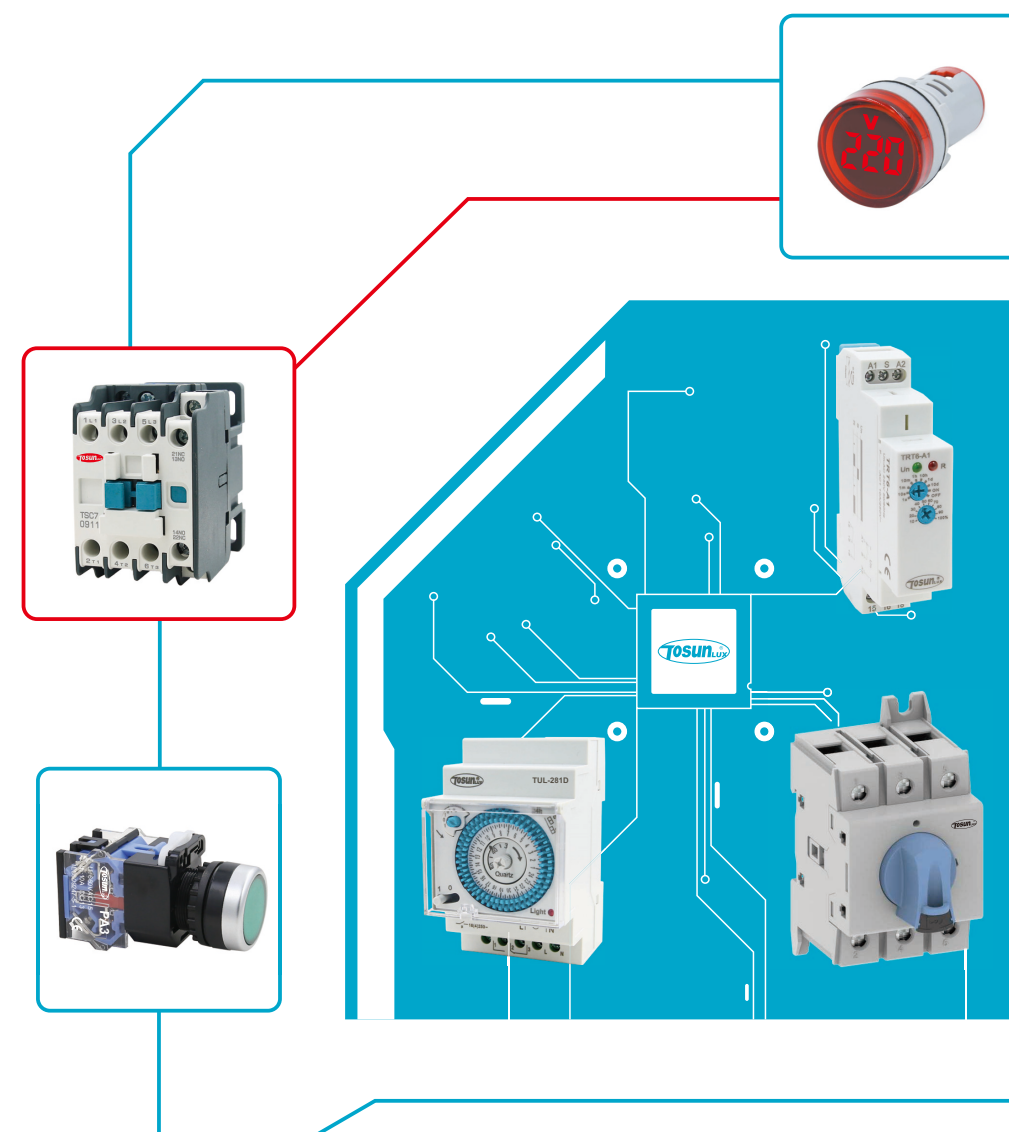


Industrial Control Devices



Tosun[®]LUX Trusted Brand in 98 Countries



Add: Birnbaumsmühle 65, 15234 Frankfurt Oder, Germany



Factory Add: Yangwen Industrial Zone, Wenzhou, Zhejiang Province, China

Office Add: Room No.1001, Fortune Center, Station Road, Wenzhou, China

E-mail: ceo@tosun.com

Http://www.tosunlux.eu

Distributor

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TSC7 AC Contactor

Application

TSC7 series AC Contactor is suitable for using in the circuits up to the rated voltage 660V AC 50Hz or 60Hz, rated current up to 95A, for making, breaking, frequently start-ing & controlling the AC motor. Combined with the auxiliary contact block, delay timer & machine-interlocking device etc, it becomes the delay contactor, mechanical inter-locking contactor, star-delta starter. With the thermal relay, it is combined into the elec-tromagnetic starter. The products comply with IEC60947-4.

Specification

Model			TSC7-09	TSC7-12	TSC7-18	TSC7-25	TSC7-32
Rated Working Current (A)	400/380V	AC-3	9	12	18	25	32
		AC-4	3.5	5	7.7	8.5	12
	690/660V	AC-3	6.6	8.9	12	18	21
		AC-4	1.5	2	3.8	4.4	7.5
Conventional Free air Thermal Current			20	20	32	40	50
Rated Insulation Voltage			690	690	690	690	690
AC3 Capacity of Phase		230/220V	2.2	3	4	5.5	7.5
3 Squirrel-cage		400/380V	4	5.5	7.5	11	15
Motor AC3 (KW)		690/660V	5.5	7.5	10	15	18.5
Mechanical Life (times) x10 ⁴	AC-3		1200	1200	1200	1200	1200
	AC-4		300	300	300	300	300
	Mechanical		3600	3600	3600	3600	3600
Electrical Life (times) x10 ⁴	AC-3		100	100	100	80	60
	AC-4		20	20	20	20	20
Number of the Contacts			3P+NO+NC				

Model			TSC7-40	TSC7-50	TSC7-65	TSC7-80	TSC7-95
Rated Working Current (A)	400/380V	AC-3	40	50	65	80	95
		AC-4	18.5	24	28	37	44
	690/660V	AC-3	34	39	42	49	49
		AC-4	9	12	14	17.3	21.3
Conventional Free air Thermal Current			60	80	80	110	125
Rated Insulation Voltage			690	690	690	690	690
AC3 Capacity of Phase		230/220V	11	15	18.5	22	25
3 Squirrel-cage		400/380V	18.5	22	30	37	45
Motor AC3 (KW)		690/660V	30	33	37	45	55
Mechanical Life (times) x10 ⁴	AC-3		600	600	600	600	600
	AC-4		300	300	300	300	300
	Mechanical		3600	3600	3600	3600	3600
Electrical Life (times) x10 ⁴	AC-3		80	60	60	60	60
	AC-4		15	15	15	10	10
Number of the Contacts			3P+NO+NC				



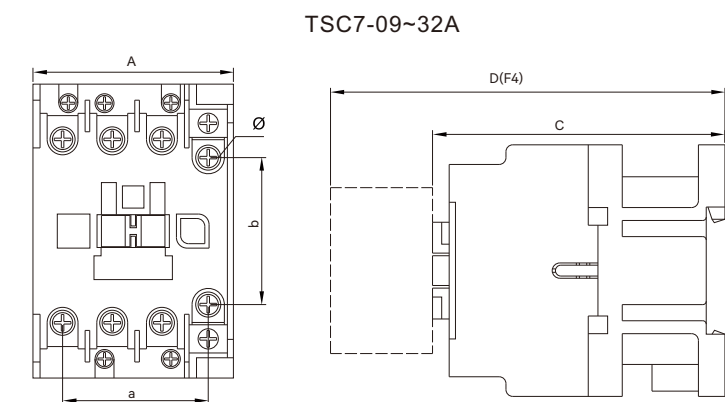
TSC7-09



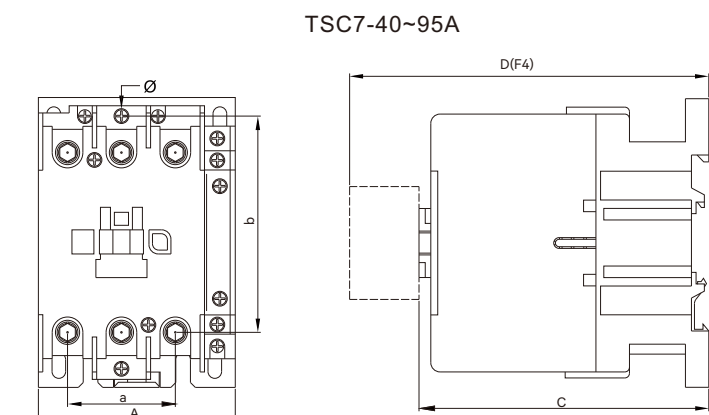
TSC7-80



Dimension



TSC7-09~32A



TSC7-40~95A



TSC7-09
Multi Voltage



TSC7-80
Multi Voltage

Model	A max	B max	C max	D max	a	b	Ø
TSC7-09~12	47	75	87	120.5	34/35	56/60	4.5
TSC7-18	47	75	87	125.5	34/35	56/60	4.5
TSC7-25~32	57	83	100	138.5	40	48	4.5
TSC7-40~65	74	125	116	154.5	40	105	6.5
TSC7-80~95	87	125	127	165.5	40	105	6.5

AC Standard Control Circuit Voltages

Volts	24	42	48	110	220	230	240	380	400	415	440	500	600
Frequency	50Hz, 60Hz, 50/60Hz												

AC/DC Standard Control Circuit Voltages

Multi-voltage	AC/DC 24-60V, AC/DC 110-260V, AC/DC 300-460V												
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TSC-D AC Contactor

Application

TSC-D series AC Contactor is suitable for using in the circuits up to the rated voltage 660V AC 50Hz or 60Hz, rated current up to 95A, for making, breaking, frequently starting & controlling the AC motor. Combined with the auxiliary contact block, delay timer & machine-interlocking device etc, it becomes the delay contactor, mechanical interlocking contactor, star-delta starter. With the thermal relay, it is combined into the electromagnetic starter. The products comply with IEC60947-4.

Specification

Model		TSC-D09	TSC-D12	TSC-D18	TSC-D25	TSC-D32
Rated Working Current (A)	AC3	9	12	18	25	32
	AC4	3.5	5	7	8.5	12
AC3 Capacity of Phase 3 Squirrel-cage Motor AC3 (KW)	220/230V	2.2	3	4	5.5	7.5
	380/400V	4	5.5	7.5	11	15
	415V	4	5.5	9	11	15
	500V	5.5	7.5	10	15	18.5
	660/690V	5.5	7.5	10	15	18.5
Rated Heat Current (A)		20	20	32	40	50
Electrical Life (times)	AC3 x 10 ⁴	100	100	100	100	80
	AC4 x 10 ⁴	20	20	20	20	20
Mechanical Life (times) x 10 ⁴		1000	1000	1000	1000	800
Number of the Contacts		3P+NO				
		3P+NC				

Model		TSC-D40	TSC-D50	TSC-D65	TSC-D80	TSC-D95
Rated Working Current (A)	AC3	40	50	65	80	95
	AC4	16	20	25	32	38
AC3 Capacity of Phase 3 Squirrel-cage Motor AC3 (KW)	220/230V	11	15	18.5	22	25
	380/400V	18.5	22	30	37	45
	415V	22	25	37	45	45
	500V	22	30	37	55	55
	660/690V	30	33	37	45	55
Rated Heat Current (A)		60	80	80	95	110
Electrical Life (times)	AC3 x 10 ⁴	80	60	60	60	60
	AC4 x 10 ⁴	15	15	15	10	10
Mechanical Life (times) x 10 ⁴		800	800	800	600	600
Number of the Contacts		3P+NO+NC				



TSC-D18



TSC-D32

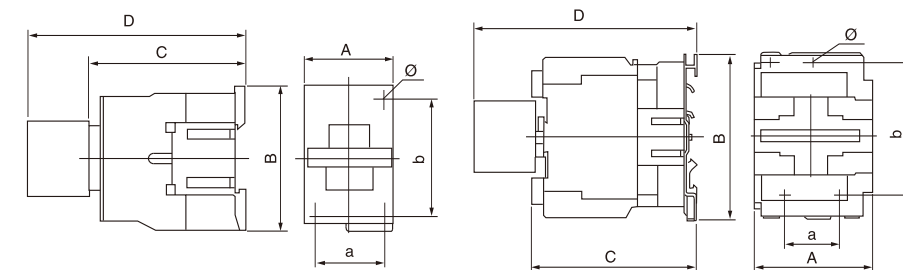
Standard Control Circuit Voltages

Volts	24	42	48	110	220	230	240	380	400	415	440	500	600
50Hz	B5	D5	E5	F5	M5	P5	U5	Q5	V5	N5	R5	S5	Y5
60Hz	B6	D6	E6	F6	M6	-	U6	Q6	-	-	R6	-	-
50/60Hz	B7	D7	E7	F7	M7	P7	U7	Q7	V7	N7	R7	-	-

Dimension

For TSC-D09~95 contactors:

Model	A	B	C	D	a	b	ø
TSC-D09~12	47	76	82	113	34/35	50/60	4.5
TSC-D18	47	76	87	118	34/35	50/60	4.5
TSC-D25	57	86	95	126	40	48	4.5
TSC-D32	57	86	100	131	40	48	4.5
TSC-D40~65	77	129	116	145	40	100/110	6.5
TSC-D80~95	87	129	127	175	40	100/110	6.5



TSC-D09~32

TSC-D40~95



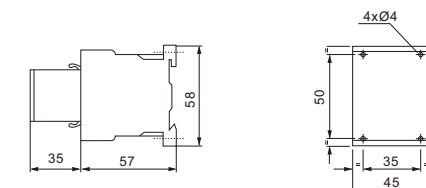
TSC-D95

TSC1-K AC Contactor

Specification

Model	TSC1-K06	TSC1-K09	TSC1-K12	TSC1-K16
Rated Current at AC3 (A)	6	9	12	16
Rated Working Current (I _e) A	5	7.5	10	12
Conventional Thermal Current (I _{th}) A	16	20	20	20
AC-3 Use Group	220V	1.5	2.2	3
	380/415V	2.2	4	5.5
Control Power KW	440/500V	3	4	5.5
	660V	3	4	4
Number of the Contacts	3P+NO/3P+NC			
	4P: 4NO/2NO+2NC			

Dimension



TSC1-K09

TSC1-D AC Contactor

Application

TSC1-D series AC Contactor is suitable for using in the circuits up to the rated voltage 660V AC 50Hz or 60Hz, rated current up to 620A, for making, breaking, frequently starting & controlling the AC motor. Combined with the auxiliary contact block, delay timer & machine-interlocking device etc, it becomes the delay contactor, mechanical interlocking contactor, star-delta starter. With the thermal relay, it is combined into the electromagnetic starter. The products comply with IEC60947-4.



TSC1-D09

Standard Control Circuit Voltages

Volts	24	42	48	110	220	230	240	380	400	415	440	500	600
50Hz	B5	D5	E5	F5	M5	P5	U5	Q5	V5	N5	R5	S5	Y5
60Hz	B6	D6	E6	F6	M6	-	U6	Q6	-	-	R6	-	-
50/60Hz	B7	D7	E7	F7	M7	P7	U7	Q7	V7	N7	R7	-	-

Specification

Model		D09	D12	D18	D25	D32	D40	D50	D65
Rated Working	AC3	9	12	18	25	32	40	50	65
Current (A)	AC4	3.5	5	7.7	8.5	12	18.5	24	28
AC3 Capacity of Phase 3	220/230V	2.2	3	4	5.5	7.5	11	15	18.5
	380/400V	4	5.5	7.5	11	15	18.5	22	30
Squirrel-cage	415V	4	5.5	9	11	15	22	25	37
Motor AC3 (KW)	500V	5.5	7.5	10	15	18.5	22	30	37
	660/690V	5.5	7.5	10	15	18.5	30	33	37
Rated Heat Current (A)		20	20	32	40	50	60	80	80
Electrical Life (times)	AC3 x 10 ⁴	100	100	100	100	80	80	60	60
	AC4 x 10 ⁴	20	20	20	20	20	15	15	15
Mechanical Life (times) x 10 ⁴		1000	1000	1000	1000	800	800	800	800
Number of the Contacts		3P+NO					3P+NO+NC		
		3P+NC							
		4P-004 4NO							
		4P-008 2NO+2NC							

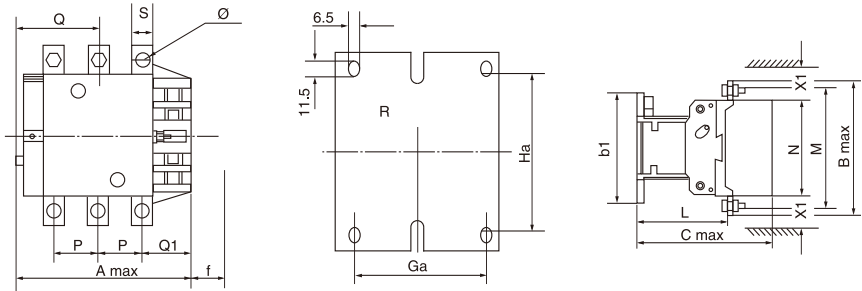


TSC1-D80

Dimension

For TSC1-D115~620 contactors:

Model	A	B	C	b1	P	Q	S	Q1	M	N	L	Ø	Ga	Ha
TSC1-D115	158	120	132	158	35	60	17	25	134	96.2	75	M6	-	-
TSC1-D150	158	120	132	158	35	60	17	25	134	96.2	75	M6	-	-
TSC1-D170	158	120	132	158	35	60	17	25	134	96.2	75	M6	-	-
TSC1-D205	168.5	174	181	137	40	69	20	59.4	154	127	113.5	M8	80	120-106
TSC1-D245	168.5	197	181	137	48	69	25	51.5	172	127	113.5	M10	80	120-106
TSC1-D300	213	206	219	145	48	91	25	74	181	158	145	M10	80	120-106
TSC1-D410	213	206	219	209	48	91	25	74	181	158	145	M10	80	120-106
TSC1-D475	233	238	232	209	55	108	30	77	208	172	146	M10	80	180
TSC1-D620	309	304	255	280	80	140	40	89	264	202	155	M12	80	180



TSC1-D115

Specification

D80	D95	D115	D150	D170	D205	D245	D300	D410	D475	D620
80	95	115	150	170	205	245	300	410	475	620
37	44	52	60	75	85	105	117	138	147	180
22	25	30	40	55	63	75	100	110	147	200
37	45	55	75	90	110	132	160	220	265	335
45	45	59	80	100	110	132	180	220	280	375
55	55	75	90	110	129	160	200	250	355	400
45	55	80	100	110	129	160	220	280	355	450
95	110	200	250	250	275	315	400	500	700	1000
60	60	200	60	60	50	50	50	30	30	20
10	10	15	15	15	15	15	15	8	8	5
600	600	300	300	300	300	300	300	100	100	100
3P+NO+NC		3P								
4NO		-								
2NO+2NC		-								



TSC1-D620

TSC1-F AC Contactor

Application

TSC1-F series AC Contactor is applicable to the circuits up to the rated voltage 1000V AC 50Hz or 60Hz, rated current from 115A to 800A, for long distance breaking circuit and frequently starting or controlling the motor. It also can be used for the control of distribution circuits of rated current from 200A to 1600A.

Specification

Model		TSC1-F115	TSC1-F150	TSC1-F185	TSC1-F225	TSC1-F265	TSC1-F330
Rated Operation Current (A)	AC-3	115	150	185	225	265	330
	AC-1	200	250	275	315	350	400
Standard Power Ratings of 3-phase Motors AC-3 (KW)	220/230V	30	40	55	63	75	100
	380/400V	55	75	90	110	132	160
	415V	59	80	100	110	140	180
	440V	59	80	100	110	140	200
	500V	75	90	110	129	160	200
	660/690V	80	100	110	129	160	200
	1000V	65	65	100	100	147	160

Model		TSC1-F400	TSC1-F500	TSC1-F630	TSC1-F780	TSC1-F800
Rated Operation Current (A)	AC-3	400	500	630	780	800
	AC-1	500	700	1000	1600	1000
Standard Power Ratings of 3-phase Motors AC-3 (KW)	220/230V	110	147	200	220	220
	380/400V	200	250	335	400	400
	415V	200	280	375	425	420
	440V	250	295	400	425	420
	500V	257	355	400	450	430
	660/690V	280	335	450	475	470
	1000V	185	335	450	450	450

Both 3 poles and 4 poles are available.



