



KRAUS & NAIMER
BLUE LINE SWITCHGEAR

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SINCE 1907

Catalog 100

CL Switches 10 A-20 A

C, CA, CAD Switches 10 A-315 A

L Switches 350 A-2400 A



KRAUS & NAIMER

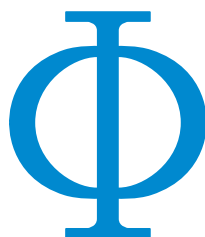
The development of the Blue Line rotary switch, contactor and motor starter product ranges is based on more than seventy-five years experience by Kraus & Naimer in the design and manufacture of electrical switchgear. Kraus & Naimer pioneered the introduction of the cam operated rotary switch and continues to be recognized as the world leader in that product field.

BLUE LINE

Blue Line products are protected by numerous patents throughout the industrial world. They are built to national and international standards and designed to withstand adverse temperatures and climates.

Blue Line products are accepted and universally recognized for their quality and workmanship. They are supported by a worldwide sales and service organization.

The Kraus & Naimer Registered Trademark



WORLDWIDE SYMBOL
FOR QUALITY SWITCHGEAR

Disconnectors and Main Switches acc. to IEC 60947-3 see Catalog 500

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Construction Data

The load switches of the C, CA, CAD and CL-series offer a solution for most cam switch applications. Different contact designs, contact materials and terminals allow for their use as control switches, instrumentation switches and motor control switches, as well as in electronic circuitry and in aggressive environments according to IEC 60947-3 and VDE 0660 part 107.

The stage is the basis for all switches and can be supplied with a maximum of 2 contacts. The terminals are accessible from the side. CA and CAD switches are supplied with open terminals to facilitate wiring and are protected against accidental finger contact according to EN 50274, VDE 0660 part 514 and BGV A3. Switches up to type CA25B are supplied with captive screws with clamping plates. The switch types CA40-CA63 are supplied with box terminals. Captive plus-minus terminal screws and integrated screwdriver guides facilitate wiring.

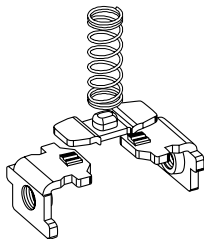
The switches of the new CL-series are supplied with rust-free and acid-resisting IDC terminals (Insulation Displacement Connection) instead of screw type terminals. The stripping or preparation of the insulation is no longer required. Eliminate errors due to i.e., stripped end of the conductor too long or too short, incorrect sleeves used, sleeves crimped incorrectly or wrong crimping tool is used, terminal screws not tightened properly etc. The CL switches reduce installation time by 60 %-70 % compared to the screw type terminals. This translates to significant cost savings. For connecting 2 conductors to a terminal an additional screw terminal with plus-minus screw is available.

If a positive manual operation or a higher DC rating is required, many of these switches can be fitted with a snap action latching mechanism - suffix „S“ - to the switch type.

The cam-operated switches of the L-series are continuous current rated for off-load switching. They may be used to switch resistive or low inductive loads.

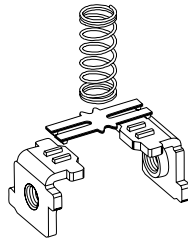
Special Contact Systems

CA4/CA4-1



High contact reliability by multiple cross-point contacts, electronic compatible, CA4 with 1 μ and CA4-1 with 35 μ gold plating.

CAD11/CAD12



H-bridge with „cross-wire“ contact system, high contact reliability also at lower voltages. CAD11 with gold-plated contacts, CAD12 with silver contact.

Type	Size	Possible Switching Angles	Max. No. of Stages
CA4, CA4-1	S00	30°, 45°, 60°, 90°	9
CL4	S00	30°, 45°, 60°, 90°	8
CA10-CA25	S0	30°, 45°, 60°, 90°	12
CA10S-CA25S	S0	60°	on request
CAD11, CAD12	S0	30°, 45°, 60°, 90°	12
CL10	S0	30°, 45°, 60°, 90°	10
CA10B-CA25B	S1	30°, 45°, 60°, 90°	12
CA40, CA50, CA63	S1	30°, 45°, 60°, 90°	12
C80, C125	S2	20°, 30°, 45°, 60°, 90°	12
C315	S3	20°, 30°, 45°, 60°, 90°	12
L350/51, L630/31, L1000/01, L1250/51	S2	30°, 45°, 60°, 90°	12
L400, L600, L800, L1200, L1600, L2000	S3	30°, 45°, 60°, 90°	12

CL Switches



CA and CAD Switches (CA4-CA25B)



CA Switches (CA40-CA63)



C Switches

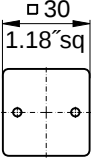
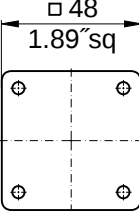
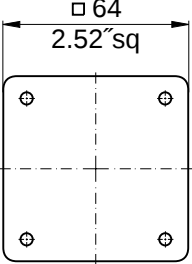
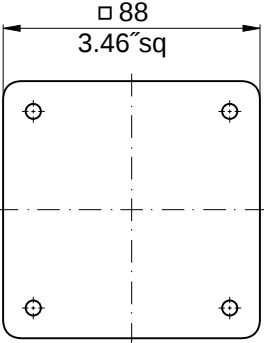
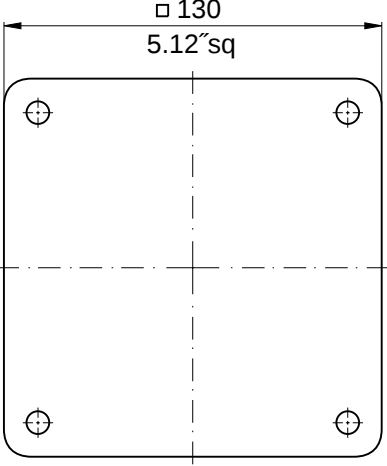


L Switches



Above illustrates the standard terminal positions.

Nominal Ratings

Switch Size	Type	Ratings		
		IEC I_u/I_{th} Thermal Current A	480 V, 3 ph DOL HP	UL/CSA General Purpose A
S00 	CA4	10	1 ¹	10
	CA4-1	10	1 ¹	10
	CL4	10	-	-
S0 	CA10	20	3 ¹	20/16
	CA11	20	5	20/16
	CA20	25	10	30
	CA25	32	10 ¹	30
	CAD11	6	-	6
	CAD12	6	-	6
	CL10	20	-	-
S1 	CA10B	20	3 ¹	20/16
	CA11B	20	5	20/16
	CA20B	25	10	30
	CA25B	32	10 ¹	30
	CA40	40	25	45
	CA50	50	25	55
	CA63	63	30	65
S2 	C80	115	30	100
	C125	150	40	150
	L350	350	-	350 ²
	L351	350	-	350 ²
	L630	630	-	630 ²
	L631	630	-	630 ²
	L1000	1000	-	1000 ²
	L1001	1000	-	1000 ²
	L1250	1250	-	1250 ²
	L1251	1250	-	1250 ²
S3 	C315	315	75	240
	C316⁴	315	75	240
	L400	500	-	400 ³
	L600	800	-	600 ³
	L800	1100	-	800 ³
	L1200	1450	-	1200 ³
	L1600	1900	-	1600 ³
	L2000	2400	-	2000 ³
For further technical details, refer to pages 40-43. To furnish with gold contacts and quick connects see page 4.				

¹240 V 3ph.-Rating. ²Continuous current rating, max. interrupting rating 200 Amps. ³Continuous current rating CSA, max. interrupting rating 200 Amps.

⁴Additional switch functions on request.

How to order

Disconnectors and Main Switches according to IEC 60947-3 see Catalog 500

Three types of data (shown below) are required for ordering Blue Line cam-operated switches. Code numbers for ordering are shown in this catalog.

1. Type of Switch

The type of switch required may be easily selected by referring to the table on page 3 which shows the thermal current, power rating and dimensions of each switch. For further technical details, refer to pages 40-43. Variations of contacts and terminals are shown below.

2. Switch Function

The code numbers for standard switches shown on pages 6-28 indicate the switch function, escutcheon plate, handle and any optional extras.

Additional coding to modify type and color of handle and escutcheon plate is explained below.

3. Type of Mounting

Types of mounting are shown on pages 29-35. Catalog **101** describes enclosures and optional extras.

Specify the mounting code to indicate required mounting.

CA10

A202-600

VE

Type of Switch

Extending the switch type coding the following combinations will define:

Amendment	Definition	For switch types
-1	with gold contacts ¹	CA10, CA11, CA10B, CA11B
-4	with quick connects	CA4
B	S0 switches with latching mechanism size S1	CAD11, CAD12
C	S1 switches with latching mechanism size S2	CA40, CA50, CA63
L	with lockout-relay w/o manual release for std. sw.	CA10, CA40 ² , CA50 ² , CA63 ²
M	with lockout-relay with manual release for std. sw.	CA10, CA40 ² , CA50 ² , CA63 ²
X	with power failure release	CA10, CA11, CA20, CA25, CAD12, CA40 ² , CA50 ² , CA63 ²
Y	with power failure release and trip-free release	CA10, CA11, CA20
S	with snap action	CA10, CA11, CA20, CA25, CA40 ² , CA50 ² , CA63 ²
R	with spring return latching mechanism	with 60° or 90° switching CA10

Example: Coding for switch type **CA10** with gold contacts is **CA10-1**.

Modification of Switches

The part number for switch function and options may be modified in cases where items are required other than standard. The modification may involve the escutcheon plate inscription, color combination of escutcheon plate and handle, type of escutcheon plate and handle or the optional extra.

Switch Size	Escutcheon Plate Frame	Handle	Escutcheon Plate Backing	Escutcheon Plate Lettering	Dash Number
S0, S1, S2, S3	electro-gray	electro-gray	brushed alu	black	-100
S0, S1, S2, S3	electro-gray	electro-gray	black	mat silver	-500
S00, S0, S1, S2, S3	black	black	brushed alu	black	-600
S00, S0, S1, S2, S3	black	black	black	mat silver	-700

¹Technical data on request. ²In preparation.

How to order

Modification of Switches

Color combinations of escutcheon plate and handle

The standard switch consists of a transparent escutcheon plate with brushed aluminum backing and black inscription. The escutcheon plate frame is black as well as the handle. Page 4 shows further color combinations of escutcheon plate and handle which are available. The appropriate dash number must be substituted in the switch function coding to specify other color combinations as required.

Example: The complete coding for switch type CA10 with a 3 pole ON/OFF switch function, electro-gray handle and electro-gray escutcheon plate frame with brushed aluminum backing and black inscription which reads 0-1 is as follows: **CA10 A202-100 E**.

The following is a list of special programs for escutcheon plate and handle combinations. They may be obtained by specifying any one of the following two (2) digit dash numbers as a part of the overall dash number. It is still necessary to prefix these two digit numbers with the first digit which represents the color combination desired.

Special programs for escutcheon plate and handle combinations

- **.000** = without escutcheon plate, without handle
- **.01** = without escutcheon plate
- **.02** = without handle
- **.03** = with square escutcheon plate without lettering
- **.04** = with rectangular escutcheon plate without lettering
- **.05** = with square escutcheon plate without lettering and without handle
- **.06** = with rectangular escutcheon plate without lettering and without handle
- **.07** = standard escutcheon plate, without lettering on rectangular section
- **.08** = with F-handle
- **.09** = with P-handle
- **.10** = escutcheon plate with frame and fixation ring only (if using switches with single hole mounting: - **.16**)
- **.11** = without escutcheon plate, but with handle bearing plate
- **.12** = with yellow escutcheon plate backing and red handle
- **.14** = with B-handle
- **.16** = escutcheon plate with frame and fixation ring only, if using switches with single hole mounting
- **.17** = standard escutcheon plate and rectangular add-on escutcheon plate, if using switches with single hole mounting FT2

Example: The complete coding for switch type CA10 with a 3 pole ON/OFF switch function with electro-gray escutcheon plate frame, square escutcheon plate without lettering, brushed aluminum plate backing and electro-gray handle reads as follows: **CA10 A202-103 E**.

Handles, Escutcheon Plates and Optional Extras

The handles for standard switches shown on pages 6-28 are suitable for mounting units with four hole mounting. Alternative types of handles available are illustrated on pages 29-35.

When a handle, escutcheon plate or optional extra is required but not covered by the dash number, the code number for the selected component should be entered separately. A comprehensive range of available standard escutcheon plates is illustrated on pages 36 and 37. Non-standard or special escutcheon plate engravings are available at extra cost.

The large number of optional extras and enclosures is covered in Catalog **101**.

Switch Size

Blue Line switches are available in sizes S00, S0, S1, S2 and S3. These size codes indicate the dimensions of the mounting, the escutcheon plate and the handle, as well as the size of optional devices and enclosures.

Page 3 lists these sizes and the various switch types they include.

Ordering of Special Switches and Escutcheon Plates

When ordering special switches and escutcheon plates it is advisable to use our order form, as illustrated. The customer's requirements are shown in blue as an example.

For technical reasons, it may not be possible to follow the sequence of contacts requested by the customer. The final contact development which is sent with every switch will show the customer's original terminal markings.

ESCUTCHEON PLATE		MOTOR 1		POSITIONS		H		A		DATE		SIGNED	
0	30	60	90	120	150	180	210	240	270	300	330	360	390
1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28
29	30	31	32	33	34	35	36	37	38	39	40	41	42
43	44	45	46	47	48	49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80	81	82	83	84
85	86	87	88	89	90	91	92	93	94	95	96	97	98
99	100	101	102	103	104	105	106	107	108	109	110	111	112
113	114	115	116	117	118	119	120	121	122	123	124	125	126
127	128	129	130	131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150	151	152	153	154
155	156	157	158	159	160	161	162	163	164	165	166	167	168
169	170	171	172	173	174	175	176	177	178	179	180	181	182
183	184	185	186	187	188	189	190	191	192	193	194	195	196
197	198	199	200	201	202	203	204	205	206	207	208	209	210
211	212	213	214	215	216	217	218	219	220	221	222	223	224
225	226	227	228	229	230	231	232	233	234	235	236	237	238
239	240	241	242	243	244	245	246	247	248	249	250	251	252
253	254	255	256	257	258	259	260	261	262	263	264	265	266
267	268	269	270	271	272	273	274	275	276	277	278	279	280
281	282	283	284	285	286	287	288	289	290	291	292	293	294
295	296	297	298	299	300	301	302	303	304	305	306	307	308
309	310	311	312	313	314	315	316	317	318	319	320	321	322
323	324	325	326	327	328	329	330	331	332	333	334	335	336
337	338	339	340	341	342	343	344	345	346	347	348	349	350
351	352	353	354	355	356	357	358	359	360	361	362	363	364
365	366	367	368	369	370	371	372	373	374	375	376	377	378
379	380	381	382	383	384	385	386	387	388	389	390	391	392
393	394	395	396	397	398	399	400	401	402	403	404	405	406
407	408	409	410	411	412	413	414	415	416	417	418	419	420
421	422	423	424	425	426	427	428	429	430	431	432	433	434
435	436	437	438	439	440	441	442	443	444	445	446	447	448
449	450	451	452	453	454	455	456	457	458	459	460	461	462
463	464	465	466	467	468	469	470	471	472	473	474	475	476
477	478	479	480	481	482	483	484	485	486	487	488	489	490
491	492	493	494	495	496	497	498	499	500	501	502	503	504
505	506	507	508	509	510	511	512	513	514	515	516	517	518
519	520	521	522	523	524	525	526	527	528	529	530	531	532
533	534	535	536	537	538	539	540	541	542	543	544	545	546
547	548	549	550	551	552	553	554	555	556	557	558	559	560
561	562	563	564	565	566	567	568	569	570	571	572	573	574
575	576	577	578	579	580	581	582	583	584	585	586	587	588
589	590	591	592	593	594	595	596	597	598	599	600	601	602
603	604	605	606	607	608	609	610	611	612	613	614	615	616
617	618	619	620	621	622	623	624	625	626	627	628	629	630
631	632	633	634	635	636	637	638	639	640	641	642	643	644
645	646	647	648	649	650	651	652	653	654	655	656	657	658
659	660	661	662	663	664	665	666	667	668	669	670	671	672
673	674	675	676	677	678	679	680	681	682	683	684	685	686
687	688	689	690	691	692	693	694	695	696	697	698	699	700
701	702	703	704	705	706	707	708	709	710	711	712	713	714
715	716	717	718	719	720	721	722	723	724	725	726	727	728
729	730	731	732	733	734	735	736	737	738	739	740	741	742
743	744	745	746	747	748	749	750	751	752	753	754	755	756
757	758	759	760	761	762	763	764	765	766	767	768	769	770
771	772	773	774	775	776	777	778	779	780	781	782	783	784
785	786	787	788	789	790	791	792	793	794	795	796	797	798
799	800	801	802	803	804	805	806	807	808	809	810	811	812
813	814	815	816	817	818	819	820	821	822	823	824	825	826
827	828	829	830	831	832	833	834	835	836	837	838	839	840
841	842	843	844	845	846	847	848	849	850	851	852	853	854
855	856	857	858	859	860	861	862	863	864	865	866	867	868
869	870	871	872	873	874	875	876	877	878	879	880	881	882
883	884	885	886	887	888	889	890	891	892	893	894	895	896
897	898	899	900	901	902	903	904	905	906	907	908	909	910
911	912	913	914	915	916	917	918	919	920	921	922	923	924
925	926	927	928	929	930	931	932	933	934	935	936	937	938
939	940	941	942	943	944	945	946	947	948	949	950	951	952
953	954	955	956	957	958	959	960	961	962	963	964	965	966
967	968	969	970	971	972	973	974	975	976	977	978	979	980
981	982	983	984	985	986	987	988	989	990	991	992	993	994
995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008
1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022
1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036
1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050
1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064
1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078
1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092
1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106
1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120
1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134
1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148
1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162
1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176
1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190
1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204
1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218
1219	1220	1221	1222	1223	1224	1225	1226	1227	1228	1229	1230	1231	1232
1233	1234	1235	1236	1237	1238	1239	1240	1241	1242	1243	1244	1245	1246
1247	1248	1249	1250	1251	1252								

