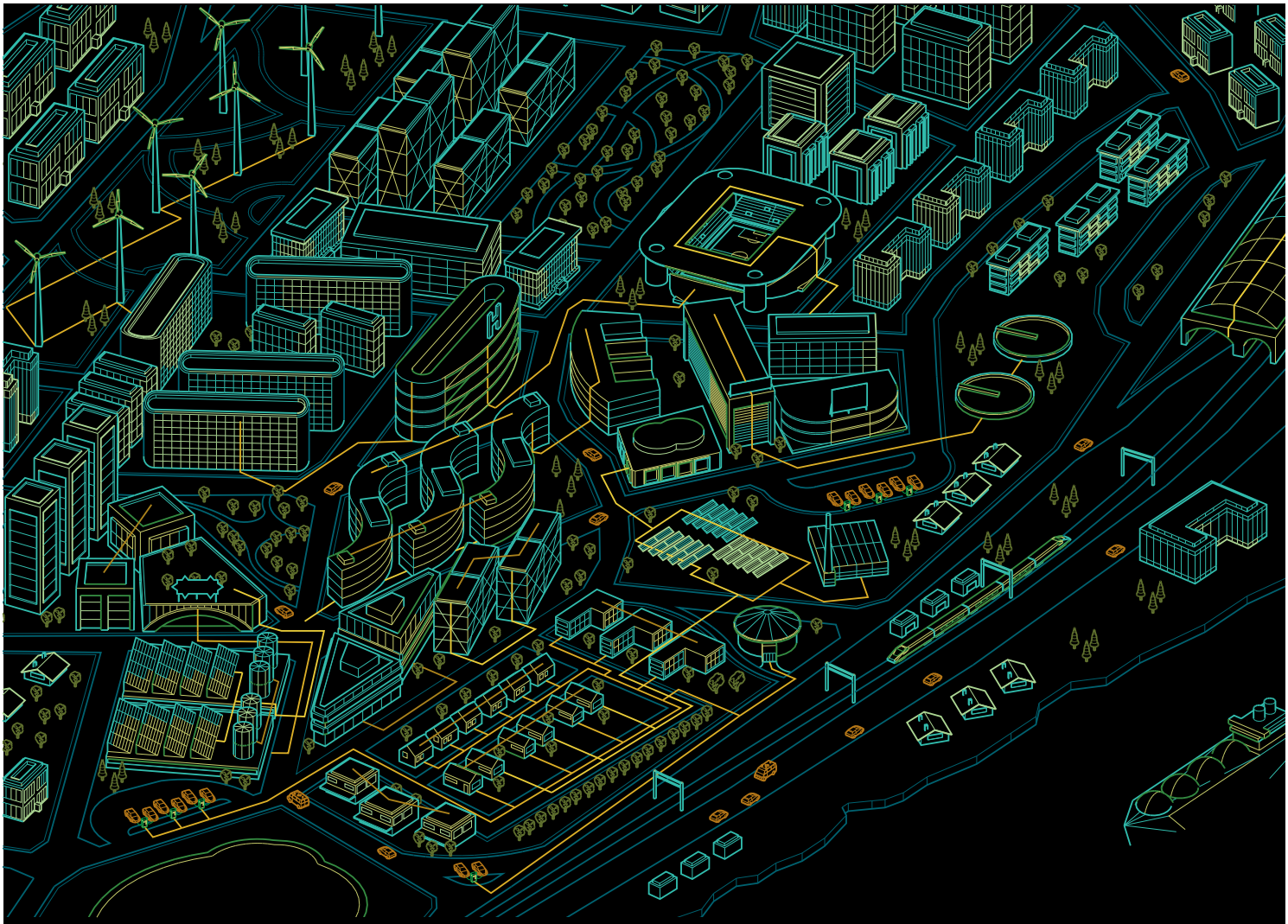


Catalogue - 2014

System pro *M* compact®
DIN Rail components for low voltage installation

Power and productivity
for a better world™

ABB

System pro *M* compact®
DIN rail components for low voltage installation

System pro *M* compact®
Introduction

Index

ABB Circuit Breakers
More than 90 years of innovation

1

1922 Invention and development of the first circuit breaker, manufactured in Mannheim, Germany, by Hugo Stotz

1943 Start of production at Heidelberg, Germany

1999 Launch of the System pro *M* compact® range

2010 The improved generation of System pro *M* compact®

2012 Next generation S 200 / S 200 M, S 200 M UC and S 200 PR as well as SU 200 PR of System pro *M* compact®

The first “Stotz” circuit breaker

The Stotz Kontakt factory (Heidelberg, Germany)

Why ABB?