TSC1-F115



TSC1-F630

TSC2 Mechanical Interlocked Contactor

Specification

Model	Rated Current AC-3 (A)	Controlled Power (KW)				
		220V	380V	415V	440V	660V
TSC2-D09	9	2.2	4	4	4	5.5
TSC2-D12	12	5.5	5.5	5.5	5.5	7.5
TSC2-D18	18	7.5	7.5	9	9	10
TSC2-D25	25	5.5	11	11	11	15
TSC2-D32	32	7.5	15	15	15	18.5
TSC2-D40	40	18.5	18.5	22	22	30
TSC2-D50	50	15	22	25	30	33
TSC2-D65	65	18.5	30	37	37	37
TSC2-D80	80	22	37	45	45	45
TSC2-D95	95	22	45	45	45	41
TSC2-D115	115	30	55	59	59	80
TSC2-D150	150	40	75	80	80	100
TSC2-D170	170	55	90	100	100	110
TSC2-D205	205	63	110	110	110	129
TSC2-D245	245	75	132	132	132	160
TSC2-D300	300	100	160	200	200	220
TSC2-D410	410	110	220	250	250	280
TSC2-D475	475	147	265	280	280	355
TSC2-D620	620	200	335	400	400	450

Model	Number of Poles	Rated Current AC-3 (A)	Rated Current In/A	Controlled Power (KW)	
				220V	380V
TSC2-F115	3P	115	250	200	55
TSC2-F1154	4P	115	250	200	55
TSC2-F150	3P	150	355	250	75
TSC2-F1504	4P	150	355	250	75
TSC2-F185	3P	185	425	275	90
TSC2-F1854	4P	185	425	275	90
TSC2-F225	3P	225	500	315	110
TSC2-F2254	4P	225	500	315	110
TSC2-F265	3P	265	630	350	132
TSC2-F2654	4P	265	630	350	132
TSC2-F330	3P	330	800	400	160
TSC2-F3304	4P	330	800	400	160
TSC2-F400	3P	400	800	500	200
TSC2-F4004	4P	400	800	500	200
TSC2-F500	3P	500	1000	700	250
TSC2-F5004	4P	500	1000	700	250
TSC2-F630	3P	630	1250	1000	335
TSC2-F6304	4P	630	1250	1000	335
TSC2-F800	3P	800	1250	1000	400



TSC2-D09



TSC2-F225

TSE1-D Magnetic Starter



TSE1-D09



TSE1-D25

Application

TSE1-D magnetic starter is mainly applied to circuit of AC 50Hz or 60Hz, voltage up to 550V for far distance making and breaking circuit and frequently starting and controlling motor. It has the features of small volume, light weight, low power consumption, high efficiency, safe and reliable performance etc.

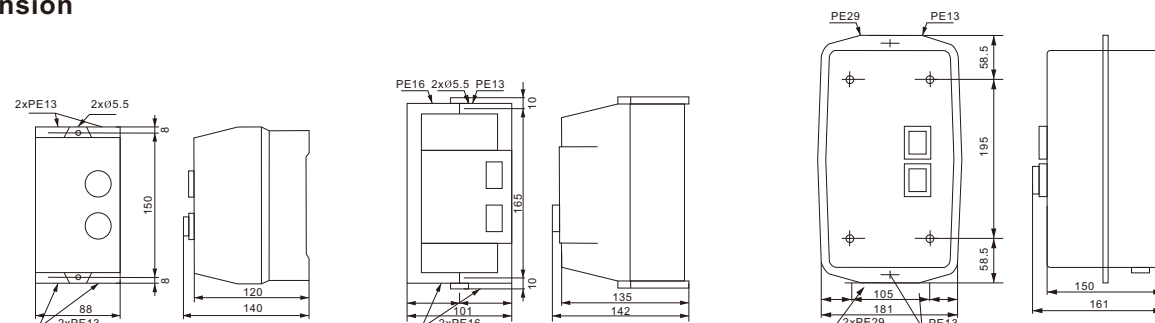
Specification

Model	Rated Current (A)	Maximum Power AC3 Duty (KW)						Suitable Thermal Relay (A)
		220V 230V	380V 400V	415V	440V	550V	660V 690V	
TSE1-D09	9	2.2	4	4	4	5.5	5.5	TSR2-D1312 TSR2-D1314
TSE1-D12	12	3	5.5	5.5	5.5	7.5	7.5	TSR2-D1316
TSE1-D18	18	4	7.5	9	9	10	10	TSR2-D1321
TSE1-D25	25	5.5	11	11	11	15	15	TSR2-D1322 TSR2-D2353
TSE1-D32	32	7.5	15	15	15	18.5	18.5	TSR2-D1353 TSR2-D2355
TSE1-D40	40	11	18.5	22	22	22	30	TSR2-D3353 TSR2-D3355
TSE1-D50	50	15	22	25	30	30	33	TSR2-D3357 TSR2-D3359
TSE1-D65	65	18.5	30	37	37	37	37	TSR2-D3361
TSE1-D80	80	22	37	45	45	55	45	TSR2-D3363 TSR2-D3365
TSE1-D95	95	25	45	45	45	55	45	TSR2-D3365

Standard control circuit voltages

Volts	24	42	48	110	220	230	240	380/400	400	415	440
50/60Hz	B7	D7	E7	F7	M7	P7	U7	Q7	V7	N7	R7

Dimension



TSE1-D09,D12,D18

TSE1-D25,D32

TSE1-D40,D50,D65,D80,D95

TSE7-D Magnetic Starter



TSE7-D09



TSE7-D25

Application

TSE7-D magnetic starter is mainly applied to circuit of AC 50Hz or 60Hz, voltage up to 550V for far distance making and breaking circuit and frequently starting and controlling motor. It has the features of small volume, light weight, low power consumption, high efficiency, safe and reliable performance etc.

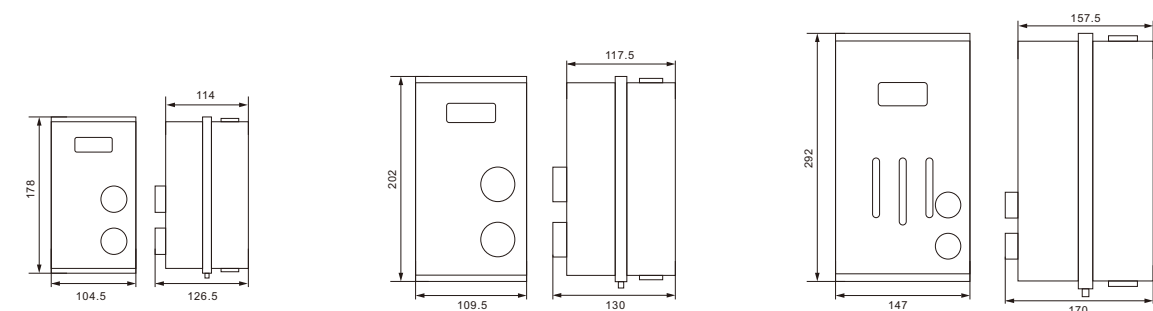
Specification

Model	Rated Current (A)	Maximum Power AC3 Duty (KW)						Suitable Thermal Relay (A)
		220V 230V	380V 400V	415V	440V	550V	660V 690V	
TSE7-D09	9	2.2	4	4	4	5.5	5.5	TSR2-D1312 TSR2-D1314
TSE7-D12	12	3	5.5	5.5	5.5	7.5	7.5	TSR2-D1316
TSE7-D18	18	4	7.5	9	9	10	10	TSR2-D1321
TSE7-D25	25	5.5	11	11	11	15	15	TSR2-D1322 TSR2-D2353
TSE7-D32	32	7.5	15	15	15	18.5	18.5	TSR2-D1353 TSR2-D2353 TSR2-D2355
TSE7-D40	40	11	18.5	22	22	22	30	TSR2-D3353 TSR2-D3355
TSE7-D50	50	15	22	25	30	30	33	TSR2-D3357 TSR2-D3359
TSE7-D65	65	18.5	30	37	37	37	37	TSR2-D3361
TSE7-D80	80	22	37	45	45	55	45	TSR2-D3363 TSR2-D3365
TSE7-D95	95	25	45	45	45	55	45	TSR2-D3365

Standard control circuit voltages

Volts	24	42	48	110	220	230	240	380/400	400	415	440
50/60Hz	B7	D7	E7	F7	M7	P7	U7	Q7	V7	N7	R7

Dimension



TSE7-D09,D12,D18

TSE7-D25,D32

TSE7-D40,D50,D65,D80,D95

TSR2-D Thermal Overload Relay

Application

TSR2-D thermal overload relay can be used in the circuit of 50Hz or 60Hz, rated insulation voltage 660V, rated current 0.1-93A for protecting the phase break when the electric motor is overload.
The relay has different mechanism and temperature compensation & can be plugged in TSC-D or TSC1-D series AC contactor. The products comply with IEC60947-5.



TSR2-D13



TSR2-D23

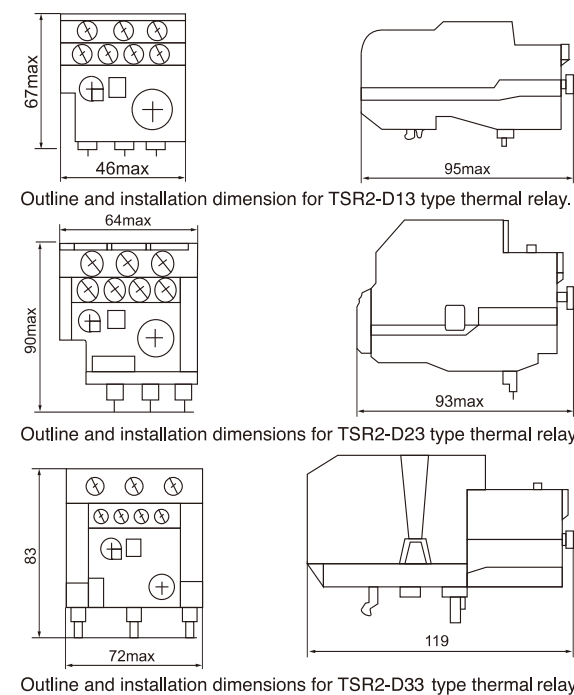


TSR2-D33

Specification

Model	Rated Frame Current		Thermal Component	
			Rated Current (A)	Regular or Scale of Rated Current (A)
TSR2-D13	25A	1301	0.16	0.10-0.16
		1302	0.25	0.16-0.25
		1303	0.40	0.25-0.40
		1304	0.63	0.40-0.63
		1305	1.0	0.63-1.0
		1306	1.6	1.0-1.6
		1307	2.5	1.6-2.5
		1308	4.0	2.5-4.0
		1310	6.0	4.0-6.0
		1312	8.0	5.5-8.0
		1314	10.0	7.0-10.0
		1316	13.0	9.0-13.0
		1321	18.0	12.0-18.0
		1322	25.0	17.0-25.0
TSR2-D23	36A	1353	32	23.0-32.0
		2353	32	23.0-32.0
		2355	36	28.0-36.0
TSR2-D33	93A	3353	32	23.0-32.0
		3355	40	30.0-40.0
		3357	50	37.0-50.0
		3359	65	48.0-65.0
		3361	70	55.0-70.0
		3363	80	63.0-80.0
		3365	93	80.0-93.0

Dimension



TSA7-D1064



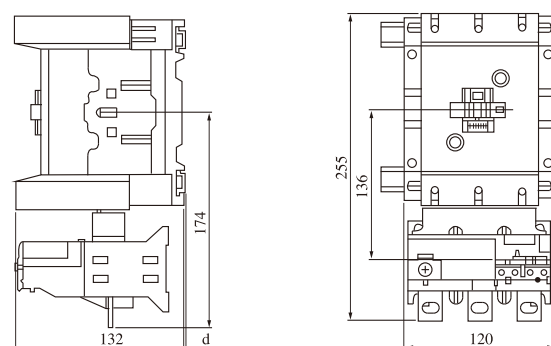
TSA7-D3064

TSR2-F Electronic Thermal Overload Relay

Specification

Model		Setting Range (A)	For Contactor
TSR2-F53	F5357	30-50	F115-F185
	F5363	48-80	F115-F185
	F5367	60-100	F115-F185
	F5369	90-150	F115-F185
	F5371	132-220	F225-F265
TSR2-F73	F7375	200-330	F330-F500
	F7379	300-500	F330-F500
	F7381	380-630	F400-F630

Dimension



TSR2-F53

TSA1 Auxiliary Contact Block

Specification

Model	Type of Contact	Model	Type of Contact
TSA1-DN02	2NC	TSA1-DN04	4NC
TSA1-DN11	NO+NC	TSA1-DN13	1NO+3NC
TSA1-DN20	2NO	TSA1-DN31	3NO+1NC
TSA1-DN22	2NO+2NC	TSA8-DN11	1NO+1NC
TSA1-DN40	4NO	TSA8-DN20	2NO

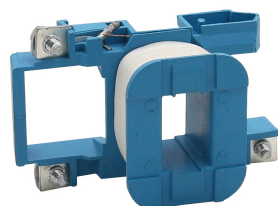


TSA1-DN22

TSX1 Bobbin of AC Contactor

Specification

TSX1-D2:	Used for Contactor	TSC1-D09 to TSC1-D18
TSX1-D4:	Used for Contactor	TSC1-D25 to TSC1-D32
TSX1-D6:	Used for Contactor	TSC1-D40 to TSC1-D95
TSX1-FF:	Used for Contactor	TSC1-F115 to TSC1-F150
TSX1-FG:	Used for Contactor	TSC1-F185 to TSC1-F225
TSX1-FH:	Used for Contactor	TSC1-F265 to TSC1-F330
TSX1-FJ:	Used for Contactor	TSC1-F400
TSX1-FK:	Used for Contactor	TSC1-F500
TSX1-FL:	Used for Contactor	TSC1-F630
TSX1-FX:	Used for Contactor	TSC1-F780



TSX1-D2

TSA2 TSA3 Delay Timer

Specification

Model	Delay Range	Number of the Delay Contacts
TSA2-DT0	0.1~3s	NO+NC
TSA2-DT2	0.1~30s	
TSA2-DT4	10~180s	
TSA3-DR0	0.1~3s	
TSA3-DR2	0.1~30s	
TSA3-DR4	10~180s	



TSA3-DR2

Timer

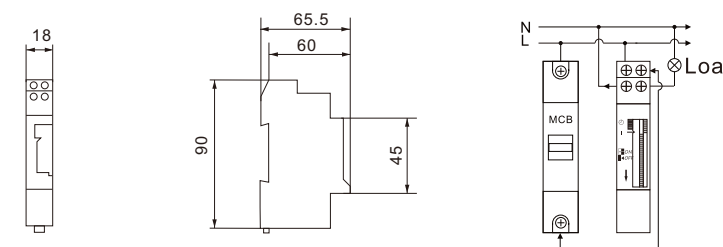
Specification

Model	TS-GM1	TS-GM1N
Indicator	×	√
Auxiliary Power Supply	AC85-250V 50/60HZ	
Switching Contact	16(4)A AC250V	
Burden	0.5W	
Accuracy	±3sec/day at 22°C	
Type of Dial	daily 96 pins	
Minimum Setting Unit	daily 15 minutes	
Temperature	Working -10°C ~ +50°C	
Manual Operating Switch	ON-Automatic	
2 Positions		
Terminal Wires	2x2.5mm	
Protection Degree	IP20 as per IEC/EN60730	



TS-GM1N

Dimension



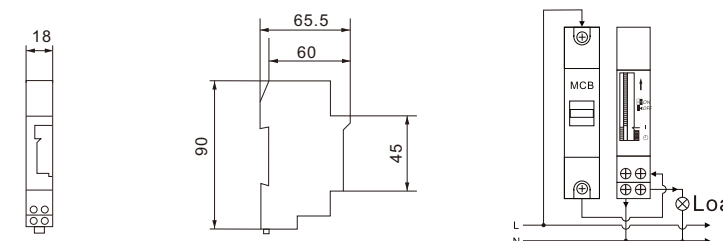
Specification

Model	TUL180A	TUL180N
Indicator	×	√
Auxiliary Power Supply	AC85-250V 50/60HZ	
Switching Contact	16(4)A AC250V	
Burden	0.5W	
Accuracy	±3sec/day at 22°C	
Type of Dial	daily 96 pins	
Minimum Setting Unit	daily 15 minutes	
Temperature	Working -10°C ~ +50°C	
Manual Operating Switch	ON-Automatic	
2 Positions		
Terminal Wires	2x2.5mm	
Protection Degree	IP20 as per IEC/EN60730	



TUL180A

Dimension



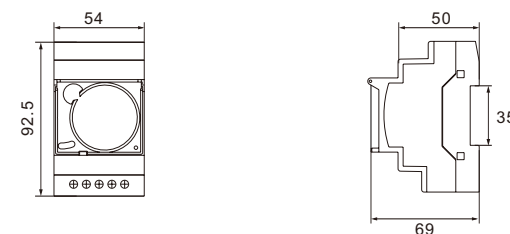
Timer

Specification

Model	TUL281H	TUL261H
Contact Capacity	AC85-250V 16A	
Power Reserve	NiMH rechargeable battery	/
Full Timing Rang	24h	
Contact Resistance	$\leq 50\text{M}\Omega$	
Insulation Resistance	$\geq 100\text{M}\Omega$	
Electrical Life	10^6 times	
Mechanical Life	10^7 times	
Operating Temperature	$-10^\circ\text{C}\sim+50^\circ\text{C}$	
Minimum Setting Unit	30 mins	
Set Up Times	30mins per time, 48 times	

★ Indicator

Dimension



TUL281H

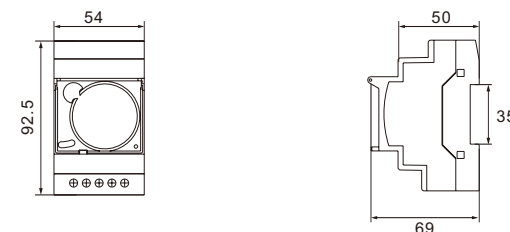


Specification

Model	TUL281D	TUL261D
Contact Capacity	AC85-250V 16A	
Power Reserve	NiMH rechargeable battery	/
Full Timing Rang	24h	
Contact Resistance	$\leq 50\text{M}\Omega$	
Insulation Resistance	$\geq 100\text{M}\Omega$	
Electrical Life	10^6 times	
Mechanical Life	10^7 times	
Operating Temperature	$-10^\circ\text{C}\sim+50^\circ\text{C}$	
Minimum Setting Unit	15 mins	
Set Up Times	15mins per time, 96 times	

★ Indicator

Dimension



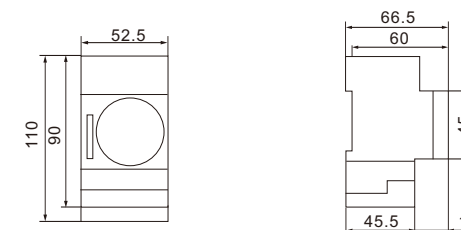
TUL281D



Specification

Model	TUL181H
Contact Capacity	AC220V 16A
Full Timing Rang	24h
Contact Resistance	$\leq 50\text{M}\Omega$
Insulation Resistance	$\geq 100\text{M}\Omega$
Coil Voltage	AC100V, AC230V
Electrical Life	10^6 times
Mechanical Life	10^7 times
Operating Temperature	$-40^\circ\text{C}\sim+55^\circ\text{C}$
Storage Battery (Working Reserve)	150h
Minimum Setting Unit	30 mins
Set Up Times	30mins per time, 48 times

Dimension



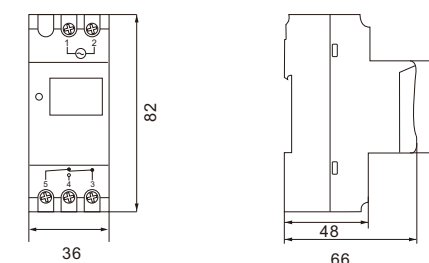
TUL181H

Specification

Model	TS-GE2 16A/ 20A/ 30A
Operating Voltage	AC220-240V 50/60Hz
Power Consumption	4.5VA
Accuracy	$\leq 1\text{s/d}$
On/Off Setting	8ON/8OFF
Mounting	DIN rail mounting
Minimum Setting Unit	1min
Time Setting Range	1 minute to 168 hours
Contact Capacity	TS-GE2 16A Resistive: 16A/AC250V
	TS-GE2 20A Resistive: 20A/AC250V
	TS-GE2 30A Resistive: 30A/AC250V
Operating Temperature	$-10^\circ\text{C}\sim+50^\circ\text{C}$

★ Summer / Winter time setting

Dimension



TS-GE2

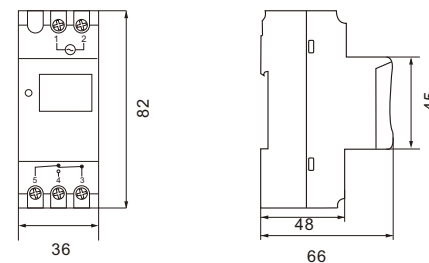


Timer

Specification

Model	THC-15A/ 20A/ 30A
Operating Voltage	AC220-240V;AC110V;AC85-240V;DC/AC12V;DC/AC24V
Power Consumption	4.5VA
Operating Temperature	-10°C~+50°C
Accuracy	≤1s/d
On/Off Setting	16 ON/16 OFF
Minimum Setting Unit	1 min
Time Setting Range	1 minute to 168 hours
Contact Capacity	THC-15A Resistive: 16A/AC250V
	THC-20A Resistive: 20A/AC250V
	THC-30A Resistive: 30A/AC250V
Mounting	DIN rail mounting