Switch Function and Configuration

C, CA, CAD, CL Switches

Function	Escutch. Plate	Type/Handle				Code	Stages	Connection Diagram
		CA4 CA4-1 CL4	CAD.. CA10- CA25 CL10	CA10B- CA25B	CA40 C315			

ON/OFF Switches with 60° Switching

1 pole						A200-600	1	
2 pole						A201-600	1	
3 pole						A202-600	2	
3 pole with red handle						A202-626	2	
3 pole with V850 padlock attachment						A202-627	2	
4 pole						A203-600	2	
4 pole 1 pole preclose 60° ¹						A653-600	2	
5 pole						A341-600	3	
6 pole						A342-600	3	
7 pole						A343-600	4	
8 pole						A344-600	4	
8 pole 2 pole preclose 60° ¹						A654-600	4	
9 pole						A345-600	5	
10 pole						A346-600	5	
11 pole						A347-600	6	
12 pole						A348-600	6	
1 pole						A200-620	1	
2 pole						A201-620	1	
3 pole						A202-620	2	
4 pole						A203-620	2	
4 pole 1 pole preclose 60° ¹						A653-620	2	
5 pole						A341-620	3	
6 pole						A342-620	3	
7 pole						A343-620	4	
8 pole						A344-620	4	
8 pole 2 pole preclose 60° ¹						A654-620	4	
9 pole						A345-620	5	
10 pole						A346-620	5	
11 pole						A347-620	6	
12 pole						A348-620	6	
1 pole						A200-621	1	
2 pole						A201-621	1	
3 pole						A202-621	2	
4 pole						A203-621	2	
4 pole 1 pole preclose 60° ¹						A653-621	2	
5 pole						A341-621	3	
6 pole						A342-621	3	
1 pole						A200-622	1	
2 pole						A201-622	1	
3 pole						A202-622	2	
4 pole						A203-622	2	
4 pole 1 pole preclose 60° ¹						A653-622	2	
5 pole						A341-622	3	
6 pole						A342-622	3	
1 pole						A200-623	1	
2 pole						A201-623	1	
3 pole						A202-623	2	
4 pole						A203-623	2	
4 pole 1 pole preclose 60° ¹						A653-623	2	
5 pole						A341-623	3	
6 pole						A342-623	3	
1 pole						A200-624	1	
2 pole						A201-624	1	
3 pole						A202-624	2	
4 pole						A203-624	2	
4 pole 1 pole preclose 60° ¹						A653-624	2	
5 pole						A341-624	3	
6 pole						A342-624	3	
1 pole						A200-625	1	
2 pole						A201-625	1	
3 pole						A202-625	2	
4 pole						A203-625	2	
4 pole 1 pole preclose 60° ¹						A653-625	2	
5 pole						A341-625	3	
6 pole						A342-625	3	

¹for use in a three phase four-wire system with switched neutral

Switch Function and Configuration

C, CA, CAD, CL Switches

Function	Escutch. Plate	Type/Handle	Code	Stages	Connection Diagram
		CA4 CA4-1 CL4	CAD.. CA10- CA25 CL10		
		CA10B- CA25B	CA40 C315		

ON/OFF Switches with 90° Switching

1 pole contacts 2 pole preclose 30° 3 pole						A290-600 A291-600 A292-600	1 1 2		1, 2, 3, 4, 5 and 6 pole			
4 pole 4 pole 1 pole preclose 60° ¹ 4 pole 3 pole preclose 30°						A324-600 A293-600 A327-600	2 2 2					
5 pole contacts 6 pole preclose 30°						A325-600 A326-600	3 3					
1 pole contacts 2 pole preclose 30° 3 pole						A290-620 A291-620 A292-620	1 1 2				4 pole 1 pole preclose 60°	
4 pole 4 pole 1 pole preclose 60° ¹ 4 pole 3 pole preclose 30°						A324-620 A293-620 A327-620	2 2 2					
5 pole contacts 6 pole preclose 30°						A325-620 A326-620	3 3					
3 pole 360° rotation						A208-600 A208-620	2 2					
3 pole for foot operation						A386-600	2					

ON/OFF Switches with 30° Switching

1 pole						A100-600	1		1-4 pole
2 pole						A101-600	1		
3 pole						A102-600	2		
4 pole						A103-600	2		
1 pole with spring return						A204-600	1		1-4 pole
2 pole with spring return						A205-600	1		
3 pole with spring return						A206-600	2		
4 pole with spring return						A207-600	2		
1 pole with spring return						A204-620	1		1-4 pole
2 pole with spring return						A205-620	1		
3 pole with spring return						A206-620	2		
4 pole with spring return						A207-620	2		

¹for use in a three phase four-wire system with switched neutral ²not available for switch type CA25

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CL4 CAD.. CA10- CA25 CL10 CA10B- CA25B C315 CA40	Code	Stages	Connection Diagram
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Double-throw Switches without „OFF“ 60° Switching

1 pole						A220-600	1		
2 pole						A221-600	2		
3 pole						A222-600	3		
4 pole						A223-600	4		
4 pole 1 pole preclose 6° ³						A673-600	4		
5 pole						A369-600	5		
6 pole						A370-600	6		
7 pole						A371-600	7		
8 pole						A372-600	8		
8 pole 2 pole preclose 6° ³						A972-600	8		
9 pole						A373-600	9		
10 pole						A374-600	10		
11 pole						A375-600	11		
12 pole						A376-600	12		

Double-throw Switches without „OFF“ with electrically isolated contacts

1 pole						A720-600	1		
2 pole						A721-600	2		
3 pole						A722-600	3		
4 pole						A723-600	4		
4 pole 1 pole preclose 6° ³						A973-600	4		
1 pole with spring return						A795-600	1		1 pole with spring return

Double-throw Switches without „OFF“ 30° Switching

1 pole						A120-600	1		
2 pole						A121-600	2		
3 pole						A122-600	3		
4 pole						A123-600	4		
1 pole with spring return						A295-600	1		
2 pole with spring return						A296-600	2		
3 pole with spring return						A297-600	3		
1 pole with spring return						A295-620	1		
2 pole with spring return						A296-620	2		
3 pole with spring return						A297-620	3		

¹not available for switch type CA25 ²not available for switch type CL4 ³for use in a three phase four-wire system with switched neutral
⁴not available for switch type CL10

Switch Function and Configuration

C, CA, CAD, CL Switches

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CL4 CAD.. CA10- CA25 CL10 CA10B- CA63 C80- C315	Code	Stages	Connection Diagram
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Double-throw Switches with Center „OFF“ 60° Switching

1 pole 2 pole 3 pole 4 pole 4 pole 1 pole preclose 6° ³ 5 pole 6 pole 7 pole 8 pole 8 pole 2 pole preclose 6° ³						A210-600 A211-600 A212-600 A213-600 A913-600 A361-600 A362-600 A363-600 A364-600 A664-600	1 2 3 4 4 5 6 7 8 8	
1 pole 2 pole 3 pole 4 pole 4 pole 1 pole preclose 6° ³ 5 pole 6 pole 7 pole 8 pole 8 pole 2 pole preclose 6° ³						A210-620 A211-620 A212-620 A213-620 A913-620 A361-620 A362-620 A363-620 A364-620 A664-620	1 2 3 4 4 5 6 7 8 8	
1 pole 2 pole 3 pole						A210-621 A211-621 A212-621	1 2 3	
1 pole 2 pole 3 pole						A210-622 A211-622 A212-622	1 2 3	
1 pole 2 pole 3 pole						A210-623 A211-623 A212-623	1 2 3	
1 pole 2 pole 3 pole 4 pole 4 pole 1 pole preclose 6° ³						A210-624 A211-624 A212-624 A213-624 A913-624	1 2 3 4 4	

Double-throw Switches with Center „OFF“ 90° Switching

1 pole 2 pole 3 pole 4 pole 1 pole preclose 60°						A218-600 A219-600 A299-600 A294-600	1 2 3 4	
1 pole 2 pole 3 pole 4 pole 1 pole preclose 60°						A218-620 A219-620 A299-620 A294-620	1 2 3 4	

Double-throw Switches with Center „OFF“ and electrically isolated contacts

1 pole 2 pole 3 pole 4 pole 4 pole 1 pole preclose 6° ³						A710-600 A711-600 A712-600 A713-600 A963-600	1 2 3 4 4	
1 pole with spring return 2 pole to center						A714-600 A715-600	1 2	

¹switch type C315 with handle ²not available for switch type C315 ³for use in a three phase four-wire system with switched neutral

Switch Function and Configuration

C, CA, CAD, CL Switches

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CL4 CAD.. CA10- CA25 CL10 CA10B- CA25B CA40 C315	Code	Stages	Connection Diagram
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Double-throw Switches with Spring Return to Center

1 pole with spring return to center						A214-600 A215-600 A216-600	1 2 3	
2 pole to center						A214-620 A215-620 A216-620	1 2 3	
3 pole						A320-600 A321-600 A322-600	1 2 3	
1 pole with spring return from left to center						A320-621 A321-621 A322-621	1 2 3	
2 pole from left to center								
3 pole								

General Application Switches

1 pole 2 Gang						A310-600 A312-600 A314-600	1 2 3	
2 pole Switching sequence: 0, A, A+B						A310-620 A312-620 A314-620	1 2 3	
3 pole						A311-600 A313-600 A315-600	2 3 5	
1 pole 3 Gang						A311-620 A313-620 A315-620	2 3 5	
2 pole Switching sequence: 0, A, A+B, A+B+C						A330-600 A331-600 A332-600	1 2 3	
3 pole						A330-620 A331-620 A332-620	1 2 3	
1 pole 2 Gang						A339-600	2	
2 pole Series-parallel Switching						A339-620	2	
Switching sequence: 0, A+B series, A, A+B parallel								

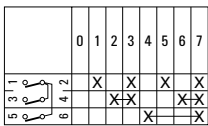
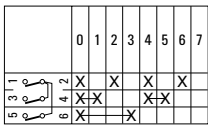
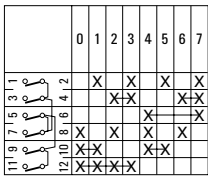
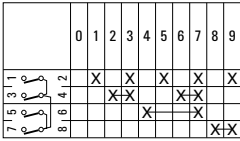
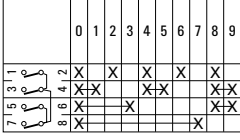
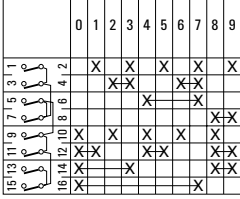
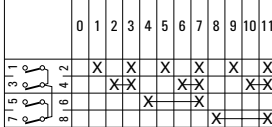
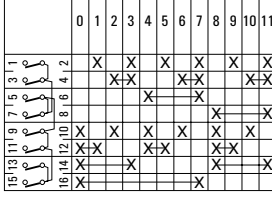
¹not available for switch type CA25 ²not available for switch type C315 ³available only up to switch type CA63

Switch Function and Configuration

C, CA, CAD, CL Switches

Function	Escutch. Plate	Type/Handle				Code	Stages	Connection Diagram
		CA4 CA4-1 CL4	CA10 CAD11 CAD12 CL10	CA10B- CA25B	CA40 C315			

Coding Switches/Binary Code

0 - 7 360° rotation						A540-600	2	
0 - 7 complement 360° rotation						A541-600	2	
0 - 7 + complement 360° rotation						A542-600	3	
0 - 9						A550-600	2	
0 - 9 complement						A551-600	2	
0 - 9 + complement						A552-600	4	
0 - 11 360° rotation						A543-600	2	
0 - 11 + complement 360° rotation						A545-600	4	

Switch Function and Configuration

C, CA, CAD, CL Switches

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CL4 CAD.. CA10- CA25 CL10 CA10B- CA63 C80- C315	Code	Stages	Connection Diagram
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Multi-step Switches without „OFF“

1 pole 3 Step 2 pole 3 pole 4 pole 5 pole 6 pole		                                        
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Switch Function and Configuration

C, CA, CAD, CL Switches

Function	Escutch. Plate	Type/Handle				Code	Stages	Connection Diagram
		CA4 CA4-1 CL4	CAD.. CA10- CA25 CL10	CA10B- CA63	C80- C315			

Multi-step Switches without „OFF“ with electrically isolated contacts

1 pole 3 Step						A730-600	2	 1 pole
2 pole						A750-600	3	 2 pole
1 pole 4 Step						A731-600	2	 1 pole
2 pole						A751-600	4	 2 pole

Multi-step Switches with „OFF“

1 pole 2 Step						A240-600	1	 1-6 pole
2 pole						A260-600	2	
3 pole						A280-600	3	
4 pole						A480-600	4	
5 pole						A486-600	5	
6 pole						A491-600	6	
1 pole						A240-620	1	 1-6 pole
2 pole						A260-620	2	
3 pole						A280-620	3	
4 pole						A480-620	4	
5 pole						A486-620	5	
6 pole						A491-620	6	
1 pole 3 Step						A241-600	2	 1 and 2 pole
2 pole						A261-600	3	
3 pole						A281-600	5	
4 pole						A481-600	6	
5 pole						A487-600	8	
1 pole						A241-620	2	 3 pole
2 pole						A261-620	3	
3 pole						A281-620	5	
4 pole						A481-620	6	
5 pole						A487-620	8	
1 pole						A241-621	2	 4 pole
2 pole						A261-621	3	
								 5 pole

Function	Escutch. Plate	Type/Handle CA4 CA4-1 CL4 CAD.. CA10- CA25 CL10 CA10B- CA63 C80- C315	Code	Stages	Connection Diagram
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Multi-step Switches with „OFF“

1 pole 4 Step						A242-600 A262-600 A282-600 A482-600	2 4 6 8	
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Switch Function and Configuration