Because we have the most comprehensive and flexible range currently on the market, with presence in all the segments.
Because we have more than 90 years experience of innovation in the electrical sector always offering the maximum quality for our customers.
Because our products come with all the relevant certificates and approvals which allow their installation anywhere in the world.

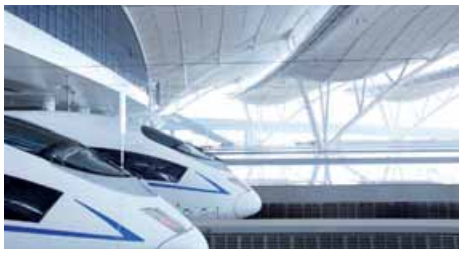
The best solution for every application
A world of advantages

Residential, tertiary and industrial sector

Our extensive range of modular DIN Rail components, with protection, command, control and measurement functions, is perfect for meeting all the current requirements of electrical installations, in residential, tertiary and industrial sector.

Railways

The breadth of our product portfolio has allowed us to become leader in the railway sector. This is thanks to the high-performance S200M-UC AC and DC circuit breaker, as well as the S200MT series, particularly suitable for conditions of fire and smoke, in compliance with the French NF F 16-101/102 standard.



Solutions for solar energy

At ABB we provide products specifically designed for protection and operation of AC and DC circuits in solar power plants. These include circuit breakers and switch disconnectors such as S800PV up to 1,200 V DC, E90PV fuseholders, E9F PV fuses, OVR-PV surge protective devices, etc.

Wind power

The outstanding performance of our high voltages devices and our constant innovation have allowed us to become world leader in electrical switchgear for wind-energy sector. The high performance of our S800 circuit breaker series, characterized by the high breaking capacity of 690 V AC, and their combination with the new S800-SCL-SR self-resetting short-circuit current limiter make our range of modular DIN Rail components perfect for the needs of the sector.

Critical Power/Data Centres

In electrical installations such as data centres, banks, hospitals and airports where service continuity is critical, a system that allows the switchgear to connect and disconnect voltages in a totally safe manner is required. The SMISSLINE Touch Proof pluggable socket system ensures an installation safe, flexible and without interruptions.

UL/CSA standards for US and Canada

In order to meet international certification requirements, our modular DIN Rail product portfolio is compliant with a large number of standards from all over the world, with the highly sought-after UL certification met by the S200U, S200UP and S800U circuit breakers and the F200 residual current devices.

The best solution for every application
A world of advantages

1

Command and control

10 Contactors, latching relays and installation relays

ESB and EN series contactors.
E259 series installation relays.
E250 and E260 series latching relays.