Dimension



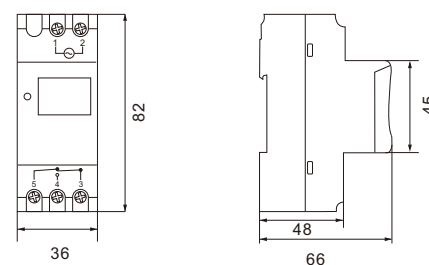
THC-15A

Specification

Model	THC-15B/ 20B/ 30B
Operating Voltage	AC220-240V;AC110V;AC85-240V;DC/AC12V;DC/AC24V
Power Consumption	4.5VA
Accuracy	≤1s/d
On/Off Setting	8ON/8OFF
Minimum Setting Unit	1min
Time Setting Range	1 minute to 168 hours
Contact Capacity	THC-15B Resistive: 16A/AC250V
	THC-20B Resistive: 20A/AC250V
	THC-30B Resistive: 30A/AC250V
Mounting	DIN rail mounting
Operating Temperature	-10°C~+50°C

★ Astronomical latitude setting

Dimension

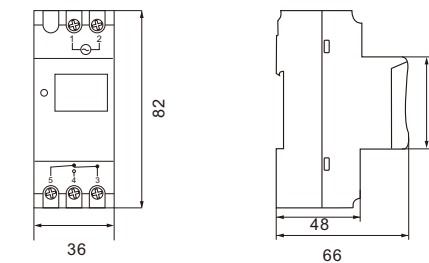


THC-30B

Specification

Model	THC-15F/ 20F/ 25F / 30F
Operating Voltage	AC220-240V;AC110V;AC85-240V;DC/AC12V;DC/AC24V
Power Consumption	4.5VA
Operating Temperature	-10°C~+50°C
Accuracy	≤2s/d
On/Off Setting	28 ON/28 OFF
Minimum Setting Unit	1 min
Time Setting Range	1 minute to 168 hours
Contact Capacity	THC-15F Resistive: 16A/AC250V
	THC-20F Resistive: 20A/AC250V
	THC-30F Resistive: 30A/AC250V
Mounting	DIN rail mounting

Dimension



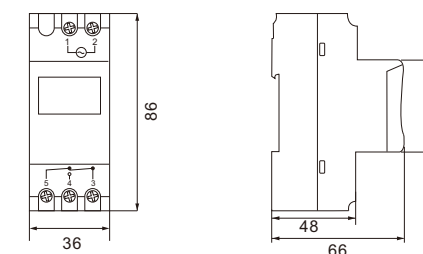
THC-15F

Specification

Model	THC-170 16A/20A/25A/30A	THC-170D 16A/20A/25A/30A
Full Timing Range	24h 7days	
Rated Voltage	AC220-240V;AC110V;AC85-240V;DC/AC12V;DC/AC24V	
Contact Capacity	16A, 20A, 25A,30A,AC250V	
Contact Form	1 changeover switches	
Accuracy	≤2s/d	
Display	LCD without backlight	LCD with backlight
Mounting	DIN rail	
Minimum Setting Unit	1 min	
Programmable	96 ON/OFF	
Storage Battery	3 years	
Consumed Power	4VA	
Electrical Life	≥10 ⁵ times	
Mechanical Life	≥10 ⁷ times	
Operating Temperature	-10°C~+50°C	

★ Astronomical latitude setting; summer/winter time setting; pulse function; sleep mode; countdown; holiday mode; cycle mode; password protection;

Dimension



THC-170D

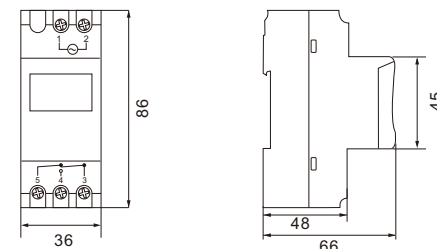
Timer

Specification

Model	THC-610 16A/20A/25A/30A	THC-610D 16A/20A/25A/30A
Full Timing Range	24h 7days	
Rated Voltage	AC220-240V;AC110V;AC85-240V;DC/AC12V;DC/AC24V	
Contact Capacity	16A, 20A, 25A, 30A, AC250V	
Contact Form	1 changeover switch	
Accuracy	$\leq 2s/d$	
Display	LCD without backlight	LCD with backlight
Mounting	DIN rail	
Minimum Setting Unit	1 min	
Programmable	96 ON/OFF	
Storage Battery	3 years	
Consumed Power	4VA	
Electrical Life	$\geq 10^5$ times	
Mechanical Life	$\geq 10^7$ times	
Operating Temperature	$-10^{\circ}C \sim +50^{\circ}C$	

★ Astronomical latitude setting; summer/winter time setting; pulse function; sleep mode; countdown; holiday mode; cycle mode; password protection.

Dimension

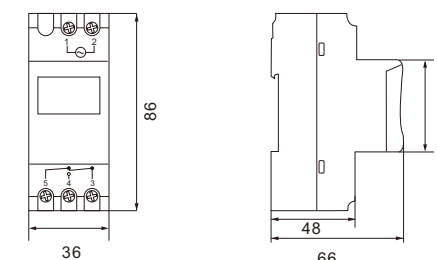


Specification

Model	THC-810 16A/20A/25A/30A	THC-810D 16A/20A/25A/30A
Full Timing Range	24h 7days	
Rated Voltage	AC220-240V;AC110V;AC85-240V;DC/AC12V;DC/AC24V	
Contact Capacity	16A, 20A, 25A, 30A, AC250V	
Contact Form	1 changeover switch	
Accuracy	$\leq 2s/d$	
Display	LCD without backlight	LCD with backlight
Mounting	DIN rail	
Minimum Setting Unit	1 min	
Programmable	96 ON/OFF	
Storage Battery	3 years	
Consumed Power	4VA	
Electrical Life	$\geq 10^5$ times	
Mechanical Life	$\geq 10^7$ times	
Operating Temperature	$-10^{\circ}C \sim +50^{\circ}C$	

★ Summer time setting; pulse function; sleep mode; countdown; holiday mode; cycle mode; password protection.

Dimension



THC-610
16A/20A/25A



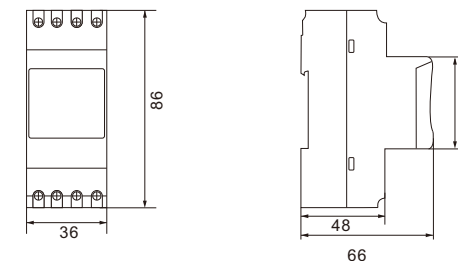
THC-810D
30A

Specification

Model	THC-622 16A/20A	THC-622D 16A/20A
Full Timing Range	24h 7days	
Rated Voltage	AC220-240V;AC110V;AC85-240V;DC/AC12V;DC/AC24V	
Contact Capacity	16A, 20A, AC250V	
Contact Form	2 changeover switches	
Accuracy	$\leq 2s/d$	
Display	LCD without backlight	LCD with backlight
Mounting	DIN rail	
Minimum Setting Unit	1 min	
Programmable	96 ON/OFF	
Storage Battery	3 years	
Consumed Power	7.5VA	
Electrical Life	$\geq 10^5$ times	
Mechanical Life	$\geq 10^7$ times	
Operating Temperature	$-10^{\circ}C \sim +50^{\circ}C$	

★ Astronomical latitude setting; summer/winter time setting; pulse function; sleep mode; countdown; holiday mode; cycle mode; password protection; Dual-circuit independent control.

Dimension

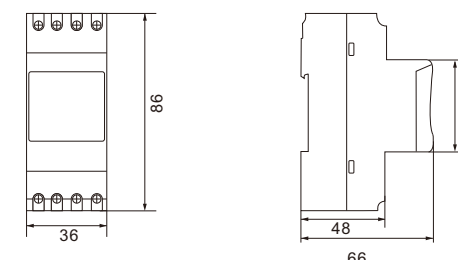


Specification

Model	THC-822 16A/20A	THC-822D 16A/20A
Full Timing Range	24h 7days	
Rated Voltage	AC220-240V;AC110V;AC85-240V;DC/AC12V;DC/AC24V	
Contact Capacity	16A, 20A, 25A, AC250V	
Contact Form	2 changeover switches	
Accuracy	$\leq 2s/d$	
Display	LCD without backlight	LCD with backlight
Mounting	DIN rail	
Minimum Setting Unit	1 min	
Programmable	96 ON/OFF	
Storage Battery	3 years	
Consumed Power	75VA	
Electrical Life	$\geq 10^5$ times	
Mechanical Life	$\geq 10^7$ times	
Operating Temperature	$-10^{\circ}C \sim +50^{\circ}C$	

★ Summer/winter time setting; pulse function; sleep mode; countdown; holiday mode; cycle mode; password protection; Dual-circuit independent control.

Dimension



THC-622



THC-822D

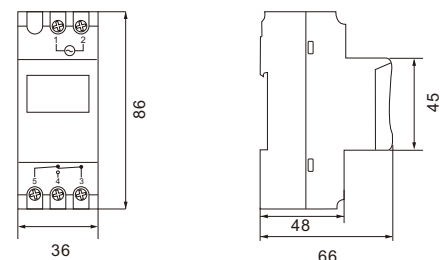
Timer

Specification

Model	THC-811 16A/20A/30A	THC-811D 16A/20A/30A
Full Timing Range	24h 7days	
Rated Voltage	AC220-240V;AC110V;AC85-240V;DC/AC12V;DC/AC24V	
Contact Capacity	16A, 20A, 25A, 30A, AC250V	
Contact Form	1 changeover switch	
Accuracy	≤2s/d	
Display	LCD without backlight	LCD with backlight
Mounting	DIN rail	
Minimum Setting Unit	1 min	
Programmable	96 ON/OFF	
Storage Battery	3 years	
Consumed Power	4VA	
Electrical Life	≥10 ⁵ times	
Mechanical Life	≥10 ⁷ times	
Operating Temperature	-10°C~+50°C	

★ Summer time setting; pulse function; sleep mode; countdown; holiday mode; cycle mode; password protection.

Dimension

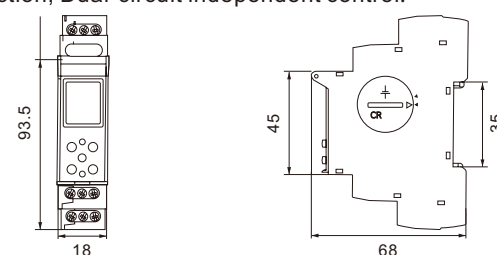


Specification

Model	THC-808-1 16A	THC-808-2 16A
Full Timing Range	24h 7days	
Rated Voltage	AC220-240V AC110V	
Contact Capacity	16A, AC250V	
Contact Form	1 changeover switch	
Accuracy	≤2s/d	
Display	LCD	
Mounting	DIN rail	
Minimum Setting Unit	1 min	
Programmable	32 ON/OFF	
Storage Battery	3 years	
Consumed Power	4VA	
Electrical Life	≥10 ⁵ times	
Mechanical Life	≥10 ⁷ times	
Operating Temperature	-10~+50°C	

★ Summer/winter time setting; pulse function; sleep mode; countdown; cycle mode; password protection; Dual-circuit independent control.

Dimension



THC-811D

intertek
Total Quality. Assured.

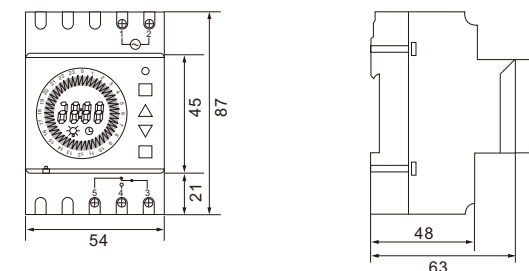


THC-808-2

Specification

Model	THC20-1C 16A/20A/30A	THC20-2C 16A/20A
Voltage	AC220-240V 50/60Hz	
Voltage Range	AC180-250V	
Timing Error	≤1s/d	
On/Off Setting	48ON/48OFF	
Power Consumption	4VA (max)	
Display	LCD	
Mounting	DIN rail mounting	
Minimum Setting Unit	15 mins	
Contact	16A 1NO+1NC, 20A 1NO+1NC, 30A 1NO	16A 2NO+2NC, 20A 2NO+2NC
Contact Capacity	16A Resistive: AC16A/250V	
	20A Resistive: AC20A/250V	
	30A Resistive: AC30A/250V	
Electrical Life	10 ⁵ times (Rated load)	

Dimension

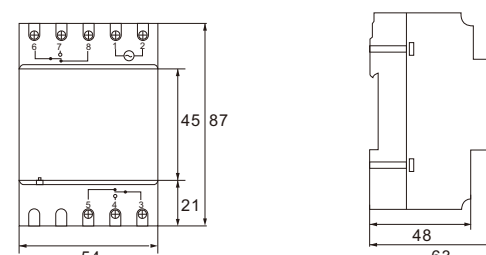


Specification

Model	THC8A-1C 16A/20A/25A/30A	THC8A-2C 16A/20A/25A
Voltage	AC220-240V 50/60Hz	
Voltage range	AC180-250V	
Timing error	≤1s/d	
On/Off setting	16ON/16OFF	
Power consumption	4VA (max)	
Display	LCD	
Mounting	DIN rail mounting	
Minimum setting unit	1 min	
Contact	1NO+1NC / 1NC	2NO+2NC
Contact capacity	16A Resistive: 16A/AC250V	
	20A Resistive: 20A/AC250V	
	25A Resistive: 25A/AC250V	
Electrical life	30A Resistive: 30A/AC250V	
	10 ⁵ times (Rated load)	

★ 2 groups control contact work independently

Dimensions



THC20-1C



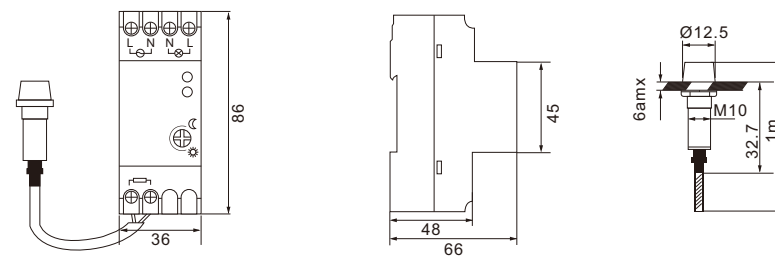
THC8A-1C

Light Control Timer

Specification

Model	THC-109	THC-109B
Manual ON-OFF	with	without
Range Voltage	AC220V 50/60Hz	
Voltage Range	AC220V-240V	
Power Consumption	4VA (max)	
Rated Current	16A, 20A, 25A	
Mounting	DIN rail	
Contact Capacity	THC-109 16A Resistive: AC16A/250V	
	THC-109 20A Resistive: AC20A/250V	
	THC-109 25A Resistive: AC25A/250V	
Ambient Light	<5-150LUX(adjustable)	
Mechanical Life	10 ⁵ times (Rated load)	

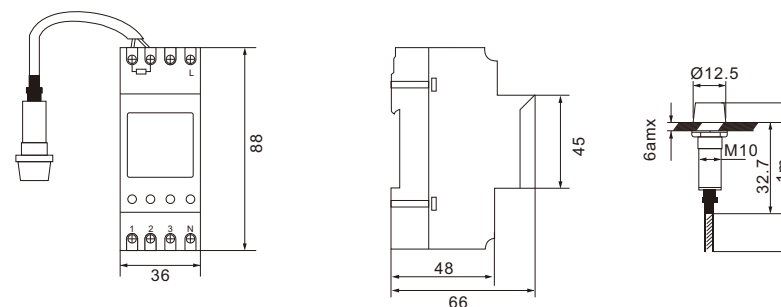
Dimension



Specification

Model	THC-121D 16A/ 20A
Voltage	AC/DC85-265V 50/60Hz
Accuracy	≤2s/d
On/Off Setting	96ON/96OFF
Power Consumption	4VA (max)
Display	LCD
Ambient Light	< 5-150LUX
Mounting	DIN rail
Minimum Setting Unit	1 min
Contact	1NO+1NC/1NO
Contact Capacity	THC121D 16A Resistive: 16A/AC250V
	THC121D 20A Resistive: 20A/AC250V

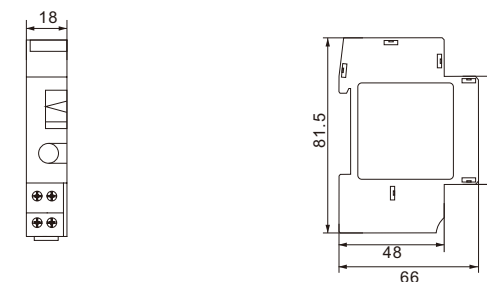
Dimension



Specification

Model	THC18
Auxiliary Power Supply	AC220-240V 50/60Hz
Switching Contact	16(4)A, AC250V
Setting Range Time	30s-20mins
Secondary Switching	At once
Switch For Permanent Light	Toggle switch
Stand-by Consumption	5VA
Terminal Wires	2x2.5mm
Protection Degree	IP20 as per IEC/EN60529

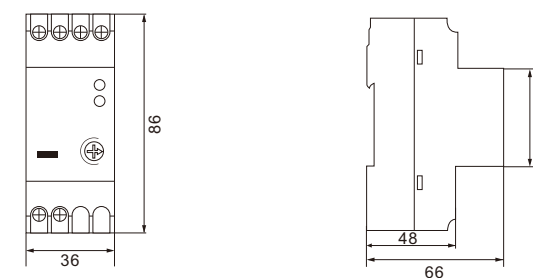
Dimension



Specification

Model	THC-8N	THC-18N
Auxiliary Power Supply	AC220-240V 50/60Hz	
Switching Contact	16A, 20A, 25A, AC250V	
Setting Range Time	30s-7mins	30s-20mins
Secondary Switching	At once	
Switch For Permanent Light	Toggle switch	
Stand-by Consumption	5VA	
Terminal Wires	2x2.5mm	
Protection Degree	IP20 as per IEC/EN60529	

Dimension



THC18



THC-18N



THC-109



THC-109X



THC-121D



THC-109X

Single-function Time Relay

Applications

Single-function time relay is suitable for the applications which the functions and time requirements have been clearly defined. It may delay connection or disconnection of circuits, such as controlling the energization time of heating elements, working time of water pumps, delay disconnection of fans.

Feature

Single-function relay, the time can be set by turning the knob.

Choice of 2 functions:

A: Delay ON

B: Delay OFF

Time scale 0.1s- 10days, it is divided into 10 ranges.

(0.1s -1s/1s - 10s/0.1min - 1min/1min - 10min/0.1hrs - 1hi/1hrs - 10hrs/0.1day - 1day/

1day - 10days/3days - 30days/10days - 100days).

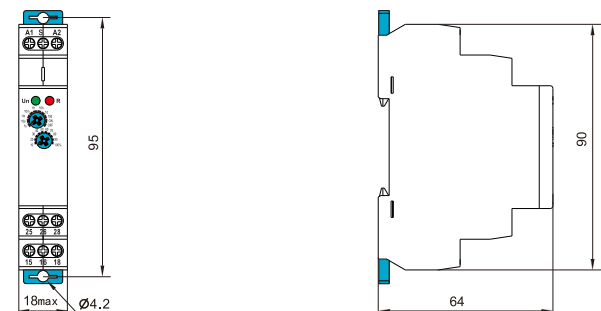
Relay status is indicated by LED.

1-MODULE, DIN rail mounting.

Specification

Model	TRT6-A1/B1	TRT6-A2/B2	TRT6-At/Bt
Function	A: Delay ON; B: Delay OFF		
Supply Terminals	A1-A2		
Voltage Range	S240	AC/DC 24-240V (50-60Hz)	
Burden		AC 0.09-3VA/DC 0.05-1.7W	
Voltage Range	A230	AC230V (50-60Hz)	
Power Input		AC max.6VA/1.3W	AC max.6VA/1.9W
Supply Voltage Tolerance	-15%;+10%		
Supply Indication	green LED		
Time Ranges	0.1s-10days ON,OFF		
Time Setting	potentionmeter		
Time Deviation	10% mechanical setting		
Repeat Accuracy	0.2% set value stability		
Temperature Coefficient	0.05%/°C, at=20°C (0.05°F, at=68°F)		
Output	1×SPDT	2×SPDT	1xSPDT(del)+1xSPDT(ins)
Current Rating	10A/AC1		
Switching Voltage	AC250V/DC24V		
Min.breaking Capacity DC	500mW		
Output Indication	red LED		
Mechanical Life	1×10 ⁷ times		
Electrical Life (AC1)	1×10 ⁵ times		
Reset Time	max. 200ms		
Operating Temperature	-20°C to +55°C (-4°F to 131°F)		
Storage Temperature	-35°C to +75°C (-22°F to 158°F)		

Dimension



TRT6-A1



TRT6-B2

Multifunction Time Relay

Applications

Multifunction time relay can be used for electrical appliances, such as controlling of lights, heating, motors, pumps and fans. The product is produced with 10 functions, 10 time ranges, multi-voltage.