C, CA, CAD, CL Switches

Function	Escutch. Plate	Type/Handle				Code	Stages	Connection Diagram
		CA4 CA4-1 CL4	CA10- CA25	CAD.. CL10	CA10B- CA25B			

Voltmeter Switches without „OFF“

3 phase 3 wire						A023-600	2	
						A023-620	2	
3 phase 3 wire 3 phase to phase and phase to neutral						A025-600	3	
						A025-620	3	

Voltmeter Switches with „OFF“

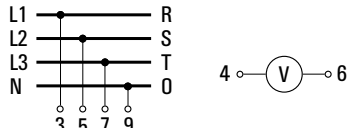
2 pole 360° rotation						A002-600	1	
3 phase 3 wire						A004-600	2	
						A004-620	2	
						A004-621	2	
						A004-622	2	
						A004-623	2	
						A004-624	2	
						A011-600	2	

Function	Escutch. Plate	Type/Handle	Code	Stages	Connection Diagram
		CA4 CA4-1 CL4	CA10- CA25	CAD.. CL10	CA10B- CA25B

Voltmeter Switches with „OFF“

3 phase to neutral						A005-600	2	
						A005-620	2	
						A005-621	2	
						A005-622	2	
						A005-623	2	
3 phase to phase and 3 phase to neutral						A007-600	3	
						A007-620	3	
						A007-621	3	
						A007-622	3	
						A007-623	3	
2 separate 3 phase with center „OFF“						A008-600	4	
						A008-620	4	
						A008-621	4	
						A008-622	4	

C, CA, CAD, CL Switches

Voltmeter Switches with „OFF“									
3 phase and 1 phase to neutral						A010-600	3		
						A010-620	3		
						A010-621	3		
						A010-622	3		

Single pole with one current transformer						A046-600	1	
						A046-620	1	
						A046-621	1	
Single pole with 3 current transformers without „OFF“						A017-600	3	for A017: for A059:
						A059-600	3	
						A017-620	3	
						A059-620	3	
Single pole with 3 current transformers with „OFF“ 360° rotation						A048-600	3	for A048: for A058:
						A058-600	3	
						A048-620	3	
						A058-620	3	
						A048-621	3	
						A058-621	3	
						A048-622	3	
						A058-622	3	
						A048-623	3	
						A058-623	3	

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Switch Function and Configuration

C, CA, CAD, CL Switches

Function	Escutch. Plate	Type/Handle				Code	Stages	Connection Diagram
		CA4 CA4-1 CL4	CAD.. CA10- CA25 CL10	CA10B- CA50	CA63 C125			

Ammeter Switches

Single pole with 2 current transformers (3 readings)						A021-600	2	
						A021-620	2	
Single pole with 4 current transformers						A036-600	4	
		CL4	CL10			A056-600	4	
						A036-620	4	
		CL4	CL10			A056-620	4	
2 pole 2 current transformers						A037-600	3	
						A037-620	3	
						A037-621	3	
2 pole 3 current transformers						A019-600	5	
						A019-620	5	
						A038-600	5	
						A038-620	5	
2 pole 4 current transformers						A039-600	6	
						A039-620	6	

¹not available for switch types CL4 and CL10 ²available only up to switch type CA25B

Switch Function and Configuration

C, CA, CAD, CL Switches

Function	Escutch. Plate	Type/Handle	Code	Stages	Connection Diagram
		CA4 CA4-1 CL4	CAD.. CA10- CA10B- CA25 CL10		
		CA10B- CA25B CA63			

Volt-ammeter Switches

3 phase - phase to phase 3 current		 CL4	 CL10					A027-600 A057-600	6	for A027: 	for A057:
								A028-600	7		
3 phase voltage 3 phase current 4 wire								A033-600	5		for CL switches: *19 instead of 11
3 phase voltage 3 phase current 3 wire								A035-600	5		for CL switches: *17 instead of 9

Control Switches

Stop switch								A174-600	1	
Start switch								A175-600	1	
Stop start switch single pole								A176-600	1	
Stop start switch 2 pole								A183-600	2	
Stop start switch with spring return from start to run								A178-600	1	
								A178-620	1	
Stop start switch with spring return to run for 2 units								A177-600	2	
								A177-620	2	

¹not available for switch types CL4 and CL10 ²available only up to switch type CA50

Switch Function and Configuration

C, CA, CAD, CL Switches

Function	Escutch. Plate	Type/Handle				Code	Stages	Connection Diagram
		CA4 CA4-1 CL4	CAD.. CA10- CA25 CL10	CA10B- CA25B	CA40 CA50			

Control Switches

Stop start switch with spring return to run with contactor interlock contactors for 2 units						A182-600	2	
						A182-620	2	
Motor voltage control switch						A150-600	2	

Control Switches with electrically isolated contacts

Stop start switch single pole						A789-600	1	
Stop start switch with spring return to 1						A791-600	1	
Stop start switch with spring return to run for 2 units						A790-600	2	
Contactor control with spring return to „OFF“						A179-600	2	
						A179-620	2	
Circuit breaker control						A537-600	2	

Control and Alarm Switches¹

With slip clutch and without indicator device					A190-600	5 ³	
Without indicator device					A192-600	2	

¹Advise the indicator device, described in Catalog 101, page 7. ²not available for switch types CL10, CA25 and CA25B ³incl. slip clutch
⁴available only up to switch type CA40

Function	Escutch. Plate	Type/Handle				Code	Stages	Connection Diagram
		CA4 CA4-1 CL4	CAD.. CA10- CA25 CL10	CA..B CA40- CA63	C80- C315			

Motor Reversing Switches

2 pole						A400-600	2	
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Motor Control Switches

2 speed 2 winding 0-A-B Υ or Δ						A451-600	3	
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¹not available for switch type CA25 ²not available for switch types CA40-CA63 ³available only up to switch type CA50

Function	Escutch. Plate	Type/Handle	Code	Stages	Connection Diagram
	CA4 CA4-1 CL4	CAD.. CA10- CA10B- CA25 CA25B CL10			

Motor Control Switches

2 speed single winding						A440-600	4	
						A440-620	4	
2 speed single winding without „OFF“						A466-600	4	
						A441-600	4	
2 speed single winding with center „OFF“						A441-620	4	
						A442-600	6	
2 speed single winding reversing						A442-620	6	
						A444-600	5	
2 speed single winding for use with contactors						A444-620	5	
						A468-600	10 ¹	
2 speed reversing for 2 way operation with slip clutch for „OFF“ load use						A468-620	10 ¹	

Switch Function and Configuration

C, CA, CAD, CL Switches

Function	Escutch. Plate	Type/Handle				Code	Stages	Connection Diagram
		CA4 CA4-1 CL4	CAD.. CA10- CA25 CL10	CA..B CA40- CA63	C80- C315			

Star-delta Switches

OFF-star-delta						A410-600	4	
						A410-620	4	
Reversing						A413-600	5	
With auxiliary contact closed in „OFF“ position						A416-600	5	
For use with reversing contactors						A419-600	4	

Start and Run Switches

Split-phase start						A425-600	2	
						A425-620	2	
Split-phase start reversing						A426-600	3	
						A426-620	3	
Split-phase reversing auto cutout of start field winding						A622-600	3	

¹not available for switch types CL4 and CL10 ²not available for switch type CA25

Function/Type	Escutch. Plate	Handle	Code	Stages	Double Latching	Connection Diagram	L350 L630 L1000 L1250	L351 L631 L1001 L1251
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ON/OFF Switches with 60° Switching

1 pole L350/L351 2 pole 3 pole 4 pole			A200-600 A201-600 A202-600 A203-600	1 2 3 4			1-4 pole
1 pole 2 pole 3 pole 4 pole			A200-620 A201-620 A202-620 A203-620	1 2 3 4			
1 pole L400 2 pole 3 pole 4 pole			A200-600 A201-600 A202-600 A203-600	2 2 4 4			1-4 pole
3 pole with lugs suitable for protective cover			A302-600	3			
1 pole 2 pole 3 pole 4 pole			A200-620 A201-620 A202-620 A203-620	2 2 4 4			A302
1 pole L600 2 pole 3 pole 4 pole			A200-600 A201-600 A202-600 A203-600	3 3 6 6			1-4 pole
1 pole L630/L631 2 pole 3 pole 4 pole			A200-600 A201-600 A202-600 A203-600	2 4 6 8	● ●		1-4 pole
1 pole L800 2 pole 3 pole 4 pole			A200-600 A201-600 A202-600 A203-600	2 4 6 8			1-4 pole
1 pole L1000/L1001 2 pole 3 pole 4 pole			A200-600 A201-600 A202-600 A203-600	3 6 9 12	● ● ●		1-4 pole
1 pole L1200 2 pole 3 pole			A200-600 A201-600 A202-600	3 6 9			1-3 pole
1 pole L1250/L1251 2 pole 3 pole			A200-600 A201-600 A202-600	4 8 12	● ●		1-3 pole
1 pole L1600 2 pole 3 pole			A200-600 A201-600 A202-600	4 8 12			1-3 pole
1 pole L2000 2 pole			A200-600 A201-600	5 10	●		1 and 2 pole

Function/Type	Escutch. Plate	Handle	Code	Stages	Double Latching	Connection Diagram	L350 L630 L1000 L1250	L351 L631 L1001 L1251
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ON/OFF Switches with 90° Switching

1 pole L350/L351 2 pole 3 pole 4 pole 1 pole preclose 60°			A290-600 A291-600 A292-600 A293-600	1 2 3 4				
1 pole L400 2 pole 3 pole 4 pole 1 pole preclose 60° 3 pole with lugs suitable for protective cover 3 pole 360° rotation	 	 	A290-600 A291-600 A292-600 A293-600 A307-600 A208-600	2 2 4 4 3 4		 		
1 pole L600 2 pole 3 pole 4 pole 1 pole preclose 60°			A290-600 A291-600 A292-600 A293-600	3 3 6 6		 		
1 pole L630/L631 2 pole 3 pole 4 pole 1 pole preclose 60°			A290-600 A291-600 A292-600 A293-600	2 4 6 8		 		
1 pole L800 2 pole 3 pole 4 pole 1 pole preclose 60°			A290-600 A291-600 A292-600 A293-600	2 4 6 8	● ● ●	 		
1 pole L1000/L1001 2 pole 3 pole 4 pole 1 pole preclose 60°			A290-600 A291-600 A292-600 A293-600	3 6 9 12	● ● ●	 		
1 pole L1200 2 pole 3 pole			A290-600 A291-600 A292-600	3 6 9	● ● ●			1-3 pole
1 pole L1250/L1251 2 pole 3 pole			A290-600 A291-600 A292-600	4 8 12	● ●			1-3 pole

- Additional length for switches size S2 for mounting E/EF = 27 mm
- Additional length for switches size S3 for mounting E/EF = 31,5 mm and mounting ER/VE = 20,1 mm

Switch Function and Configuration

L Switches

Function/Type	Escutch. Plate	Handle	Code	Stages	Double Latching	Connection Diagram	L350 L630 L1000 L1250	L351 L631 L1001 L1251
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ON/OFF Switches with 90° Switching

1 pole 2 pole 3 pole	L1600			A290-600 A291-600 A292-600	4 8 12	● ● ●		1-3 pole
1 pole 2 pole	L2000			A290-600 A291-600	5 10	● ●		1- and 2 pole

Double-throw Switches without „OFF“ 60° Switching

1 pole 2 pole 3 pole 4 pole	L350/L351			A220-600 A221-600 A222-600 A223-600	2 4 6 8			1-4 pole
1 pole 2 pole 3 pole 4 pole	L400			A220-600 A221-600 A222-600 A223-600	2 4 6 8			1-4 pole
1 pole 2 pole 3 pole 4 pole	L600			A220-600 A221-600 A222-600 A223-600	3 6 9 12	● ●		1-4 pole
1 pole 2 pole 3 pole	L630/L631			A220-600 A221-600 A222-600	4 8 12	●		1-3 pole
1 pole 2 pole 3 pole	L800			A220-600 A221-600 A222-600	4 8 12	●		1-3 pole
1 pole 2 pole	L1000/L1001			A220-600 A221-600	6 12	●		1 and 2 pole
1 pole	L1200			A220-600	6			
1 pole	L1250/L1251			A220-600	8			
1 pole	L1600			A220-600	8			
1 pole	L2000			A220-600	10			

Function/Type	Escutch. Plate	Handle	Code	Stages	Double Latching	Connection Diagram	L350 L630 L1000 L1250	L351 L631 L1001 L1251
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Double-throw Switches with Center „OFF“

1 pole 2 pole 3 pole 4 pole	L350/L351			A210-600 A211-600 A212-600 A213-600	2 4 6 8			1-4 pole
1 pole 2 pole 3 pole 4 pole	L400			A210-600 A211-600 A212-600 A213-600	2 4 6 8			1-4 pole
1 pole 2 pole 3 pole 4 pole	L600			A210-600 A211-600 A212-600 A213-600	3 6 9 12	● ●		1-4 pole
1 pole 2 pole 3 pole	L630/L631			A210-600 A211-600 A212-600	4 8 12	●		1-3 pole
1 pole 2 pole 3 pole	L800			A210-600 A211-600 A212-600	4 8 12	●		1-3 pole
1 pole 2 pole	L1000/L1001			A210-600 A211-600	6 12	●		1 and 2 pole
1 pole	L1200			A210-600	6			
1 pole	L1250/L1251			A210-600	8			
1 pole	L1600			A210-600	8			
1 pole	L2000			A210-600	10			

Multi-step Switches single pole without „OFF“

3 Step	L350/L351			A230-600	4			
3 Step	L400			A230-600	4			
4 Step	L350/L351			A231-600	4			
4 Step	L400			A231-600	4			
5 Step	L350/L351			A232-600	6			

- Additional length for switches size S2 for mounting E/EF = 27 mm
- Additional length for switches size S3 for mounting E/EF = 31,5 mm and mounting ER/VE = 20,1 mm

Switch Function and Configuration

L Switches

Function/Type	Escutch. Plate	Handle	Code	Stages	Double Latching	Connection Diagram	L350 L630 L1000 L1250	L351 L631 L1001 L1251
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Multi-step Switches single pole without „OFF“

5 Step	L400			A232-600	6		
6 Step	L350/L351			A233-600	6		
6 Step	L400			A233-600	6		
7 Step	L350/L351			A234-600	8		
7 Step	L400			A234-600	8		
8 Step	L350/L351			A235-600	8		
8 Step	L400			A235-600	8		
9 Step	L350/L351			A236-600	10		
9 Step	L400			A236-600	10		
10 Step	L350/L351			A237-600	10		
10 Step	L400			A237-600	10		
11 Step	L350/L351			A238-600	12		
11 Step	L400			A238-600	12		
12 Step	L350/L351			A239-600	12		
12 Step	L400			A239-600	12		

Mounting

CA4, CA4-1 and CL4 Switches

Two Hole Panel Mounting or Mosaic Mounting		Terminals rotated 90°	Code	CA4 CA4-1 CL4
Panel mounting				
	Two hole panel mounting	●	E E-V	● ●
	Panel mounting with shaft seal Protection IP 66			
	Two hole panel mounting	●	EF EF-V	● ●
	Panel mounting with round shaft for combining with commercial radio knobs			
	Two hole panel mounting Shaft diam. 6 mm/.24 inch		E9	●
	Two hole panel mounting Shaft diam. 6.35 mm/.25 inch		E91	●
Mosaic mounting				
 	For Siemens-Mosaic 30 mm grid depth		E92	●
	For Subklew-, Kreutzenbeck-, Symo-Mosaic 28 mm 25 mm 25 mm grid depth		E93	●
	For Mauell-Mosaic 30 mm grid depth		E94	●