11 E200 series switch disconnectors

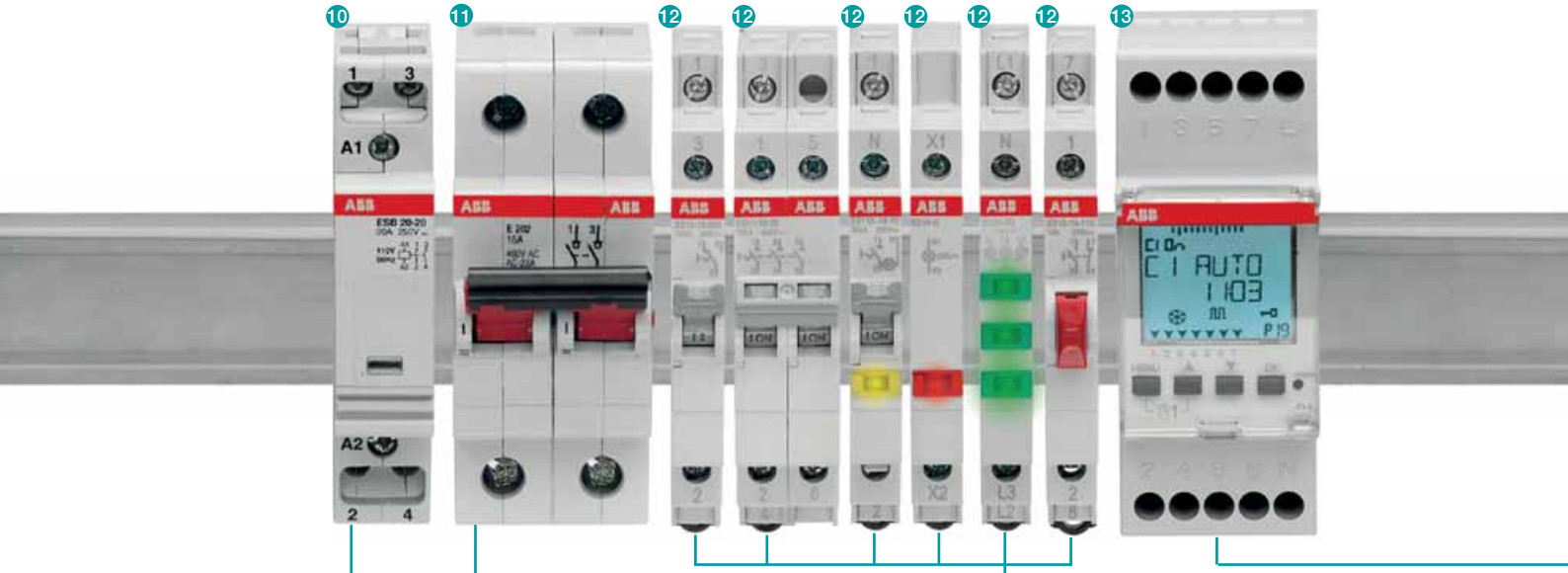
From 1 to 4 poles.
Up to 125 A.

12 E210 series on-off switches, push buttons and indicator lamps

E211 and E218 series on-off switches.
E213 series change over switches.
E214 series group switches.
E215 and E217 series push buttons.
E219 series single, double and triple indicator lights.

13 D-Line digital and AT analogue time switches

D1 and D2 weekly digital time switches.
D365 yearly digital time switches.
AT analogue time switches.



Currents up to 125A.
From 1 to 4 poles.
Option to include an add-on of up to 3 auxiliary contacts.

Multiple command and control functions in the ultra-compact design (9mm width) of the E210 series.

Extremely quiet.
Variety of control voltages.
Multiple combinations of NO and NC contacts.
Function modes selector: Automatic/Manual/Disconnected (EN series).

Up to 3 E219 LED indicator lights in a width of just 9 mm. LED indicators guarantee an optimal illumination with very low consumption.

System pro *M* compact®
Command and signalling

Index

Command and signalling
ESB installation contactors

ESB

Main Pole - Utilization Characteristics according to IEC						
Contactor types:	AC operated		ESB20/ EN20			
	AC/DC operated			ESB24/ EN24	ESB40/ EN40	ESB63
Rated operational voltage Ue max.		V	250	400		
Rated frequency limits		Hz	50/60	DC or 50/60 Hz		
Utilization category AC-1 / AC-7a						
for air temperature close to contactor < 55 °C Max. rated operational current Ie AC-1 / AC-7a		(NO) A	20	24	40	63
		(NC) A	20	24	30	30
Rated operational power AC-1/ AC-7a	230 V - 1 phase	(NO) kW	4	5.5	9.2	14.5
	400 V - 3 phases	(NO) kW	-	16	26	41
	230 V - 1 phase	(NC) kW	4	5.3	8.8	6.9
	400 V - 3 phases	(NC) kW	-	16	26	26
Utilization category AC-3 / AC-7b						
for air temperature close to contactor < 55 °C Max. rated operational current Ie AC-3/AC-7b	230 V - 1 phase	A	9	9	22	30
	400 V - 3 phases	A	-	9	22	30
Rated operational power AC-3/ AC-7b	230 V - 1 phase	kW	1.3	1.3	3.7	5
	400 V - 3 phases	kW	-	4	11	15
Rated making capacity AC-3/AC-7b			10 x Ie / AC-3			
Rated breaking capacity AC-3/AC-7b			8 x Ie / AC-3			
Short-circuit protection for contactors gG type fuse		A	20	35	63	80
Rated short-time withstand current Icw at 40 °C ambient temp., in free air, from a cold state	10 s	A	72		176	240
Heat dissipation per pole	Ie / AC-1/AC-7a	W	1	3	4	6
Max. electrical switching frequency	– for AC-1 / AC-7a	cycles/h	300			
	– for AC-3 / AC-7b	cycles/h	600			
Electrical durability	– for AC-1 / AC-7a	cycles	150000	150000	150000	150000
	– for AC-3 / AC-7b	cycles	150000	500000	170000	240000
Mechanical durability	– millions of operating cycles		1.000.000			