Feature

10 functions: 5 time functions controlled by supply voltage

4 time functions controlled by control input

1 function of latching relay

The comfortable and orderly settings of functions and time ranges can be achieved by rotating the switch.

Time scale 0.1s- 10days, it is divided into 10 ranges.

(0.1s -1s/1s - 10s/0.1min - 1min/1min - 10min/0.1hrs - 1hi/1hrs - 10hrs/0.1day - 1day/

1day - 10days/3days - 30days/10days - 100days).

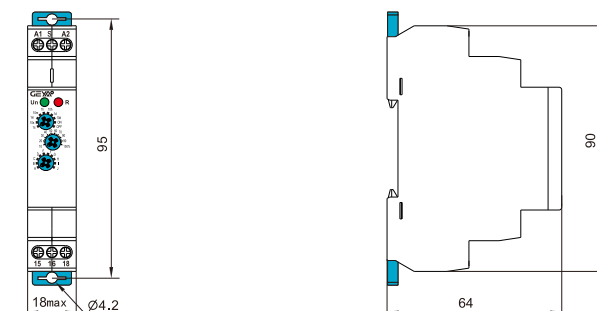
Relay status is indicated by LED.

1-MODULE, DIN rail mounting.

Specification

Model		TRT6-M1	TRT6-M2
Function		A, B, C, D, E, F, G, H, I, J	
Supply Terminals		A1-A2	
Voltage Range	S240	AC/DC 24-240V (50-60Hz)	
Burden		AC 0.09-3VA/DC 0.05-1.7W	
Voltage Range	A230	AC230V (50-60Hz)	
Power Input		AC max.6VA/1.3W	AC max.6VA/1.9W
Supply Voltage Tolerance		-15%;+10%	
Supply Indication		green LED	
Time Ranges		0.1s-10days ON,OFF	
Time Setting		potentionmeter	
Time Deviation		10% mechanical setting	
Repeat Accuracy		0.2% set value stability	
Temperature Coefficient		0.05%/°C, at=20°C (0.05°F, at=68°F)	
Output		1×SPDT	2×SPDT
Current Rating		10A/AC1	
Switching Voltage		AC250V/DC24V	
Min.breaking Capacity DC		500mW	
Output Indication		red LED	
Mechanical Life		1×10 ⁷ times	
Electrical Life (AC1)		1×10 ⁵ times	
Reset Time		max. 200ms	
Operating Temperature		-20°C to +55°C (-4°F to 131°F)	
Storage Temperature		-35°C to +75°C (-22°F to 158°F)	

Dimension



TRT6-M1



TRT6-M2

Asymmetric Cycler Time Relay

Applications

Asymmetric cycler time relay is used for regular room ventilation, cyclic dehumidification, light control, circulating pumps, noon signs, etc.

Feature

2 time functions:

Circulator beginning with pulse

Circulator beginning with pause

Function choice is done by an external jumper of terminals S-A1.

Time scale 0.1s- 10days, it is divided into 10 ranges:

(0.1s -1s/1s - 10s/0.1min - 1min/1min - 10min/0.1hrs - 1hi/1hrs - 10hrs/0.1day - 1day/

1day - 10days/3days - 30days/10days - 100days).

Relay status is indicated by LED.

1-MODULE, DIN rail mounting.

Specification

Model	TRT6-S1	TRT6-S2
Function	Asymmetric cycler time relay	
Supply Terminals	A1-A2	
Voltage Range	S240	AC/DC 24-240V (50-60Hz)
Burden		AC 0.09-3VA/DC 0.05-1.7W
Voltage Range	A230	AC230V (50-60Hz)
Power Input		AC max.6VA/1.3W
Supply Voltage Tolerance	-15%;+10%	
Supply Indication	green LED	
Time Ranges	0.1s-100days	
Time Setting	potentionmeter	
Time Deviation	10% mechanical setting	
Repeat Accuracy	0.2% set value stability	
Temperature Coefficient	0.05%/°C, at=20°C (0.05°F, at=68°F)	
Output	1×SPDT	2×SPDT
Current Rating	10A/AC1	
Switching Voltage	AC250V/DC24V	
Min.breaking Capacity DC	500mW	
Output Indication	red LED	
Mechanical Life	1×10 ⁷ times	
Electrical Life (AC1)	1×10 ⁵ times	
Reset Time	max. 200ms	
Operating Temperature	-20°C to +55°C (-4°F to 131°F)	
Storage Temperature	-35°C to +75°C (-22°F to 158°F)	

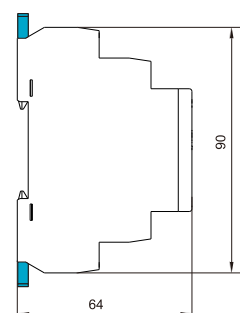
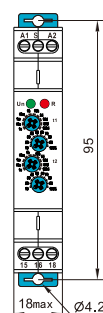


TRT6-S1



TRT6-S2

Dimension



Three Phase Voltage Relay

Applications

- Control for connection of moving equipment (like site equipment, agricultural equipment, refrigerated trucks).
- Control for protection of people and equipment against reverse running.
- Normal/emergency power supply switching.
- Protection against phase failure of driving load.
- Control its own supply voltage (true RMS measurement).
- Set 8 kinds rated operating voltage through knob.

Function

Model	Over-Voltage	Under-Voltage	Asymmetry	Delay Time	Phase Sequence	Phase Failure
TRV8-03	-	-	-	-	●	●
TRV8-04	2%...20%	-20%...2%	-	0.1s...10s	●	●
TRV8-05	2%...20%	-20%...2%	-8%	0.1s...10s	●	●
TRV8-06	2%...20%	-20%...2%	5%...15%	2s	●	●
TRV8-07	-	-	5%...15%	0.1s...10s	●	●
TRV8-08	15%	-15%	8%	2s	●	●

Specification

Voltage Model	M460	M265
Function	Monitoring 3-phase voltage	
Monitoring Terminals	L1-L2-L3	L1-L2-L3-N
Supply Terminals	L1-L2	L1-N
Voltage Range (V)	220-230-240-380-400 -415-440-460(P-P)	127-132-138-220-230 -240-254-265(P-N)
Rated Supply Frequency	45Hz-65Hz	
Measuring Range	176V-552V	101V-318V
Supply Indication	Green LED	
Output Indication	Red LED	
Switching Voltage	AC250V/DC24V	
Current Rating	10A/AC1	
Reset Time	1000ms	

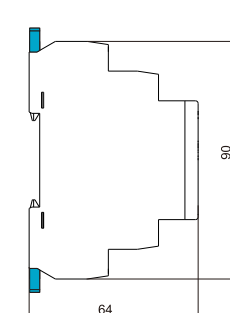
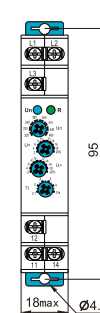


TRV8-03



TRV8-04

Dimension



Single-Function Time Relay

Feature

Single-function relay with possibility of time setting by a potentiometer.

Choice of 2 functions: A: Delay ON

B: Delay OFF

Time scale 0.1s-10 days divided into 10 ranges.

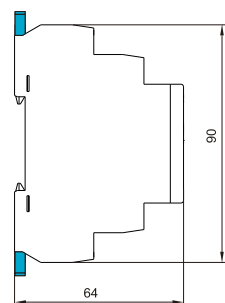
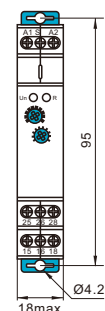
Relay status is indicated by LED.

1 MODULE DIN rail mounting.

Specification

Model	TRT8-A1/B1	TRT8-A2/B2
Function	A: Delay ON; B: Delay OFF	
Supply Terminals	A1-A2	
Voltage Range	W240	AC/DC 12-240V (50-60Hz)
Burden		AC 0.09-3VA/DC 0.05-1.7W
Voltage Range	A230	AC230V (50-60Hz)
Power Input		AC max.6VA/1.3W
Supply Voltage Tolerance	-15%;+10%	
Supply Indication	Green LED	
Time Ranges	0.1s-10days, ON, OFF	
Time Setting	Potentionmeter	
Time Deviation	10%-mechanical setting	
Repeat Accuracy	0.2%-set value stability	
Temperature Coefficient	0.05%/°C,at=20°C (0.05°F,at=68°F)	
Output	1xSPDT	2xSPDT
Current Rating	1x16A (AC1)	2x16A (AC1)
Switching Voltage	AC250V/DC24V	
Min.breaking Capacity DC	500mW	
Output Indication	Red LED	
Mechanical Life	1x10 ⁷ times	
Electrical Life (AC1)	1x10 ⁵ times	
Reset Time	max.200ms	
Operating Temperature	-20°C to +55°C	
Storage Temperature	-35°C to +75°C	
Standards	EN 61812-1,IEC6947-5-1	

Dimension



TRT8-A1



TRT8-B2

Multifunction Time Relay

Applications

Multifunction time relay can be used for electrical appliances, control of lights, heating , motors , pumps and fans(10 functions,10time ranges multi-voltage).

Feature

10 functions: - 5 time functions controlled by supply voltage

- 4 time functions controlled by control input

- 1 functions of latching relay

Comfortable and well-arranged function and time-range setting by rotary switches.

Time scale 0.1s-10 days divided into 10 ranges.

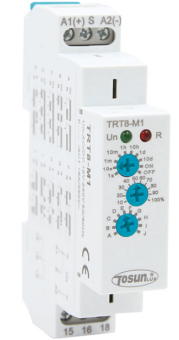
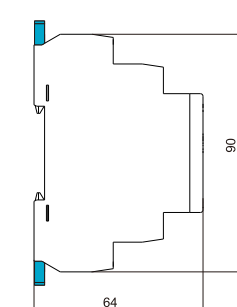
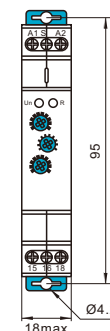
Relay status is indicated by LED.

1 MODULE DIN rail mounting.

Specification

Model	TRT8-M1	TRT8-M2
Function	A, B, C, D, E, F, G, H, I, J	
Supply Terminals	A1-A2	
Voltage Range	W240	AC/DC 12-240V (50-60Hz)
Burden		AC 0.09-3VA/DC 0.05-1.7W
Voltage Range	A230	AC230V (50-60Hz)
Power Input		AC max.6VA/1.3W
Supply Voltage Tolerance	-15%;+10%	
Supply Indication	Green LED	
Time Ranges	0.1s-10days,ON,OFF	
Time Setting	Potentionmeter	
Time Deviation	10%-mechanical setting	
Repeat Accuracy	0.2%-set value stability	
Temperature Coefficient	0.05%/°C,at=20°C (0.05°F,at=68°F)	
Output	1xSPDT	2xSPDT
Current Rating	1x16A (AC1)	2x16A (AC1)
Switching Voltage	AC250V/DC24V	
Min.breaking Capacity DC	500mW	
Output Indication	Red LED	
Mechanical Life	1x10 ⁷ times	
Electrical Life (AC1)	1x10 ⁵ times	
Reset Time	max.200ms	
Operating Temperature	-20°C to +55°C	
Storage Temperature	-35°C to +75°C	
Standards	EN 61812-1,IEC6947-5-1	

Dimension



TRT8-M1



TRT8-M2

Asymmetric Cyclor Time Relay

Applications

For gradual switching of heavy powers(e.g.el.heating), prevents current strokes in the main.

Feature

2x Delay ON(2 time relays in one)

Time scale 0.1s-100 days divided into 10 time ranges:

0.1s-1s/1s-10s/0.1min-1min/1min-10min/0.1h-1h/1h-10hrs/0.1day-1day/1day-10days/

ON/OFF.

Time t1 and t2 are independently adjustable.

t1 and t2 are swithed on after supply voltage connection.

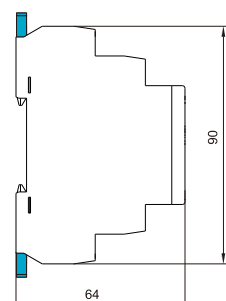
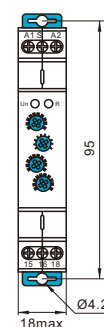
Relay status is indicated by LED.

1 MODULE DIN rail mounting.

Specification

Model	TRT8-S1	TRT8-S2
Function	Asymmetric cyclor time relay	
Supply Terminals	A1-A2	
Voltage Range	W240	AC/DC 12-240V (50-60Hz)
Burden		AC 0.09-3VA/DC 0.05-1.7W
Voltage Range	A230	AC230V (50-60Hz)
Power Input		AC max.6VA/1.3W AC max.6VA/1.9W
Supply Voltage Tolerance	-15%;+10%	
Supply Indication	Green LED	
Time Ranges	0.1s-100days	
Time Setting	Potentionmeter	
Time Deviation	10%-mechanical setting	
Repeat Accuracy	0.2%-set value stability	
Temperature Coefficient	0.05%/°C,at=20°C (0.05%°F,at=68°F)	
Output	1xSPDT	2xSPDT
Current Rating	1x16A (AC1)	2x16A (AC1)
Switching Voltage	AC250V/DC24V	
Min.breaking Capacity DC	500mW	
Output Indication	Red LED	
Mechanical Life	1x10 ⁷ times	
Electrical Life (AC1)	1x10 ⁵ times	
Reset Time	max.200ms	
Operating Temperature	-20°C to +55°C	
Storage Temperature	-35°C to +75°C	
Standards	EN 61812-1,IEC6947-5-1	

Dimension



TRT8-S1



TRT8-S2

Level Control Relay

Applications

Designed for monitoring level in wellss , basins , reservoirs , tanks

Feature

In one device you can choose the following configurations:

2 level control mode

1 level control mode

Choice of function PUMP UP , PUMP DOWM.

Adjustable time delay on the output(0.1-10s)

Sensitivity adjustable by a potentiometer(5-100kΩ)

Galvanically separated supply voltage AC/DC 24-240V

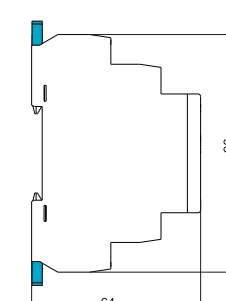
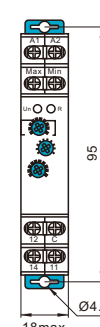
Relay status is indicated by LED.

1 MODULE DIN rail mounting.

Specification

Model	TRL8-01	TRL8-02
Function	2 level control mode	2 or 1 level control mode
Supply Terminals	A1-A2	
Voltage Range	AC/DC 24-240V (50-60Hz)	
Input	max.2VA	
Supply Voltage Tolerance	-15%;+10%	
Sensitivity (Input Resistance)	Adjustable in range 5 kΩ-100kΩ	
Voltage in Electrodes	max. AC 5 V	
Current in Probe	AC <0.1mA	
Time Response	max. 400ms	
Max. capacity Length	800 m(sensivity 25kΩ),200 m (sensitivity 100kΩ)	
Max. capacity of Probe Cable	400 nF(sensivity 25kΩ),100 nF (sensitivity 100kΩ)	
Time Delay (t)	Adjustable,0.1-10s	
Accuracy in Setting (mechanical)	±10%	
Temperature Coefficient	0.05%/°C,at=20°C (0.05% °F , at=-68 °F)	
Output	1xSPDT	
Current Rating	10A/AC1	
Switching Voltage	AC250V/DC24V	
Min. breaking Capacity DC	500mW	
Output Indication	Red LED	
Mechanical Life	1x10 ⁷ times	
Electrical Life (AC1)	1x10 ⁵ times	
Reset Time	max. 200ms	
Operating Temperature	-20°C to +55°C	
Storage Temperature	-35°C to +75°C	
Standards	EN 60255-1	

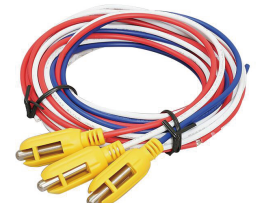
Dimension



TRL8-01



TRL8-02



sensor
PLT-01 1.5M

Monitoring Voltage Relay

Applications

- Protect electrical equipment and motors from over-voltage and under-voltage.
- Normal/emergency power supply switching.

Feature

Controls its own supply voltage(True RMS measurement)

User may select operation mode through knob.

Voltage measurement accuracy<1%.

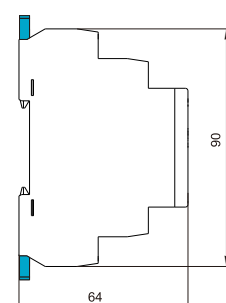
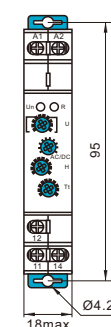
Relay status is indicated by LED.

1 MODULE DIN rail mounting.

Specification

Model	TRV8-01	TRV8-02
Function	Monitoring voltage	
Supply Terminals	A1-A2	
Rated Supply Voltage	DC12V,AC/DC24V-48V,AC/DC110V-240V,AC220V	
Rated Supply Frequency	45Hz-65Hz	
Hysteresis	5%-20%	3%fixed
Supply Indication	Green LED	
Time Delay (t)	Adjustable 0.1s-10s,10%	
Measurement Error	≤1%	
Run up Delay at Power up	0.5s time delay	
Knob Setting Accuracy	10% of scale value	
Reset Time	1000ms	
Temperature Coefficient	0.05%/°C,at =20°C (0.05% °F,at=68°F)	
Output	1xSPDT	
Current Rating	10A/AC1	
Switching Voltage	AC250V/DC24V	
Min. breaking Capacity DC	500mW	
Output Indication	Red LED	
Mechanical Life	1x10 ⁷ times	
Electrical Life (AC1)	1x10 ⁵ times	
Operating Temperature	-20°C to +55°C	
Storage Temperature	-35°C to +75°C	
Standards	EN 60255-1,IEC60947-5-1	

Dimension



TRV8-01



TRV8-02

Dual Function Time Relay

Applications

Dual function time relay can be used for industrial equipment, lighting control, heating element control, motor and fan control, with two delay modes, and the delay range covers 0.1 seconds to 10days.

Feature

Two delay modes can be set.

Supports AC230V, AC/DC24V two kinds of working voltage.

Ultra wide delay range, 0.1 seconds - 10 days can be set.

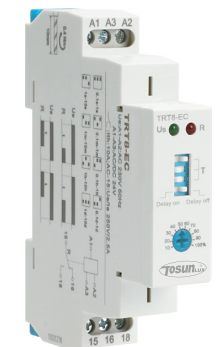
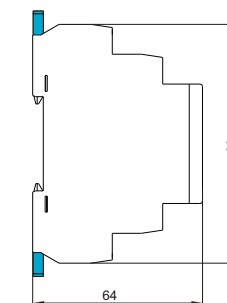
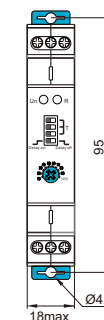
The working state of the relay is indicated by the LED indicator.

Ultra small size, only 18mm width, 35mm rail installation.

Specification

Model	TRT8-EC
Function	Delay ON, Delay OFF
Supply Terminals	A1-A2 (AC230V), A1-A3 (AC/DC24V)
Voltage Range	AC230V (50-60Hz), AC/DC24V
Power in Put	AC max.6VA/1.3W
Supply Voltage Tolerance	-15%;+10%
Supply Indication	Green LED
Time Ranges	0.1s-10days
Time Setting	potentionmeter
Time Deviation	≤ 10%
Repeat Accuracy	0.2%-set value stability
Temperature Coefficient	0.05%/°C, at=20°C (0.05%°F, at=68°F)
Output	1×SPDT
Current Rating	1×10A (AC1)
Switching Voltage	AC250V/DC24V
Min.breaking Capacity DC	500mW
Output Indication	Red LED
Mechanical Life	1×10 ⁷ times
Electrical Life (AC1)	1×10 ⁵ times
Reset Time	max.200ms
Operating Temperature	-20°C to +55°C
Storage Temperature	-35°C to +75°C

Dimension



TRT8-EC

Digital Display Time Relay

Applications

Multi functional time relay can be used for industrial equipment, lighting control, heating element control, motor, fan control.

With 20 delay modes, the delay range covers 0.1 seconds to 99 days.

Feature

20 delay modes:

5 delay modes controlled by power supply

13 delay modes controlled by signal

ON, OFF mode

Ultra wide delay range, 0.1 seconds - 99 days can be set.

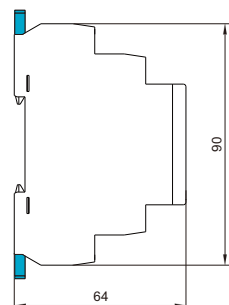
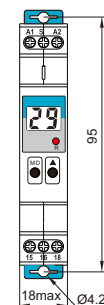
Relay status is indicated by LED.