Mounting

C, CA, CAD, CL, L Switches

Two or Four Hole Panel Mounting	Terminals rotated 90°	Code	CAD.. CA10- CA25 CL10	CA10B- CA63	C80- C125 L350- L1251 Size S2	C315 L400- L2000 Size S3
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	Panel mounting					
	Four hole panel mounting	●	E E-V	● ●	●	●
	Four hole panel mounting Protection IP 66	●	EF EF-V	● ●	●	●
	Two hole panel mounting Protection IP 65	●	E22 E22-V	● ●		
	Panel mounting using larger escutcheon plate and handle and with heavy duty latching					
	Four hole panel mounting		EG	●	CA40- CA63	C80- C125
	Four hole panel mounting Protection IP 66		EGF	●	CA40- CA63	C80- C125
	Panel and base mounting					
	Four hole mounting		ER		●	●
	Four hole mounting Protection IP 66		ERF		●	●

Two or Four Hole Panel Mounting	Code	CAD.. CA10- CA25 CL10	CA10B CA11B CA20B CA25B	CA40 CA50 CA63
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	Panel mounting with heavy duty latching and metal shaft			
	Four screw panel mounting Mounting plate, escutcheon plate and handle of size S0	KN2	●	
	Four screw panel mounting Mounting plate, escutcheon plate and handle of size S1	KN1	●	●
	Four screw panel mounting Mounting plate, escutcheon plate and handle of size S1 and 6 mm square metal shaft	KD1	●	●
Panel mounting with protective cover				
	Four screw panel mounting Protection front IP 40 rear IP 30 for CA and CAD IP 42 for CA40-CA63	EC	CAD.. CA10- CA25	●
	Four screw panel mounting with additional shaft seal Protection front IP 65 rear IP 30 for CA and CAD IP 42 for CA40-CA63	ED	CAD.. CA10- CA25	●
	Four screw panel mounting Protection front IP 40 rear IP 42	EC1		●
	Four screw panel mounting with additional shaft seal Protection front IP 65 rear IP 42	ED1		●
	Two screw panel mounting Protection front IP 65 rear IP 42	ED22	CAD.. CA10- CA25	

Mounting

C, CA, CAD, CL Switches

Single Hole Mounting		Terminals rotated 90°	Code	CA4 CA4-1 CL4	CAD.. CA10- CA25 CL10
 With locking nut and shaft seal, protection IP 66 Without escutcheon plate		●	FS1	16/22	
		●	FS1-V	16/22	
		●	FT1		22
		●	FT1-V		22
		●	FT3		22/30
 With square escutcheon plate		●	FS2	16/22	
		●	FS2-V	16/22	
		●	FT2		22
		●	FT2-V		22
		●	FT4		22/30
 With size S1 square escutcheon plate and heavy duty latching		●	FH3		22
		●	FH3-V		22
 With rectangular escutcheon plate		●	FS4	16/22	
		●	FS4-V	16/22	
		●	FT6		22
		●	FT6-V		22
		●	FH4		22
 With size S1 rectangular escutcheon plate and heavy duty latching		●	FH4-V		22
 Mounting key for locking nut			S00 T170 09		

Mounting

C, CA, CAD, L Switches

Base Mounting	Terminals rotated 90°	Code	CAD.. CA10- CA25 CL10	CA10B- CA63	C80- L2000
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Base mounting					
 Base mounting - four hole For four hole base mounting and with integrated simplified door clutch, protection IP 65	●	VE VE-V	CAD.. CA10- CA25	● ●	●
	●	VF VF-V	CAD.. CA10- CA25		
 For two hole base mounting For two hole base mounting and with integrated simplified door clutch, protection IP 65	●	VE22 VE22V	● CAD.. CA10- CA25		
	●	VF22 VF22V	● CAD.. CA10- CA25		
 Snap-on base mounting for track EN 50022		VE1	●	●	

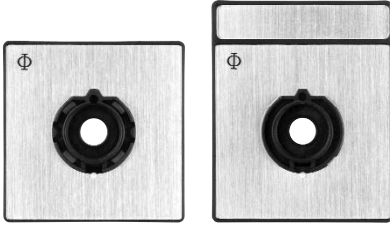
Base Mounting	Code	CA4 CA4-1	CAD.. CA10- CA25 CL10
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Base mounting			
	Snap-on base mounting for track EN 50022 with escutcheon plate for 45 mm standard knock-out.	VE2	●
	Snap-on base mounting for track EN 50022. Both the escutcheon plate for 45 mm standard knock-out and the handle are adjustable in height.	VE21	● CAD.. CA10- CA25
	Snap-on base mounting for track EN 50022 with circular escutcheon plate for 46 mm knock-out.	VE3	●
	Base mounting - four hole - for circular escutcheon plate with 46 mm knock-out.	VE4	CAD.. CA10- CA25

Mounting Plates for Plaster Depth Boxes acc. to DIN 49070 and ÖNORM E6508	Code	CAD.. CA10- CA25
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	Plaster depth trim	UE1	●
	With light	UE2	●
	With facility for light addition	UE3	●
	Plaster depth trim	UE4	●
	With light	UE5	●
	With facility for light addition	UE6	●

Escutcheon Plates

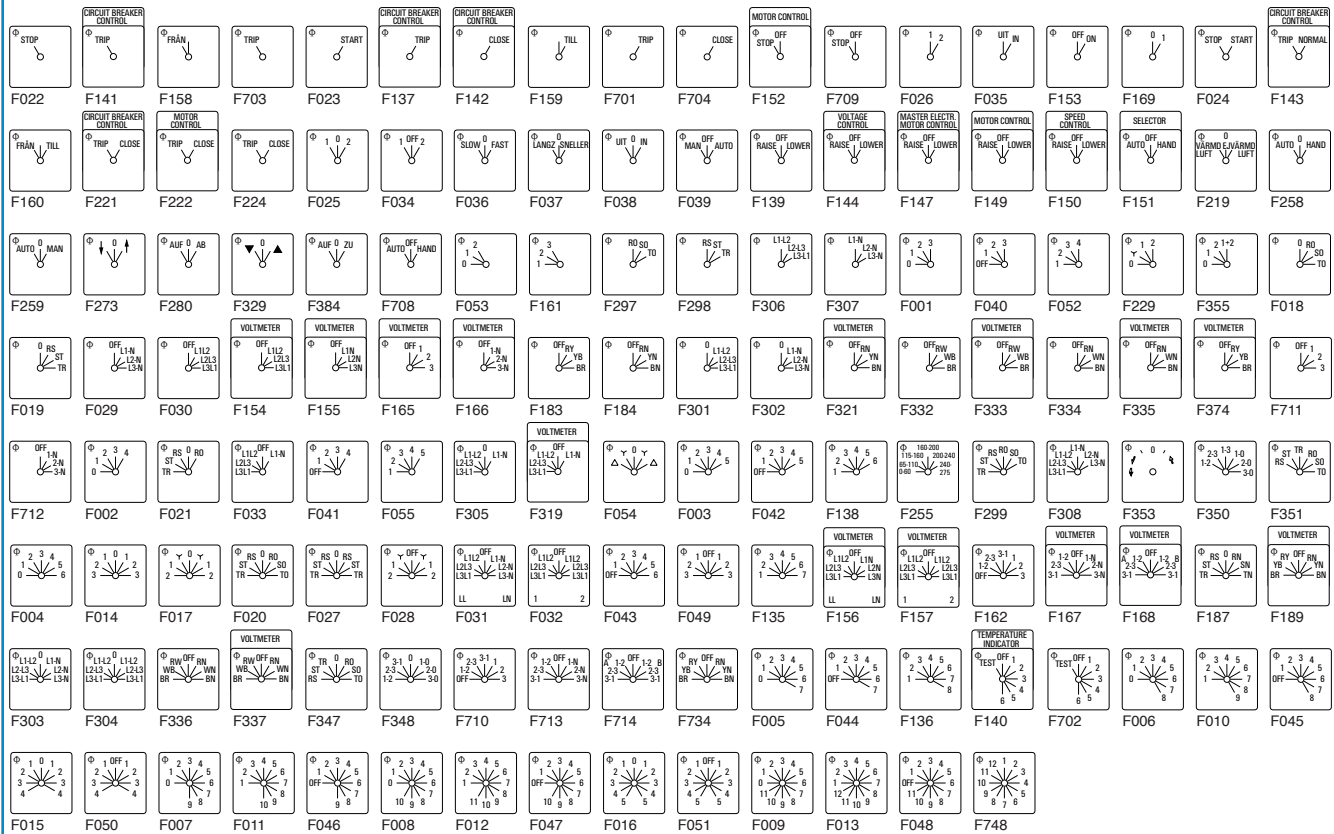


Square and rectangular escutcheon plates are available for each size of switch. The escutcheon plate consists of a frame and a faceplate having the switch positions which is then embossed with hot-foil backing. The escutcheon plate frame is an essential part of the switch and serves as a bearing surface for the handle. If the switch is to be mounted without an escutcheon plate we would recommend for size S1, S2 and S3 the handle bearing plate T100-04.

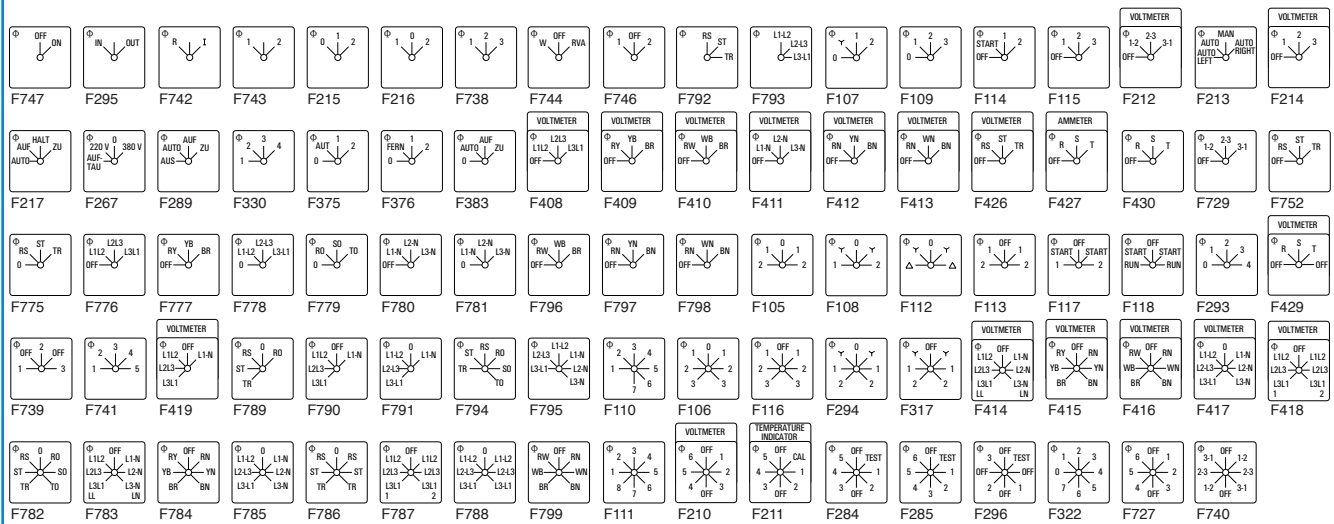
Standard Letterings Available

(Over 500 standard letterings, special letterings upon request.)

30° switching



45° switching



Escutcheon Plates

60° switching

F070	F087	F088	F089	F133	F197	F198	F232	F243	F247	F263	F268	F310	F311	F323	F328	F352	F367
F379	F380	F470	F754	F072	F163	F164	F192	F193	F196	F230	F231	F234	F244	F257	F262	F264	F282
F288	F291	F313	F382	F441	F705	F721	F722	F750	F757	F758	F075	F076	F098	F220	F223	F356	F357
F377	F723	F071	F073	F080	F081	F085	F086	F090	F091	F092	F093	F094	F104	F194	F235	F237	F239
F240	F241	F249	F260	F269	F274	F281	F290	F292	F312	F314	F315	F316	F324	F331	F344	F354	F358
F359	F364	F370	F371	F373	F381	F385	F442	F444	F469	F732	F735	F759	F077	F100	F101	F102	F309
F342	F343	F361	F362	F363	F365	F366	F078	F191	F325	F326	F720	F074	F082	F096	F097	F195	F724
F256	F079	F083	F084	F095	F099	F185	F190	F199	F233	F236	F238	F242	F283	F725	F730	F731	F736
F737																	

90° switching

F056	F063	F068	F134	F201	F251	F252	F346	F456	F058	F065	F069	F177	F178	F182	F208	F253	F254
F340	F360	F378	F458	F443	F700	F743	F057	F061	F064	F067	F171	F181	F205	F207	F209	F320	F349
F437	F445	F715	F719	F059	F060	F062	F066	F170	F172	F173	F174	F175	F176	F179	F180	F186	F188
F202	F204	F206	F250	F265	F266	F286	F318	F327	F338	F339	F425	F716	F717	F718	F726	F733	F751
F755	F756																

Miscellaneous

F119	F130	F122	F126	F125	F129	F225	F248	F246	F261	F341	F345	F287	F123	F127	F145	F146	F148
F706	F707	F245	F120	F124	F128	F131	F121	F132	F749			F990	F991	F801	F802	F803	F804
F805	F806	F807	F808	F809	F810	F811	F812	F813	F814	F815	F816	F817	F818	F819	F820	F821	F822
F823	F824	F825	F826	F827	F828	F829	F830	F831	F832	F833	F834	F835	F837	F838	F839 ¹	F840 ²	F841 ³

¹INTERRUPTEUR PRINCIPAL, OUVERTURE EN POSITION 0 ²INTERRUTTORE GENERALE, APRIRE SOLO CON MANIGLIA SU 0

³INTERRUPTOR PRINCIPAL, ABRIR ARMARIO SOLO EN POS. "0"

Handles

Type	Color	Code	Size
			S00 S0 S1 S2 S3

Type	Color	Code	Size
			S00 S0 S1 S2 S3

R-Handle 	black red white electro-gray	G001 G002 G003 G007	— ● ● ● ● — ● ● ● ● — ● ● ● ● — ● ● ● ●
F-Handle 	black red white electro-gray	G221 G222 G223 G227	● ● ● ● — ● ● ● ● — ● ● ● ● — ● ● ● ● —
S-Handle  S0 S1	black red white electro-gray	G301 G302 G303 G307	— ● ● — — — ● ● — — — ● ● — — — ● ● — —
P-Handle  S0 S1-S3	black red white electro-gray	G211 G212 G213 G217	— ● ● ● ● — ● ● ● ● — ● ● ● ● — ● ● ● ●
Handwheel 	black	G971	— — — — ●

I-Handle  S00 S0-S3	black red white electro-gray	G251 G252 G253 G257	● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●
B-Handle 	black red white electro-gray	G521 G522 G523 G527	— ● ● — — — ● ● — — — ● ● — — — ● ● — —
L-Handle 	black red white electro-gray	G501 G502 G503 G507	— — ● — — — — ● — — — — ● — — — — ● — —
K-Handle 	black red white electro-gray	G411 G412 G413 G417	— — ● ● ● — — ● ● ● — — ● ● ● — — ● ● ●
O-Handle 	black red white electro-gray	G321 G322 G323 G327	— — ● — — — — ● — — — — ● — — — — ● — —

International Standards and Approvals

Country	Authority	Mark or Standard	CAD11/12		CA10	CA10B	CA40		L350/1 L630/1 L1000/1	L1250/1 C315 C316	L400 L600 L800	L1200 L1600 L2000
			CL4 CL10	CA4 CA4-1	CA11 CA20	CA11B CA20B	CA25 CA25B	CA50 CA63				
USA	Underwriters Laboratories Inc.	 ¹							●	●	●	●
		 ² ₃	●	●	●	●	+	●			●	
Canada	UL investigated acc. to CSA	 ⁶	+	●	●	●	+	●	●	●	●	●
		 ¹							●	●	●	●
		 ² ₃	●	●	●	●	+	●			●	
Switzerland	Schweizerischer Elektrotechnischer Verein	 ¹	+	+	+	+	+	+	+	+	+	+
Denmark	Danmarks Elektriske Materielkontrol	 ¹	+	+	+	+	+	+	+	+	+	+
Norway	Norges Elektriske Materielkontroll	 ¹	+	+	+	+	+	+	+	+	+	+
Sweden	Svenska Elektriska Materielkontroll-anstalten	 ¹	+	+	+	+	+	+	+	+	+	+
Finland	Sähkötar-kastuskeskus	 ¹	+	+	+	+	+	+	+	+	+	+
Austria	Österreichischer Verband für Elektrotechnik	 ¹	+	+	+	+	+	+	+	+	+	+
Federal Republic of Germany	Verband Deutscher Elektrotechniker	VDE 0660 ⁴	+	+	+	+	+	+	+	+	+	+
Great Britain	British Standards Institution	BS EN 60947 ⁴	+	+	+	+	+	+	+	+	+	+
International Electrical Commission (IEC) Recommendation		IEC 60947 ⁵	+	+	+	+	+	+	+	+	+	+
China	China Quality Certification Centre	 ⁷ GB14048.3		●	●	●						
Russian Federation	GOST	 ⁷ CH01	●	●	●	●	●	●	+	+	+	+
Russian Federation	Russian Maritime Register of Shipping	 ⁷	●	●	●	●	●					
Germanischer Lloyd		 ⁷	+	+	+	+	+	+	+	+	+	+
Lloyds Register of Shipping		 ⁷	+	+	+	+	+	+	+	+	+	+
● Switch approved + Switch conforms to requirements + No approval required												
¹ Approved under the “Component Program” (UL-Recognized Industrial Component). File No. E35541, Category Control No. NLRV2 (U.S.) resp. NLRV8 (Canada).												
² Approved under the “Listing Program”. File No. E35541, Category Control No. NLRV (U.S.) resp. NLRV7 (Canada).												
³ Switch types CAD11/CAD12 approved under the “Listing Program”. File No. E60262, Category Control No. NRNT (U.S.) resp. NRNT7 (Canada).												
⁴ It is not required for Industrial Switchgear to bear a symbol but must conform to requirements. By stating the specific standard no. on the product the manufacturer declares that all requirements of the product standard are met.												
⁵ IEC does not operate an approval scheme.												
⁶ File No. 13002, Class No. 3211-05 resp. 4652-04.												
⁷ If this approval is required, please request when ordering.												