Where to find more:
Technical Details for ESB p.10/212

Maybe you are also interested in:
Accessories for Contactors (p.6/35)

Magnet System Characteristics						
Contactor types:	AC operated		ESB20			
	AC/DC operated			ESB24	ESB40	ESB63
Coil operating limits acc. to IEC 60947-4-1			0.85 ... 1.1 x Uc (at ϑ m 55 °C)			
Drop-out voltage in % of Uc			approx. 20 ... 75 %	approx. 20 ... 70 %		
Frequency range		Hz	50/60	40 ... 450		
Coil consumption	Average pull-in value	VA/W	8 / 5	4 / 4	5 / 5	65 / 65
	Average holding value	VA/W	3.2 / 1.2	4 / 4	5 / 5	4.2 / 4.2

Connecting Characteristics				
Contactor types:	AC operated	ESB20		
	AC/DC operated		ESB40	
Connecting capacity (min. ... max.)				
Main pole terminals				
Rigid	1 x mm²	1.5 ... 10	1.5 ... 25	
	2 x mm²	1.5 ... 4	1.5 ... 10	
Degree of protection				
acc. to IEC 60947-1 / EN 60947-1 and IEC 60529 / EN 60529				
Protection against direct contact in acc. with EN 50274				
All terminals		IP20		

EH04... Auxiliary Contact Block - Utilization Characteristics according to IEC							
Contactor types:	AC operated			ESB20			
	AC/DC operated				ESB24	ESB40	ESB63
Rated operational voltage Ue max.			V	-	500		
Conventional free air thermal current Ith							
θ < 40 °C			A	-	6		
Rated frequency limits			Hz	-	50/60		
Rated operational current Ie / AC-15 acc. to IEC 60947-5-1	240 V	50/60 Hz	A	-	4		
	415 V	50/60 Hz	A	-	3		
	500 V	50/60 Hz	A	-	2		
Making capacity	acc. to IEC 60947-5-1			-	11 x Ie AC-15		
Breaking capacity	acc. to IEC 60947-5-1			-	11 x Ie AC-15		
Short-circuit protection gI type fuse			A	-	10		
Minimum switching capacity with failure rate acc. to IEC 60947-5-4			V/mA	-	17 / 5		
Heat dissipation per pole at 6 A			W	-	0.1		

Where to find more:
Technical Details for ESB p.10/212

Maybe you are also interested in:
Accessories for Contactors p.6/35

ESB 20

Application

The ESB contactors are used mainly in buildings for switching and controlling lighting, heating, ventilation and pumps. They are part of the complete range of Din rail products and can be integrated easily in dedicated panels.
ESB20 are AC coil operated.
The ESB 24, 40, 63 contactors are used for the control of loads up to 24, 40, 63 A.
Due to their DC solenoid actuator, the ESB 24 can be connected to AC or DC voltages.
This provides the following benefits:
Hum-free operating system, no vibration, silent in operation, low power consumption, integrated high overvoltage protection 5 kV. You can choose between a various N.O. and N.C. contacts combination.

Main accessories für ESB 24, 40, 63

Auxiliary contact blocks EH04.

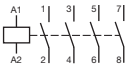
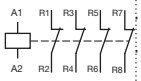
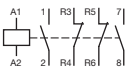
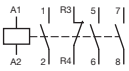
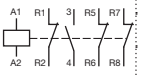
ESB 20

