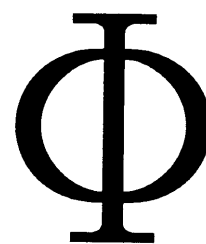


KRAUS & NAIMER
BLUE LINE SWITCHGEAR



Catalog 100

C, CA, CAD Switches 10 A-315 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

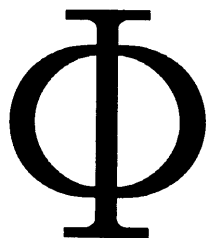
be recognized as the world leader in that product field.

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 and CAD-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.

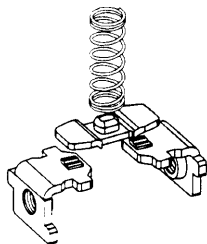
The stage is the basis for all switches and can be supplied with a maximum of 2 contacts. The terminals are accessible from the side. CA and CAD switches are supplied with open terminals to facilitate wiring and are protected against accidental finger contact according to VDE 0106 part 100 (VBG 4). Captive plus-minus terminal screws and integrated screwdriver guides also reduce wiring.

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 L350-L2000 are continuous current rated for off-load switching. They may be used to switch resistive or low inductive loads.

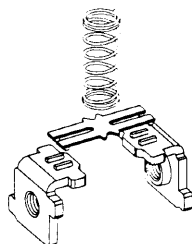
Special Contact Systems

CA4/CA4-1



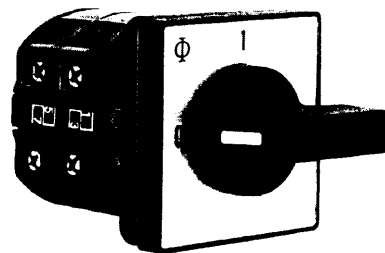
High contact reliability by multiple cross-point contacts, electronic compatible, CA4 with 1 μ and CA4-1 with 35 μ gold plating.

CAD11/CAD12

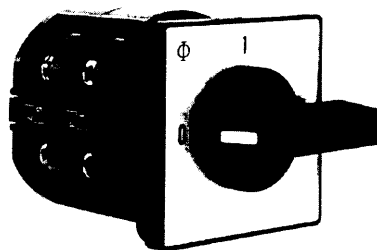


H-bridge with „cross-wire“ contact system, high contact reliability also at lower voltages. CAD11 with gold-plated contacts, CAD12 with silver contact.

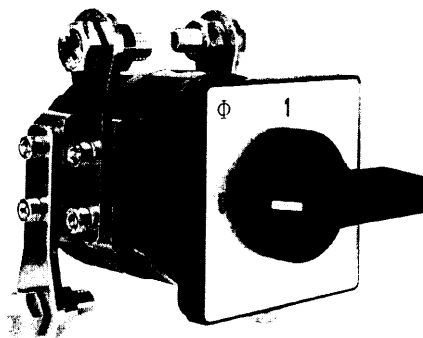
CA and CAD Switches



C Switches



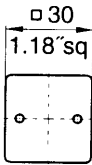
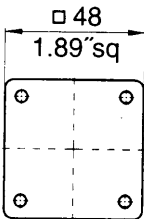
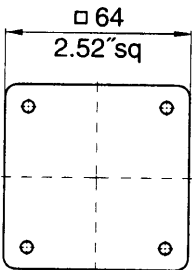
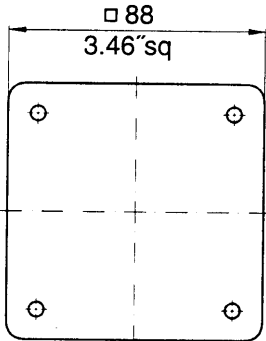
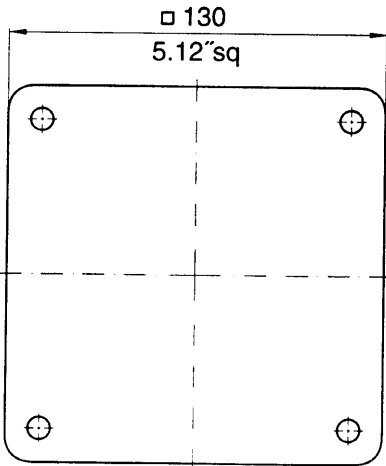
L Switches



Above illustrates the standard terminal positions.

Type	Size	Possible Switching Angles	Max. No. of Stages
CA4, CA4-1	S00	30°, 45°, 60°, 90°	9
CA10-CA25	S0	30°, 45°, 60°, 90°	12
CA10S-CA25S	S0	60°	on request
CAD11, CAD12	S0	30°, 45°, 60°, 90°	12
CA10B-CA25B	S1	30°, 45°, 60°, 90°	12
C26, C32, C42	S1	20°, 30°, 45°, 60°, 90°	12
C26S, C32S, C42S	S1	60°	on request
C43, 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

Nominal Ratings

Switch Size	Type	According to IEC 60947-3/VDE 0660 part 107			
		Insulation Voltage ¹ U_i V	Thermal Current I_u/I_{th} A	Motor Rating 3 x 380 V-440 V AC-23 kW	
S00 	CA4	440	10	3	2,2
	CA4-1	440	10	3	2,2
S0 	CA10	690	20	7,5	5,5
	CA11	690	20	7,5	5,5
	CA20	690	25	11	7,5
	CA25	690	32	15	11
	CAD11	600	6	-	-
	CAD12	600	6	-	-
S1 	CA10B	690	20	7,5	5,5
	CA11B	690	20	7,5	5,5
	CA20B	690	25	11	7,5
	CA25B	690	32	15	11
	C26	690	32	15	11
	C32	690	50	22	15
	C42	690	63	30	18,5
S2 	C43	690	63	30	18,5
	C80	690	115	45	30
	C125	690	150	75	37
	L350	690	350	90	37
	L351	690	350	90	37
	L630	690	630 ²	90	37
	L631	690	630 ²	90	37
	L1000	690	1000 ²	90	37
	L1001	690	1000 ²	90	37
	L1250	690	1250 ²	90	37
	L1251	690	1250 ²	90	37
S3 	C315	690	315	132	55
	C316³	1000	315	132	55
	L400	690	500	132	55
	L600	690	800 ²	132	55
	L800	690	1100 ²	132	55
	L1200	690	1450 ²	132	55
	L1600	690	1900 ²	132	55
	L2000	690	2400 ²	132	55
For further technical details, refer to pages 40-43. To furnish with gold contacts and quick connects see page 4.					
³ Additional switch functions on request.					

¹Valid for lines with grounded common neutral termination, overvoltage category III, pollution degree 3. Values for other supply systems on request. ²Ambient temperature 35 °C max.

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	CA10, CA11, CA10B, CA11B
-4	with quick connects	CA4
-5	with quick connects and gold contacts	CA4
B	S0 switches with latching mechanism size S1	CA10, CA11, CA20, CA25, CAD12
C	S1 switches with latching mechanism size S2	C26, C32
L	with lockout-relay w/o manual release for std. sw.	C26, C32, C42
M	with lockout-relay with manual release for std. sw.	C26, C32, C42
X	with power failure release	CA10, CA11, CA20, CA25, CAD12, C26, C32, C42
S	with snap action	CA10, CA11, CA20, CA25, C26, C32, C42 with 60° switching

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

How to order

Modification of Switches

Color combinations of escutcheon plate and handle

The standard switch consists of a plexi glass 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

- **.00** = 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
- **.11** = without escutcheon plate, but with handle bearing plate
- **.12** = with yellow escutcheon plate backing and red handle
- **.14** = with B-handle

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		SIGNATURE	
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
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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	1253	1254	1255	1256	1257	1258	1259	1260
1261	1262	1263	1264	1265	1266	1267	1268	1269	1270	1271	1272	1273	1274
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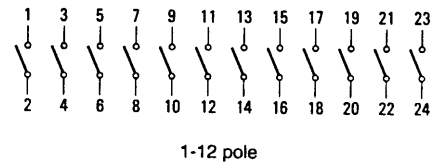
Switch Function and Configuration

C, CA, CAD Switches

Function	Escutch. Plate	Type/Handle				Code	Stages	Connection Diagram
		CA4 CA4-1	CAD.. CA10- CA25	CA10B- CA25B	C26- 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	
5 pole						A341-600	3	
6 pole						A342-600	3	
7 pole						A343-600	4	
8 pole						A344-600	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	
5 pole						A341-620	3	
6 pole						A342-620	3	
7 pole						A343-620	4	
8 pole						A344-620	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	
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	
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	
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	



Function	Escutch. Plate	Type/Handle				Code	Stages	Connection Diagram
		CA4 CA4-1	CAD.. CA10- CA25	CA10B- CA25B	C26- 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° 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° 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 2 pole 3 pole 4 pole						A100-600 A101-600 A102-600 A103-600	1 1 2 2	1-4 pole
1 pole with spring return 2 pole with spring return 3 pole with spring return 4 pole with spring return						A204-600 A205-600 A206-600 A207-600	1 1 2 2	1-4 pole
1 pole with spring return 2 pole with spring return 3 pole with spring return 4 pole with spring return						A204-620 A205-620 A206-620 A207-620	1 1 2 2	