Technical Data

C, CA, CL Switches

Selection Data

CA4 CA10 CA11 CA20 CA25
CA4-1 CL4 CA10B CL10 CA11B CA20B CA25B CA40 CA50 CA63 C80 C125 C315/C316

Rated Insulation Voltage U _i			IEC 60947-3, EN 60947-3 ¹ VDE 0660 part 107 ¹ SEV ⁴		V	440	440	690	690	690	690	690	690	690	690	690	690	690/1000			
			UL/Canada		V	380	380	660	690	660	660	690	690	690	690	660	660	660			
			CEE/NEMKO		V	300	300	300	600	600	600	300	600	600	600	600	600	600			
			min. voltage		V	400/380	—	380	—	400	400	on request									
					V																
Rated Impulse Withstand Voltage U _{imp}					kV	4	4	6	6	6	6	6	6	6	6	6	6	6/8			
Rated Thermal Current I _u /I _{th}			IEC 60947-3, EN 60947-3 VDE 0660 part 107		A	10	10	20	20	20	25	32	40	50	63	115	150	315			
			SEV ⁴ 380 V		A	10	10	16	16	16	25	32	40	50	63	100	160	315			
			660 V		A	—	—	12	12	12	25	32	40	50	63	—	—	315			
			UL/Canada		A	10	10	20	20	20	30	30	45	55	65	100	150	240			
Rated Operational Current I _e																					
AC-21A	Switching of resistive loads, including moderate overloads	IEC 60947-3, EN 60947-3 VDE 0660 part 107	A	10	10	20	20	20	25	32	40	50	63	100	150	315					
AC-1	Resistive or low inductive loads	SEV ⁴ 380 V 660 V	A	10	10	16	16	16	25	32	40	50	63	100	160	315					
			A	—	—	12	12	12	20	32	40	50	63	—	—	315					
AC-22A	Switching of combined resistive or low inductive loads including moderate overloads	IEC 60947-3, EN 60947-3 VDE 0660 220 V-500 V part 107 660 V-690 V	A	10	10	20	20	20	25	32	40	50	63	100	150	315					
			A	—	—	20	20	20	25	32	40	50	63	100	125	125					
AC-15	Switching of control devices, contactors, valves etc.	IEC 60947-3, EN 60947-3 VDE 0660 220 V-240 V part 107 380 V-440 V	A	2,5	2,5	5	5	5	8	12	14	16	16	—	—	—					
			A	1,5	1,5	4	4	4	5	6	6	7	7	—	—	—					
Pilot Duty		UL/Canada ⁴ Heavy		A300	C300	A300	A600	A600	A600	A300	A600	A600	A600	—	—	A600					
Ampere Rating Resistive or low inductive loads		UL/Canada ⁴	A	10	10	20	20	20	30	30	45	55	60	100	150	240					
Resistive load/motor load		CEE NEMKO	A	4/2	—	10/6	—	10/6	16/10	—	—	—	—	63/10	—	—					
			A	6/4 ²	—	10/6	—	—	20/10	—	—	—	—	—	—	—					
Breaking capacity		220 V-240 V	A	50	50	150	150	150	200	280	290	330	440	860	1100	2000					
		380 V-440 V	A	50	50	150	150	150	200	250	290	330	440	860	1100	2000					
		660 V-690 V	A	—	—	80	80	80	125	150	170	200	260	400	490	340					
Power loss per contact at I _u Resistance to vibration Resistance to shock			W	0,4/0,9 0,4 min. 4 g, 2-100 Hz, 1,6 mm min. 5 g, 6 ms		0,9 1 0,9 0,9 0,7				1 1,8		2,8 5,8 3,8 17 on request min. 5 g, 30 ms									
Short Circuit Protection Max. fuse size (g/L/gG-characteristic) Rated short-time withstand current (1s-current)			A	10	10	25	25	25	35	35	50	63	63	125	200	315					
			A	60	90	140	140	140	280	480	950	950	950	1300	2000	4200					
DC Switching Capacity ⁶						Rated Operational Current I _e															
No. of series contacts		1 2 3 4 5 6 8 Voltage V		CA4 CA10 CA11 CA20 CA25 C315 ³ CA4-1 CL4 CA10B CL10 CA11B CA20B CA25B C26S C32S C42S C80 C125 C316 ³																	
Resistive loads T ≤ 1 ms	24	48	70	95	120	145	190	A	10	10	20	20	20	25	32	—	50	—	115	—	315
	48	95	140	190	240	290	350	6	6	12	12	12	20	25	32	40	63	100	150	250	
	60	120	180	240	300	360	450	2,5	2,5	4,5	4,5	4,5	7,5	10	23	27	30	—	—	—	
	110	220	330	440	550	660	—	0,7	0,7	1	1	1	1,5	2	6,5	—	—	—	—	—	
	220	440	660	—	—	—	—	0,3	0,3	0,4	0,4	0,4	0,5	0,6	1,2	—	—	—	—	—	
	440	660	—	—	—	—	—	0,2	0,2	0,27	0,27	0,27	0,3	0,3	0,4	—	—	—	—	—	
Inductive loads T = 50 ms	24	48	70	95	120	145	190	A	6	6	12	12	12	20	25	32	40	63	100	150	250
	30	60	90	120	150	180	240	3	3	5	5	5	9	12	25	30	55	33	50	70	
	48	95	140	190	240	290	350	1	1	2	2	2	3	3	16	20	—	—	—	—	
	60	120	180	240	300	360	450	0,7	0,7	1	1	1	1,5	1,5	11	15	—	—	—	—	
	110	220	330	440	550	660	—	0,3	0,3	0,4	0,4	0,4	0,5	0,5	3,2	3,5	—	—	—	—	
	Ambient Temperature of Stages ^{5,7}			open at 100 % I _u /I _{th} enclosed at 100 % I _{the}		55 °C during 24 hours with peaks up to 60 °C 35 °C during 24 hours with peaks up to 40 °C															

¹Valid for lines with grounded common neutral termination, overvoltage category III, pollution degree 3. Values for other supply systems on request. ²Valid for CA4 only. ³DC switching capacity applies to ON/OFF switches. Switching capacity for other configurations on request. ⁴International Standards and Approvals, refer to page 39. ⁵For electromagnetic optional extras see additional data in Catalog 101. ⁶Values for switches with spring return on request. ⁷Storage temperature: -40 °C to 85 °C (in case of temperature below -5 °C no shock load permissible).

Selection Data	CA4 CA10 CA11 CA20 CA25 C315													
	CA4-1 CL4	CA10B CL10	CA11B CA20B CA25B CA40 CA50 CA63 C80 C125 C316											

Rated Utilization Category			IEC 60947-3, EN 60947-3 VDE 0660 part 107															
AC-2	Slip ring motor starting, reversing and plugging, star-delta starting CA4-CA50	3 phase	220 V-240 V	kW	2,5	2,5	4	4	4	5,5	7,5	10	11	18,5	30	37	55	
		3 pole	380 V-440 V		4,5	4,5	7,5	7,5	7,5	11	15	18,5	22	30	45	55	90	
			500 V		—	—	10	10	10	15	18,5	22	30	40	55	75	110	
			660 V-690 V		—	—	10	10	10	13	15	22	30	37	55	55	55	
AC-3	Direct-on-line starting, star-delta starting CA63-C315	3 phase	220 V-240 V	kW	1,5	1,5	3	3	3	4	5,5	7,5	11	11	15	22	37	
		3 pole	380 V-440 V		2,2	2,2	5,5	5,5	5,5	7,5	11	15	18,5	18,5	30	37	55	
			500 V		—	—	5,5	5,5	5,5	7,5	11	15	18,5	18,5	30	37	55	
			660 V-690 V		—	—	5,5	5,5	5,5	7,5	11	15	18,5	22	30	30	37	
		1 phase	110 V-120 V	kW	0,3	0,3	0,6	0,6	0,6	1,5	2,2	2,5	3	3	3,7	5,5	11	
		2 pole	220 V-240 V		0,55	0,55	2,2	2,2	2,2	3	4	5,5	6	6	7,5	11	22	
			380 V-440 V		0,75	0,75	3	3	3	3,7	5,5	7,5	11	11	13	18,5	30	
AC-4	Direct-on-line starting, reversing, plugging and inching	3 phase	220 V-240 V	kW	0,37	0,37	0,55	0,55	0,55	1,5	2,5	3,7	4	5,5	6	10	15	
		3 pole	380 V-440 V		0,55	0,55	1,5	1,5	1,5	3	5,5	6	7	7,5	11	15	25	
			500 V		—	—	1,5	1,5	1,5	3	5,5	6	7	7,5	11	15	25	
			660 V-690 V		—	—	1,5	1,5	1,5	3	5,5	6	7,5	9	11	15	22	
		1 phase	110 V-120 V	kW	0,15	0,15	0,3	0,3	0,3	0,45	0,75	1,1	1,2	1,2	1,5	2,2	4	
		2 pole	220 V-240 V		0,25	0,25	0,75	0,75	0,75	1,1	1,5	2,2	2,4	2,4	3	4	7,5	
			380 V-440 V		0,5	0,5	1,5	1,5	1,5	2,2	3	3,7	4	4	5,5	7,5	11	
AC-23A	Frequent switching of motors or other high inductive loads	3 phase	220 V-240 V	kW	1,8	1,8	3,7	3,7	3,7	5,5	7,5	7,5	11	15	30	37	75	
		3 pole	380 V-440 V		3	3	7,5	7,5	7,5	11	15	18,5	22	30	45	75	132	
			500 V		—	—	7,5	7,5	7,5	11	15	18,5	22	30	55	90	132	
			660 V-690 V		—	—	7,5	7,5	7,5	11	15	18,5	22	30	45	55	37	
		1 phase	110 V-120 V	kW	0,37	0,37	0,75	0,75	0,75	1,5	2,2	2,2	2,5	4	5,5	11	18,5	
		2 pole	220 V-240 V		0,75	0,75	2,5	2,5	2,5	3	4	4	5,5	10	15	22	37	
			380 V-440 V		1,1	1,1	3,7	3,7	3,7	5,5	7,5	7,5	11	18,5	22	37	55	
Ratings			UL/Canada															
	Standard motor load DOL-Rating (similar AC-3)	110 V-120 V	HP	0,75	0,75	1,5	1,5	1,5	3	5	7,5	7,5	7,5	10	15	30		
		220 V-240 V		1	1	3	3	3	7,5	10	15	15	15	20	25	75		
		3 pole		440 V-480 V	—	—	—	5	5	10	—	25	25	30	30	40	75	
				550 V-600 V	—	—	—	5	5	10	—	25	30	30	40	50	60	
		110 V-120 V	HP	0,33	0,33	0,5	0,5	0,5	1,5	2	3	3	3	5	7,5	15		
		220 V-240 V		0,75	0,75	1	1	1	3	5	7,5	7,5	7,5	10	15	40		
		2 pole		277 V	0,75	0,75	2	2	2	3	5	7,5	7,5	10	10	15	40	
				440 V-480 V	—	—	—	2	2	5	—	15	15	15	20	25	50	
			550 V-600 V	—	—	—	2	2	5	—	15	20	20	25	30	50		
		Heavy motor load Reversing-Rating (similar AC-4)	110 V-120 V	HP	—	—	0,5	—	0,5	1	2	—	—	—	7,5	10	15	
			220 V-240 V		—	—	1	—	1	2	3	—	—	—	15	20	30	
			3 pole		440 V-600 V	—	—	—	—	3	5	—	—	—	—	25	30	40
	110 V-120 V	HP	—	—	0,17	—	0,17	0,33	1,5	—	—	—	3	5	7,5			
	220 V-240 V		—	—	0,5	—	0,5	0,75	3	—	—	—	7,5	10	15			
			277 V	—	—	0,6	—	0,6	1	3	—	—	—	7,5	10	15		
Max. Permissible Wire Gage - Use copper wire only Single-core or stranded wire				mm ² AWG	2x	1x ²	2x	1x ²	2x	2x	2x							
					1,5	0,5-1,5	2,5	0,5-2,5	2,5	4	6	16	16	16	35	70	185 ¹	
					14	20-16	12	20-14	12	10	8	6	6	6	2	2/0	MCM 350	
					2x	1x ²	2x	1x ²	2x	2x	2x							
				mm ²	1,5	0,5-1,5	2,5	0,5-2,5	2,5	4	4	10	10	10	25	50	150 ¹	
				AWG	(-)	(-)	(2,5)	(-)	(2,5)	(2,5)	(4)	10	10	10	(25)	(50)	MCM 300	
				AWG	16	20-16	14	20-14	14	12	10	6	6	6	3	1/0	MCM 300	
Connecting wire - outside diameter				mm	—	1,5-2,8	—	1,5-3,6	—	—	—	—	—	—	—	—	—	
Connecting wire - plug-in depth				mm	—	8,5	—	11,5	—	—	—	—	—	—	—	—	—	
Permissible connecting ambiente temperature range				°C	—	5-40	—	5-40	—	—	—	—	—	—	—	—	—	

¹Cable lug must accept M12 screw. ²The insulation material of the conductor has to be PVC (typical wire codes are H05V-K0,5 ... H07V-K1,5 or H05V-U0,5 ... H07V-U1,5 etc.). Other materials on request. Connected conductors, which have to be disconnected and re-connected again must be cut in order to ensure a proper electrical connection and to prevent a complete cut-off of the wire insulation.