Main poles	Nb of modules	Control coil voltage 50 Hz	Control coil voltage 60 Hz	Bbn 3471521 EAN	Order details Type code	Order details Order code	Price 1 piece	Weight 1 piece kg	Pack unit pc.
2 N.O. 	1	12 V	14 V	1230141	ESB 20-20	GHE 321 1102 R1004		0.14	10
		24 V	28 V	0263218	ESB 20-20	GHE 321 1102 R0001		0.14	10
		110 V	125...127 V	1230042	ESB 20-20	GHE 321 1102 R0004		0.14	10
		230 V	264 V	0263263	ESB 20-20	GHE 321 1102 R0006		0.14	10
2 N.C. 	1	12 V	14 V	1232145	ESB 20-02	GHE 321 1202 R1004		0.14	10
		24 V	28 V	0263812	ESB 20-02	GHE 321 1202 R0001		0.14	10
		110 V	125...127 V	1232046	ESB 20-02	GHE 321 1202 R0004		0.14	10
		230 V	264 V	0263867	ESB 20-02	GHE 321 1202 R0006		0.14	10
1 N.O. 1 N.C. 	1	12 V	14 V	1231148	ESB 20-11	GHE 321 1302 R1004		0.14	10
		24 V	28 V	0263515	ESB 20-11	GHE 321 1302 R0001		0.14	10
		110 V	125...127 V	1231049	ESB 20-11	GHE 321 1302 R0004		0.14	10
		230 V	264 V	0263560	ESB 20-11	GHE 321 1302 R0006		0.14	10

Command and signalling
ESB installation contactors

ESB 24

ESB 24

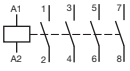
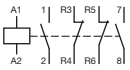
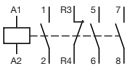
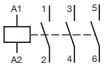
Main poles	Nb of modules	Control coil voltage 40...450 Hz	Control coil voltage DC	Bbn 4013614 EAN	Order details Type code	Order details Order code	Price 1 piece	Weight 1 piece kg	Pack unit pc.
2 N.O. 	2	24 V	24 V	215193	ESB 24-20	GHE 3291402 R0001		0.28	5
		230...240 V	230...240 V	146756	ESB 24-20	GHE 3291402 R0006		0.28	5
4 N.O. 	2	12 V	12 V	084478	ESB 24-40	GHE 3291102 R1004		0.28	5
		24 V	24 V	084416	ESB 24-40	GHE 3291102 R0001		0.28	5
		110...120 V	110...120 V	084430	ESB 24-40	GHE 3291102 R0004		0.28	5
		230...240 V	230...240 V	084454	ESB 24-40	GHE 3291102 R0006		0.28	5
4 N.C. 	2	12 V	12 V	084560	ESB 24-04	GHE 3291202 R1004		0.28	5
		24 V	24 V	084515	ESB 24-04	GHE 3291202 R0001		0.28	5
		110...120 V	110...120 V	084539	ESB 24-04	GHE 3291202 R0004		0.28	5
		230...240 V	230...240 V	084546	ESB 24-04	GHE 3291202 R0006		0.28	5
2 N.O. 2 N.C. 	2	12 V	12 V	084638	ESB 24-22	GHE 3291302 R1004		0.28	5
		24 V	24 V	084584	ESB 24-22	GHE 3291302 R0001		0.28	5
		110...120 V	110...120 V	084607	ESB 24-22	GHE 3291302 R0004		0.28	5
		230...240 V	230...240 V	084614	ESB 24-22	GHE 3291302 R0006		0.28	5
3 N.O. 1 N.C. 	2	12 V	12 V	084720	ESB 24-31	GHE 3291602 R1004		0.28	5
		24 V	24 V	084676	ESB 24-31	GHE 3291602 R0001		0.28	5
		110...120 V	110...120 V	084690	ESB 24-31	GHE 3291602 R0004		0.28	5
		230...240 V	230...240 V	084706	ESB 24-31	GHE 3291602 R0006		0.28	5
1 N.O. 3 N.C. 	2	12 V	12 V	218255	ESB 24-13	GHE 3291702 R1004		0.28	5
		24 V	24 V	214783	ESB 24-13	GHE 3291702 R0001		0.28	5
		110...120 V	110...120 V	218224	ESB 24-13	GHE 3291702 R0004		0.28	5
		230...240 V	230...240 V	218224	ESB 24-13	GHE 3291702 R0006		0.28	5

6

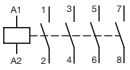
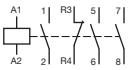
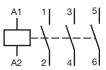
Where to find more:
Technical Details for ESB p.10/212