¹not available for switch type CA25

Function	Escutch. Plate	Type/Handle CAD.. CA4 CA10- CA10B- C26- CA4-1 CA25 CA25B C315	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	
5 pole						A369-600	5	
6 pole						A370-600	6	
7 pole						A371-600	7	
8 pole						A372-600	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	
1 pole with spring return						A795-600	1	

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

Switch Function and Configuration

C, CA, CAD Switches

Function	Escutch. Plate	Type/Handle				Code	Stages	Connection Diagram
		CA4 CA4-1	CAD.. CA10- CA25	CA10B- C43	C80- C315			

Double-throw Switches with Center „OFF“ 60° Switching

1 pole 2 pole 3 pole 4 pole						A210-600 A211-600 A212-600 A213-600	1 2 3 4	
5 pole 6 pole 7 pole 8 pole						A361-600 A362-600 A363-600 A364-600	5 6 7 8	
1 pole 2 pole 3 pole 4 pole						A210-620 A211-620 A212-620 A213-620	1 2 3 4	
5 pole 6 pole 7 pole 8 pole						A361-620 A362-620 A363-620 A364-620	5 6 7 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						A210-624 A211-624 A212-624 A213-624	1 2 3 4	

Double-throw Switches with Center „OFF“ 60° Switching

1 pole contacts 2 pole preclose 30° 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						A710-600 A711-600 A712-600 A713-600	1 2 3 4	
1 pole with spring return 2 pole to center						A714-600	1	

Function	Escutch. Plate	Type/Handle				Code	Stages	Connection Diagram
		CA4 CA4-1	CAD.. CA10- CA25	CA10B- CA25B	C26- C315			

Double-throw Switches with Spring Return to Center

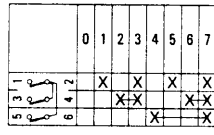
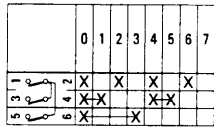
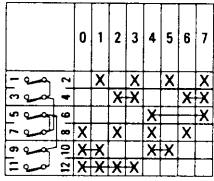
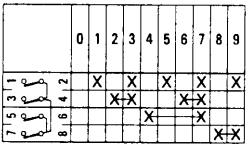
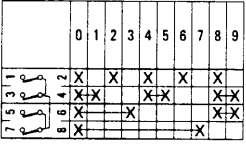
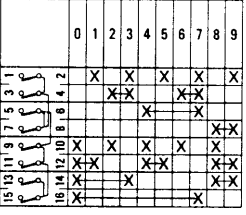
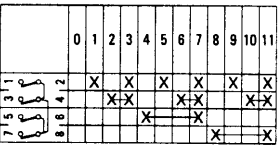
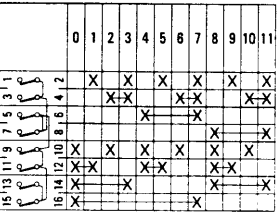
1 pole with spring return 2 pole to center 3 pole						A214-600 A215-600 A216-600	1 2 3	
						A214-620 A215-620 A216-620	1 2 3	
1 pole with spring return 2 pole from left to center 3 pole						A320-600 A321-600 A322-600	1 2 3	
						A320-621 A321-621 A322-621	1 2 3	

General Application Switches

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

Function	Escutch. Plate	Type/Handle CA10 CA4 CAD11 CA10B- C26- CA4-1 CAD12 CA25B C315	Code	Stages	Connection Diagram
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Coding Switches/Binary Code

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

Function	Escutch. Plate	Type/Handle				Code	Stages	Connection Diagram
		CA4 CA4-1	CAD.. CA10- CA25	CA10B- C43	C80- C315			

Multi-step Switches without „OFF“

1 pole 3 Step 2 pole 3 pole 4 pole 5 pole 6 pole		     	     	     	     	A230-600 A250-600 A270-600 A476-600 A484-600 A489-600	2 3 5 6 8 9	                       
1 pole 4 Step 2 pole 3 pole 4 pole 5 pole 6 pole		     	     	     	     	A231-600 A251-600 A271-600 A477-600 A485-600 A490-600	2 4 6 8 10 12	                 
1 pole 5 Step 2 pole 3 pole 4 pole		    	    	    	    	A232-600 A252-600 A272-600 A478-600	3 5 8 10	     
1 pole 6 Step 2 pole 3 pole		    	    	    	    	A233-600 A253-600 A273-600	3 6 9	           
1 pole 7 Step 2 pole 3 pole		    	    	    	    	A234-600 A254-600 A274-600	4 7 11	           
1 pole 8 Step 2 pole 3 pole		    	    	    	    	A235-600 A255-600 A275-600	4 8 12	           
1 pole 9 Step		    	    	    	    	A236-600	5	     
1 pole 10 Step		    	    	    	    	A237-600	5	     
1 pole 11 Step		    	    	    	    	A238-600	6	     
1 pole 12 Step 1 pole without stop		    	    	    	    	A239-600 A639-600	6 6	     

¹ switch type C315 with  handle

Function	Escutch. Plate	Type/Handle CAD.. CA4 CA10- CA10B- C80- CA4-1 CA25 C43 C315	Code	Stages	Connection Diagram
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Multi-step Switches without „OFF“ with electrically isolated contacts

1 pole 3 Step						A730-600	2	 1 pole 3 5 pole
2 pole						A750-600	3	 1 pole 3 5 pole
1 pole 4 Step						A731-600	2	 1 pole 3 5 pole
2 pole						A751-600	4	 1 pole 3 5 pole

Multi-step Switches with „OFF“

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

Switch Function and Configuration

C, CA, CAD Switches

Function	Escutch. Plate	Type/Handle				Code	Stages	Connection Diagram
		CA4 CA4-1	CAD.. CA10- CA25	CA10B- C43	C80- C315			

Multi-step Switches with „OFF“

1 pole 4 Step 2 pole 3 pole 4 pole						A242-600	2	
						A262-600	4	
						A282-600	6	
						A482-600	8	
1 pole 2 pole 3 pole 4 pole						A242-620	2	1-4 pole
						A262-620	4	
						A282-620	6	
						A482-620	8	
1 pole 5 Step 2 pole 3 pole						A243-600	3	
						A263-600	5	
						A283-600	8	
						A243-620	3	
1 pole 2 pole 3 pole						A263-620	5	1-3 pole
						A283-620	8	
						A244-600	3	
						A264-600	6	
1 pole 6 Step 2 pole 3 pole						A284-600	9	

Switch Function and Configuration

C, CA, CAD Switches

Function	Escutch. Plate	Type/Handle				Code	Stages	Connection Diagram
		CA4 CA4-1	CAD..	CA..	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 CAD.. CA.. 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	

Switch Function and Configuration

C, CA, CAD Switches

Function	Escutch. Plate	Type/Handle					Code	Stages	Connection Diagram
		CA4 CA4-1	CAD.. CA10- CA25	CA10B- CA25B	C26 C32	C43- C125			

Voltmeter Switches with „OFF“

3 phase and 1 phase to neutral							A010-600	3	
							A010-620	3	
							A010-621	3	
							A010-622	3	

Ammeter Switches

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	
							A017-620	3	
Single pole with 3 current transformers with „OFF“ 360° rotation							A048-600	3	
							A048-620	3	
							A048-621	3	
							A048-622	3	
							A048-623	3	

Function	Escutch. Plate	Type/Handle CAD.. CA4 CA10- CA10B- C43- CA4-1 CA25 C42 C125	Code	Stages	Connection Diagram
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Ammeter Switches

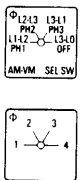
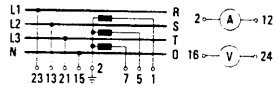
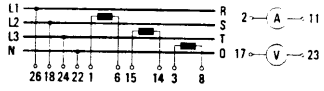
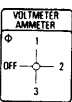
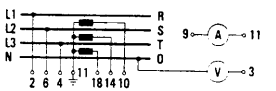
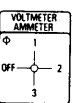
Single pole with 2 current transformers (3 readings)					A021-600	2	
					A021-620	2	
Single pole with 4 current transformers					A036-600	4	
					A036-620	4	
2 pole 2 current transformers					A037-600	3	
					A037-620	3	
					A037-621	3	
2 pole 3 current transformers					A019-600	5	
					A019-620	5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

Switch Function and Configuration

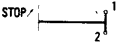
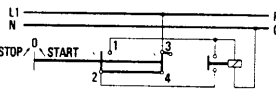
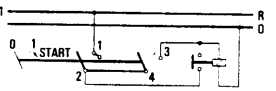
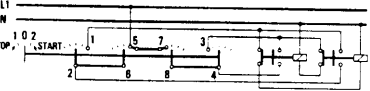
C, CA, CAD Switches

Function	Escutch. Plate	Type/Handle	Code	Stages	Connection Diagram
		CAD.. CA4 CA10- CA10B- C26- CA4-1 CA25 CA25B C43			

Volt-ammeter Switches

3 phase - phase to phase 3 current							A027-600	6	
							A028-600	7	
3 phase voltage 3 phase current 4 wire							A033-600	5	
3 phase voltage 3 phase current 3 wire							A035-600	5	

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	

Function	Escutch. Plate	Type/Handle CAD.. CA4 CA10- CA10B- C26 CA4-1 CA25 CA25B C32	Code	Stages	Connection Diagram
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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						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	