1 MODULE DIN rail mounting.

Specification

Model	TRT8-X1	TRT8-X2
Function	20 functions	
Supply Terminals	A1-A2	
Voltage Range	W240	AC/DC12-240V (50-60Hz)
Burden		AC 0.09-3VA/DC 0.05-1.7W
Voltage Range	A230	AC230V (50-60Hz)
Power in Put		AC max.6VA/1.3W AC max.6VA/1.9W
Supply Voltage Tolerance	-15%;+10%	
Supply Indication	Green LED	
Time Ranges	0.1s-99days,ON,OFF	
Time Setting	Key setting	
Time Deviation	≤ 1%	
Repeat Accuracy	0.2%-set value stability	
Temperature Coefficient	0.05%/°C, at=20°C (0.05%/°F, at=68°F)	
Output	1×SPDT	2×SPDT
Current Rating	1×16A (AC1)	2×16A (AC1)
Switching Voltage	AC250V/DC24V	
Min.breaking Capacity DC	500mW	
Output Indication	Red LED	
Mechanical Life	1×10 ⁷ times	
Electrical Life (AC1)	1×10 ⁵ times	
Reset Time	max. 200ms	
Operating Temperature	-20°C to+55°C	
Storage Temperature	-35°C to+75°C	

Dimension



TRT8-X1



TRT8-X2

Pulse Output Time Relay

Applications

It is used to delay and generate a pulse, which is used to delay the connection of a load for a period of time.

Feature

Separate delay time and pulse width setting can set different delay time.

Time scale 0.1 s - 100 days.

The delay time can be reset by shorting S-A1.

With AC/DC 12V-240V ultra wide operating voltage specifications are optional.

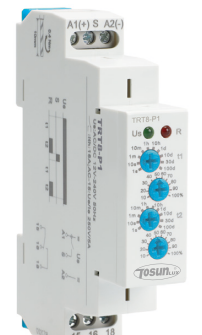
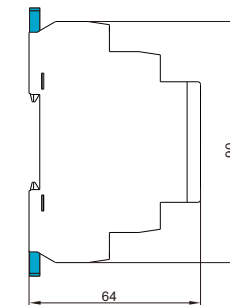
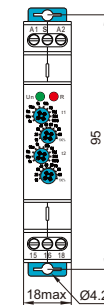
Relay status is indicated by LED.

1 MODULE DIN rail mounting.

Specification

Model	TRT8-P1	TRT8-P2
Function	Pulse output time relay	
Supply Terminals	A1-A2	
Voltage Range	W240	AC/DC 12-240V (50-60Hz)
Burden		AC 0.09-3VA/DC 0.05-1.7W
Voltage Range	A230	AC230V (50-60Hz)
Power Input		AC max.6VA/1.3W AC max.6VA/1.9W
Supply Voltage Tolerance	-15%;+10%	
Supply Indication	Green LED	
Time Ranges	0.1s-100days	
Time Setting	potentionmeter	
Time Deviation	10% mechanical setting	
Repeat Accuracy	0.2% set value stability	
Temperature Coefficient	0.05%/°C, at=20°C (0.05%/°F, at=68°F)	
Output	1×SPDT	2×SPDT
Current Rating	1×16A (AC1)	2×16A (AC1)
Switching Voltage	AC250V/DC24V	
Min.breaking Capacity DC	500mW	
Output Indication	Red LED	
Mechanical Life	1×10 ⁷ times	
Electrical Life (AC1)	1×10 ⁵ times	
Reset Time	max. 200ms	
Operating Temperature	-20°C to +55°C	
Storage Temperature	-35°C to +75°C	

Dimension



TRT8-P1



TRT8-P2

Staircase Switch

Applications

Bluetooth time control relay can be used for industrial equipment, lighting control, heating element control, motor and fan control, and regularly turn on and off loads.

Feature

The relay is set through bluetooth connection of mobile phone app, which is simple and easy to operate.

8/16 group timing setting.

It has two working modes: automatic and manual.

It has AC / DC 24V-240V ultra wide working voltage.

Relay status is indicated by LED.

1 MODULE DIN rail mounting.



TRT8-TS1

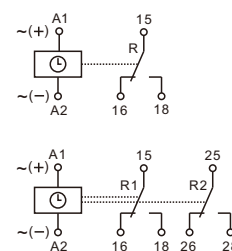
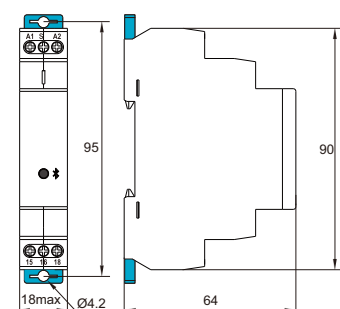


TRT8-TS2

Specification

Model	TRT8-TS1	TRT8-TS2
Function	Bluetooth time control relay	
Supply terminals	A1-A2	
Voltage range	AC/DC 24-240V 50Hz	
Burden	AC 0.09-3VA/DC 0.05-1.7W	
Supply voltage tolerance	-15%;+10%	
Supply indication	Green LED	
Number of timers	8-ON/8-OFF	2×8-ON/2×8-OFF
Time setting	APP(Bluetooth connectivity)	
Time deviation	±2s/day	
Output	1×SPDT	2×SPDT
Current rating	16A/AC1	
Min.breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	1×10 ⁷	
Electrical life(AC1)	1×10 ⁵	
Operating temperature	-20°C ~ +55°C	
Storage temperature	-35°C ~ +75°C	

Dimension



Timer



H3BA-8 / H3BA-11



H3CR-A8



DH-48S



DH-48S-S

Specification

Model		H3BA-8 / H3BA-11			H3CR-A8	DH-48S		DH-48S-S
Dimension		48H x 48W x 93.5D			48H x 48W x 81.6D	48H x 48W x 97.4D		48H x 48W x 97.4D
Mounting	Surface (-N)	PF113A (E)	PF083APS-08		PS-08 PF083A	PF-083A (E)		PF-083A (E)
Socket	Flush (-Y)	US-11	US-08 P3G-08		US-08 P3G-08	-		-
Full Timing Range		0.1SEC~100HRS			0.5SEC~300HRS	0.01S~99.99S 1S~99M99S 1M~99H99M		0.01S~99.99S 1S~99M99S 1M~99H99M
Rated Voltage (V)		24 to 240 DC/AC AC: 24,48,110,220 DC: 12,24,48			AC: 24,110~240 DC: 12,24~240	AC:110V 220V 380V DC:12V 24V		AC:110V 220V 380V DC:12V 24V
Indicator Operating		Time Operating Flicker			Time Operating Flicker	-		-
O/P Contact	Model	H3BA	H3BA-8	H3BA-8H	H3CR-A8	1Z	2Z	-
	Time Limit 1C			5A		-		-
	Time Limit 2C	5A	5A		5A(AC250)	-		-
	Instantaneous 1C			5A		-		-
Life	Mechanical	10 ⁷ Times			10 ⁷ Times	10 ⁷ Times		10 ⁷ Times
	Electrical	10 ⁵ Times			10 ⁵ Times	10 ⁵ Times		10 ⁵ Times
Accuracy	Repeat Error	±2% max			±2% max	-		-
	Setting Error	±5% max			±5% max	-		-
	Voltage Error	±5% max			±5% max	-		-
	Temp Error	±2% max			±2% max	-		-
Reset time		0.5 sec max			0.5 sec max	-		-
Consumed Power		100~240VAC:10VA 12VDC, 24~240VDC:1.5W			100~240VAC:10VA 12VDC, 24~240VDC:1.5W	5W		5W
Ambient temperature		-10°C~+55°C			-10°C~+55°C	-10°C~+55°C		-10°C~+55°C
Ambient Huminity		35~85% RH			35~85% RH	45~85% RH		45~85% RH

Hour Meter

Specifications



HM-1

HM-1	
Supply Voltage	12VDC,24VDC,12VAC,24VAC,48VAC,110VAC,220VAC,
Dimension	48 x 48 x 40
Panel Dimension	72x72x40
Timing Range	0~99,999.99 Hours



HC3L-A

HC3L, HC3L-A	
Timing Range	99H59M59S, 9999H59M, 9999Day23H, 9999H59M59S, 999999H59M
Voltage	HC3L: No need ; HC3L-A: DC12V,DC24V,AC110-240V
Battery Life	6 Years
Dimension	58 x 58 x 40
Panel Size	22.5 x 45

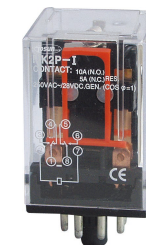
Electromagnetic Counter



HC3J

HC3J, HC3J-AL	
Display	6 Digits / 8 Digits LCD
Operation Mode	Sum
Voltage	HC3J: No need; HC3J-AL: 220VAC
Counting Speed	10/200 Times/s 10 Times/s
Dimension	24 x 48 x 50
Panel Size	22.5 x 45
Reset Model	Panel, Terminal blocks

General Relay



MK2P-I



MK3P-I



MK2PN-I

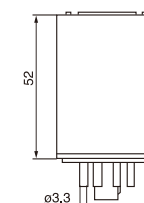


MK3PN-I

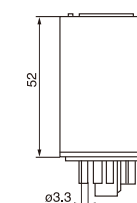
Specification

Model		MK2P-I	MK3P-I	MK2PN-I	MK3PN-I
Terminal Layout		2Z	3Z	2Z	3Z
Contact Capacity	AC	10A 250V	10A 250V	10A 250V	10A 250V
	DC	10A 30V	10A 30V	10A 30V	10A 30V
Contact Resistance		≤50MΩ	≤50MΩ	≤50MΩ	≤50MΩ
Insulation Resistance		≥500MΩ	≥500MΩ	≥500MΩ	≥500MΩ
Dielectric Strength	BOC	AC1500V	AC1500V	AC1500V	AC1500V
	BCC	AC1500V	AC1500V	AC1500V	AC1500V
Coil Nominal Voltage	AC	6 to 380V	6 to 380V	6 to 380V	6 to 380V
	DC	6 to 220V	6 to 220V	6 to 220V	6 to 220V
Coil Nominal Power	AC	≤2.8VA	≤2.8VA	≤2.8VA	≤2.8VA
	DC	≤1.6W	≤1.6W	≤1.6W	≤1.6W
Electrical Life		10 ⁵ times	10 ⁵ times	10 ⁵ times	10 ⁵ times
Mechanical Life		10 ⁷ times	10 ⁷ times	10 ⁷ times	10 ⁷ times
Operating Temperature		-40°C~+60°C	-40°C~+60°C	-40°C~+60°C	-40°C~+60°C
Mounting Methods		Socket	Socket	Socket	Socket

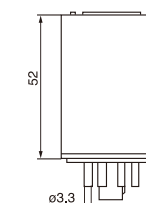
Dimension



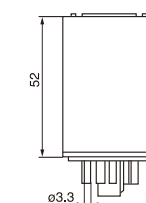
MK2P-I



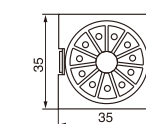
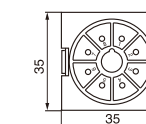
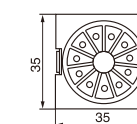
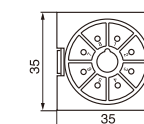
MK3P-I



MK2PN-I



MK3PN-I



General Relay



MY2



MY3

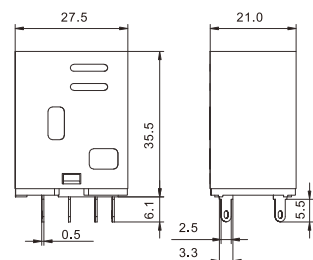


MY4

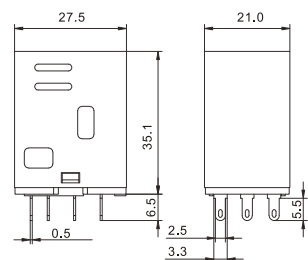
Specification

Model		MY2	MY3	MY4
Terminal Layout		2Z	3Z	4Z
Contact Capacity	AC	5A 250V	5A 250V	3A 250V
	DC	5A 30V	5A 30V	3A 30V
Contact Resistance		$\leq 50\text{M}\Omega$	$\leq 50\text{M}\Omega$	$\leq 50\text{M}\Omega$
Insulation Resistance		$\geq 100\text{M}\Omega$	$\geq 100\text{M}\Omega$	$\geq 100\text{M}\Omega$
Dielectric Strength	BOC	AC1000V	AC1000V	AC1000V
	BCC	AC1500V	AC1500V	AC1500V
Coil Nominal Voltage	AC	6 to 240V	6 to 240V	6 to 240V
	DC	6 to 220V	6 to 220V	6 to 220V
Coil Nominal Power	AC	0.9VA to 1.2VA	0.9VA to 1.2VA	0.9VA to 1.2VA
	DC	$\leq 0.9\text{W}$	$\leq 0.9\text{W}$	$\leq 0.9\text{W}$
Electrical Life		10^5 times	10^5 times	10^5 times
Mechanical Life		10^7 times	10^7 times	10^7 times
Operating Temperature		-40°C~+60°C	-40°C~+60°C	-40°C~+60°C
Mounting Methods		PCB, Socket	PCB, Socket	PCB, Socket

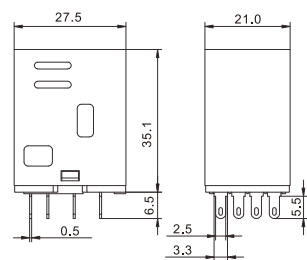
Dimension



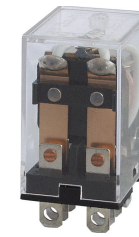
MY2



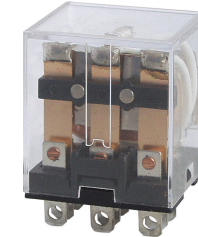
MY3



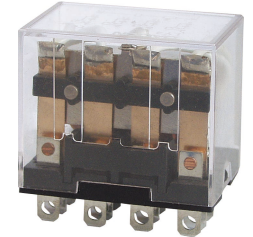
MY4



LY2



LY3

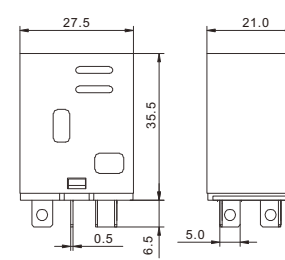


LY4

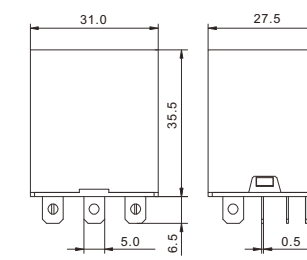
Specification

Model		LY2	LY3	LY4
Terminal Layout		2Z	3Z	4Z
Contact Capacity	AC	10A 250V	10A 250V	10A 250V
	DC	10A 30V	10A 28V	10A 28V
Contact Resistance		$\leq 50\text{M}\Omega$	$\leq 50\text{M}\Omega$	$\leq 50\text{M}\Omega$
Insulation Resistance		$\geq 100\text{M}\Omega$	$\geq 100\text{M}\Omega$	$\geq 100\text{M}\Omega$
Dielectric Strength	BOC	AC1000V	AC1000V	AC1000V
	BCC	AC1500V	AC1500V	AC1500V
Coil Nominal Voltage	AC	6 to 240V	6 to 240V	6 to 240V
	DC	6 to 220V	6 to 220V	6 to 110V
Coil Nominal Power	AC	0.9VA to 1.2VA	$\leq 2.0\text{VA}$	$\leq 2.5\text{VA}$
	DC	$\leq 0.9\text{W}$	$\leq 1.4\text{W}$	$\leq 1.6\text{W}$
Electrical Life		10^5 times	10^5 times	10^5 times
Mechanical Life		10^7 times	10^7 times	10^7 times
Operating Temperature		-40°C~+60°C	-40°C~+70°C	-40°C~+70°C
Mounting Methods		PCB, Flange, Socket	PCB, Flange, Socket	PCB, Flange, Socket

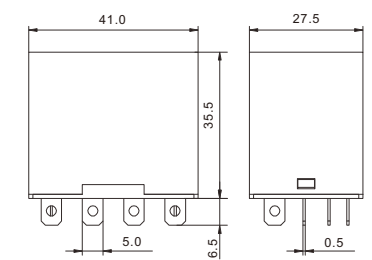
Dimension



LY2



LY3



LY4

Socket



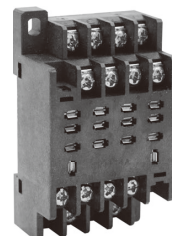
PTF08A



PTF08A-E



PTF11A



PTF14A



PTF14A-E



PYF08A



PYF08A-E



PYF11A



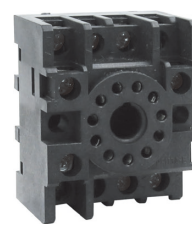
PYF14A



PYF14A-E



PF113A



PF113A-E



PF083A



PF083A-E

Indicator Type Digital Meter

Dimension	Measuring Range	Color
	AC50-500V	
	0-100A Working Voltage: AC50-265V	
	0-99Hz Working Voltage: AC50-265V	
	-20°C~+199°C	
	AC50-500V 0-100A 0-99HZ	



AD22-SV



AD22-SA



AD22-SF



AD22-ST



AD22-SAVF

Indicator Type Digital Meter



AD22-RV

Color	Measuring Range	Dimension
	AC50-500V	
	0-100A (0-200A, 0-400A) Working Voltage: AC50-265V	
	0-99Hz Working Voltage: AC50-265V	
	AC50-500V 0-100A	



AD22-RA



AD22-RF



AD22-RAV

Dimension	Measuring Range	Color
	-20-199°C Working Voltage: AC50-500V	
	0-26KW at AC220V / 0-45KW at AC380V Working voltage: AC50-380V Working frequency: 50-60Hz	
	Counter 0-999999 AC220-380V	
	Hour meter 0-60M 0-999H AC220-380V	



AD22-RT



AD22-RKW



AD22-CR



AD22-HR

LED Indicator



AD16-16DS



AD22-22DS φ 22



Buzzer



Flash buzzer

Type	Color	Voltage	Dimension
AD16-16DS		DC/AC 6V	
		DC/AC 12V	
		DC/AC 24V	
		DC/AC 36V	
		DC/AC 48V	
		DC/AC 110V	
AD22-22DS φ 22		DC/AC 127V	
		DC 220V	
		AC 220V	
		AC 380V	
AD22-22M/K		DC/AC 12V	
		DC/AC 24V	
AD22-22M/r		DC/AC 110V	
		DC/AC 220V	
		AC 380V	

Dimension	Measuring Range	Color
	DC/AC 12V DC/AC 24V DC/AC 36V DC/AC 48V DC/AC 110V DC/AC 127V DC/AC 220V DC/AC 380V	 Connect Ground Indicator
	DC/AC 12V DC/AC 24V DC/AC 36V DC/AC 48V DC/AC 110V DC/AC 127V DC 220V AC 220V AC 380V	 Isolation Switch Position Indicator
	DC/AC 12V DC/AC 24V DC/AC 36V DC/AC 48V DC/AC 110V DC/AC 127V DC 220V AC 220V AC 380V	 Circuit Breaker Position Indicator
	DC/AC 12V DC/AC 24V DC/AC 36V DC/AC 48V DC/AC 110V DC/AC 127V DC 220V AC 220V AC 380V	 Double Color Indicator Light



AD22-W/N



AD22-W/G



AD22-W/D



AD22-SS

Pushbutton Switch

Available contact structure: 11 (20, 02, 22, 40, 04 or 33 can be provided according to special request).

Available voltage for indicator: AC220V (AC/DC6V, 12V, 24V, 36V, 48V, 110V & 220V as well as AC110V & AC380V can be provided according to special request).



