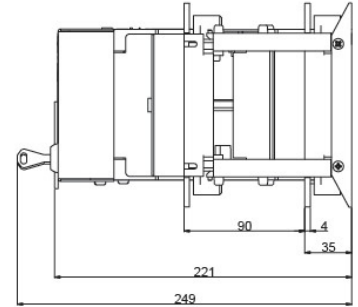
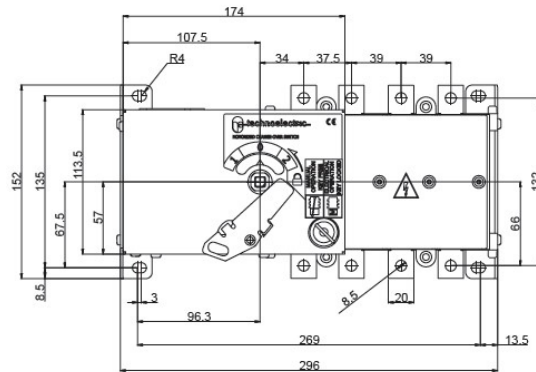
(1) Two poles in series

**MOTORIZED CHANGE OVER SWITCHES**

**CS2**



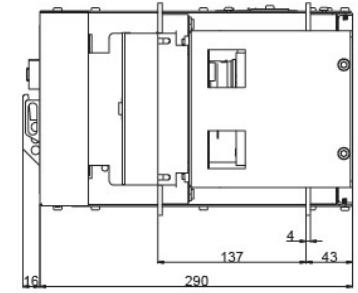
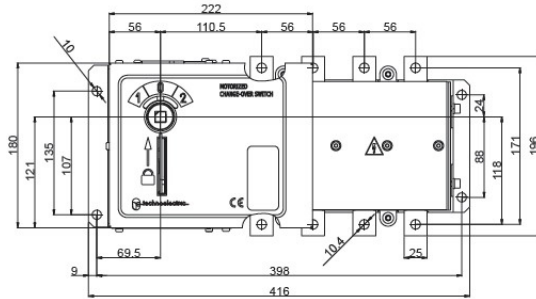
- 160A**
- 200A**
- 250A**
- 315A**



**CS3**



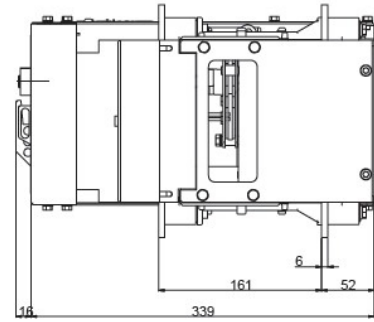
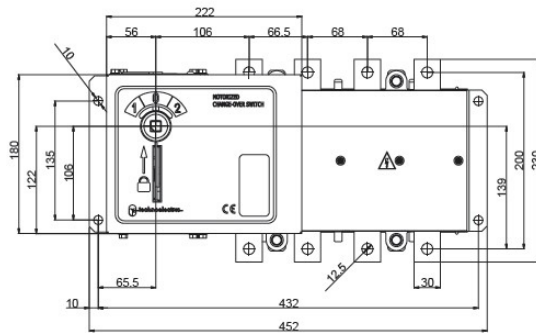
- 400A**
- 500A**



**CS4**



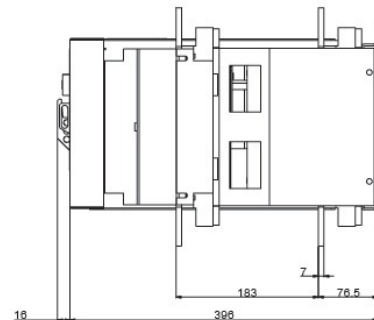
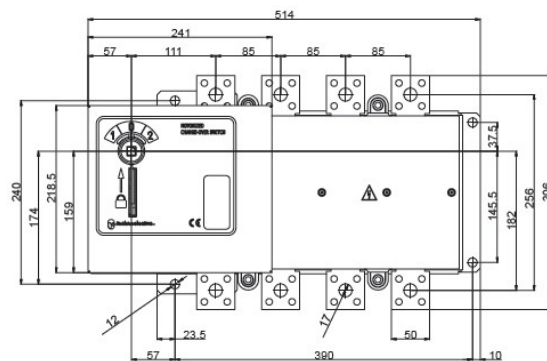
- 630A**
- 800A**