Function	Escutch. Plate	Type/Handle				Code	Stages	Connection Diagram
		CA4 CA4-1	CAD.. CA10- CA25	CA..B C26- C43	C80- C315			

Motor Reversing Switches

2 pole						A400-600	2	
						A400-620	2	
						A400-621	2	
3 pole						A401-600	3	
						A401-620	3	
						A401-621	3	
3 pole with spring return to „OFF“						A228-600	3	
						A228-620	3	
3 pole for use with reversing contactors						A402-600	4	

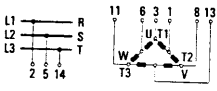
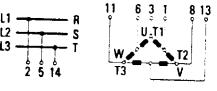
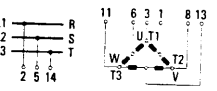
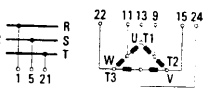
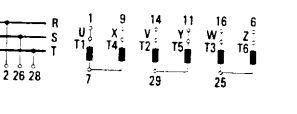
Motor Control Switches

2 speed 2 winding 0-A-BY or Δ						A451-600	3	
						A451-620	3	
3 speed 2 winding 0-AΔ-BY-AY						A457-600	6	
						A457-620	6	

¹not available for switch type CA25 ²not available for switch types C26 and C32

Function	Escutch. Plate	Type/Handle				Code	Stages	Connection Diagram
		CA4 CA4-1	CAD.. CA10- CA25	CA10B- CA25B	C26- C315			

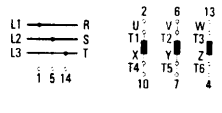
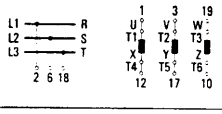
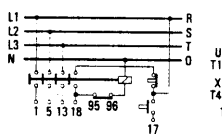
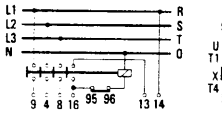
Motor Control Switches

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	

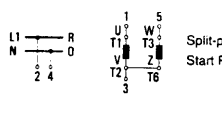
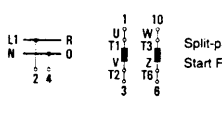
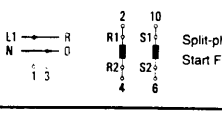
¹incl. slip clutch

Function	Escutch. Plate	Type/Handle					Code	Stages	Connection Diagram
		CA4 CA4-1	CAD.. CA10- CA25	CA..B C26- C43	C80- C315				

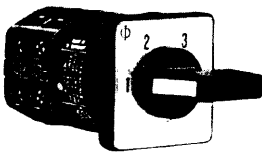
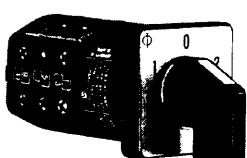
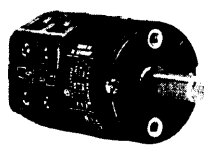
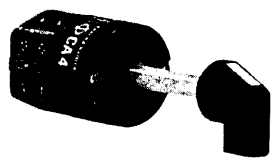
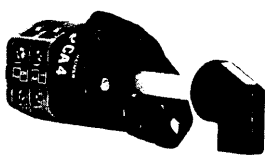
Star-delta Switches

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	

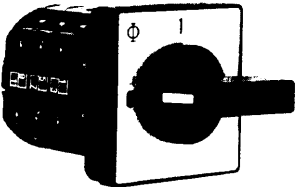
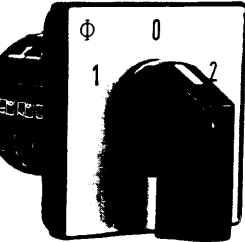
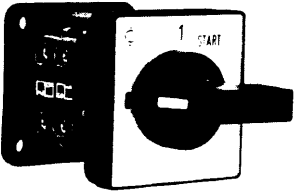
Start and Run Switches

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 type CA25

Two Hole Panel Mounting or Mosaic Mounting		Terminals rotated 90° clockwise	Code	CA4 CA4-1
Panel mounting				
	Two hole panel mounting	•	E E-V	• •
	Panel mounting with shaft seal Protection IP 65			
	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	•

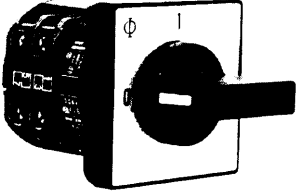
Two or Four Hole Panel Mounting	Terminals rotated 90° clockwise	Code	CAD.. CA10- CA25	CA10B- C42	C43- C125 L350- L1251 Size S2	C315 L400- L2000 Size S3
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Panel mounting  Four hole panel mounting Four hole panel mounting Protection IP 65 Two hole panel mounting Protection IP 65						
 Panel mounting using larger escutcheon plate and handle and with heavy duty latching Four hole panel mounting Four hole panel mounting Protection IP 65						
Panel and base mounting  Four hole panel mounting Four hole panel mounting Protection IP 65						
		E E-V	• •	• •	•	•
		EF EF-V	• •	• •	•	•
		E22 E22-V	• •			
		EG	•	•	•	
		EGF	•			
		ER	•	•	•	•
		ERF	•	•	•	•

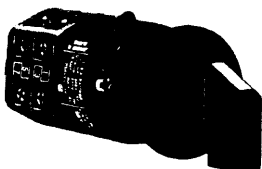
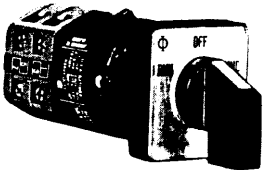
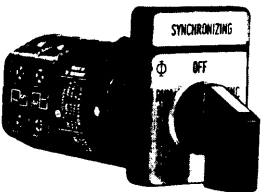
Mounting

C, CA, CAD Switches

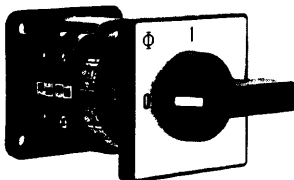
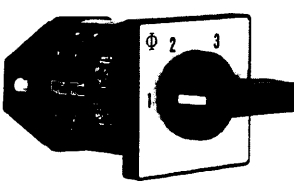
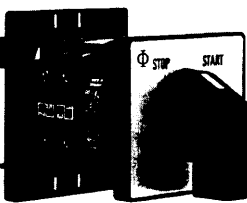
Two or Four Hole Panel Mounting	Code	CAD.. CA10- CA25	CA10B CA11B CA20B CA25B C26	C32 C42	C43
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	Panel mounting with heavy duty latching and metal shaft Four screw panel mounting Mounting plate, escutcheon plate and handle of size S0	KN2	•				
	Four screw panel mounting Mounting plate, escutcheon plate and handle of size S1	KN1	•	•	•		

Single Hole Mounting	Terminals rotated 90° clockwise	Code	CA4 CA4-1	CAD.. CA10- CA25
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			mm	mm
 Without escutcheon plate	With locking nut and shaft seal, protection IP 65	●	FS1 FS1-V	16/22 16/22
		●	FT1 FT1-V	22
		●	FT3 FT3-V	22/30 22/30
 With square escutcheon plate		●	FS2 FS2-V	16/22 16/22
		●	FT2 FT2-V	22
		●	FT4 FT4-V	22/30 22/30
 With rectangular escutcheon plate		●	FS4 FS4-V	16/22 16/22
	With size S1 escutcheon plate and heavy duty latching	●	FH3 FH3-V	22 22

Base Mounting	Terminals rotated 90° clockwise	Code	CAD.. CA10- CA25	CA10B- C42	C43- L2000
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Base mounting					
 Base mounting - four hole For four hole panel mounting and with integrated simplified door clutch, protection IP 65	•	VE VE-V	• •	• •	•
	•	VF VF-V	• •		
 For two hole panel mounting For two hole panel mounting and with integrated simplified door clutch, protection IP 65	•	VE22 VE22V	• •		
	•	VF22 VF22V	• •		
 Snap-on base mounting for track EN 50022.		VE1	•	•	

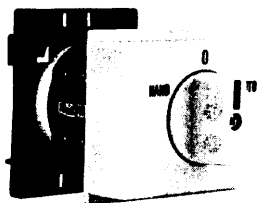
Base Mounting

Code

CA4
CA4-1

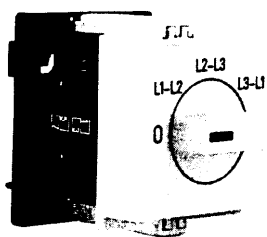
CAD..
CA10-
CA25

Base mounting



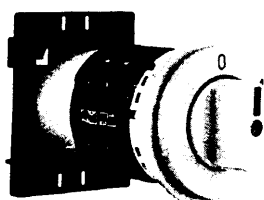
Snap-on base mounting for track EN 50022 with escutcheon plate for 45 mm standard knock-out.

VE2



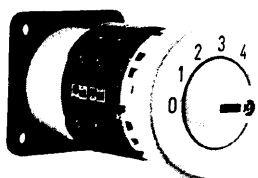
Snap-on base mounting for track EN 50022. Both the escutcheon plate for 45 mm standard knock-out and the handle are adjustable in height.

VE21



Snap-on base mounting for track EN 50022 with circular escutcheon plate for 46 mm knock-out.