PA3-BA34



PA3-AW34



PA3-BD285



PA3-BJ285

Description	Contact	Circuit	Color	Model
Flush button Spring return Unmarked	N/O+N/C		●	PA3-BA34
			●	PA3-BA44
			●	PA3-BA54
			●	PA3-BA64
			○	PA3-BA74
Flush button Stay put Unmarked	N/O+N/C		●	PA3-BA35
			●	PA3-BA45
			●	PA3-BA55
			●	PA3-BA65
			○	PA3-BA75
Flush button Spring return LED Indicator	N/O+N/C		●	PA3-AW34
			●	PA3-AW44
			●	PA3-AW54
			●	PA3-AW64
			○	PA3-AW74
Flush button Stay put LED Indicator	N/O+N/C		●	PA3-AW35
			●	PA3-AW45
			●	PA3-AW55
			●	PA3-AW65
			○	PA3-AW75
Standard handle 2 position Spring return	N/O+N/C		●	PA3-BD234
			●	PA3-BD244
			●	PA3-BD284
Standard handle 3 position Spring return	N/O+N/C		●	PA3-BD334
			●	PA3-BD344
			●	PA3-BD384
Standard handle 2 position Stay put	N/O+N/C		●	PA3-BD235
			●	PA3-BD245
			●	PA3-BD285
Standard handle 3 position Stay put	N/O+N/C		●	PA3-BD335
			●	PA3-BD345
			●	PA3-BD385
Long handle 2 position Spring return	N/O+N/C		●	PA3-BJ234
			●	PA3-BJ244
			●	PA3-BJ284
Long handle 3 position Spring return	N/O+N/C		●	PA3-BJ334
			●	PA3-BJ344
			●	PA3-BJ384
Long handle 2 position Stay put	N/O+N/C		●	PA3-BJ235
			●	PA3-BJ245
			●	PA3-BJ285
Long handle 3 position Stay put	N/O+N/C		●	PA3-BJ335
			●	PA3-BJ345
			●	PA3-BJ385

Description	Contact	Circuit	Color	Model
Ø30 Mushroom Spring return	N/O+N/C		●	PA3-BC34
			●	PA3-BC44
Ø30 Mushroom Stay put	N/O+N/C		●	PA3-BC35
			●	PA3-BC45
Ø60 Mushroom Spring return	N/O+N/C		●	PA3-BR34
			●	PA3-BR44
Ø60 Mushroom Stay put	N/O+N/C		●	PA3-BR35
			●	PA3-BR45
Ø30 Mushroom Spring return LED Indicator	N/O+N/C		●	PA3-CW34
			●	PA3-CW44
Ø30 Mushroom Stay put LED Indicator	N/O+N/C		●	PA3-CW35
			●	PA3-CW45
Standard handle 2 position Spring return LED Indicator	N/O+N/C		●	PA3-DW234
			●	PA3-DW244
Standard handle 3 position Spring return LED Indicator	N/O+N/C		●	PA3-DW334
			●	PA3-DW344
Standard handle 2 position Stay put LED Indicator	N/O+N/C		●	PA3-DW235
			●	PA3-DW245
Standard handle 3 position Stay put LED Indicator	N/O+N/C		●	PA3-DW335
			●	PA3-DW345



PA3-BC34



PA3-BR44



PA3-CW34



PA3-DW235

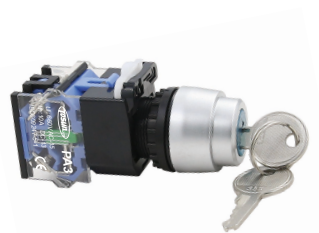
Pushbutton Switch



PA3-BS542



PA3-BS543



PA3-BG25

Description	Contact	Circuit	Color	Model
Mushroom Turn to release	N/O+N/C		●	PA3-BS542
Mushroom Emergency stop Marked "stop"	N/O+N/C		●	PA3-BS543
Key switch 2 position Spring return	N/O+N/C		—	PA3-BG24
Key switch 3 position Spring return	N/O+N/C		—	PA3-BG34
Key switch 2 position Stay put	N/O+N/C		—	PA3-BG25
Key switch 3 position Stay put	N/O+N/C		—	PA3-BG35
Dual Flush button Spring return	N/O+N/C		■ ■	PA3-BL8325

Description	Contact	Circuit	Color	Model
Dual Flush button Spring return LED Indicator	N/O+N/C		■	PA3-BW8325
			■	
			■	
			■	PA3-BW8425
			■	
			■	
			■	PA3-BW8525
			■	
			■	
			■	PA3-BW8625
			■	
			■	
			■	PA3-BW8725
			■	
			■	
Stainless steel head Flush button Spring return	N/O+N/C		—	PC3-BA74
Stainless steel head Flush button Stay put	N/O+N/C		—	PC3-BA75
Stainless steel head Flush button Ring LED indicator Spring return	N/O+N/C		●	PC3-AW734
			●	PC3-AW744
Stainless steel head Flush button Ring LED indicator Stay put	N/O+N/C		●	PC3-AW735
			●	PC3-AW745
Mushroom Emergency stop	N/O+N/C		●	PC3-BS542



PA3-BW8325



PC3-AW734



PC3-BS542

Pushbutton Switch

Circular head, with chromium plated metal bezel
Complete units with screw and captive cable clamp connections

Pushbuttons, 22mm

Description	Contact	Circuit	Color	Model
Flush button Spring return Unmarked	N/O		○	PB2-BA11
			●	PB2-BA21
			●	PB2-BA31
			●	PB2-BA51
			●	PB2-BA61
Flush button Spring return Unmarked	N/C		●	PB2-BA42
			●	PB2-BA25
			●	PB2-BA35
			●	PB2-BA55
			●	PB2-BA65
Flush button Spring return Unmarked	N/O+N/C		●	PB2-BA45
			●	PB2-BA25
			●	PB2-BA35
			●	PB2-BA55
			●	PB2-BA65
Flush button Spring return With waterproof cover IP65	N/O		○	PB2-BP11
			●	PB2-BP21
			●	PB2-BP31
			●	PB2-BP51
			●	PB2-BP61
Flush button Spring return Marked	N/C		●	PB2-BP42
			●	PB2-BA3311
			●	PB2-BA3361
			●	PB2-BA3341
			●	PB2-BA3351
Projecting button Spring return Unmarked	N/O		●	PB2-BA3331
			●	PB2-BA3321
			●	PB2-BA4322
			●	PB2-BA4342
			●	PB2-BL21
Projecting button Spring return Marked	N/C		●	PB2-BL31
			●	PB2-BL51
			●	PB2-BL61
			●	PB2-BL42
			●	PB2-BL3311
Projecting button Spring return Unmarked	N/O		●	PB2-BL3361
			●	PB2-BL3341
			●	PB2-BL3351
			●	PB2-BL4322
			●	PB2-BL4342



PB2-BA31



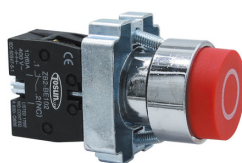
PB2-BA45



PB2-BP31



PB2-BA3361

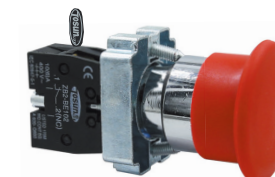


PB2-BL4322

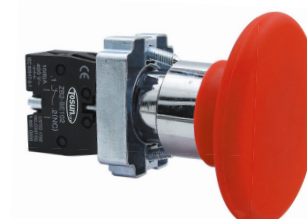
Circular head, with chromium plated metal bezel
Complete units with screw and captive cable clamp connections

Emergency stop pushbutton
Emergency switching off pushbutton

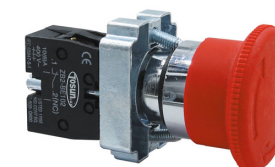
Description	Contact	Scheme	Color	Model
Ø40 Mushroom Spring return	N/O		●	PB2-BC21
			●	PB2-BC31
	N/C		●	PB2-BC42
			●	PB2-BC42
Ø60 Mushroom Spring return	N/O		●	PB2-BR21
			●	PB2-BR31
	N/C		●	PB2-BR42
			●	PB2-BR42
Mushroom Turn to release	N/C		● ø 30	PB2-BS442
			● ø 40	PB2-BS542
	N/C		● ø 60	PB2-BS642
			● ø 60	PB2-BS642
Ø40 Mushroom Stay put	N/C		● ø 40	PB2-BT42
	N/O+N/C		● ø 40	PB2-BT45
Key release	N/C		● ø 30	PB2-BS742
			● ø 40	PB2-BS142
	N/O+N/C		● ø 60	PB2-BS242
			● ø 40	PB2-BS145



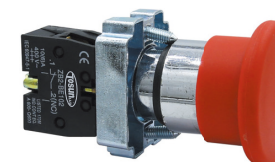
PB2-BC42



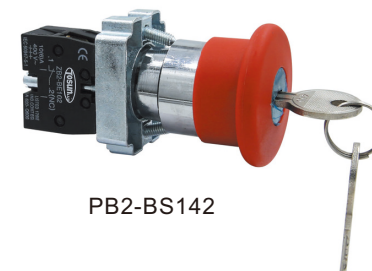
PB2-BR42



PB2-BS542



PB2-BT42



PB2-BS142

Pushbutton Switch

Circular head, with chromium plated metal bezel
Complete units with screw and captive cable clamp connections

Selector switch

Description	Contact	Circuit	Locality	Model
Standard handle 2 position	N/O		▽	PB2-BD21
			▽	PB2-BD41
	N/O+N/C		▽	PB2-BD25
			▽	PB2-BD45
Standard handle 3 position	N/O+N/O		▽	PB2-BD33
			▽	PB2-BD53
	N/O+N/O		▽	PB2-BD73
			▽	PB2-BD83
Long handle 2 position	N/O		▽	PB2-BJ21
			▽	PB2-BJ41
	N/O+N/C		▽	PB2-BJ25
			▽	PB2-BJ45
Long handle 3 position	N/O+N/O		▽	PB2-BJ33
			▽	PB2-BJ53
	N/O+N/O		▽	PB2-BJ73
			▽	PB2-BJ83
Key switch 2 position	N/O		▽	PB2-BG21
			▽	PB2-BG41
	N/O+N/C		▽	PB2-BG61
			▽	PB2-BG25
Key switch 3 position	N/O+N/O		▽	PB2-BG45
			▽	PB2-BG65
	N/O+N/O		▽	PB2-BG33
			▽	PB2-BG53
	N/O+N/O		▽	PB2-BG03
			▽	PB2-BG73

★ ▽ Stay put, ▽ Spring return, ▽ Stay put, ▽ Spring return



PB2-BD21



PB2-BD53



PB2-BJ21



PB2-BJ33



PB2-BG21

Circular head, screw and captive cable clamp connections

Complete units

Illuminated pushbutton and selector switch

Description	Circuit	Supply Voltage	Color	Model
2 Position stay put Standard handle Direct supply LED			●	PB2-BK2365
			●	PB2-BK2565
			●	PB2-BK2665
			○	PB2-BK2765
3 Position stay put Standard handle Direct supply LED			●	PB2-BK2465
			●	PB2-BK3365
			●	PB2-BK3565
			●	PB2-BK3665
Flush button Spring return Direct supply LED bulb			○	PB2-BK3765
			●	PB2-BK3465
			○	PB2-BW3161
			●	PB2-BW3361
Flush button Spring return Integral resistance LED 24V			●	PB2-BW3561
			●	PB2-BW3661
			○	PB2-BW3171
			●	PB2-BW3371
Flush button Spring return Direct supply LED bulb (with waterproof cover) IP65			●	PB2-BW3571
			●	PB2-BW3671
			○	PB2-BW3472
			●	PB2-BW3472
Flush button Spring return Integral resistance LED 24V (with waterproof cover) IP65			○	PB2-BPW3161
			●	PB2-BPW3361
			●	PB2-BPW3561
			●	PB2-BPW3661
Flush button Spring return Direct supply LED bulb (with waterproof cover) IP65			○	PB2-BPW3462
			●	PB2-BPW3371
			●	PB2-BPW3571
			●	PB2-BPW3671
Flush button Spring return Integral resistance LED 24V (with waterproof cover) IP65			○	PB2-BPW3171
			●	PB2-BPW3371
			●	PB2-BPW3571
			●	PB2-BPW3671
Flush button Spring return Integral resistance LED 24V (with waterproof cover) IP65			○	PB2-BPW3472
			●	PB2-BPW3371
			●	PB2-BPW3571
			●	PB2-BPW3671



PB2-BK2365



PB2-BK3465



PB2-BW3361



PB2-BW3371



PB2-BPW3361

Pushbutton Switch

Head with chromium plated metal bezel
Complete units with screw and captive cable clamp connections

Double headed pushbutton

Description	Contact	Circuit	Color	Model
Dual button Spring return 1 flush green button 1 flush red button Unmarked	N/O+N/C			PB2-BL8325
Dual button Spring return 1 Flush green button 1 Projecting red button Marked	N/O+N/C			PB2-BL8425
Dual button Spring return 1 Flush green button 1 Flush red button With water-proof cover Unmarked IP40	N/O+N/C			PB2-BL9325
Dual button Spring return 1 Flush green button 1 Projecting red button With water-proof cover Marked IP40	N/O+N/C			PB2-BL9425



PB2-BL8325



PB2-BL9325



PB2-BL9425

Rectangle head, with chromium plated metal bezel
Complete units with screw and captive cable clamp connections

Illuminated double headed pushbutton

Description	Contact	Circuit	Color	Model
Dual button Spring return 1 Flush green button 1 Flush red button 1 Yellow lens pilot light Marked IP40 Direct supply Neon (BA9S) LED	N/O+N/C			PB2-BW8365
Dual button Spring return 1 Flush green button 1 Projecting red button 1 Yellow lens pilot light Marked IP40 Direct supply Neon (BA9S) LED	N/O+N/C			PB2-BW8465
Dual button Spring return 1 Flush green button 1 Flush red button 1 Yellow lens pilot light Resistance Marked	N/O+N/C			PB2-BW8375
Dual button Spring return 1 Flush green button 1 Projecting red button 1 Yellow lens pilot light Resistance Marked	N/O+N/C			PB2-BW8475



PB2-BW8365



PB2-BW8465



PB2-BW8375

Additional replacement contact block, screw and captive cable

Contact	Circuit	Color	Model
N/O			ZB2-BE101
N/C			ZB2-BE102



ZB2-BE101

TAL-B Control Station



TAL-B101H29



TAL-J174H29



TAL-B144H29



TAL-B213

Description	Contact	Circuit	Marking on Legend	Marking on Button	Model
1 green flat pushbutton spring return	N/O		Start		TAL-B101H29
			-		TAL-B102
			-		TAL-B103
1 red flat pushbutton spring return	N/C		Stop		TAL-B111H29
			-		TAL-B114
			-		TAL-B112
1 red mushroom head pushbutton, 40 mm spring return	N/C		Emergency Stop	Spring return	TAL-J164H29
			Emergency Stop	Latching turn to release	TAL-J174H29
			-	-	TAL-J174
1 red mushroom head pushbutton 40mm, latching key release (key n° 445)	N/C		Emergency Stop	Key release	TAL-J184H29
1 selector switch 2 position stay put black standard handle	N/O		Start	black standard handle	TAL-B132H29
			Stop		TAL-B134H29
1 selector switch key operated (key n° 455) 2 position stay put key with drawal from LH position	N/O		Start	Key release	TAL-B142H29
			Stop		TAL-B144H29
2 spring return pushbutton 1 flat green 1 flat red	N/O+N/C		Open		TAL-B241H29
			Close		TAL-B241H29
			Start		TAL-B211H29
			Stop		TAL-B211H29
			-		TAL-B213
			-		TAL-B215

Description	Contact	Circuit	Marking on Legend	Marking on Button	Model
2 spring return pushbutton 1 flat white 1 flat black	N/O+N/O		-		TAL-B222
			-		TAL-B223
3 spring return pushbutton 1 flat white 1 flat red 1 flat black			-		TAL-B324
			-		TAL-B334
3 spring return pushbutton 2 flat green 1 flat red	N/O + N/C + N/O		-		TAL-B311
			-		TAL-B339
			Forward Stop Reverse		TAL-B311H29
			Up Stop Down		TAL-B321H29
1 red neon indicator 2 spring return pushbuttons 1 flat green 1 flat red	N/O+N/C		Start		TAL-B361H29
			Stop		TAL-B361H29
			-		TAL-B363
1 red LED indicator 2 spring return pushbuttons 1 flat green 1 flat red	N/O+N/C		-		TAL-B366
			-		TAL-B366
			-		TAL-B366
1 red LED indicator 2 spring return pushbuttons 1 flat green 1 flat red	N/O+N/C		-		TAL-B371H29
			Start		TAL-B373
			Stop		TAL-B373
4 spring return pushbutton 1 flat red 1 flat green 1 flat white 1 flat black	N/O + N/O + N/O + N/C		-		TAL-B4111
			-		TAL-B4111



TAL-B222



TAL-B311



TAL-B361H29

TAL-D Control Station



TAL-D102



TAL-D174



TAL-D134H29



TAL-D213

Description	Contact	Circuit	Marking on Legend	Marking on Button	Model
1 green flat pushbutton spring return	N/O		Start		TAL-D101H29
			-		TAL-D102
			-		TAL-D103
1 red flat pushbutton spring return	N/C		Stop		TAL-D111H29
			-		TAL-D114
			-		TAL-D112
1 red mushroom head pushbutton, φ 40 mm spring return	N/C		Emergency Stop	Spring return	TAL-D164H29
			Stop	Latching turn to release	TAL-D174H29
			-	Latching turn to release	TAL-D174
1 red mushroom head pushbutton φ 40mm, latching key release (key n° 445)	N/C		Emergency Stop	Key release	TAL-D184H29
1 selector switch 2 position stay put black standard handle	N/O		Start	black standard handle	TAL-D132H29
			Stop		TAL-D134H29
1 selector switch key operated(key n° 455) 2 position stay put key with drawal from LH position	N/O		Start	Key release	TAL-D142H29
			Stop		TAL-D144H29
2 spring return pushbutton 1 flat green 1 flat red	N/O+N/C		Open		TAL-D241H29
			Close		TAL-D211H29
			Start		TAL-D213
			Stop		TAL-D215
			-		TAL-D213

Description	Contact	Circuit	Marking on Legend	Marking on Button	Model
2 spring return pushbutton 1 flat white 1 flat black	N/O+N/O		-		TAL-D222
			-		TAL-D223
3 spring return pushbutton 1 flat white 1 flat red 1 flat black	N/O + N/C + N/O		-		TAL-D324
			-		TAL-D334
			-		TAL-D311
			-		TAL-D339
3 spring return pushbutton 2 flat green 1 flat red	N/O + N/C + N/O		Forward		TAL-D311H29
			Stop		TAL-D321H29
			Reverse		TAL-D341H29
			Up		TAL-D341H29
1 red neon indicator 2 spring return pushbuttons 1 flat green 1 flat red	N/O+N/C		Start		TAL-D361H29
			Stop		TAL-D363
			-		TAL-D366
1 red LED indicator 2 spring return pushbuttons 1 flat green 1 flat red	N/O+N/C		Start		TAL-D37H29
			Stop		TAL-D373
			-		TAL-D376
			-		TAL-D376



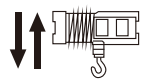
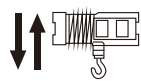
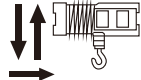
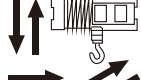
TAL-D222



TAL-D363

TAC-A Pushbutton Switch

For control of motors

Symbol & Number of Operators	Contact	Circuit	Model
 2 mechanically interlocked	1NO		TAC-A271
	1NO+1NC		TAC-A281
 2 mechanically interlocked + 1 trigger action latching "Emergency stop" φ 30mm operator ZA2-BS44	1NO		TAC-A2713
	1NO+1NC		TAC-A2813
 4 mechanically interlocked between pairs	1NO		TAC-A471
	1NO+1NC		TAC-A481
 4 mechanically interlocked between pairs + 1 trigger action latching "Emergency stop" φ 30mm operator ZA2-BS44	1NO		TAC-A4713
	1NO+1NC		TAC-A4813
 6 mechanically interlocked between pairs	1NO		TAC-A671
	1NO+1NC		TAC-A681
 6 mechanically interlocked between pairs + 1 trigger action latching "Emergency stop" φ 30mm operator ZA2-BS44	1NO		TAC-A6713
	1NO+1NC		TAC-A6813



TAC-A271



TAC-A4713

For control of motors

Symbol & Number of Operators	Contact	Circuit	Model
 8 mechanically interlocked between pairs	1NO		TAC-A871
	1NO+1NC		TAC-A881
 8 mechanically interlocked between pairs + 1 trigger action latching "Emergency stop" φ 30mm operator ZA2-BS44	1NO		TAC-A8713
	1NO+1NC		TAC-A8813
 2 mechanically interlocked	1NC+1NO+1NO staggered XEN-G1191		TAC-A291
 2 mechanically interlocked + 1 trigger action latching "Emergency stop" φ 30mm operator ZA2-BS44	1NC+1NO+1NO staggered XEN-G1191		TAC-A2913
	1NC		
 4 mechanically interlocked between pairs	1NC+1NO+1NO staggered XEN-G1191		TAC-A491
 4 mechanically interlocked between pairs + 1 trigger action latching "Emergency stop" φ 30mm operator ZA2-BS44	1NC+1NO+1NO staggered XEN-G1191		TAC-A4913
	1NC		
 4 mechanically interlocked between pairs + 1 trigger action latching "Emergency stop" φ 30mm operator ZA2-BS44	1NC+1NO+1NO staggered(a) XEN-G1191		TAC-A4923
	1NC		



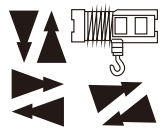
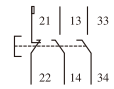
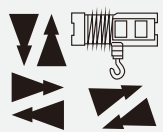
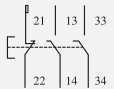
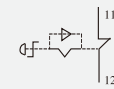
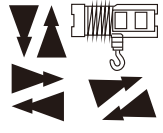
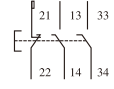
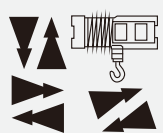
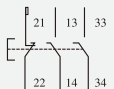
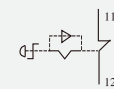
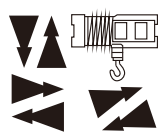
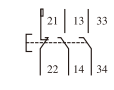
TAC-A881



