

Electrical installation solutions for buildings

Command and signaling

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The details make the difference

Switch disconnecter SD 200

Patented twin terminals with captive screws:
highest comfort,
safety and flexibility

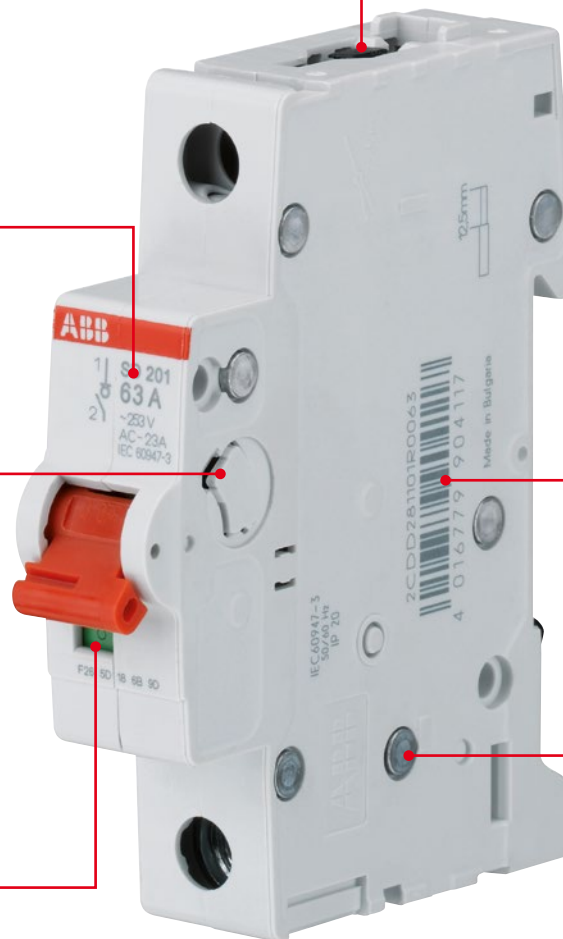
Easy product coding – easy identification:
basic technical information
already integrated into the
name

**Fully compatible with all
System pro M devices and
accessories**

Laser printing:
scratch and solvent resistant
marking

Patented housing design:
environmental friendly and
performance-optimized

**Real contact position
indication, directly connected
to the moving contact, for
more comfort and safety**

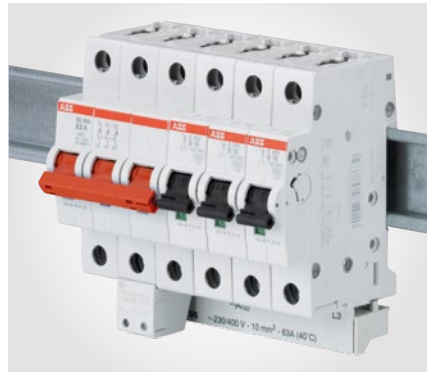




Contact position indication

The switch disconnecter SD 200 is suited with a real contact position indication (real CPI). You can easily identify, if the SD 200 is in the ON or the OFF position – easy and safe maintenance work is possible.

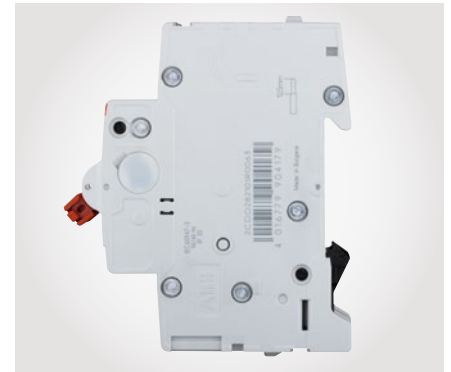
The position of the toggle and the red/green display leaves no doubt about the present switching position, while the latter offers additional security, as the exact position of the inner contacts is always displayed. Thus, the device always supplies reliable information in the event of an error.



Wide range of accessories

SD 200 is fully compatible to the complete range of System pro M compact accessories like

- Auxiliary contacts, to be mounted on the left side, the right side or bottom fitting
- Shunt trips
- Undervoltage release
- Motor operating devices



PATENTED – Housing Design

By using state-of-the-art housing material, ABB is taking care of the environment. With the latest generation of halogen free thermoplastics for SD 200 it's possible to recycle the switch disconnectors completely without environmental pollution. The material works for the stability.



Laser printing

All labels on the SD 200, as the approvals on the dome, technical details and the product identification, are printed by a laser. The laser printing ensures a friction, scratch and solvent resistant marking on the switch disconnectors for easy identification in case of maintenance or replacements. For control and acceptance procedure it is important to see all markings also in the mounted position.



Highest performance

With a rated voltage of 253/440 V AC, a rated conditional short-circuit current of 25 kA, terminals with protection from misconnection, a “Real CPI” switching position display, as well as full compatibility with all MCB accessories, the SD 200 is unique in its field of application. SD 200 comply with IEC/EN 60947-3.



PATENTED – IP 20 finger safe terminals

The SD 200 are equipped with 35 mm² and 10 mm² cylinder lift twin terminals for challenging industrial use. Cross wiring can easily be realized by inserting the busbars into the rear terminal part and the incoming wires into the front part.