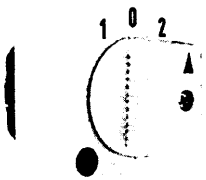
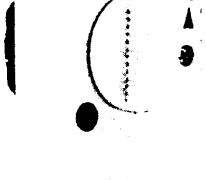
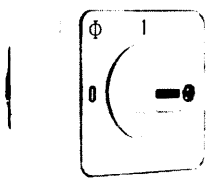
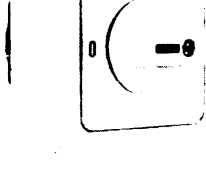
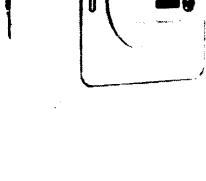
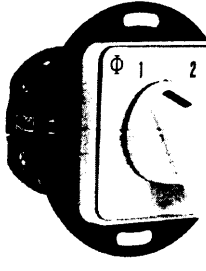
VE3



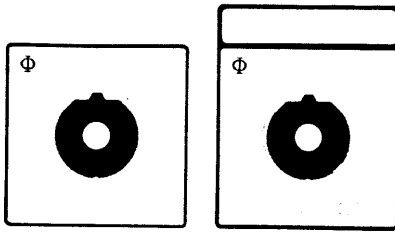
Base mounting - four hole - for circular escutcheon plate with 46 mm knock-out.

VE4

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	●
	For multiple boxes	UE7	●

Escutcheon Plates

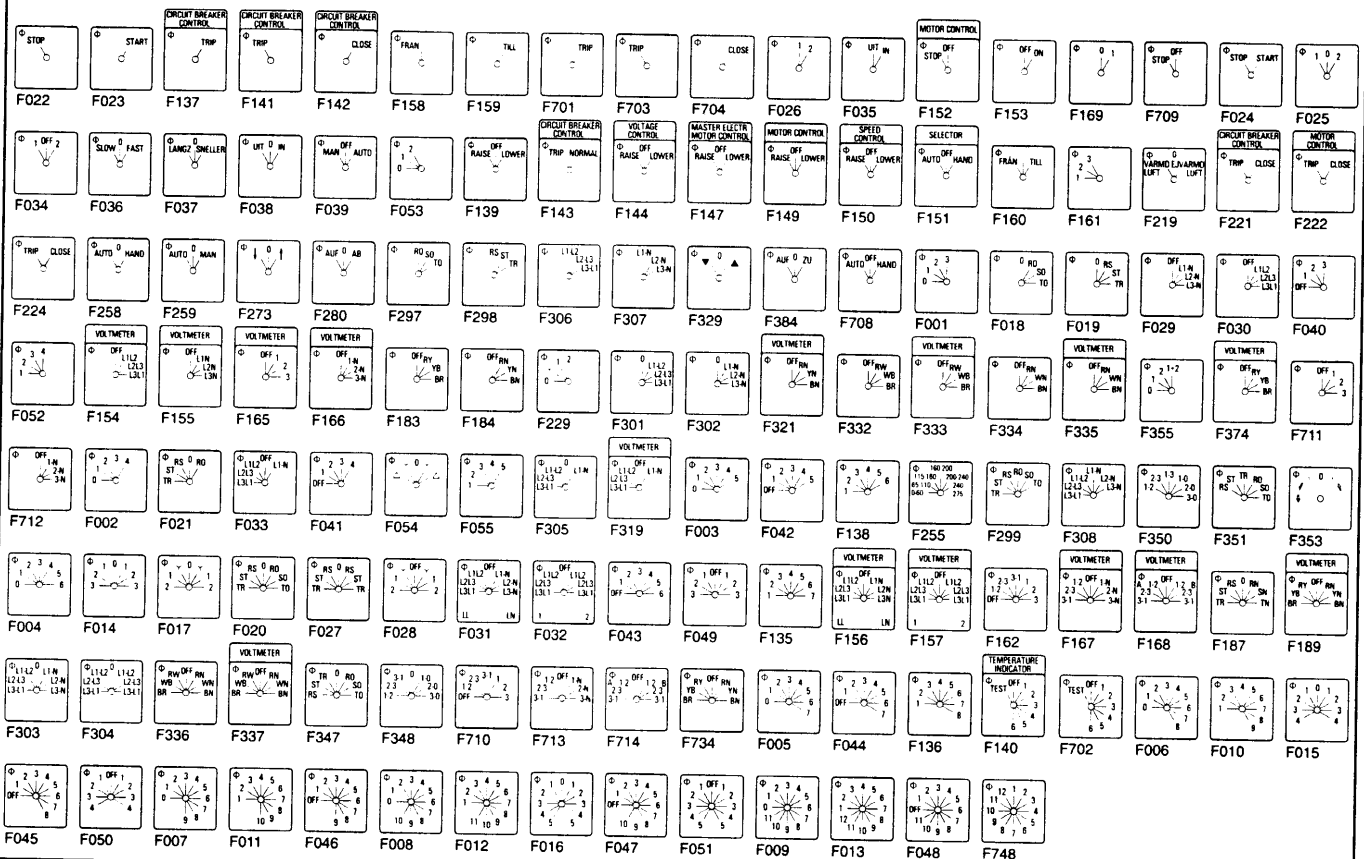


Square and rectangular escutcheon plates are available for each size of switch. The escutcheon plate consists of a frame and a faceplate having the switch positions which is then embossed with hot-foil backing. The escutcheon plate frame is an essential part of the switch and serves as a bearing surface 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.

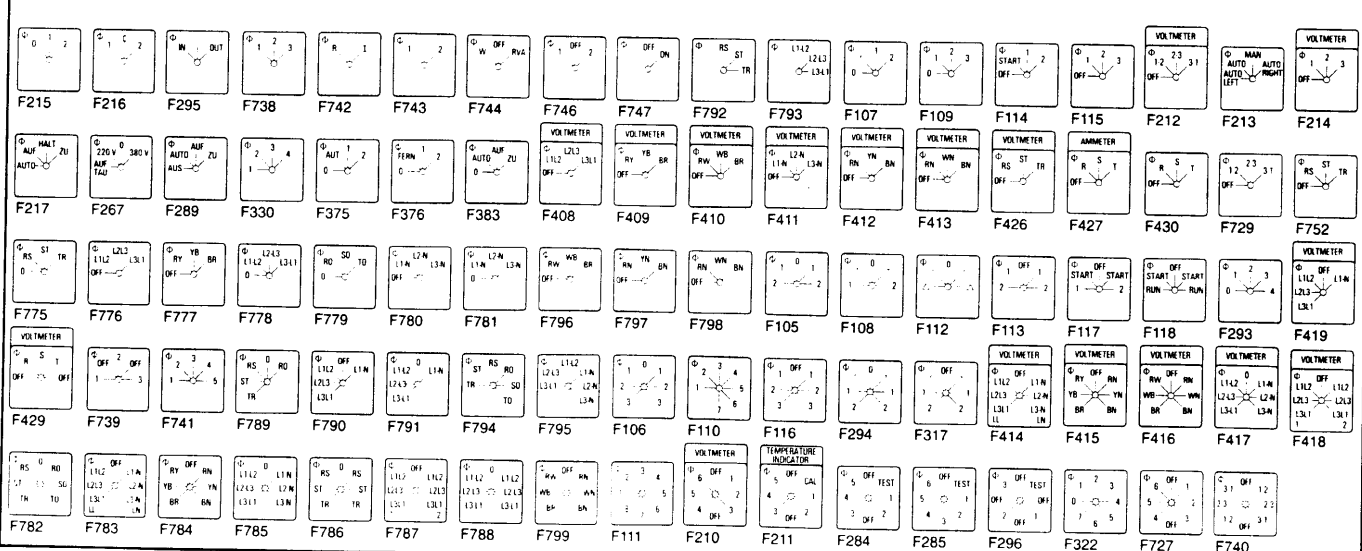
Standard Letterings Available

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

30° switching



45° switching



Escutcheon Plates

60° switching

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

90° switching

F056	F058	F063	F065	F068	F069	F134	F177	F178	F182	F201	F208	F251	F252	F253	F254	F340	F346
F360	F378	F456	F458	F700	F743	F057	F061	F064	F067	F171	F181	F205	F207	F209	F320	F349	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	F437

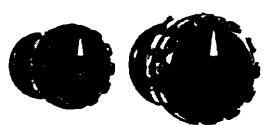
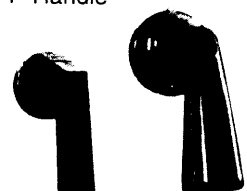
Miscellaneous

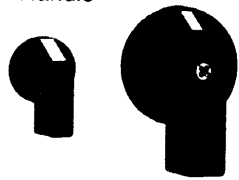
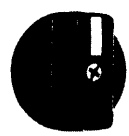
F119	F122	F125	F126	F129	F130	F225	F246	F248	F261	F341	F123	F127	F145	F146	F148	F245	F287
F345	F706	F707	F120	F121	F124	F128	F131	F132	F749								
F801	F802	F803	F804	F805	F806	F807	F808	F809	F810	F811	F812	F813	F814	F815	F816	F817	F818
F819	F820	F821	F822	F823	F824	F825	F826	F827	F828	F829	F830	F831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