TAC-A4913

TAC-A Pushbutton Switch

For control of motors

Symbol & Number of Operators	Contact	Circuit	Model
 6 mechanically interlocked	1NC+1NO+1NO staggered XEN-G1191		TAC-A691
 6 mechanically interlocked +1 trigger action latching "Emergency stop" φ 30mm operator ZA2-BS44	1NC+1NO+1NO staggered XEN-G1191 1NC	 	TAC-A6913
 8 mechanically interlocked	1NC+1NO+1NO staggered XEN-G1191		TAC-A891
 8 mechanically interlocked +1 trigger action latching "Emergency stop" φ 30mm operator ZA2-BS44	1NC+1NO+1NO staggered XEN-G1191 1NC	 	TAC-A8913
 8 mechanically interlocked +1 trigger action latching "Emergency stop" φ 30mm operator ZA2-BS44	1NC+1NO+1NO staggered(a) XEN-G1191 1N/C102(b) 1N/C ZB2-BE102	 	TAC-A8923

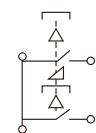
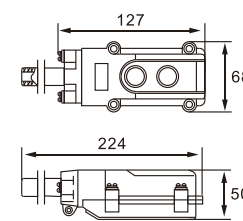
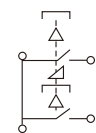
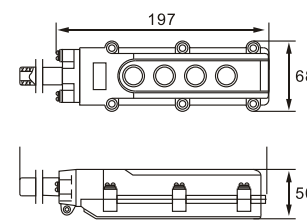
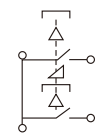
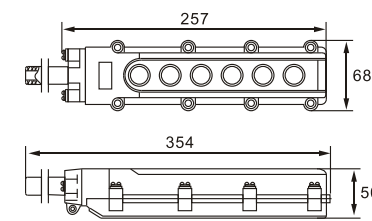
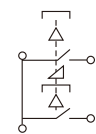
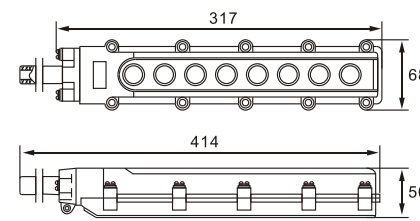
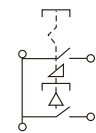
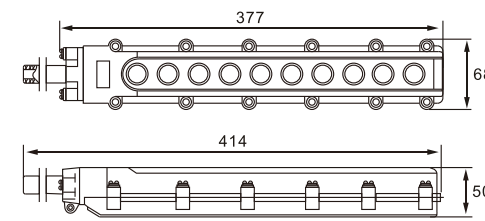


TAC-A691



TAC-A8923

Pushbutton Switch

Model: COB61 Button interlocked and auto reset Ui:500v Ith: 5A AC-15 380V~2A 220V~5A	 
Model: COB62 Button interlocked and auto reset Ui:500v Ith: 5A AC-15 380V~2A 220V~5A	 
Model: COB63 Button interlocked and auto reset Ui:500v Ith: 5A AC-15 380V~2A 220V~5A	 
Model: COB64 Button interlocked and auto reset Ui:500v Ith: 5A AC-15 380V~2A 220V~5A	 
Model: COB64A Normal-on and self-locked reset is driven by off Ui:500v Ith: 5A AC-15 380V~2A 220V~5A	 



COB61



COB63

Enclosure of Pushbutton



H9-1



H9-2



H9-3



H9-4



H9-5



H9-6



TAL-D01



TAL-D02



TAL-D03

Accessories of Pushbutton & Indicator



Model: PB-PR
Φ 22 Protective Ring
Dimension: Φ 67x30



Model: PB-WR
Φ 22x Φ 60 Warning Ring



Model: PB-PC1
Φ 22 Emergency Stop Button
Protective Cover
Dimension: 53x48x25



Model: PB-PC2
Φ 22 Emergency Stop Button
Protective Cover
Dimension: 65x80x39



Model: PB-PC3
Φ 22 Emergency Stop Button
Protective Cover
Dimension: 48x55x40



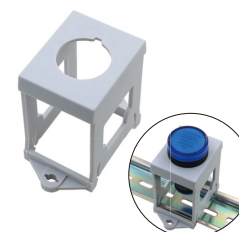
Model: PB-PC4
Φ 22 Emergency Stop Button
Protective Cover
Dimension: 59x36



Model: PB-PC5
Φ 22 Emergency Stop Button
Protective Cover
Dimension: Φ 55x37
Φ 55x43



Model: PB-PC6
Φ 22 Pushbutton Protective Cover
Dimension: Φ 50x32

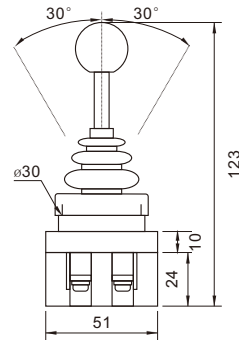


Model: PB-PMB
Φ 22 Pushbutton Mounting Bracket
Dimension: 31x45x57.5



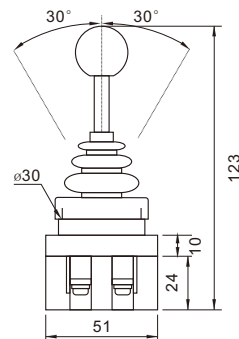
Model: ZBY-2510 / ZBY-2518
Dimension: 45x30 / 53x30
Marking Frame: 25x10 / 25x18

Control Switch



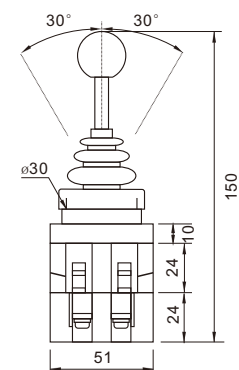
Model	Description
PD-201	Spring return
PD-2011	Self locked

Rated Current: 15/10/4A
Rated Voltage: 150/250/600V
2 Position 2 N/O Contact type Up, Down, Center off



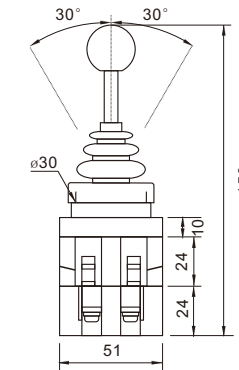
Model	Description
PD-301	Spring return
PD-3011	Self locked

Rated Current: 15/10/4A
Rated Voltage: 150/250/600V
2 Position 2 N/O Contact type Up, Down, Center off



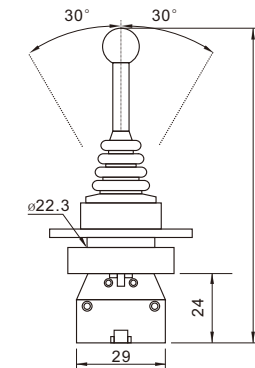
Model	Description
PD-302	Spring return
PD-3022	Self locked

Rated Current: 15/10/4A
Rated Voltage: 150/250/600V
4 Position 4 N/O Contact type Up, Down, Left, Right, Center off



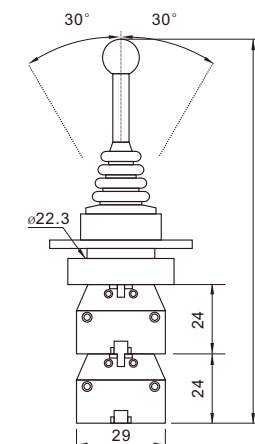
Model	Description
PD-402	Spring return
PD-4022	Self locked

Rated Current: 15/10/4A
Rated Voltage: 150/250/600V
4 Position 4 N/O Contact type Up, Down, Left, Right, Center off



Model	Description
PD2-PA22	Spring return
PD2-PA12	Self locked

Rated Current: 15/10/4A
Rated Voltage: 150/250/600V
2 Position 2 N/O Contact type Up, Down, Center off



Model	Description
PD2-PA24	Spring return
PD2-PA14	Self locked

Rated Current: 15/10/4A
Rated Voltage: 150/250/600V
4 Position 4 N/O Contact type Up, Down, Left, Right, Center off

CA10 Changeover Switch

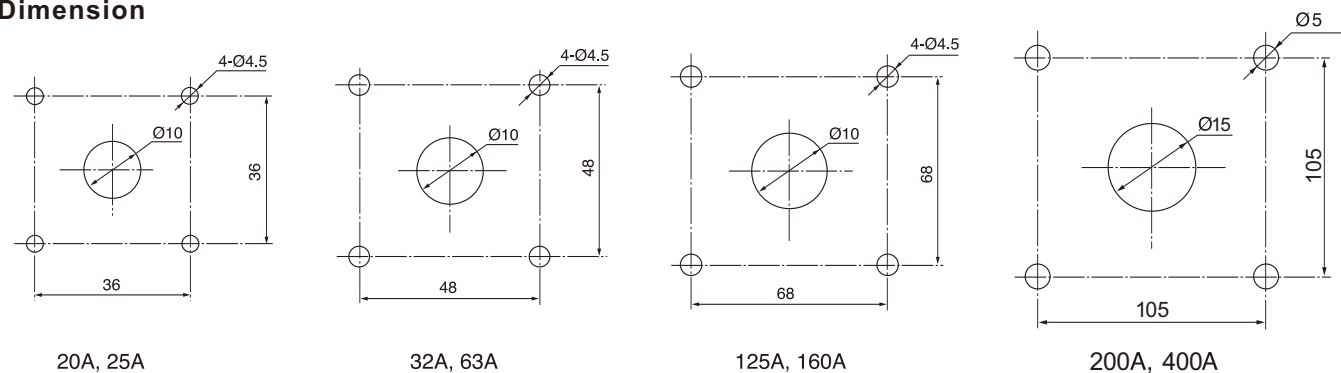


Enclosed type IP55

Specification

Type	CA10-20	CA10-25	CA10-32	CA10-63	CA10-125	CA10-160	CA10-200	CA10-400
Rated Insulation Voltage U_i (V)	690							
Conventional Heating Current I_{th} (A) $Ac10 \leq 40^\circ$	20	25	32	63	125	160	200	400
Rated Working Voltage U_e (V)	120 240 440	120 240 440	120 240 440	240 440	240 440	220 440	240 440	240 400
Rated Working Current I_e (A)	AC-21A AC-22A	20 20	25 25	25 32 32	63 63	100 100	150 150	180 180 360 360
	AC-23A	15 15	22 22	22 30 30	57 57	90 90	135 135	150 150 360 360
	AC-2	15 15	22 22	22 30 30	57 57	90 90	135 135	150 150 360 360
	AC-3	11 11	15 15	15 22 22	36 36	75 75	95 95	110 110 140 140
	AC-4	3.5 3.5	6.5 6.5	6.5 11 11	15 15	30 30	55 55	70 70 110 110
	AC-15	5 4	8 5	5 14 6	- -	- -	- -	- -
	AC-13	5 1	9 1.5	25 11	- -	- -	- -	- -
Rated Control Power (KW)	AC-23A	3.7/2.5 7.5/3.7	5.5/3 11/5.5	7.5/4 15/7.5	15/10 30/18.5	30/15 45/22	37/22 75/37	45/27 85/40 75/37 132/55
	AC-2	4 7.5	5.5 11	7.5 15	18.5 30	30 45	37 55	45 60 55 95
	AC-3	3/2.2 5.5/3	4/3 7.5/3.7	5.5/4 11/5.5	11/6 18.5/11	15/7.5 30/13	22/11 37/18.5	28/15 45/22 37/22 55/30
	AC-4	0.55/0.75 1.5/1.5	1.5/1.1 3/2.2	3.7/1.5 5.5/3	5.5/2.4 7.5/4	6/3 12/5.5	10/4 15/7.5	12.5/6 22/9 15/7.5 25/11
Mechanical Life (times)	60 x 10 ⁴							
Electrical Life (times)	AC-15 20 x 10 ⁴ DC-13 6 x 10 ⁴							

Dimension



EP Changeover Switch

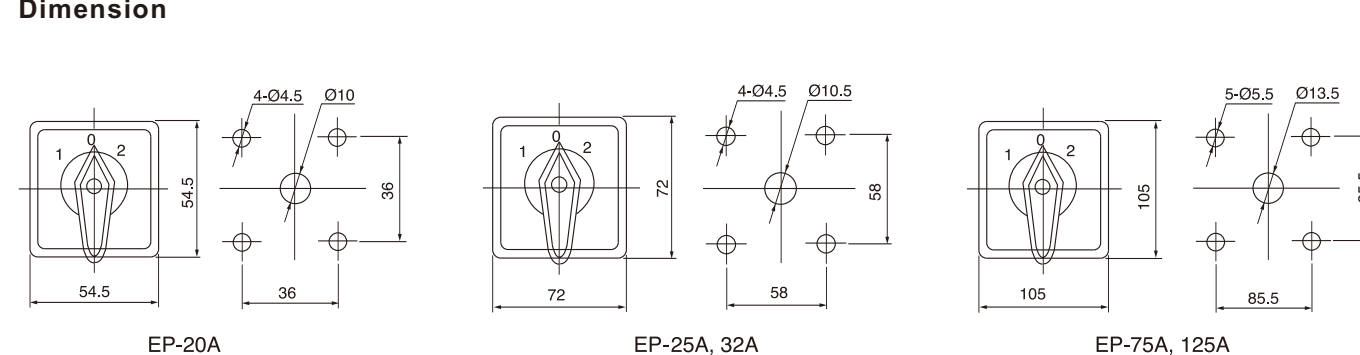


Enclosed type

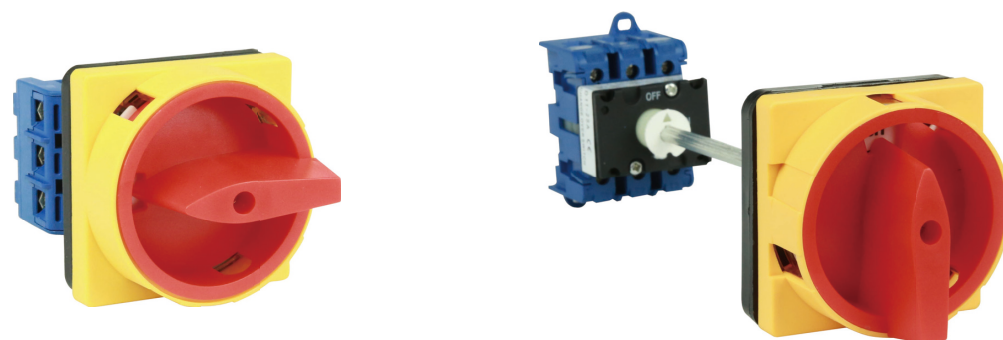
Specification

Type	EP-20A	EP-25A	EP-32A	EP-75A	EP-125A
Rated Insulation Voltage U_i (V)	660				
Conventional Heating Current I_{th} (A) $Ac10 \leq 40^\circ$	20	25	32	75	125
Rated Working Voltage U_e (V)	120 240 440	120 240 440	120 240 440	120 440	440
Rated Working Current I_e (A)	AC-21A AC-22A	20	25	32	75 125
	AC-23A	15	22	30	72 90
	AC-2	15	22	30	72 90
	AC-3	11	15	22	32 36
	AC-4	3.5	6.5	11	23 30
	AC-15	5 4	8 5	14 3	
	AC-13	5 1	9 1.5	25 11	60
Rated Control Power (KW)	AC-23A	7.5	11	15	30 45
	AC-2	7.5	11	15	30 45
	AC-3	5.5	7.5	11	24 45
	AC-4	1.5	3	5.5	11.5 18.5
Mechanical Life (times)	60 x 10 ⁴				
Electrical Life (times)	AC-15 20 x 10 ⁴ DC-13 6 x 10 ⁴				

Dimension



D11 Changeover Switch



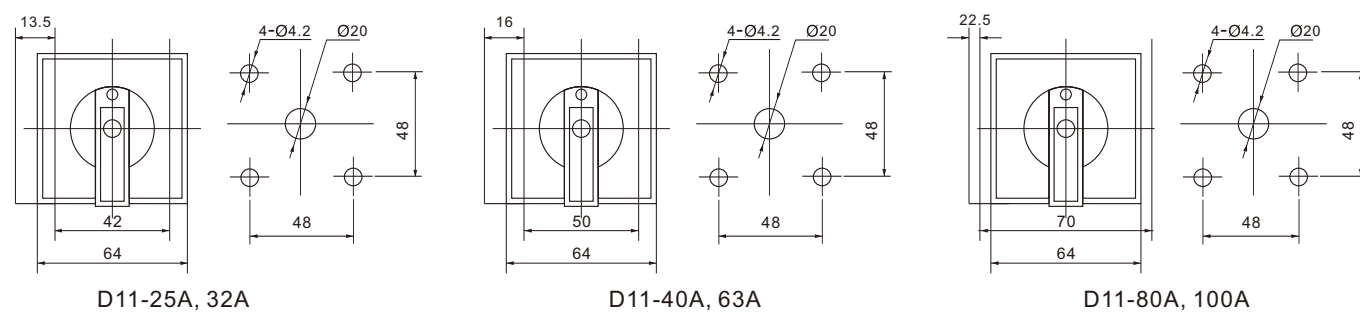
D11-32A Front Panel

D11-40A Rear Panel

Specification

Model		D11-25	D11-32	D11-40	D11-63	D11-80	D11-100
Conventional Heating Current Ith (A)		25A	32A	40A	63A	80A	100A
Resistive Load AC21		25A	32A	40A	63A	80A	100A
AC23 Accidental Switch Motor or High Inductance Load	3x220~240V	4kW	5.5kW	7.5kW	11kW	18.5kW	22kW
	3x380~440V	7.5kW	11kW	15kW	22kW	30kW	37kW
AC3 Direct Connection Start Motor	3x220~240V	3kW	4kW	7.5kW	11kW	15kW	18.5kW
	3x380~440V	5.5kW	7.5kW	11kW	12.5kW	22kW	30kW

Dimension



D11-25A, 32A

D11-40A, 63A

D11-80A, 100A

LW5 Changeover Switch



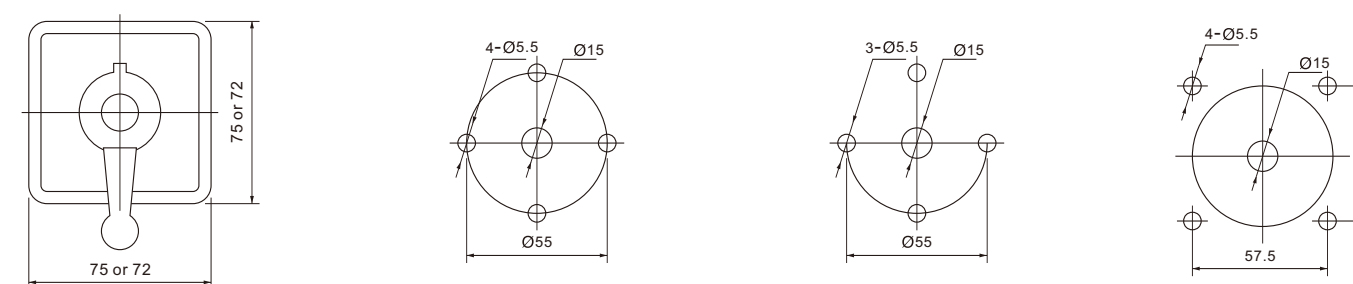
LW5 16A

LW5 40A

Specification

Application	Master Control									Direct Control Motor	
Using Classes	AC-15			DC-13 two breakpoints			DC-13 four breakpoints			AC-3	AC-4
Ue (V)	500	380	220	440	220	110	440	220	110	380	
Ie (V)	2.0	2.6	4.6	0.14	0.27	0.55	0.2	0.41	0.82	12	
Ui (V)	500										
Ith (A)	16										
Operation Frequency (times/h)	300									300	120
Mechanical Life (times)	3x10 ⁵										
Electrical Life (times)	2x10 ⁴									19.5x10 ⁴	0.5x10 ⁴
										20x10 ⁴	