Maybe you are also interested in:
Accessories for Contactors p.6/35

ESB 40

Main poles	Nb mo-du-les	Control coil voltage 40...450 Hz	Control coil voltage DC	Bbn 4013614 EAN	Order details Type code	Order details Order code	Price 1 piece	Weight 1 piece kg	Pack unit pc.
4 N.O. 	3	12 V	12 V	149245	ESB 40-40	GHE 349 1102 R1004		0.40	3
		24 V	24 V	084829	ESB 40-40	GHE 349 1102 R0001		0.40	3
		110...120 V	110...120 V	084843	ESB 40-40	GHE 349 1102 R0004		0.40	3
		230...240 V	230...240 V	084867	ESB 40-40	GHE 349 1102 R0006		0.40	3
2 N.C. 	3	24 V	24 V	379611	ESB 40-22	GHE 349 1302 R0001		0.40	3
		230 V	230 V	214332	ESB 40-22	GHE 349 1302 R0006		0.40	3
1 N.C. 	3	24 V	24 V	316890	ESB 40-31	GHE 349 1602 R0001		0.40	3
		230 V	230 V	214349	ESB 40-31	GHE 349 1602 R0006		0.40	3
3 N.O. 	3	24 V	24 V	316890	ESB 40-30	GHE 349 1502 R0001		0.39	3
		230 V	230 V	214349	ESB 40-30	GHE 349 1502 R0006		0.39	3
2 N.O. 	3	24 V	24 V	212345	ESB 40-20	GHE 349 1402 R0001		0.38	3
		230 V	230 V	085314	ESB 40-20	GHE 349 1402 R0006		0.38	3

ESB 63

Main poles	Nb mo-du-les	Control coil voltage 40...450 Hz	Control coil voltage DC	Bbn 4013614 EAN	Order details Type code	Order details Order code	Price 1 piece	Weight 1 piece kg	Pack unit pc.
4 N.O. 	3	12 V	12 V	218262	ESB 63-40	GHE 369 1102 R1004		0.42	3
		24 V	24 V	084935	ESB 63-40	GHE 369 1102 R0001		0.42	3
		110...120 V	110...120 V	084959	ESB 63-40	GHE 369 1102 R0004		0.42	3
		230...240 V	230...240 V	084973	ESB 63-40	GHE 369 1102 R0006		0.42	3
1 N.C. 	3	110 V	110 V		ESB 63-31	GHE 369 1602 R0004		0.42	3
		230 V	230 V		ESB 63-31	GHE 369 1602 R0006		0.42	3
3 N.O. 	3	230 V	230 V	085376	ESB 63-30	GHE 369 1502 R0006		0.41	3
		400 V	400 V	260964	ESB 63-30	GHE 369 1502 R0007		0.41	3
2 N.O. 	3	24 V	24 V	291999	ESB 63-20	GHE 369 1402 R0001		0.40	3
		230 V	230 V	085369	ESB 63-20	GHE 369 1402 R0006		0.40	3
1 N.O. 1 N.C. 	3	230 V	230 V	214622	ESB 63-11	GHE 369 1802 R0006		0.40	3

Command and signalling
ESB/EN installation contactors main accessories

EH 04

ESB-PLK

ESB-DIS

Contact blocks

Contactor type	Contact blocks		Bbn 4013614 EAN	Order details Type code	Order code	Price 1 piece	Weight 1 piece kg	Pack unit pc.
ESB/EN 24, 40, 63	2	–	084768	EH 04-20	GHE 340 1321 R0001		0.004	10
	1	1	084768	EH 04-11	GHE 340 1321 R0002		0.004	10

Sealing cover

Contactor type	Bbn 4013614 EAN	Order details Type code	Order code	Price 1 piece	Weight 1 piece kg	Pack unit pc.
ESB/EN 24	084171	ESB-PLK 24	GHE 320 1903 R0001		0.002	10
ESB/EN 40, 63	085222	ESB-PLK 40/63	GHE 340 1903 R0002		0.002	10

Distance piece

Contactor type	Bbn 4013614 EAN	Order details Type code	Order code	Price 1 piece	Weight 1 piece kg	Pack unit pc.
ESB/EN 24, 40,63	085215	ESB-DIS	GHE 340 1902 R0001		0.002	10

Contact us

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ABB STOTZ-KONTAKT GmbH

In consideration of modifications to Standards and materials, the characteristics and overall dimensions indicated in this catalogue may be considered binding only following confirmation by ABB

2CSC400002D0211 - 11/2013 - 8.000 Pz. - CAL

Power and productivity
for a better world™