Handles

Type	Color	Code	Size S00 S0 S1 S2 S3
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Type	Color	Code	Size S00 S0 S1 S2 S3
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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	— — — — ●
Capstan Handle 	black	G931	— — — — ●

I-Handle  S00 S0-S3	black red white electro-gray	G251 G252 G253 G257	● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●
B-Handle 	black red white electro-gray white (for mounting UE.)	G521 G522 G523 G527 G528	— ● ● — — — ● ● — — — ● ● — — — ● ● — — — — ● — —
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 CA4 CA4-1	CA10 CA11 CA20	CA10B CA11B CA20B	CA25 CA25B	C26 C32 C42	C43 C80 C125	L350/1 L630/1 L1000/1	L1250/1 C315 C316	L400 L600 L800	L1200 L1600 L2000
USA	Underwriters Laboratories	 ¹					●	●	●	●	+	+
		 ⁴	●	●	●	●		●				
Canada	Canadian Standards Association	 ⁵	●	●	●		●	●	●	●	●	●
			●	●	●	●	●	●	●	●	●	●
Switzerland	Schweizerischer Elektrotechnischer Verein		+	+	+	+	+	+	+	+	+	+
Denmark	Danmarks Elektriske Materielkontrol		+	+	+	+	+	+	+	+	+	+
Norway	Norges Elektriske Materielkontrol		+	●	●	+	●	+	+	+	+	+
Sweden	Svenska Elektriska Materielkontrollanstalten		+	+	+	+	+	+	+	+	+	+
Finland	Sähkötar-kastuskeskus		+	+	+	+	+	+	+	+	+	+
Austria	Österreichischer Verband für Elektrotechnik		+	+	+	+	+	+	+	+	+	+
Federal Republic of Germany	Verband Deutscher Elektrotechniker	VDE 0660 ²	+	+	+	+	+	+	+	+	+	+
Great Britain	British Standards Institution	BS EN 60947 ²	+	+	+	+	+	+	+	+	+	+
International Electrical Commission (IEC)	Recommendation	IEC 60947 ³	+	+	+	+	+	+	+	+	+	+
Germanischer Lloyd			+	+	+	+	●	●	+	+	+	+
Lloyds Register of Shipping			+	+	+	+	+	+	+	+	+	+
UdSSR Register of Shipping			+	●	●	+	●	●	+	+	●	●
Bureau Veritas			+	+	+	+	+	+	+	+	+	+

● Switch approved

+ No approval required

+ Switch conforms to requirements

¹Approved under the "Component Program" (UL-Recognized Industrial Component). File No. E35541, Guide No. NLRV2.

²Industrial switchgear is not required to bear a symbol but must conform to requirements. By referring to the specific specification on the product the manufacturer implies that these requirements have been met.

³IEC does not operate an approval scheme.

⁴Approved under the "Listing-Program". File No. E35541, Guide No. NLRV resp. File No. E60262, Guide No. NRNT.

⁵File No. 13002, Class No. 321105 resp. 465204.

Selection Data

CA4 CA10 CA11 CA20 CA25 CA42
CA4-1 CA10B CA11B CA20B CA25B C26 C32 C43 C80 C125 C315/C316

Rated Insulation Voltage U_i		IEC 60947-3, EN 60947-3 ¹ VDE 0660 part 107 ¹ SEV ⁴ UL/Canada CEE/NEMKO	V	440	690	690	690	690	690	690	690	690	690	690	690/1000
			V	380	660	660	660	690	660	660	660	660	660	660	660
			V	300	300	600	600	300	600	600	600	600	600	600	600
			V	400/380	380	400	400	—	400	400	400	400	—	—	—
Rated Impulse Withstand Voltage U_{imp}			kV	4	6	6	6	6	6	6	6	6	6	6	6/8
Rated Thermal Current I_{th}		IEC 60947-3, EN 60947-3 VDE 0660 part 107	A	10	20	20	25	32	32	50	63	115	150	315	315
		SEV ⁴ 380 V	A	10	16	16	25	32	32	40	63	100	160	315	315
		660 V	A	—	12	12	25	32	32	40	63	—	—	315	315
		UL/Canada	A	10	20 ⁵	20 ⁵	30	30	40	50	65	100	150	240	240
Rated Operational Current I_n															
AC-21A	Switching of resistive loads, including moderate overloads	IEC 60947-3, EN 60947-3 VDE 0660 part 107	A	10	20	20	25	32	32	40	63	100	150	315	315
AC-1	Resistive or low inductive loads	SEV ⁴ 380 V	A	10	16	16	25	32	32	40	63	100	160	315	315
		660 V	A	—	12	12	20	32	32	40	63	—	—	315	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	20	20	25	32	32	40	63	100	150	315	315
			A	—	20	20	25	32	32	40	63	100	125	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	5	5	8	12	14	16	—	—	—	—	—
			A	1,5	4	4	5	6	6	7	—	—	—	—	—
Pilot Duty		UL/Canada ⁴ Heavy	VAC	300	300	600	600	300	600	600	600	600	600	—	—
Ampere Rating	Resistive or low inductive loads	UL/Canada ⁴	A	10	20 ⁵	20 ⁵	30	30	35	50	65	100	150	240	240
Resistive load/motor load		CEE NEMKO	A	4/2	10/6	10/6	16/10	—	25/10	32/10	40/10	63/10	—	—	—
			A	6/4 ²	10/6	—	20/10	—	—	—	—	—	—	—	—
Short Circuit Protection															
Max. fuse size (gL-characteristic)			A	10	25	25	35	35	50	63	80	125	200	315	315
Rated short-time withstand current (1s-current)			A	60	140	140	280	480	350	800	1000	1300	2000	4200	4200
DC Switching Capacity															
No. of series contacts	1 2 3 4 5 6 8														
	Voltage V														
Resistive loads	24 48 70 95 120 145 190		A	10	20	20	25	32	—	50	—	115	—	315	315
T ≤ 1 ms	48 95 140 190 240 290 350			6	12	12	20	25	32	40	63	100	150	250	250
	60 120 180 240 300 360 450			2,5	4,5	4,5	7,5	10	23	27	30	—	—	—	—
	110 220 330 440 550 660 —			0,7	1	1	1,5	2	6,5	—	—	—	—	—	—
	220 440 660 — — — —			0,3	0,4	0,4	0,5	0,6	1,2	—	—	—	—	—	—
	440 660 — — — — —			0,2	0,27	0,27	0,3	0,3	0,4	—	—	—	—	—	—
Inductive loads	24 48 70 95 120 145 190		A	6	12	12	20	25	32	40	63	100	150	250	250
T = 50 ms	30 60 90 120 150 180 240			3	5	5	9	12	25	30	55	33	50	70	70
	48 95 140 190 240 290 350			1	2	2	3	3	16	20	—	—	—	—	—
	60 120 180 240 300 360 450			0,7	1	1	1,5	1,5	11	15	—	—	—	—	—
	110 220 330 440 550 660 —			0,3	0,4	0,4	0,5	0,5	3,2	3,5	—	—	—	—	—
Ambient Temperature of Stages				55 °C during 24 hours with peaks up to 60 °C at 100 % load											