Dimension



Manual-Return Switch

Self-Return Switch

Improved Panel

Isolation Switch



Din Rail Mounted



Din Rail Mounted
with lockable handle

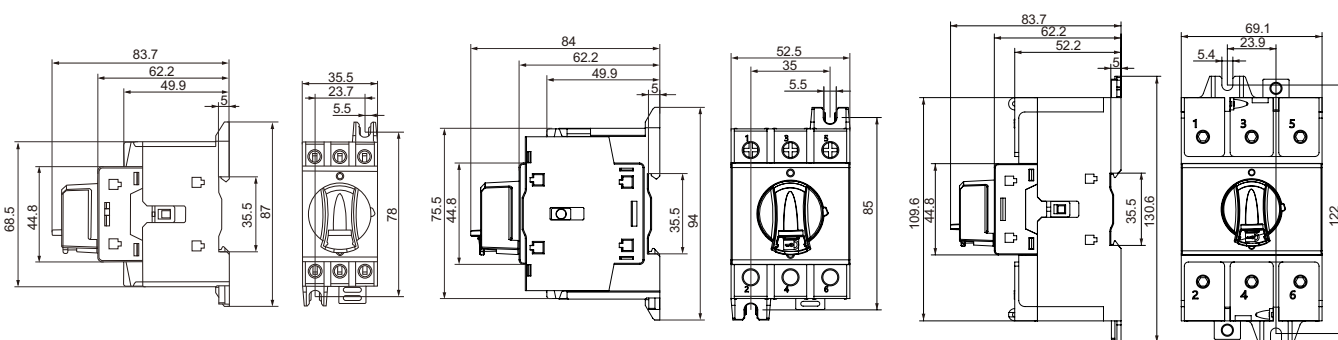


Front Panel Mounted
with padlockable rotary handle

Specification

Model		TSAS1-16	TSAS1-20	TSAS1-25	TSAS1-32	TSAS1-40	TSAS1-63	TSAS1-80	TSAS1-80H	TSAS1-100	TSAS1-125
Rated Current (A)		16	20	25	32	40	63	80	100	100	125
Rated Operational Current le AC-23A/B (A)	415V	16/16	20/20	25/25	32/32	40/40	63/63	80/80	100/100		125/125
	500V				25/25		63/63		80/80	100/100	
	690V						40/40		63/63	63/63	
Rated Operational Power (3 phase) AC-23A/B (Kw)	415V	7.5	9	11	15	18.5	30	37	45		55
	500V										
	690V		11	15							
Rated Conditional Short-circuit Current (kA)	415V	50								25	
Connectable Wire (mm²)		1.5~16					2.5~35			10~70	
Rated Insulation Voltage (V)		800									
Rated Impulse Withstand Voltage Uimp (kA)		8									
Standard		IEC/EN60947-3, AC-23A									

Dimension



TSAS1 16-40
Din Rail Mounted

TSAS1 63-80
Din Rail Mounted

TSAS1 100-125
Din Rail Mounted

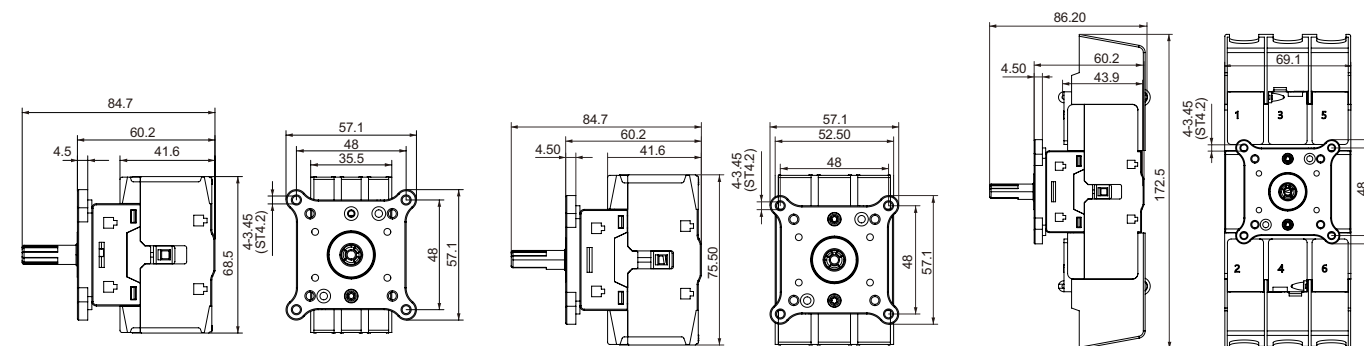


Rear Panel Mounted
with padlockable rotary handle



IP66 Plastic Enclosure

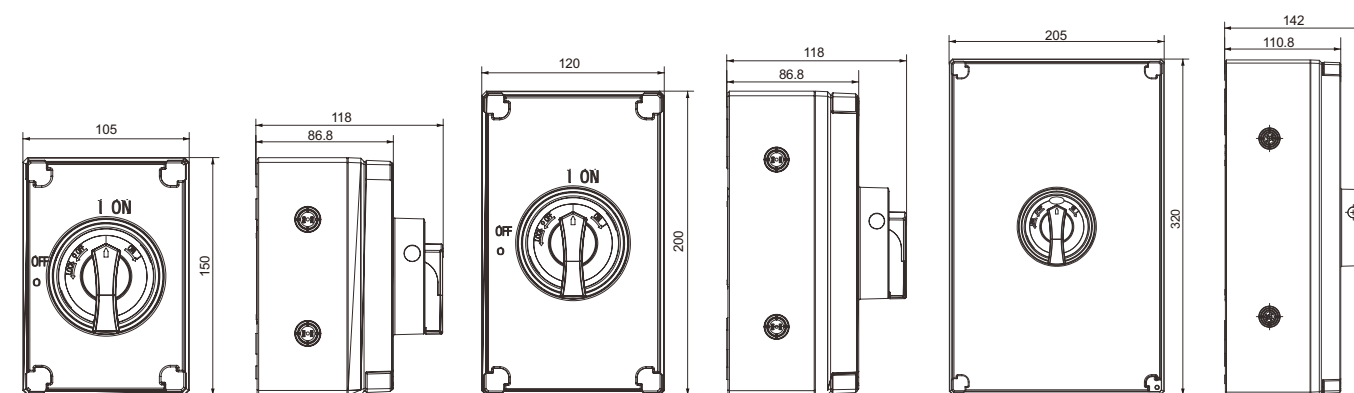
Dimension



TSAS1 16-40
Front Panel Mounted

TSAS1 63-80
Front Panel Mounted

TSAS1 100-125
Front Panel Mounted



TSAS1 16-40
Plastic Enclosure

TSAS1 63-80
Plastic Enclosure

TSAS1 100-125
Plastic Enclosure

Isolation Switch



TSAS69-LK20R-4RY

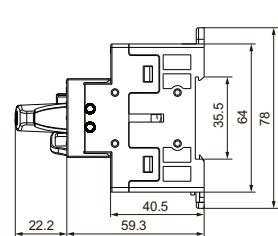


IP66
TSAS69-EL20R-4

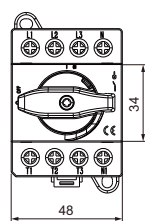
Specification

Model		TSAS69- LK20R-4RY/ EL20R-4	TSAS69- LK32R-4RY/ EL32R-4	TSAS69- LK40R-4RY/ EL40R-4	TSAS69- LK63R-3RY/ EL63R-3	TSAS69- LK80R-3RY/ EL80R-3
Rated Current (A)		20	32	40	63	80
Rated Operating Current AC-23A (A)		16	25	32	45	45
Rated Operating Current AC-3 (A)		12	23	30	37	37
Rated Power Control AC-23A (KW)	240V	4	7.5	9	15	15
	440V	7.5	12.5	16	22	22
Rated Power Control AC-3 (KW)	240V	3	5.5	7.5	11	11
	440V	5.5	11	15	18.5	18.5
UL-CSA Motor Load (KW)	240V	3	5	5	10	10
	440V	7.5	10	10	20	20
Rated Short-time Withstand Current (A)		250	400	500	600	850
Connectable Wire (mm²)		0.5-10			1-16	
Screw Torque (N·m)		0.8-1.7			1.5-2	
Rated Insulation Voltage (V)		690				
Standard		IEC/EN60947-3, AC-23A				

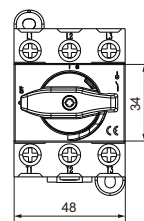
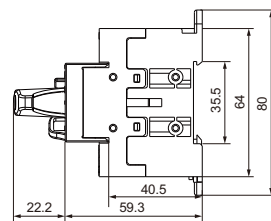
Dimension



4P 20-40A



3P 63-80A



Supplementary Contact

Model	Rated Current	Width	Circuit Diagram
TSAC69-ACC02	80A	14mm	
TSAS1-PS40	40A	11mm	
TSAS1-PS80	80A	16mm	
TSAS1-PS125	125A	21.3mm	

Fourth pole: Synchronized closing and breaking operation with main switch poles



TSAC69-ACC02



TSAS1-PS80

Auxiliary Contact

Model	Contacts	Width	Parameter	Circuit Diagram
TSAS1-P1	1NO+1NC	9mm	AC-13: 10A, 230V~ AC-15: 6A, 230V~	
TSAS1-P2	2NO	9mm	AC-13: 10A, 230V~ AC-15: 6A, 230V~	



TSAS1-P1

Limiting Switch



TSK-J10511



TSK-J10513



TSK-J10541



TSK-J139



TSK-J161



TSK-J167



TSK-J10559



TSK-J108



TSK-J121



ME8101



ME8104



ME8107



ME8108



ME8111



ME8112



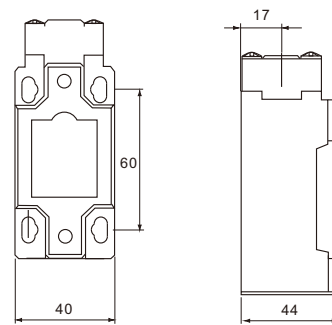
ME8122



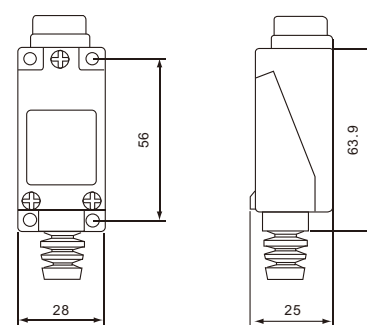
ME8166



ME8169



TSK-J Series



ME Series



HL-5000



HL-5030



HL-5050



HL-5100



HL-5200



HL-5300



WL-CA2



WL-CA2-2



WL-CA32-41



WL-CL



WL-D



WL-D2



WL-CA12



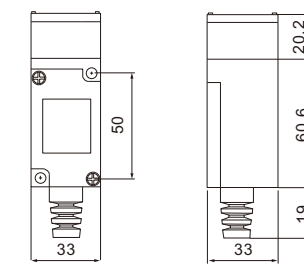
WL-CA12-2



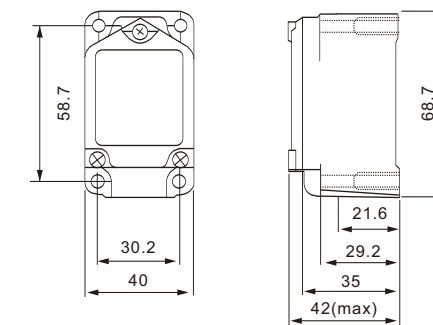
WL-NJ



WL-NJ-S2



HL Series



WL Series

Limiting Switch



TSK-S101

TSK-S102

TSK-S121



TSK-S131

TSK-S141

TSK-S139



TSK-P102

TSK-P106

TSK-P110



TSK-P118

TSK-P121

TSK-P127

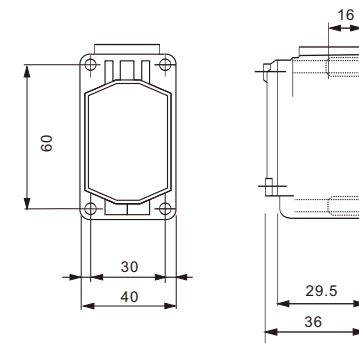


TSK-P128

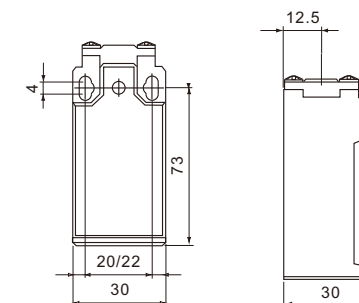
TSK-P139

TSK-P145

TSK-P155



TSK-S Series



TSK-P Series



TSK-T102

TSK-T106

TSK-T110



TSK-T118

TSK-T121

TSK-T127



TSK-T128

TSK-T145

TSK-T155



TSK-M102

TSK-M106

TSK-M110

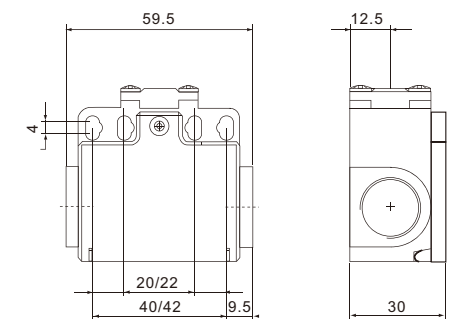


TSK-M115

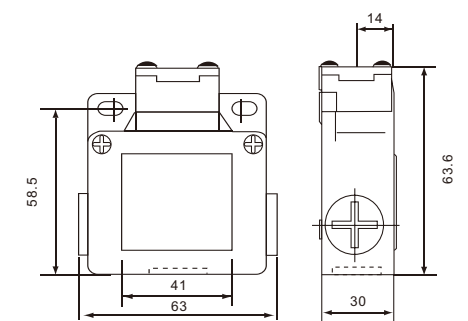
TSK-M121

TSK-M139

TSK-M141

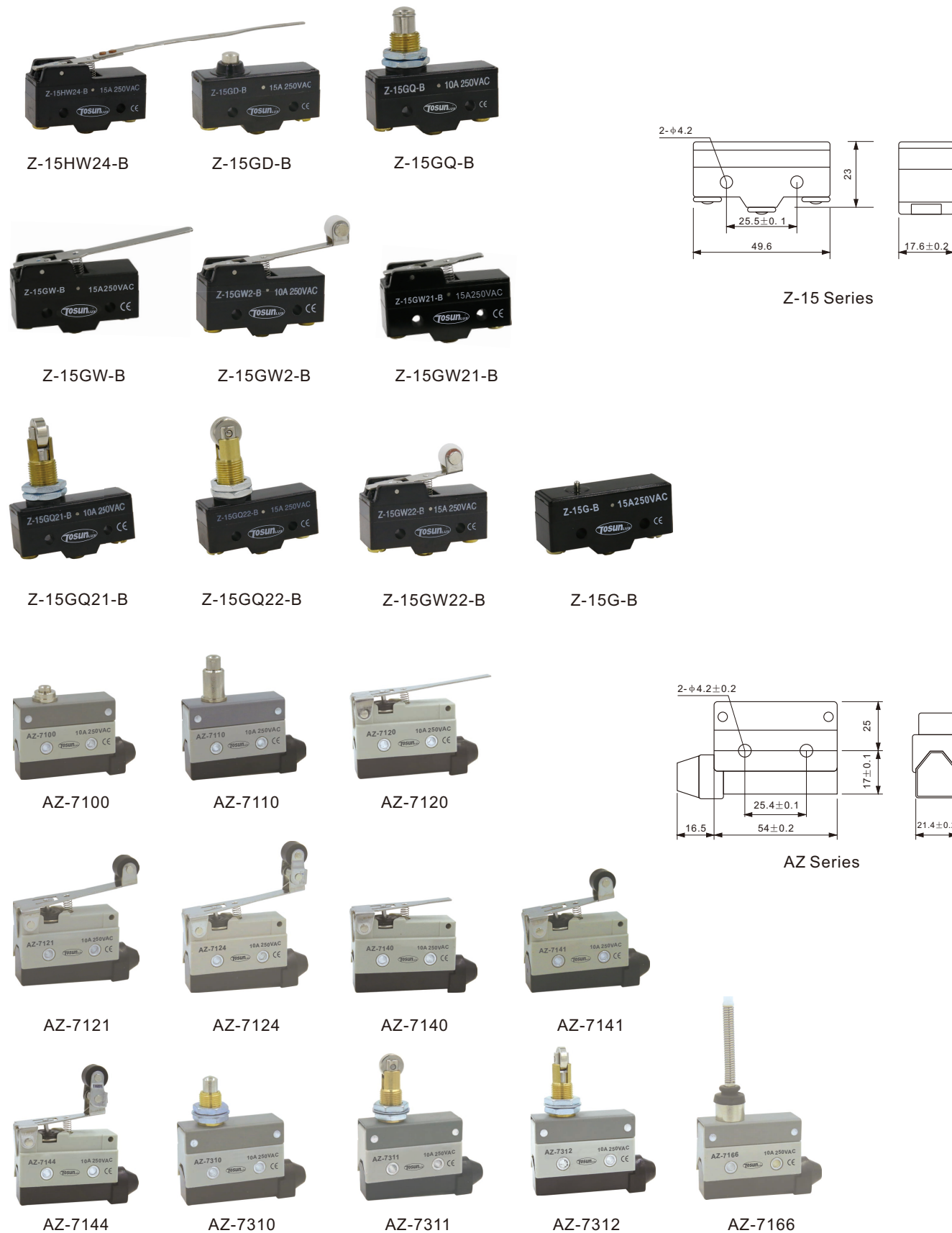


TSK-T Series

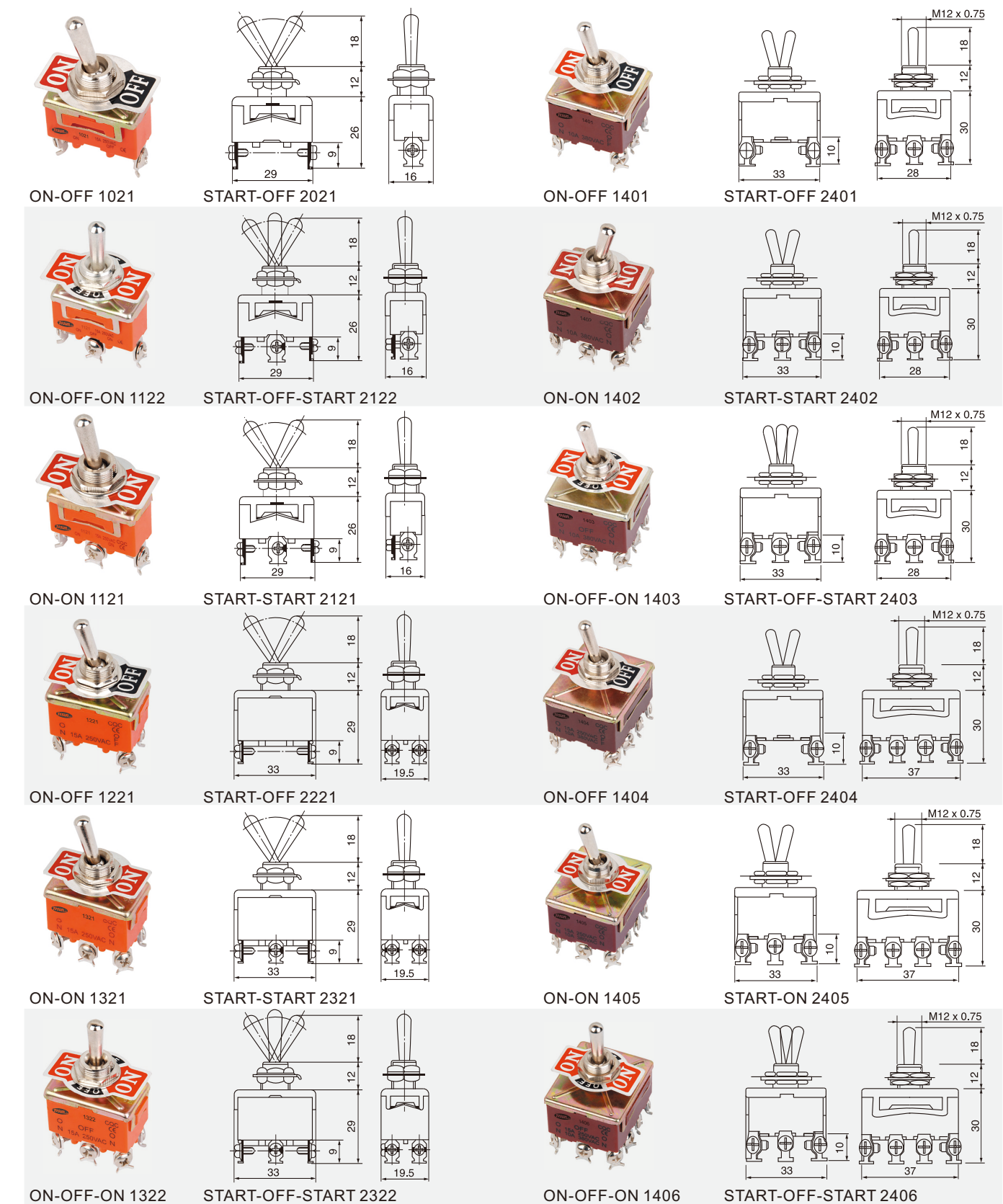


TSK-M Series

Micro Switch



Toggle Switch



Pedal Switch



FS-1 Steel



FS-2 Aluminum



FS-7 Plastic



8017 Plastic



VFS-201 Plastic



KH8012 Plastic



SFM-1 Aluminum



SFM-5 Aluminum



SFMP-1 Aluminum



SFMS-1 Aluminum



SFM-15 Aluminum