Selection Data

L350 L351 L400 L600 L630 L631 L800 L1000 L1001 L1200 L1250 L1251 L1600 L2000

Rated Insulation Voltage U_i IEC 60947-3, EN 60947-3 ¹ VDE 0660 part 107 ¹ UL/Canada ² min. voltage	V	690	690	690	690	690	690	690	690	690	690
	V	600	600	600	600	600	600	600	600	600	600
	V	on request									
Rated Impulse Withstand Voltage U_{imp}	kV	6	6	6	6	6	6	6	6	6	6
Rated Thermal Current I_u/I_{th} IEC 60947-3, EN 60947-3 VDE 0660 part 107 Ambient temp. +35 °C during 24 hours with peaks up to +40 °C Ambient temp. +55 °C during 24 hours with peaks up to +60 °C UL/Canada ²	A	350	500	800	630	1100	1000	1450	1250	1900	2400
	A	350	500	750	600	950	920	1300	1100	1700	2000
	A	350	400	630	630	800	1000	1200	1250	1600	2000
Rated Operational Current I_e AC-20A No-load operation IEC 60947-3, EN 60947-3 VDE 0660 part 107 690 V Occasional switching under load $\cos \varphi 0,8$ (AC-20B) 3 phase, 3 pole 220 V-440 V and 500 V 1 phase, 2 pole 660 V-690 V AC-21B Switching of resistive loads, including moderate overloads 3 phase, 3 pole 220 V-440 V and 500 V 1 phase, 2 pole 660 V-690 V Interrupting Rating UL/Canada ² 600 V CSA 600 V	A	350	500	800	630	1100	1000	1450	1250	1900	2400
	A	350	500	800	500	1000	630	1200	630	1200	1200
	A	350	450	500	450	630	500	800	500	800	800
	A	315	350	400	360	400	400	400	400	400	400
	A	250	450	500	350	630	400	800	400	800	800
	A	250	400	450	315	500	350	630	350	630	630
	A	200	300	350	250	350	300	350	300	350	350
	A	200	300	300	200	300	200	300	200	200	200
	A	200	200	200	200	200	200	200	200	200	200
	kW	45	75	75	45	75	45	75	45	75	75
	kW	90	132	132	90	132	90	132	90	132	132
	kW	110	132	132	110	132	110	132	110	132	132
	kW	55	55	65	65	65	65	65	65	65	65
Short Circuit Protection Max. fuse size (aR-characteristic) Rated short-time withstand current (1s-current)	A	400	500	800	630	1100	1000	2x800	1250	2x1000	2x1250
	A	on request									
Terminals for connection screw length	mm	M12	M12	M16	M16	M16	M16	M16	M16	2xM16	4xM16
	mm	20	30	40	30	40	40	40	50	50	50
Ambient Temperature of Stages^{3, 4}	55 °C during 24 hours with peaks up to 60 °C, permissible load see Rated Thermal Current.										

Selection Data	CAD11	CAD12
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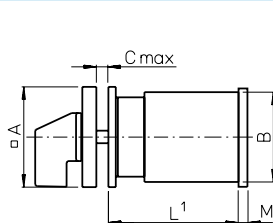
Rated Insulation Voltage U_i	IEC 60947-3, EN 60947-3 ¹	V	600	600
	VDE 0660 part 107	V	600	600
	SEV ²	V	300	300
	UL/Canada	V	1	6
	min. voltage	V		
Rated Impulse Withstand Voltage U_{imp}			on request	
Rated Thermal Current I_u/I_{th}	IEC 60947-3, EN 60947-3	A	6	6
	VDE 0660 part 107	A	5	5
	SEV ²	A	6	6
	UL/Canada	A		
Rated Operational Current I_e				
AC-21A Switching of resistive loads, including moderate overloads	IEC 60947-3, EN 60947-3			
	VDE 0660 part 107			
	UL/Canada ³			
	1 V/6 V	A	6/3	–/6
	12 V/24 V	A	2/1	5/5
	48 V/110 V	A	0,8/0,4	4/3
	220 V/400 V	A	0,2/0,13	2/1,3
	440 V/500 V	A	0,1/0,08	1/0,8
	600 V	A	0,05	0,5
AC-1 Resistive or low inductive loads	SEV ²			
	1 V/6 V	A	5/3	–/5
	12 V/24 V	A	2/1	5/5
	48 V/110 V	A	0,8/0,4	4/3
	220 V/380 V	A	0,2/0,13	2/1,3
	440 V/500 V	A	0,1/0,08	1/0,8
	600 V	A	0,05	0,5
Power loss per contact at I_u		W	0,5	0,2
Short Circuit Protection				
Max. fuse size (gL-characteristic)		A	6	6
Rated short-time withstand current (1s-current)		A	35	50
DC Switching Capacity ⁵				
DC-1 Resistive load T = 1 ms	IEC 60947-3, EN 60947-3			
	VDE 0660 part 107			
	SEV ²			
	UL/Canada ³			
	1 V/6 V	A	4/2,5	–/4
	12 V/24 V	A	1,5/0,8	3/2,2
	48 V/60 V	A	0,3/0,27	1,2/1
	110 V/220 V	A	0,2/0,1	0,6/0,3
	240 V/500 V	A	0,08/0,03	0,25/0,1
	600 V	A	0,02	0,1
Max. Permissible Wire Gage - Use copper wire only				
Single-core or stranded wire		mm ²	2x	2x
		AWG	2,5	2,5
			12	12
Flexible wire (sleeving in accordance with DIN 46228)		mm ²	2x	2x
			2,5	2,5
		AWG	(2,5)	(2,5)
Ambient Temperature of Stages ^{4, 6}				
open at 100 % I_u/I_{th}			55 °C during 24 hours with peaks up to 60 °C	
enclosed at 100 % I_{the}			35 °C during 24 hours with peaks up to 40 °C	

¹Valid for lines with grounded common neutral termination, overvoltage category III, pollution degree 3. Values for other supply systems on request.

²International Standards and Approvals, refer to page 39. ³Max. 300 V. ⁴For electromagnetic optional extras see additional data in Catalog 101.

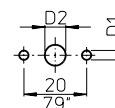
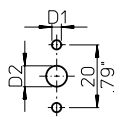
⁵Values for switches with spring return on request. ⁶Storage temperature: -40 °C to 85 °C (in case of temperature below -5 °C no shock load permissible).

Two or Four Hole Panel Mounting

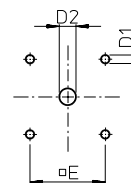


E
for CA4, CA4-1
E-V
for CL4

E-V
for CA4, CA4-1
E
for CL4



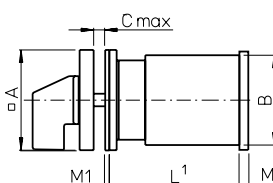
E
E-V
ER



	CA4	CA10	CA11	CA10B	CA40 ³	C315							
	CA4-1	CL4	CAD11	CA20B	CA50 ³	L switches							
			CAD12	CA20	CA63 ³	Size S2						Size S3	
A	30	30	48	48	64	88	88	88	88	88	88	130	
	1.18	1.18	1.89	1.89	2.52	(.88)	3.46	3.46	3.46	3.46	3.46	5.12	
B	29.5	38x46	43	45	56	55.5x64	84	88	88	88	88	126	
	1.16	1.50x1.81	1.69	1.77	2.20	2.19x2.52	3.30	3.46	3.46	3.46	3.46	4.96	
C	4	4	4	4	4	5.5	5.5	5.5	5.5	5.5	5.5	7	
	.16	.16	.16	.16	.16	.22	.22	.22	.22	.22	.22	.28	
D1	3.2	3.2	5	5	5	6	6	6	6	6	6	7	
	.13	.13	.20	.20	.20	.24	.24	.24	.24	.24	.24	.28	
D2	8-11	8-11	8-15	8-15	8-15	13-17	13-17	13-17	13-17	13-17	13-17	15.5-20	
	.31-.43	.31-.43	.31-.59	.31-.59	.31-.59	.51-.67	.51-.67	.51-.67	.51-.67	.51-.67	.51-.67	.61-.79	
E	-	-	36	36	48	68	68	68	68	68	68	104	
	-	-	1.42	1.42	1.89	2.68	2.68	2.68	2.68	2.68	2.68	4.09	
M²	-	-	4.5	4.5	5	9.4	9.4	9.4	9.4	9.4	9.4	11.9	
	-	-	.18	.18	.22	.37	.37	.37	.37	.37	.37	.47	

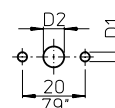
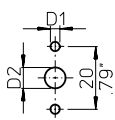
²M, additional length for mounting ER only

³Dimensions in () for ER mounting plate only

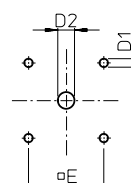


EF
for CA4, CA4-1
EF-V
for CL4

EF-V
for CA4, CA4-1
EF
for CL4



EF
EF-V
ERF

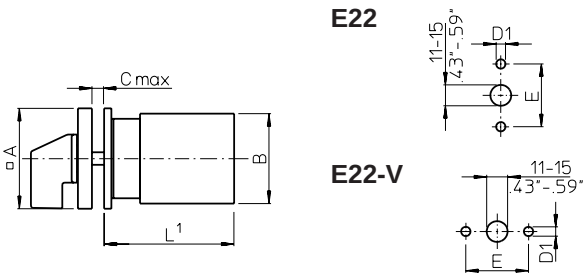


	CA4	CA10	CA11	CA10B	CA40 ³	C315							
	CA4-1	CL4	CAD11	CA20B	CA50 ³	L switches							
			CAD12	CA20	CA63 ³	Size S2						Size S3	
A	30	30	48	48	64	88	88	88	88	88	88	130	
	1.18	1.18	1.89	1.89	2.52	(.88)	3.46	3.46	3.46	3.46	3.46	5.12	
B	29.5	38x46	43	45	56	55.5x64	84	88	88	88	88	126	
	1.16	1.50x1.81	1.69	1.77	2.20	2.19x2.52	3.30	3.46	3.46	3.46	3.46	4.96	
C	4	4	4	4	4	5.5	5.5	5.5	5.5	5.5	5.5	7	
	.16	.16	.16	.16	.16	.22	.22	.22	.22	.22	.22	.28	
D1	3.2	3.2	5	5	5	6	6	6	6	6	6	7	
	.13	.13	.20	.20	.20	.24	.24	.24	.24	.24	.24	.28	
D2	8-11	8-11	15-19	15-19	15-19	26-30	26-30	26-30	26-30	26-30	26-30	22-25	
	.31-.43	.31-.43	.59-.75	.59-.75	.59-.75	1.02-1.18	1.02-1.18	1.02-1.18	1.02-1.18	1.02-1.18	1.02-1.18	.87-.98	
E	-	-	36	36	48	68	68	68	68	68	68	104	
	-	-	1.42	1.42	1.89	2.68	2.68	2.68	2.68	2.68	2.68	4.09	
M²	-	-	4.5	4.5	5	9.4	9.4	9.4	9.4	9.4	9.4	11.9	
	-	-	.18	.18	.22	.37	.37	.37	.37	.37	.37	.47	
M1	.04	.04	-	-	-	-	-	-	-	-	-	-	

²M, additional length for mounting ERF only

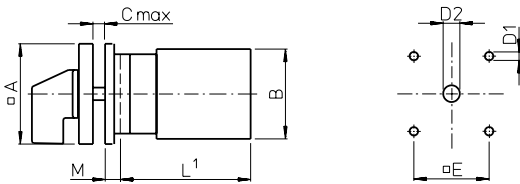
³Dimensions in () for ERF mounting plate only

Two or Four Hole Panel Mounting



	E22			
	E22-V			
	CA10			
	CA11			
	CAD11			
	CAD12	CL10	CA20	CA25
A	48 1.89	48 1.89	48 1.89	48 1.89
B	43 1.69	50x56 1.97x2.20	45 1.77	46 1.81
C	4 .16	4 .16	4 .16	4 .16
D1	5 .20	5 .20	5 .20	5 .20
E	30 1.17	30 1.17	30 1.17	30 1.17

EG
EGF

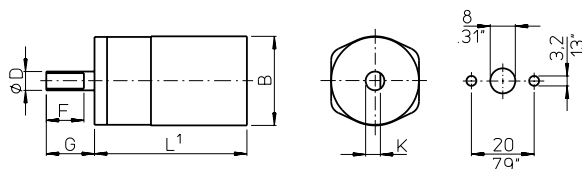


	EG			
	EGF			
	CA10			
	CA11			
	CAD11			
	CAD12	CL10	CA20	CA25
A	64 2.52	64 2.52	64 2.52	64 2.52
B	43 1.69	50x56 1.97x2.20	45 1.77	46 1.81
C	4 .16	4 .16	4 .16	4 .16
D1	5 .20	5 .20	5 .20	5 .20
D2	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59
D2	19-22 .75-.87	19-22 .75-.87	19-22 .75-.87	19-22 .75-.87
E	48 1.89	48 1.89	48 1.89	48 1.89
M	6.7 .26	6.7 .26	6.7 .26	6.7 .26

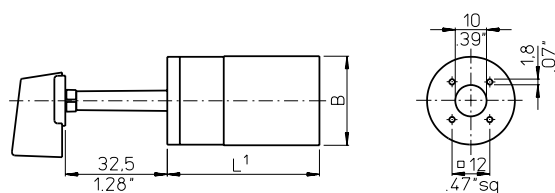
¹see page 51

Four Hole Panel Mounting or Mosaic Mounting

E9
E91

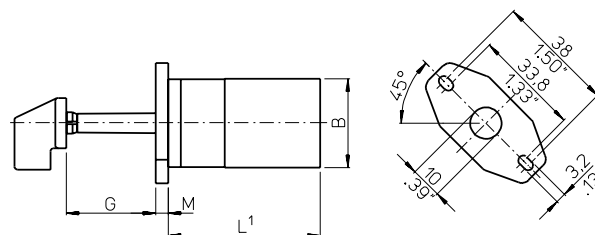


E92



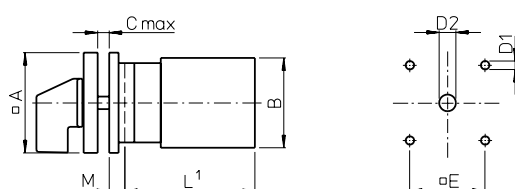
	CA4	CL4
B	29,5 1.16	38x46 1.50x1.81

E93
E94



CA4				
CA4-1				
CL4				
E9	E91	E92	E93	E94
D	6 .24	6,35 .25	-	-
F	12 .47	12,8 .50	-	-
G	15,4 .61	17,4 .69	32,5 1.28	28,5 1.12
K	4,7 .19	5,5 .22	-	-
M	-	-	4 .16	-

KN1
KD1
KN2

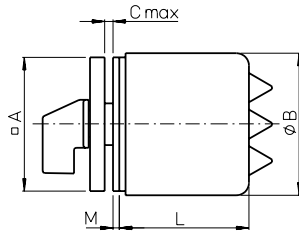


KN2	CA10			
	CA11			
	CAD11			
	CAD12	CL10	CA20	CA25
A	48 1.89	48 1.89	48 1.89	48 1.89
B	43 1.69	50x56 1.97x2.20	45 1.77	46 1.81
C	4 .16	4 .16	4 .16	4 .16
D1	5 .20	5 .20	5 .20	5 .20
D2	8-15 .31-.59	8-15 .31-.59	8-15 .31-.59	8-15 .31-.59
E	36 1.42	36 1.42	36 1.42	36 1.42
M	5,2 .20	5,2 .20	5,2 .20	5,2 .20

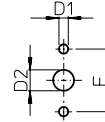
KN1	CA10				CA10B		CA40
KD1	CA11				CA11B		CA50
	CAD11				CA20B	CA25B	CA63
	CAD12	CL10	CA20	CA25			
A	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52
B	43 1.69	50x56 1.97x2.20	45 1.77	46 1.81	56 2.20	56 2.20	55,5x64 2.19x2.52
C	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16
D1	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20
D2	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59
E	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89
M	4,7 .19	4,7 .19	4,7 .19	4,7 .19	7 .28	7 .28	7 .28