Technical Data

C, CA Switches

Selection Data

CA4	CA10	CA11	CA20	CA25				C42				C315
CA4-1	CA10B	CA11B	CA20B	CA25B	C26	C32	C43	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-C32	3 phase	220 V-240 V	kW	2,5	4	4	5,5	7,5	8	10	18,5	30	37	55				
		3 pole	380 V-440 V		4,5	7,5	7,5	11	15	15	18,5	30	45	55	90				
			500 V		—	10	10	15	18,5	18,5	22	40	55	75	110				
			660 V-690 V		—	10	10	13	15	15	22	37	55	55	55				
AC-3	Direct-on-line starting, star-delta starting C42-C315	3 phase	220 V-240 V	kW	1,5	3	3	4	5,5	5,5	7,5	11	15	22	37				
		3 pole	380 V-440 V		2,2	5,5	5,5	7,5	11	11	15	18,5	30	37	55				
			500 V		—	5,5	5,5	7,5	11	11	15	18,5	30	37	55				
			660 V-690 V		—	5,5	5,5	7,5	11	11	15	18,5	30	37	37				
		1 phase	110 V	kW	0,3	0,6	0,6	1,5	2,2	2,2	2,5	3	3,7	5,5	11				
		2 pole	220 V-240 V		0,55	2,2	2,2	3	4	4	5,5	6	7,5	11	22				
			380 V-440 V		0,75	3	3	3,7	5,5	5,5	7,5	11	13	18,5	30				
AC-4	Direct-on-line starting, reversing, plugging and inching	3 phase	220 V-240 V	kW	0,37	0,55	0,55	1,5	2,5	2,7	3,7	5,5	6	10	15				
		3 pole	380 V-440 V		0,55	1,5	1,5	3	5,5	5,5	6	7,5	12	15	25				
			500 V		—	1,5	1,5	3	5,5	5,5	6	7,5	12	15	25				
			660 V-690 V		—	1,5	1,5	3	5,5	5,5	6	7,5	12	15	22				
		1 phase	110 V	kW	0,15	0,3	0,3	0,45	0,75	0,75	1,1	1,2	1,5	2,2	4				
		2 pole	220 V-240 V		0,25	0,75	0,75	1,1	1,5	1,5	2,2	2,4	3	4	7,5				
			380 V-440 V		0,5	1,5	1,5	2,2	3	3	3,7	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	3,7	3,7	5,5	7,5	7,5	11	15	30	37	75				
		3 pole	380 V-440 V		3	7,5	7,5	11	15	15	22	30	45	75	132				
			500 V		—	7,5	7,5	11	15	15	30	45	55	90	132				
			660 V-690 V		—	7,5	7,5	11	15	15	22	55	65	65	37				
		1 phase	110 V	kW	0,37	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	2,5	2,5	3	4	4	5,5	10	15	22	37				
			380 V-440 V		1,1	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)	3 phase 3 pole	120 V	HP	0,75	1,5	1,5	3	5	5	7,5	7,5	10	15	30					
		240 V		1	3	3	7,5	10	10	15	15	20	25	75					
		480 V		—	—	5	10	—	20	25	25	30	40	75					
		600 V		—	—	5	10	—	25	30	30	40	50	60					
		120 V		HP	0,33	0,5	0,5	1,5	2	2	3	3	5	7,5	15				
		240 V			0,75	1	1	3	5	5	7,5	7,5	10	15	40				
	277 V	0,75	2		2	3	5	5	7,5	7,5	10	15	40						
	480 V	—	—		2	5	—	10	15	15	20	25	50						
	600 V	—	—		2	5	—	15	20	20	25	30	50						
	Heavy motor load Reversing-Rating (similar AC-4)	3 phase	120 V	HP	—	0,5	0,5	1	2	2	3	5	7,5	10	15				
		240 V	—		1	1	2	3	3	5	7,5	15	20	30					
3 pole		480 V-600 V	—		—	3	5	—	10	15	20	25	30	40					
120 V		HP	—		0,17	0,17	0,33	1,5	1,5	1,5	2	3	5	7,5					
240 V			—		0,5	0,5	0,75	3	3	3	5	7,5	10	15					
277 V			—		0,6	0,6	1	3	3	3	5	7,5	10	15					
Max. Permissible Wire Gage																			
Single-core or stranded wire			mm ² AWG	2x	2x	2x	2x	2x	2x	2x	2x	2x							
				1,5	2,5	2,5	4	6	6	10	16	35	70	185 ¹					
				14	12	12	10	8	8	8	6	2	2/0	MCM					
															350				
Flexible wire (sleeving in accordance with DIN 46228)			mm ² AWG	2x	2x	2x	2x	2x	2x	2x	2x								
				1,5	2,5	2,5	4	4	6	6	10	25	50	150 ¹					
				(—)	(2,5)	(2,5)	(2,5)	(4)	(4)	(6)	(10)	(25)	(50)						
				16	14	14	12	10	10	8	6	3	1/0						

¹Cable lug must accept M12 screw.

Selection Data

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

Rated Insulation Voltage U_i			IEC 60947-3, EN 60947-3 ¹ VDE 0660 part 107 ¹ UL/Canada ²	V V	690 600	690 600	690 600	690 600	690 600	690 600	690 600	690 600	690 600	690 600	
Rated Impulse Withstand Voltage U_{imp}				kV	6	6	6	6	6	6	6	6	6	6	
Rated Thermal Current 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				A	350	500	800	630	1100	1000	1450	1250	1900	2400	
Ambient temp. +55 °C during 24 hours with peaks up to +60 °C				A	350	500	750	600	950	920	1300	1100	1700	2000	
UL/Canada ²				A	350	400	600	630	800	1000	1200	1250	1600	2000	
Rated Operational Current I_o															
AC-20A No-load operation		IEC 60947-3, EN 60947-3 VDE 0660 part 107		690 V	A	350	500	800	630	1100	1000	1450	1250	1900	2400
Occasional switching under load cos φ 0,8 (AC-20B)		3 phase, 3 pole	220 V-440 V	A	350	500	800	500	1000	630	1200	630	1200	1200	
		and	500 V	A	350	450	500	450	630	500	800	500	800	800	
		1 phase, 2 pole	660 V-690 V	A	315	350	400	360	400	400	400	400	400	400	
AC-21B Switching of resistive loads, including mo- derate overloads		3 phase, 3 pole	220 V-440 V	A	250	450	500	350	630	400	800	400	800	800	
		and	500 V	A	250	400	450	315	500	350	630	350	630	630	
		1 phase, 2 pole	660 V-690 V	A	200	300	350	250	350	300	350	300	350	350	
Interrupting Rating		UL/Canada ²		600 V	A	200	200	200	200	200	200	200	200	200	
Rated Utilization Category				IEC 60947-3, EN 60947-3 VDE 0660 part 107											
AC-23B Occasional switching of motors or other high inductive loads		3 phase	220 V-240 V	kW	45	75	75	45	75	45	75	45	75	75	
		3 pole	380 V-440 V	kW	90	132	132	90	132	90	132	90	132	132	
			500 V	kW	110	132	132	110	132	110	132	110	132	132	
			660 V-690 V	kW	65	65	65	65	65	65	65	65	65	65	
Short Circuit Protection															
Max. fuse size		(gL-characteristic)		A	400	500	800	630	1250	1000	2x800	1250	2x1000	2x1250	
Rated short-time withstand current		(1s-current)		A	on request										
Terminals															
		for connection screw			M12	M12	M16	M16	M16	M16	M16	M16	2xM16	4xM16	
		length		mm	20	30	40	30	40	40	40	50	50	50	
Ambient Temperature of Stages				55 °C during 24 hours with peaks up to 60 °C, permissible load see Rated Thermal Current.											

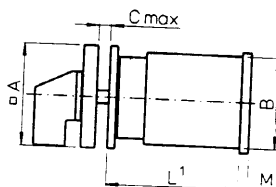
¹Valid for lines with grounded common neutral termination, overvoltage category III, pollution degree 3. Values for other supply systems on request.
²International Standards and Approvals, refer to page 39.

Selection Data	CAD11	CAD12
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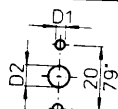
Rated Insulation Voltage U_i IEC 60947-3, EN 60947-3 ¹ VDE 0660 part 107 SEV ² UL/Canada min. voltage	V V V V	 600 600 300 0,03	 600 600 300 6
Rated Impulse Withstand Voltage U_{imp}		on request	
Rated Thermal Current I_{θ}/I_{th} IEC 60947-3, EN 60947-3 VDE 0660 part 107 SEV ² UL/Canada	A A A	6 5 6	6 5 6
Rated Operational Current I_n 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 12 V/24 V 48 V/110 V 220 V/400 V 440 V/500 V 600 V AC-1 Resistive or low inductive loads SEV ² 1 V/6 V 12 V/24 V 48 V/110 V 220 V/380 V 440 V/500 V 600 V	A A A A A A A A A A A A	6/3 2/1 0,8/0,4 0,2/0,13 0,1/0,08 0,05 5/3 2/1 0,8/0,4 0,2/0,13 0,1/0,08 0,05	-/-6 5/5 4/3 2/1,3 1/0,8 0,5 -/-5 5/5 4/3 2/1,3 1/0,8 0,5
Short Circuit Protection Max. fuse size Rated short-time withstand current (gL-characteristic) (1s-current)	A A	6 35	6 50
DC Switching Capacity 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 12 V/24 V 48 V/60 V 110 V/220 V 240 V/500 V 600 V	A A A A A A	4/2,5 1,5/0,8 0,3/0,27 0,2/0,1 0,08/0,03 0,02	-/-4 3/2,2 1,2/1 0,6/0,3 0,25/0,1 0,1
Max. Permissible Wire Gage Single-core or stranded wire Flexible wire (sleeving in accordance with DIN 46228)	mm ² AWG mm ² AWG	2x 2,5 12 2x 2,5 (2,5) 14	2x 2,5 12 2x 2,5 (2,5) 14
Ambient Temperature of Stages		55 °C during 24 hours with peaks up to 60 °C at 100 % load	

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.