**CS5**



- 1000A**
- 1250A**

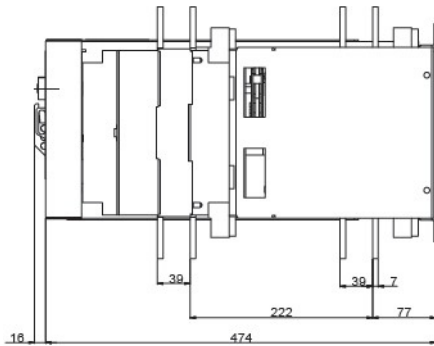
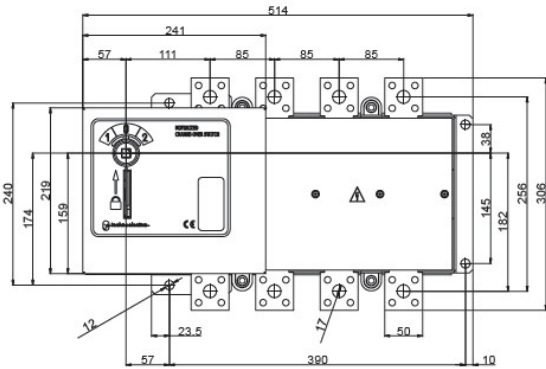


**MOTORIZED CHANGE OVER SWITCHES**

**CS5**



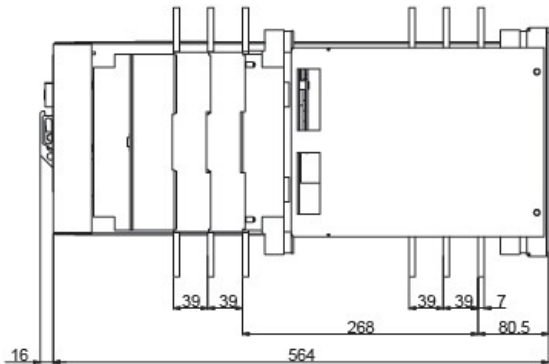
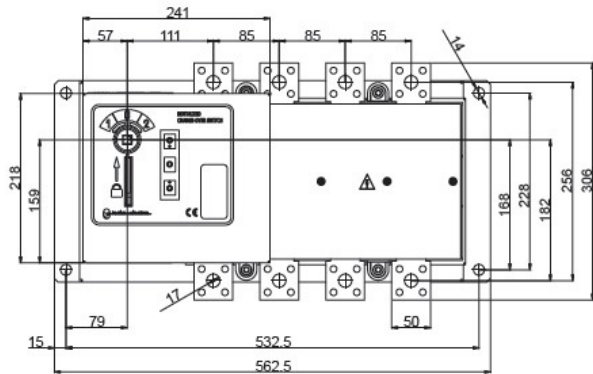
**1600A**  
**2000A**