¹see page 51

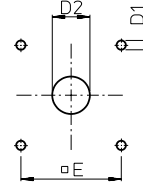
Two or Four Hole Panel Mounting



ED22



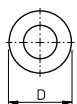
EC
ED
EC1
ED1



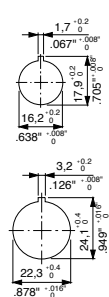
		CA10 CAD11 CAD12		CA11		CA20		CA25		CA10B		CA11B		CA20B CA25B		CA40 CA50 CA63
		EC ED	ED22	EC ED	ED22	EC ED	ED22	EC ED	ED22	EC ED	EC1 ED1	EC ED	EC1 ED1	EC ED	EC1 ED1	EC ED
EC/EC1 ED/ED1/ ED22	A	48 1.89	48 1.89	48 1.89	48 1.89	64 2.52	48 1.89	64 2.52	48 1.89	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	88 3.46
	B	50 1.97	74 2.91	50 1.97	74 2.91	68 2.68	74 2.91	68 2.68	74 2.91	88 3.46	74 2.91	88 3.46	74 2.91	88 3.46	74 2.91	108 4.25
	C	4 .16	-	4 .16	-	4 .16	-	4 .16	-	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	5,5 .22
	C	2 .08	4 .16	2 .08	4 .16	2 .08	4 .16	2 .08	4 .16	2 .08	4 .16	4 .16	4 .16	4 .16	4 .16	7,5 .30
EC/EC1 ED/ED1/ ED22	D1	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	6 .24
	D2	8-15 .31-.59	-	8-15 .31-.59	-	8-15 .31-.59	-	8-15 .31-.59	-	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59	13-15 .51-.59
	D2	18-22 .71-.87	11-15 .43-.59	18-22 .71-.87	11-15 .43-.59	18-22 .71-.87	11-15 .43-.59	18-22 .71-.87	11-15 .43-.59	22-25 .87-.98	19-22 .75-.87	22-25 .87-.98	19-22 .75-.87	22-25 .87-.98	19-22 .75-.87	28-33 1.10-1.30
	E	36 1.42	-	36 1.42	-	48 1.89	-	48 1.89	-	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89	68 2.68
ED/ED22	F	-	30 1.17	-	30 1.17	-	30 1.17	-	30 1.17	-	-	-	-	-	-	-
	M	2 .08	1,5 .06	2 .08	1,5 .06	2 .08	1,5 .06	2 .08	1,5 .06	2 .08	-	2 .08	-	2 .08	-	2,2 .09
	1	53,5 2.10	74,3 2.93	53,5 2.10	74,3 2.93	-	74,3 2.93	-	74,3 2.93	-	73,7 2.90	-	73,7 2.90	-	73,7 2.90	101 3.98
	2	53,5 2.10	74,3 2.93	53,5 2.10	74,3 2.93	-	74,3 2.93	-	74,3 2.93	-	73,7 2.90	-	73,7 2.90	-	73,7 2.90	101 3.98
Stages L	3	67,5 2.66	74,3 2.93	67,5 2.66	94,3 3.71	-	74,3 2.93	-	94,3 3.71	-	73,7 2.90	-	93,7 3.69	-	93,7 3.69	101 3.98
	4	67,5 2.66	74,3 2.93	81,5 3.21	94,3 3.71	-	94,3 3.71	-	94,3 3.71	-	93,7 3.69	-	93,7 3.69	-	93,7 3.69	101 3.98
	5	81,5 3.21	94,3 3.71	-	-	103 4.06	-	103 4.06	-	-	93,7 3.69	103 4.06	-	103 4.06	-	139 5.47
	6	81,5 3.21	94,3 3.71	-	-	-	-	-	-	103 4.06	-	127 5	-	127 5	-	139 5.47
	7	-	-	-	-	-	-	-	-	127 5	-	139,5 5.47	-	139,5 5.47	-	139 5.47
	8	-	-	-	-	-	-	-	-	127 5	-	152 5.98	-	152 5.98	-	177 6.97
	9	-	-	-	-	-	-	-	-	139,5 5.47	-	164,5 6.48	-	164,5 6.48	-	177 6.97
	10	-	-	-	-	-	-	-	-	152 5.98	-	177 6.97	-	177 6.97	-	177 6.97
	11	-	-	-	-	-	-	-	-	152 5.98	-	-	-	-	-	215 8.46
	12	-	-	-	-	-	-	-	-	164,5 6.48	-	-	-	-	-	215 8.46

Single Hole Mounting or Base Mounting

FS1...
FT1...
FT3...



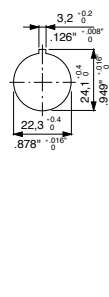
FS1...
FS2...
FS4...



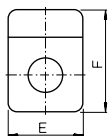
FH3...
FS2...
FT2...
FT4...



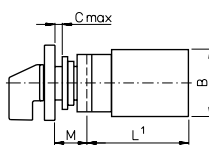
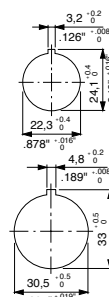
FH3...
FH4...
FT1...
FT2...
FT6...



FH4...
FS4...
FT6...



FT3...
FT4...



A/E

FH3...

FH4...

B

C

D

F

M

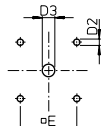
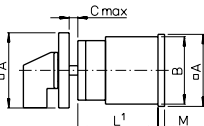
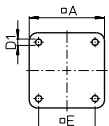
FH4...

FH3...

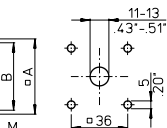
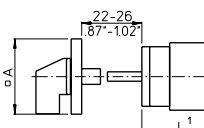
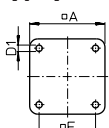
FH4...

CA4	CA4-1	CL4	CA10 CA11 CAD11 CAD12	CL10	CA20	CA25
30	1.18	30	48	48	48	48
-	-	1.18	1.89	1.89	1.89	1.89
-	-	-	64	64	64	64
-	-	-	2.52	2.52	2.52	2.52
-	-	-	64	64	64	64
-	-	-	2.52	2.52	2.52	2.52
28	1.10	38x46	43	50x56	45	46
-	-	1.50x1.81	1.69	1.97x2.20	1.77	1.81
5	.20	5	6	6	6	6
-	-	.20	.24	.24	.24	.24
29.5	1.16	29.5	39	39	39	39
-	-	1.16	1.54	1.54	1.54	1.54
39	1.54	39	59	59	59	59
-	-	1.54	2.32	2.32	2.32	2.32
-	-	-	78.5	78.5	78.5	78.5
-	-	-	3.09	3.09	3.09	3.09
12.5	.49	12.5	18.2	18.2	18.2	18.2
-	-	.49	.72	.72	.72	.72
-	-	-	25.2	25.2	25.2	25.2
-	-	-	.99	.99	.99	.99
-	-	-	25.2	25.2	25.2	25.2
-	-	-	.99	.99	.99	.99

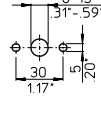
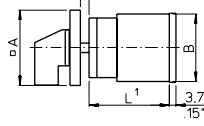
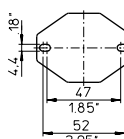
VE
VE-V



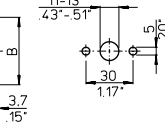
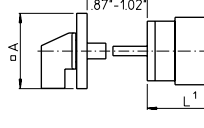
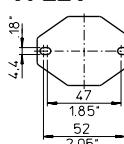
VF
VF-V



VE22
VE22V



VF22
VF22V

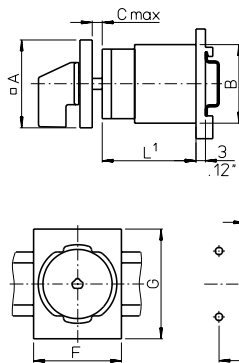


	CA10 CA11 CAD11 CAD12	CL10	CA20	CA25 ²	CA10B CA11B CA20B	CA25B	CA40 ² CA50 ² CA63 ²	C80	C125	L switches Size S2	L switches Size S3
A	48 1.89	48 1.89	48 1.89	48 (64) 1.89 (2.52)	64 2.52	64 2.52	64 (88) 2.52 (3.46)	88 3.46	88 3.46	88 3.46	128 5.04
B	43 1.69	50x56 1.97x2.20	45 1.77	46 1.81	56 2.20	56 2.20	55.5x64 2.19x2.52	84 3.30	88 3.46	88 3.46	126 4.96
C	10.5 .41	10.5 .41	10.5 .41	10.5 .41	13.5 .53	13.5 .53	13.5 .53	16 .63	16 .63	16 .63	19.3 .76
D1	4.1 .16	-	4.1 .16	4.1 .16	4.1 .16	4.1 .16	5.4 .21	5.4 .21	5.4 .21	5.4 .21	7 .28
D2	5 .20	-	5 .20	5 .20	5 .20	5 .20	5 (6) .20 (.24)	6 .24	6 .24	6 .24	7 .28
D3	8-15 .31-.59	-	8-15 .31-.59	8-15 .31-.59	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59	13-17 .51-.67	13-17 .51-.67	13-17 .51-.67	15.5-20 .61-.79
E	36 1.42	-	36 1.42	36 (48) 1.42 (1.89)	48 1.89	48 1.89	48 (68) 1.89 (2.68)	68 2.68	68 2.68	68 2.68	104 4.09
M	2.2 .09	-	2.2 .09	3.2 .13	2.5 .10	2.5 .10	5.1 .21	8.9 .35	8.9 .35	27 1.06	11.4 .45

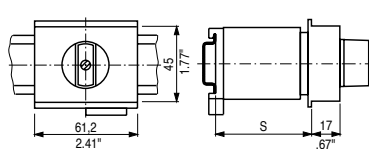
²Dimensions in () for reverte mounting plate

Base Mounting

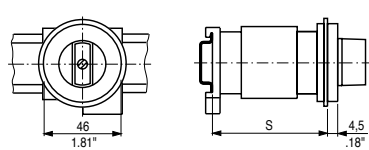
VE1



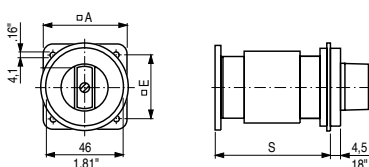
VE2



VE3

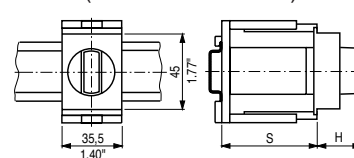


VE4

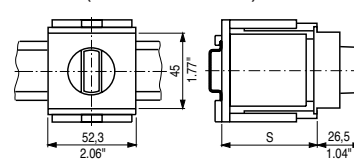


	CA10 CA11 CAD11 CAD12	CL10	CA20	CA25	CA10B CA11B CA20B	CA25B	CA40 CA50 CA63
A	48 1.89	48 1.89	48 1.89	48 1.89	64 2.52	64 2.52	64 2.52
B	43 1.69	50x56 1.97x2.20	45 1.77	46 1.81	56 2.20	56 2.20	55,5x64 2.19x2.52
C	10,5 .41	10,5 .41	10,5 .41	10,5 .41	13,5 .53	13,5 .53	13,5 .53
D1	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20
D2	8-15 .31-.59	8-15 .31-.59	8-15 .31-.59	8-15 .31-.59	10-15 .39-.59	10-15 .39-.59	10-15 .39-.59
E	36 1.42	36 1.42	36 1.42	36 1.42	48 1.89	48 1.89	48 1.89
F	48 1.89	48 1.89	48 1.89	48 1.89	70 2.76	70 2.76	70 2.76
G	60 2.36	60 2.36	60 2.36	60 2.36	60 2.36	60 2.36	60 2.36

VE21 (for CA4 and CA4-1)



VE21 (for CA10-CA25)

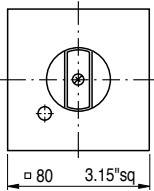


	VE2			VE3		VE4			S _{min.}		H		VE21				
	CA10	CA11		CA10	CA11	CA10	CA11						CA4	CA10	CA11	CA20	CA25
	CAD11	CA20		CAD11	CA25	CAD11	CA25	CA4-1					CAD11				
	CAD12	CL10	CA25	CAD12	CL10	CAD12	CA20	CA25					CA4-1	CAD12			
	Max. no. of stages			Max. no. of stages		Max. no. of stages					No. of stages						
S = ⁴⁶ _{1.81}	3	1	-	1	1	1	2	-	44 1.73	21 .83	1/2	1/2	1/2	1/2	1		
S = ⁵⁰ _{1.97}	3	1	1	2	1	2	2	1	46 1.81	26,5 1.04	3	3	-	-	2		
S = ⁶¹ _{2.40}	4	2	2	3	2	3	3	2	54 2.13	26,5 1.04	4	-	-	-	-		
S = ⁶⁷ _{2.64}	5	2	2	3	2	3	3	2	56 2.20	-	-	-	3	3	-		
S = ⁶⁹ _{2.70}	5	3 ²	3	4	3	4	4	3	60 2.36	-	-	-	-	-	3		
									62 2.44	26,5 1.04	5	-	-	-	-		
									66 2.60	-	-	4/5	-	-	-		
									68 2.68	-	-	-	4	-	-		
									70 2.76	26,5 1.04	6	-	-	4	-		
									74 2.91	-	-	6	-	-	4		

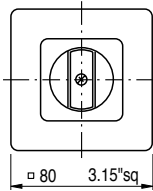
¹see page 51 ²not available for switch type CA20

Wall Mounting, Escutcheon Plates and Additional Length

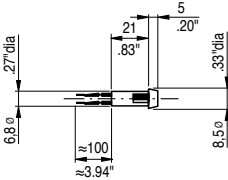
0UE1
UE2
UE3



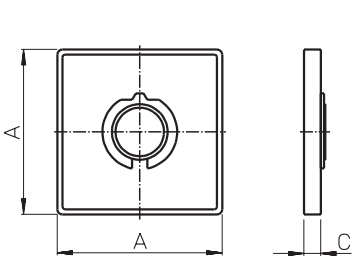
UE4
UE5
UE6



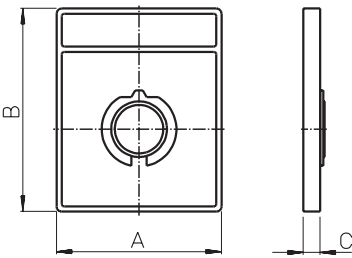
Lamp



Escutcheon plates for mounting E, EF, ER, ERF, EG, EGF, KN1, KD1, KN2, EC, EC1, ED, ED1, VE, VE1, VF



Size	A	C
S00	30 1.18	5,5 .22
S0	48 1.89	6,3 .25
S1	64 2.52	7,4 .29
S2	88 3.46	8,5 .33
S3	130 5.12	11,5 .45

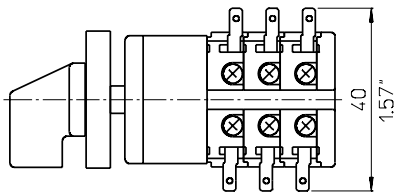


Size	A	B	C
S00	30 1.18	39 1.54	5,5 .22
S0	48 1.89	59 2.32	6,7 .26
S1	64 2.52	78 3.07	7,4 .29

Additional length for amendment (page 4)

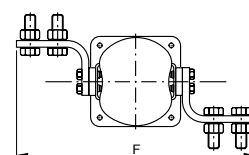
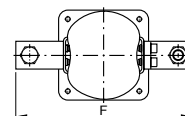
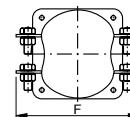
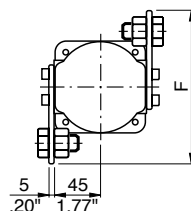
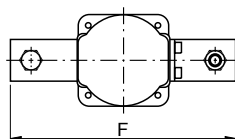
	CAD11	CAD12	CA10	CA11	CA20	CA25	CA40	CA50	CA63
S0 switches with latching mechanism size S1	5,4 .21	-	-	-	-	-	-	-	-
S1 switches with latching mechanism size S2	-	-	-	-	-	-	8,2 .32	-	-
with snap action	-	-	14,3 .56	-	-	-	-	-	in preparation