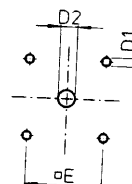
Two or Four Hole Panel Mounting



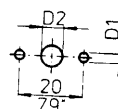
E



E
E-V
ER



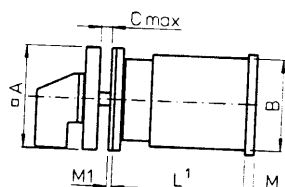
E-V



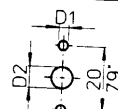
	CA4 CA4-1	CA10 CA11 CAD11 CAD12	CA20	CA25 ³	CA10B CA11B CA20B	CA25B	C26	C32	C42 ³	C43	C80	C125	L switches Size S2	L switches Size S3
A	30 1.18	48 1.89	48 1.89	48 (64) 1.89 (2.52)	64 2.52	64 2.52	64 2.52	64 2.52	64 (88) 2.52 (3.46)	88 3.46	88 3.46	88 3.46	88 3.46	130 5.12
B	28 1.10	45 1.77	43 1.69	46 1.81	56 2.20	56 2.20	58 2.28	60 2.36	66 2.60	84 3.30	84 3.30	88 3.46	88 3.46	126 4.96
C	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	5.5 .22	5.5 .22	5.5 .22	5.5 .22	7 .28
D1	3.2 .13	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 (6) .20 (.24)	6 .24	6 .24	6 .24	6 .24	7 .28
D2	8-11 .31-.43	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	13-17 .51-.67	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 1.89	48 1.89	48 (68) 1.89 (2.68)	68 2.68	68 2.68	68 2.68	68 2.68	104 4.09
M ²	-	4.5 .18	4.5 .18	5.5 .22	5 .20	5.5 .22	7.5 .30	7.5 .30	7.5 .30	7.5 .30	9.4 .37	9.4 .37	27.5 1.08	11.9 .47

²M, additional length for mounting ER only

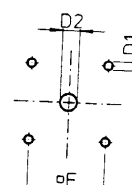
³Dimensions in () for ER mounting plate only



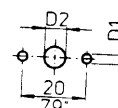
EF



EF
EF-V
ERF



EF-V

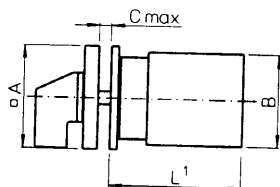


	CA4 CA4-1	CA10 CA11 CAD11 CAD12	CA20	CA25 ³	CA10B CA11B CA20B	CA25B	C26	C32	C42 ³	C43	C80	C125	L-switches Size S2	L-switches Size S3
A	30 1.18	48 1.89	48 1.89	48 (64) 1.89 (2.52)	64 2.52	64 2.52	64 2.52	64 2.52	64 (88) 2.52 (3.46)	88 3.46	88 3.46	88 3.46	88 3.46	130 5.12
B	28 1.10	43 1.69	48 1.89	46 1.81	56 2.20	48 1.89	58 2.28	60 2.36	66 2.60	84 3.30	84 3.30	88 3.46	88 3.46	126 4.96
C	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	5.5 .22	5.5 .22	5.5 .22	5.5 .22	7 .28
D1	3.2 .13	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	5 (6) .20 (.24)	6 .24	6 .24	6 .24	6 .24	7 .28
D2	8-11 .31-.43	15-19 .59-.75	15-19 .59-.75	15-19 .59-.75	19-22 .75-.87	19-22 .75-.87	19-22 .75-.87	19-22 .75-.87	19-22 .75-.87	26-30 1.02-1.18	26-30 1.02-1.18	26-30 1.02-1.18	26-30 1.02-1.18	22-25 .87-.98
E	-	36 1.42	36 1.42	36 (48) 1.42 (1.89)	48 1.89	48 1.89	48 1.89	48 1.89	48 (68) 1.89 (2.68)	68 2.68	68 2.68	68 2.68	68 2.68	104 4.09
M ²	-	4.5 .18	5.5 .22	5 .20	5.5 .22	7.5 .30	7.5 .30	7.5 .30	7.5 .30	7.5 .30	9.4 .37	9.4 .37	27.5 1.08	11.9 .47
M1	1 .04	-	-	-	-	-	-	-	-	-	-	-	-	-

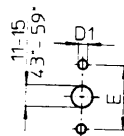
²M, additional length for mounting ERF only

³Dimensions in () for ERF mounting plate only

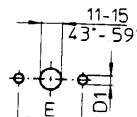
Two or Four Hole Panel Mounting



E22

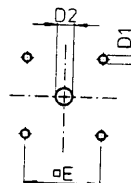
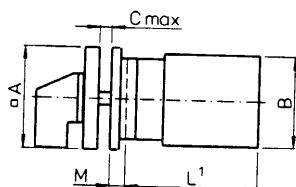


E22-V



	CA10	CA11	CAD11	CA12	CA20	CA25
A	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89
B	43 1.69	45 1.77	46 1.81	43 1.69	45 1.77	46 1.81
C	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
D2	11-15 .43-.59	11-15 .43-.59	11-15 .43-.59	11-15 .43-.59	11-15 .43-.59	11-15 .43-.59
E	30 1.17	30 1.17	30 1.17	30 1.17	30 1.17	30 1.17
F	36 1.42	36 1.42	36 1.42	36 1.42	36 1.42	36 1.42

EG
EGF

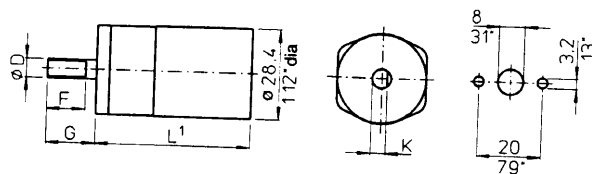


	CA10	CA11	CAD11	CA12	CA20	CA25	C26	C32	C42	C80	C125
											L switches Size S2
A	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	88 3.46	88 3.46	88 3.46	130 5.12	130 5.12
B	43 1.69	45 1.77	46 1.81	43 1.69	45 1.77	46 1.81	58 2.28	60 2.36	66 2.60	84 3.30	88 3.46
C	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	5.5 .22	5.5 .22	5.5 .22	7 .28	7 .28
D1	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20	6 .24	6 .24	6 .24	7 .28	7 .28
EG 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	13-17 .51-.67	13-17 .51-.67	13-17 .51-.67	15.5-20 .61-.79	15.5-20 .61-.79
EGF D2	19-22 .75-.87	19-22 .75-.87	19-22 .75-.87	19-22 .75-.87	19-22 .75-.87	19-22 .75-.87	26-30 1.02-1.18	26-30 1.02-1.18	26-30 1.02-1.18	22-25 .87-.98	22-25 .87-.98
E	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89	68 2.68	68 2.68	68 2.68	104 4.09	104 4.09
EG M	6.7 .26	6.7 .26	6.7 .26	6.7 .26	6.7 .26	6.7 .26	0.5 .02	0.5 .02	0.5 .02	2 .08	2 .08
EGF M	6.7 .26	6.7 .26	6.7 .26	6.7 .26	6.7 .26	6.7 .26	0.5 .02	0.5 .02	0.5 .02	2 .08	2 .08

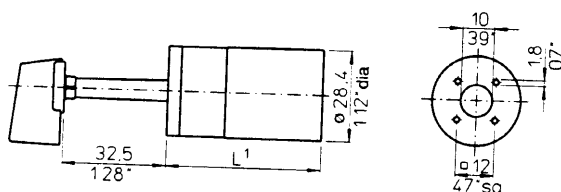
¹see page 51

Four Hole Panel Mounting or Mosaic Mounting

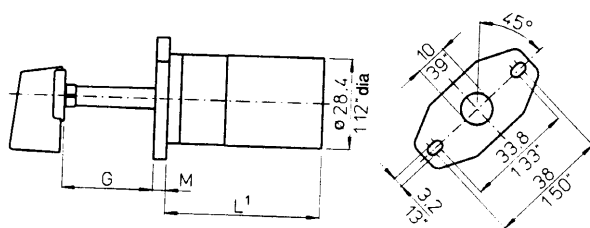
E9
E91



E92



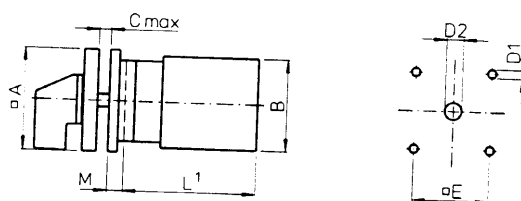
E93
E94



CA4
CA4-1

	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	32.5 1.28
K	4.7 .19	5.5 .22	-	-	-
M	-	-	-	4 .16	-

KN1
KD1
KN2

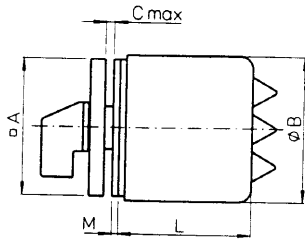


KN2	CA10	CA11	CAD11	CAD12	CA20	CA25
A	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89	48 1.89
B	43 1.69	45 1.77	46 1.81	43 1.69	45 1.77	46 1.81
C	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16
D1	5 .20	5 .20	5 .20	5 .20	5 .20	5 .20
D2	8-15 .31-.59	8-15 .31-.59	8-15 .31-.59	8-15 .31-.59	8-15 .31-.59	8-15 .31-.59
E	36 1.42	36 1.42	36 1.42	36 1.42	36 1.42	36 1.42
M	5.2 .20	5.2 .20	5.2 .20	5.2 .20	5.2 .20	5.2 .20

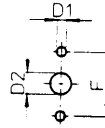
KN1	CA10	CA11	CAD11	CAD12	CA20	CA25	CA10B	CA11B	CA20B	CA25B	C26	C32	C42
A	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52	64 2.52
B	43 1.69	45 1.77	46 1.81	43 1.69	45 1.77	46 1.81	56 2.20	56 2.20	58 2.28	60 2.36	66 2.60	66 2.60	66 2.60
C	4 .16	4 .16	4 .16	4 .16	4 .16	4 .16	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	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	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	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	4.7 .19	4.7 .19	7 .28	7 .28	7 .28	7 .28	7 .28	7 .28	7 .28