**CS5**

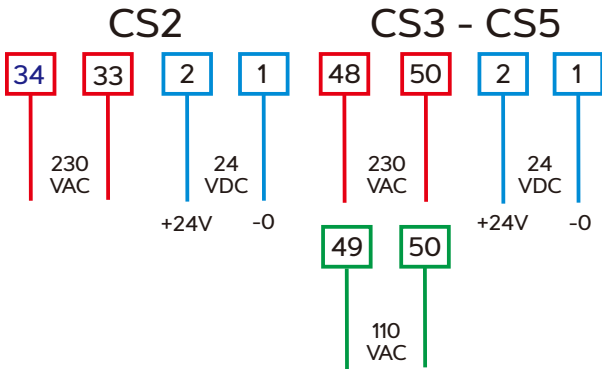


**2500A**  
**3150A**

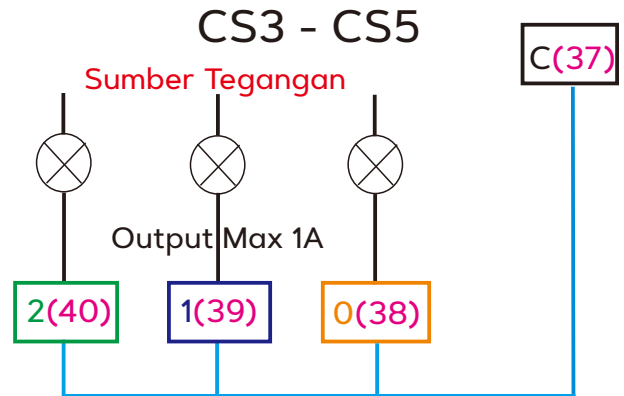


**QUICK INSTALLATION GUIDE - MOTORIZED CHANGE OVER SWITCHES**

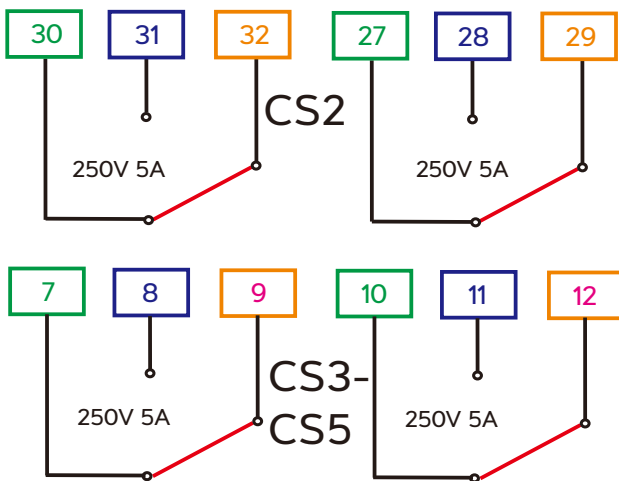
**1** Connect the Motorized COS to **power Supply terminal**



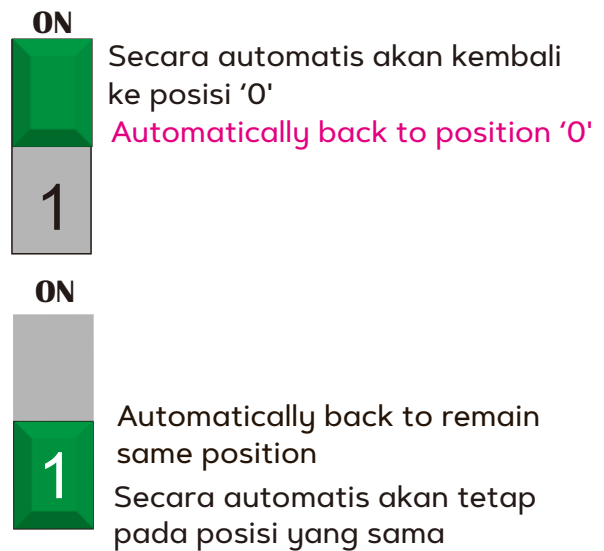
**2** Terminal Output Indicator Lamp



**3** Terminal Auxiliary Contact



**4** Contactor Automatis to Position '0'



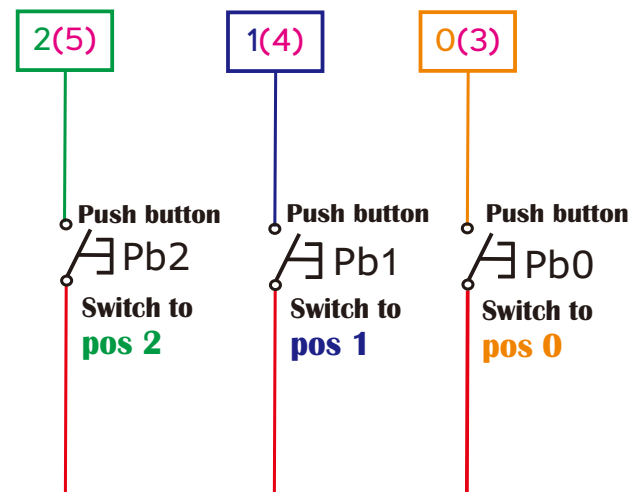
**5** **START** Terminal Connection

**C(6)**

It is not necessary to give continuous voltage source to terminal C, 2, 1, 0.  
*Sangat tidak disarankan memberikan sumber tegangan pada terminal C, 2, 1, 0.*

To activate the intended position simply by queuing terminal C with each terminal 2, 1, 0

*Untuk mengaktifkan posisi 2, 1, 0 cukup dengan menghubungkan salah satu terminal tersebut ke terminal C sesaat, tidak perlu secara terus menerus.*





**PT GUNA ERA DISTRIBUSI**

affiliated company of PT Guna Elektro

[www.gae.id](http://www.gae.id)

email: [info@gae.id](mailto:info@gae.id)

**JAKARTA TIMUR 13930**

Jl. Rawa Gelam II No. 8 Pulogadung Industrial Estate  
T (021) 4682 5050, F (021) 4682 4758

**SURABAYA 60293**

Jl. Rungkut Industri I No. 29 Rungkut Industrial Estate  
T (031) 849 3885-86, F (031) 841 6661