Quick connects for switches CA4-4



Additional Length

Terminal lugs for switches C315, C316 and L switches



C315
C316
L400
L600

L800
L1200
L1600

L2000

	L350	L630	L1000	L1250	L351	L631	L1001	L1251	C315 C316	L400	L600	L800 L1200	L1600 L2000
F	190 7.48	220 8.66	230 9.06	240 9.45	138 5.43	148 5.83	148 5.83	148 5.83	150 5.91	180 7.09	208 8.19	256 10.08	326 12.83

Length L

Stages	CA4		CA10 CAD11		CA11	CA20	CA25	CA10B	CA11B	CA20B	CA25B	CA40 CA50		C125 L switches Size S2	C315 L switches Size S3
	CA4-1	CL4	CAD12	CL10								CA63	C80		
1	30 1.18	34 1.34	33,5 1.32	37,2 1.46	36,7 1.44	37,7 1.48	39 1.51	38,9 1.53	42,1 1.66	43,1 1.70	44,4 1.75	42,5 1.67	61,5 2.42	67,5 2.66	78,6 3.09
2	38 1.50	46 1.81	43 1.69	49,9 1.96	49,4 1.94	50,4 1.98	53 2.09	48,4 1.91	54,8 2.16	55,8 2.20	58,4 2.30	55,2 2.17	88,0 3.46	100 3.94	117,2 4.61
3	46 1.81	58 2.28	52,5 2.07	62,6 2.46	62,1 2.44	63,1 2.48	67 2.64	57,9 2.28	67,5 2.66	68,5 2.70	72,4 2.85	67,9 2.67	114,5 4.51	132,5 5.22	155,8 6.13
4	54 2.13	70 2.76	62 2.44	75,3 2.96	74,8 2.94	75,8 2.98	81 3.19	67,4 2.65	80,2 3.16	81,2 3.20	86,4 3.40	80,6 3.17	141 5.55	165 6.50	194,4 7.65
5	62 2.44	82 3.23	71,5 2.81	88 3.46	87,5 3.44	88,5 3.48	95 3.74	76,9 3.03	92,9 3.66	93,9 3.70	100,4 3.95	93,3 3.67	167,5 6.59	197,5 7.78	233 9.17
6	70 2.76	94 3.70	81 3.19	100,7 3.96	100,2 3.94	101,2 3.98	109 4.29	86,4 3.40	105,6 4.16	106,6 4.20	114,4 4.50	106 4.17	194 7.64	230 9.06	271,6 10.69
7	78 3.07	106 4.17	90,5 3.56	113,4 4.46	112,9 4.44	113,9 4.48	123 4.84	95,9 3.78	118,3 4.66	119,3 4.70	128,4 5.05	118,7 4.67	220,5 8.68	262,5 10.33	310,2 12.21
8	86 3.39	118 4.65	100 3.94	126,1 4.96	125,6 4.94	126,6 4.98	137 5.39	105,4 4.15	131 5.16	132 5.20	142,4 5.60	131,4 5.17	247 9.72	295 11.61	348,8 13.73
9	94 3.70	-	109,5 4.31	138,8 5.46	138,3 5.44	139,3 5.48	151 5.94	114,9 4.52	143,7 5.66	144,7 5.70	156,4 6.15	144,1 5.67	273,5 10.77	327,5 12.89	387,4 15.25
10	-	-	119 4.68	151,5 5.96	151 5.94	152 5.98	165 6.50	124,4 4.90	156,4 6.16	157,4 6.20	170,4 6.70	156,8 6.17	300 11.81	360 14.17	426 16.77
11	-	-	128,5 5.06	-	163,7 6.44	164,7 6.48	179 7.05	133,9 5.27	169,1 6.66	170,1 6.70	184,4 7.25	169,5 6.67	326,5 12.85	392,5 15.45	464,6 18.29
12	-	-	138 5.43	-	176,4 6.94	177,4 6.98	193 7.60	143,4 5.65	181,8 7.16	182,8 7.20	198,4 7.80	182,2 7.17	353 13.90	425 16.73	503,2 19.81

The Range of “Blue Line” Switchgear

Technical literature covering the following products is available on request.

	Catalog Number
Main Switches and Main Switches with Emergency Function 16 A-315 A Maintenance Switches 20 A-315 A Switch Disconnectors 20 A-315 A According to IEC 60947-3, EN 60947-3, VDE 0660 part 107, IEC 60204, EN 60204 and VDE 0113	500
CL Switches 10 A-20 A C, CA and CAD Switches 10 A-315 A and L Switches 350 A-2400 A C, CA and CAD switches are designed for universal application. They are recommended for instrument, isolator, double-throw and motor control. L switches are designed for load and off-load applications. They are used to switch resistive or low inductive loads.	100
Optional Extras and Enclosures The complete product line, a large number of optional extras is available, including door interlocks, push-pull devices, cylinder and padlock attachments, control and indicator devices, AC motor drives, as well as enclosures, both insulated and metal.	101
A and AD Switches 6 A-25 A A and AD switches have 4 contacts in each switching stage. These switches provide an extensive range of switch functions and require a minimum mounting depth. Up to 36 switching positions are possible, with availability of 48 contacts per 12 stage switch column.	110
CG, CH and CHR Switches 10 A-25 A Ultra compact CG, CH and CHR switches are ideally suited for control and instrumentation applications. Switch terminals are “finger-proof” and conveniently accessible for wiring and are delivered open. All CG4 switches offer specially designed gold plated contacts or H-bridges with “cross-wire” contact systems, which facilitates their use in electronic circuitry and chemically aggressive environments.	120
DH, DHR, DK and DKR Switches 6 A-16 A DH, DHR, DK and DKR switches incorporate unique corrosion resistant contacts that permit operation on system voltage as low as 1 V. They have fully enclosed and protected contacts which can be operated either by rotary and/or lateral handle movement. D switches are used in calibration and semiconductor circuits. They are also used for relay and contactor control.	130
X Switches 200 A-630 A X switches can be applied for load, tap and gang switching duties. They incorporate 6 contacts in each switching stage. Their compact design provides a minimum length dimension for mounting purposes.	140
KG Switches 20 A-315 A and KH and KHR Switches 16 A-80 A KG, KH and KHR switches are excellent circuit interruptors. They have high through fault and fault making capacities and are especially designed for use as isolators and safety switches for machine tools, distribution panels and switchboards. KG ON/OFF switches offer unusually high dimensioned air and creepage distances between terminals which are designed for time saving “straight-line” wiring. ON/OFF switches are available with up to 8 poles and double-throw switches are available with up to 4 poles.	150
Contactors 16 A-115 A and Motor Starters 1,1 kW-55 kW These include control relays, motor contactors, two and four pole output contactors, heating contactors, thermal overload relays.	200
Push Buttons and Pilot Lights, 22,5 mm Ø A complete range of state-of-the-art push buttons and pilot lights represent an ideal combination of functional security and economical efficiency in a modular design.	302

SALES AND SERVICE ORGANIZATION

Australia

australian solenoid Φ co.pty. ltd.

379 Liverpool Road, ASHFIELD, N.S.W. 2131
P. O. Box 1093, ASHFIELD, N.S.W. 1800
Tel: +61 2 9797-7333, Fax: 0092
e-mail: sales@austrasol.com.au

Austria

austro solenoid Φ ges.m.b.h.

Schumanngasse 35, Postfach 431
A-1181 WIEN
Tel: +43 1 404 06, Fax: 404 06-190
e-mail: aso@krausnaimer.com

Belgium, Luxembourg

solenoid benelux Φ b. v.

Ikaros Business Park
Ikaroslaan 2
B-1930 ZAVENTHEM
Tel: +32 2 757-0141, Fax: 1640
e-mail: sales@bensol.be

Brazil

solenoid do brasil Φ ltda.

Avenida Berna 230
04774-020 SAO PAULO
Tel: +55 11 2198-1288, Fax: 1251
e-mail: knbrasil@krausnaimer.com.br

Canada

canadian solenoid Φ inc.

219 Connie Crescent, Unit 13A
CONCORD, Ontario, L4K 1L4
Tel: +1 905 738-1666, Fax: 9327
e-mail: cdnsolenoid@cansol.on.ca

Chile

ASEA BROWN BOVERI S. A.
Vicuña Mackenna 1602, Casilla 3555
SANTIAGO DE CHILE
Tel: +56 2 544-7411, Fax: 7418

Cyprus

ELECTROMATIC CONSTRUCTIONS LTD.
72, Evagoras Pallikarides Str., CY-2235 LATSIA-Nicosia
P. O. Box 12630, CY-2251 LATSIA-Nicosia
Tel: +357 2 48 41 41, Fax: 48 57 47

Czech Republic

OBZOR, výrobní družstvo Zlín
Louky-Slanica 378
CZ-76413 ZLÍN
Tel: +420 57 7195-111/-153 (Techn. Supp.)
Fax: +420 57 7195-152/-138
e-mail: ots@obzor.cz

Denmark

THIIM A/S
Transformervej 31
DK-2730 HERLEV
Tel: +45 4485 8000, Fax: 8005
e-mail: thiim@thiim.com

Finland

suomen solenoid Φ oy

Karitie 7
FIN-01530 VANTAA
Tel: +358 9 825-424-0, Fax: 424-10
e-mail: etunimi.sukunimi@finsol.fi

France

solenoid france Φ s. a.

33, rue Bobillot
F-75013 PARIS
Tel: +33 1 58 40 80 80, Fax: 45 80 91 19
e-mail: sales@solfrance.fr

Germany

deutsche solenoid Φ vertriebs-gmbh

Wikingerstraße 20-28, D-76189 KARLSRUHE
Postfach 10 01 24, D-76231 KARLSRUHE
Tel: +49 721 59 88-0, Fax: 59 28 28
e-mail: desol@krausnaimer.com

Great Britain

u. k. solenoid Φ ltd.

115 London Road
NEWBURY/BERKSHIRE RG14 2AH
Tel: +44 1635 45991, Fax: 37807
e-mail: sales@uksol.co.uk

Greece

KALAMARAKIS-SAPOUNAS S. A.
Ionias & Neromilou Str., P. O. Box 46566
GR-13671 ACHARNES/ATHENS
Tel: +30 2 10 240-6000-6, Fax: 240-6007
e-mail: ksa@ksa.gr

Hungary

GANZ, Schalter- u. Gerätefabrik
X, Köbányai út 41/c, Postfach 87
H-1475 BUDAPEST
Tel: +36 1 261-5479, Fax: 4685
e-mail: ganzkk@ganzkk.hu

Iceland

BRAEDURNIR ORMSSON EHF
Lágmúli 6-9, P. O. Box 8670
REYKJAVIK
Tel: +354 530-28 00, Fax: 28 10
e-mail: skuli@ormsson.is

India

Liaison Office, Solenoid Singapore Pte Ltd
12/103, Tulsidham Kalyani CHS Ltd
SV Road, Majiwade
THANE (W) 400610, Maharashtra
Tel: +91 22 2589-8450, Fax: 8450
e-mail: kane.shriram@singsol.co.in

Republic of Ireland

irish solenoid Φ ltd.

Bay 145, Shannon Free Zone
SHANNON, Co. Clare
Tel: +353 61 704700, Fax: 471084
e-mail: salesirs@krausnaimer.ie

Italy

solenoid italia Φ s.r.l.

Via Terracini, 9
I-24047 TREVIGLIO (BG)
Tel: +39 0363-30 11 12, Fax: 30 21 13
e-mail: infoits@italsol.it

Japan

solenoid japan Φ co. ltd.

Yoshiwada Building 2F
1-11-6 Hamamatsucho
Minato-Ku, TOKYO 105-0013
Tel: +81 3 3436-6151, Fax: 6325
e-mail: kazumi.nakazato@japsol.co.jp

Kuwait

AMMAR & PARTNERS ELECTRICAL CO.
P. O. Box 1871
13019 SAFAT
Tel: +965 483-0122/483-0133
Fax: +965 484-1818

Malaysia

INDUSTRIAL AUTOMATION (M) Sdn Bhd
30-3 & 30-4 Loke New Road
55200 KUALA LUMPUR
Tel: +60 3-9-2210511, Fax: 2222299
e-mail: inquiry@iasb.com.my

Mexico

ING. JAVIER CABALLERO B.
A. Gaviño 30, Satélite,
53100, Edo. de Mexico, MEXICO
Tel: +52 5555 62-7577, Fax: 0434
e-mail: j_caballero_b@infosel.net.mx

Netherlands

solenoid benelux Φ b. v.

Wegtersweg 38, Postbus 199
NL-7556 BR HENGEL (Ov.)
Tel: +31 74 291-9441, Fax: 8380
e-mail: sales@bensol.nl

New Zealand

new zealand solenoid Φ co. ltd.

42 Miramar Avenue, WELLINGTON 6022
P. O. Box 15-009, WELLINGTON 6243
Tel: +64 4 380-9888, Fax: 9877
e-mail: sales@nzsolenoid.co.nz

Norway

norsk solenoid Φ a/s

Hjalmar Brantings vei 8, P. O. Box 21, Økern
N-0508 OSLO
Tel: +47 22 64 44 20, Fax: 65 39 49
e-mail: nos@norsksol.no

Poland

ASTAT sp. z o.o.
ul. Dąbrowskiego 461
PL-60451 POZNAŃ
Tel: +48 61 848-8871/72, Fax: 8276
e-mail: info@astat.com.pl

Portugal

ELECTRICOL-DAMAS, FERREIRA & DAMASCENO, S. A.
Apartado 1083, S. Ant. Cavaleiros
P-2670 LOURES
Tel: +351 21 989-8939, Fax: 988-6464

Singapore

solenoid singapore Φ pte. ltd.

115A, Commonwealth Drive
03-17/23
SINGAPORE 149 596
Tel: +65 6473-8166, Fax: 8643
e-mail: krausnaimer@singsol.com.sg

Slovenia

SCHRACK Energietechnik d.o.o.
Glavni trg 47
SI-2380 SLOVENJ GRADEC
Tel: +386 2 88 392 00, Fax: 434 71
e-mail: schrack.sg@schrack-energietechnik.si

Republic of South Africa

south african solenoid Φ co.pty. ltd.

7 Village Crescent, Linbro Village
Linbro Business Park, SANDTON 2065
P. O. Box 511, KELVIN 2054
Tel: +27 11 608-6060, Fax: 608-2874
e-mail: sales@sasolenoid.co.za

Spain

HAZEMEYER ESPAÑOLA S. A.
C/ta. de Tiana s/n, Esq. N-2
BADALONA-BARCELONA
Tel: +34 93 389-4262, Fax: 384-3586
e-mail: konno@grupo-hes.net

Sweden

skandinaviska solenoid Φ ab

Dr. Widerströms Gata 11, FRUÅNGEN
Box 42097, S-126 14 STOCKHOLM
Tel: +46 8 97 00 80, Fax: 97 87 33
e-mail: order@skansol.se

Switzerland

AWAG Elektrotechnik AG
Sandbühlstraße 2, Postfach
CH-8604 VOLKETSCH
Tel: +41 44 908 19 19, Fax: 19 99
e-mail: info@awag.ch, www.awag.ch

Taiwan

NUWTEC ENTERPRISE Co Ltd
No. 301, Sec. 1, Nan Kang Road
TAIPEI 115, Taiwan, R. o. C.
Tel: +886 2 265-13279, Fax: 13264
e-mail: nathan.nuwtec@msa.hinet.net

Turkey

ÜNAL KARDEŞ ELEKTRİK GEREÇLERİ A. Ş.
Beşyol, Eski Londra Asfaltı-6
TR-34295 İSTANBUL-Sefaköy
Tel: +90 212 624-9204, Fax: 592-4810
e-mail: info@unalkardes.com.tr

USA

american solenoid Φ co. inc.

760 New Brunswick Road
SOMERSET, NJ 08873
Tel: +1 732 560-1240, Fax: 8823
e-mail: amsol@krausnaimer-us.com