Dimensions mm
inch

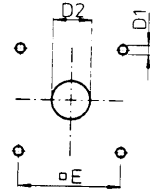
Two or Four Hole Panel Mounting



ED22



EC
ED
EC1
ED1



CA10
CAD11

CAD12

CA11

CA20

CA25

CA10B

CA11B

CA20B
CA25B

C26

C32

C42

C43

EC

EC

EC

EC

EC

EC

EC

EC

EC

EC

EC

ED

ED

ED

ED

ED

ED

ED

ED

ED

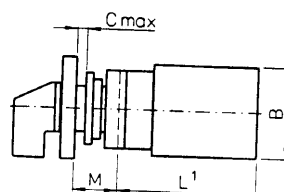
ED

ED

mm
inch

Single Hole Mounting or Base Mounting

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

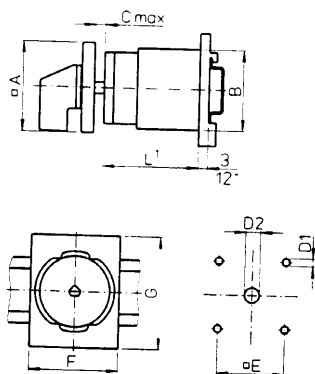


	CA4	CA10	CA11	CA11	CA20	CA25
CA4-1	CA12					
30	48	48	48			
1.18	1.89	1.89	1.89			
-	64	64	64			
-	2.52	2.52	2.52			
28	43	45	46			
1.10	1.69	1.77	1.81			
5	6	6	6			
.20	.24	.24	.24			
29.5	39	39	39			
1.16	1.54	1.54	1.54			
39	-	-	-			
1.54	-	-	-			
12.5	20	20	20			
.49	.79	.79	.79			
-	27	27	27			
-	1.07	1.07	1.07			

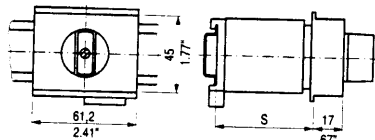
	CA10	CA11	CA10B	CA11B	CA25B	C26	C32	C42 ²	C43	C80	C125	L switches	L switches
	CA12	CA20	CA25 ²	CA20B								Size S2	Size S3
A	48	48	48 (64)	64	64	64	64	64 (88)	88	88	88	88	128
	1.89	1.89	1.89 (2.52)	2.52	2.52	2.52	2.52	2.52 (3.46)	3.46	3.46	3.46	3.46	5.04
B	43	45	46	56	56	58	60	66	84	84	88	88	126
	1.69	1.77	1.81	2.20	2.20	2.28	2.36	2.60	3.30	3.30	3.46	3.46	4.96
C	10.5	10.5	10.5	13.5	13.5	13.5	13.5	16.5	3.30	3.30	3.46	3.46	4.96

Base Mounting

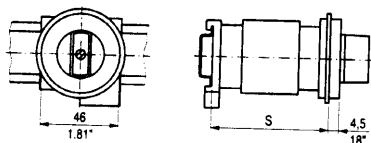
VE1



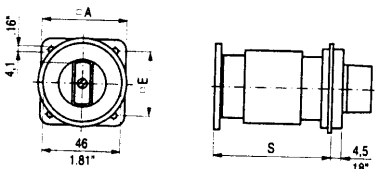
VE2



VE3



VE4



CA10

CA11

CAD11

CAD12

CA20

CA25

CA10B

CA11B

CA20B

CA25B

C26

C32

C42

A

B

C

D1

D2

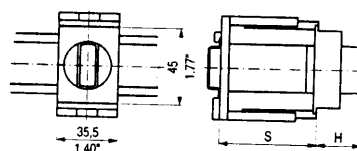
E

F

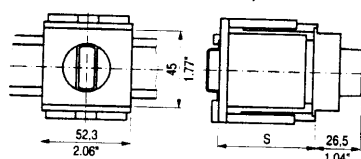
G

48	48	48	64	64	64	64	64
1.89	1.89	1.89	2.52	2.52	2.52	2.52	2.52
43	45	46	56	56	58	60	66
1.69	1.77	1.81	2.20	2.20	2.28	2.36	2.60
10.5	10.5	10.5	13.5	13.5	13.5	13.5	13.5
.41	.41	.41	.53	.53	.53	.53	.53
5	5	5	5	5	5	5	5
.20	.20	.20	.20	.20	.20	.20	.20
8-15	8-15	8-15	10-15	10-15	10-15	10-15	10-15
.31-.59	.31-.59	.31-.59	.39-.59	.39-.59	.39-.59	.39-.59	.39-.59
36	36	36	48	48	48	48	48
1.42	1.42	1.42	1.89	1.89	1.89	1.89	1.89
48	48	48	70	70	70	70	70
1.89	1.89	1.89	2.76	2.76	2.76	2.76	2.76
60	60	60	60	60	60	60	60
2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36

VE21 (for CA4 and CA4-1)



VE21 (for CA10-CA25)



VE2

CA10

CAD11

CA11

CAD12

CA20

CA25

Max. no. of stages

VE3

CA10

CAD11

CA11

CAD12

CA20

CA25

Max. no. of stages

VE4

CA10

CAD11

CA11

CAD12

CA20

CA25

Max. no. of stages

VE21

CA10

CAD11

CA4-1

CA11

CA20

CA25

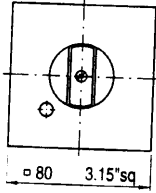
Max. no. of stages

S	3	1	-	1	1	1	2	-	S	44 1.73	H 21 .83	1/2	2	2	2	1
S = 46 1.81	3	1	-	1	1	1	2	-	S = 46 1.81	26.5 1.04	1.04	3	3	-	-	2
S = 50 1.97	3	1	1	2	1	2	2	1	S = 54 2.13	26.5 1.04	1.04	4	-	-	-	-
S = 61 2.40	4	2	2	3	2	3	3	2	S = 56 2.20	-	-	-	-	3	3	-
S = 67 2.64	5	2	2	3	2	3	3	2	S = 60 2.36	-	-	-	-	-	-	3
S = 69 2.70	5	3	3	4	3	4	4	3	S = 62 2.44	26.5 1.04	1.04	5	-	-	-	-
									S = 66 2.60	-	-	-	5	-	-	-
									S = 68 2.68	-	-	-	-	4	-	-
									S = 70 2.76	26.5 1.04	1.04	6	-	-	4	-
									S = 74 2.91	-	-	-	6	-	-	4

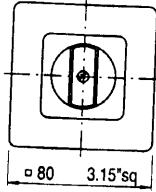
¹see page 51

Wall Mounting, Escutcheon Plates and Additional Length

UE1
UE2
UE3



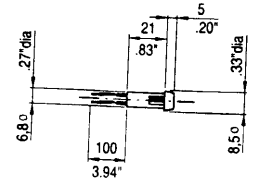
UE4
UE5
UE6



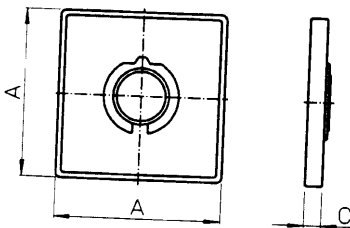
UE7



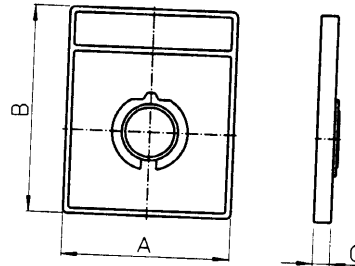
Lamp



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

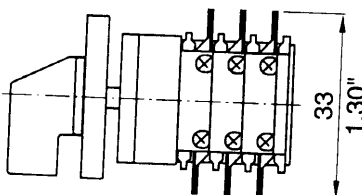


Size	A	B	C
S00	30 1.18	39 1.54	5.5 .22
S0	48 1.89	60 2.36	6.3 .25
S1	64 2.52	78.8 3.10	7.4 .29

Additional length for amendment (page 4)

	CA10	CA11	CAD11	CA20	CAD12	CA25	C26	C32	C42
Latching mechanism size S1	6.2 .24	6.2 .24	-	-	-	-	-	-	-
Latching mechanism size S2	-	-	-	-	9.2 .36	9.2 .36	-	-	-
Snap action	14.3 .56	14.3 .56	12.2 .48	12.2 .48	12.2 .48	12.2 .48	-	-	-

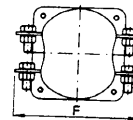
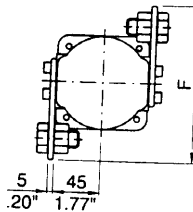
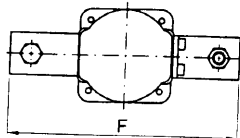
Quick connects for switches CA4, CA4-1



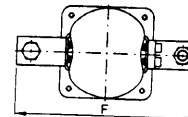
Dimensions mm
inch

Additional Length

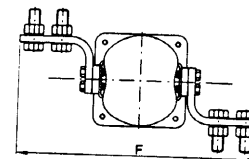
Terminal lugs for switches C315, C316 and L switches



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

CA10
Stages CA4 CAD11

CA4-1 CAD12 CA11 CA20 CA25 CA10B CA11B CA20B CA25B C315 C316

C125 C315
L switches L switches

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 20 A-1250 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
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. CG switch terminals are "finger-proof", according to VDE 0106. Terminals are 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 30 mV. 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 80 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 32 A-40 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
P-Series, Push Buttons and Pilot Lights 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. Contact blocks and pilot light assemblies snap on to the coupling plate. N/O and N/C contacts are also suitable for electronic applications.	301