Command and signaling

Switch disconnectors selection table

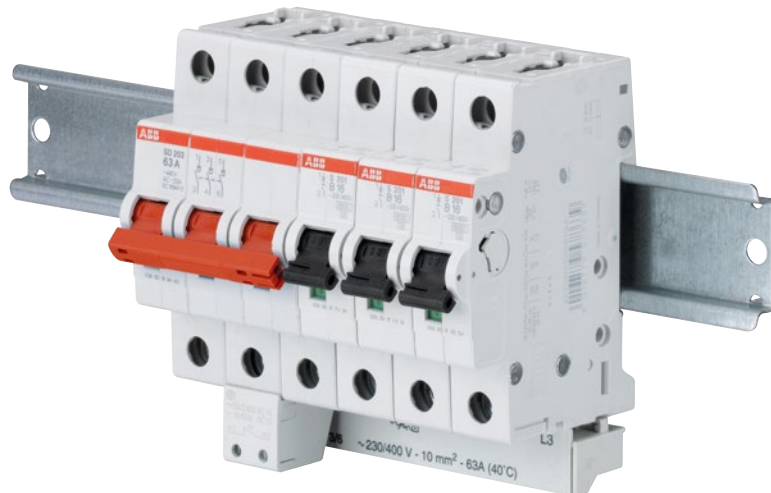
The SD 200 and SHD 200 extend the proven System pro M compact® series by ranges of switch disconnectors which provides state-of-the-art safety and comfort. Both are available with 1 to 4 poles with rated currents from 16 to 63 A and provides disconnection properties according to IEC/EN 60947-3.

The SD 200 offers performance on a different level. With a rated voltage of 253/440 V AC, a rated conditional short-circuit current of 25 kA, terminals with protection from misconnection and a “Real CPI” contact position indication the range is unique in its field of application. In addition SD 200 is fully compatible with all MCB accessories.

The SHD 200 has a rated voltage of 240/415 V AC. A rated conditional short-circuit current of 10 kA enables a wide range of applications.

The laser printing and the design of the devices allow a consistent optical appearance in the distribution board.

The laser printing and the design of the devices allow a consistent optical appearance in the distribution board. A VDE/CCC/EAC and KEMA approval ensures a wide scope of applications. For technical differences between the ranges please refer to the selection table on the left page.



Command and signaling

SD 200 and SHD 200 switch disconnecter ranges



Series		SD 200	SHD 200	E 200
Standards and approvals		IEC/EN 60947-3 VDE/CCC/EAC/KEMA	IEC/EN 60947-3 VDE/CCC/EAC/KEMA	IEC/EN 60947-3 VDE/CCC/KEMA
Rated currents	16...63 80...125	[A] 16/25/32/40/50/63 –	16/25/32/40/50/63 –	– 80/100/125
Rated voltage	[V AC]	253/440	240/415	240/415
Short circuit withstand capacity	[kA]	25	10	80...100 A : 25; 125 A : 6
Utilization category		AC-23A	AC-22A	AC-22A
Electrical lifetime	[Ops.]	$I_e < 32 \text{ A}$: 20,000 (AC) $I_e \geq 32 \text{ A}$: 10,000 (AC)	$I_e < 32 \text{ A}$: 20,000 (AC) $I_e \geq 32 \text{ A}$: 10,000 (AC)	$I_e < 100 \text{ A}$: 1,500 (AC) $I_e \geq 125 \text{ A}$: 1,000 (AC)
Terminal cross section	[mm ²]	35	25	50
Terminal		Cylinder lift terminal	Cage terminal	Cage terminal
Two terminal openings for conductor and busbar		Yes	No	No
Safety wire guard		Yes	No	No
Contact position indication		Marking on toggle (I ON/0 OFF) Real CPI (red ON/green OFF)	Marking on toggle (I ON/0 OFF)	Marking on toggle (I ON/0 OFF)
Combination with auxiliary elements				
Auxiliary contacts		Right side Left side Bottom side	No	Right side
Shunt trip		Yes	No	No
Undervoltage release		Yes	No	No
Motor operated remote control		Yes	No	No
Padlock		Yes	Yes	Yes
Removal without disassembling of the busbar		Yes	No	Yes

Command and signaling

SD 200 switch disconnector



SD 201

Technical data

Electrical data	
Standards	IEC/EN 60947-3
Poles	1P, 2P, 3P, 4P
Rated current I_n	16 A, 25 A, 32 A, 40 A, 50 A, 63 A
Utilization category	AC-23A, DC-21A
Rated voltage U_n	1P: 253 V AC, 60 V DC 2P: 440 V AC, 125 V DC 3...4P: 440 V AC
Insulation voltage U_i	440 V AC
Max. power frequency recovery voltage U_{max}	1P: 266 V AC, 63 V DC 2P: 462 V AC, 131 V DC 3...4P: 462 V AC
Min. operating voltage $U_{bmin.}$	12 V AC
Rated frequency f	50/60 Hz, DC
Suitable for isolation	Yes
Rated conditional short-circuit current	25 kA in series with NH 00 ≤ 63 A gG
Overvoltage category	III
Pollution degree	3
Rated impulse withstand voltage $U_{imp.}$ (1.2/50 μ s)	4 kV (test voltage 6.2 kV at sea level; 5 kV at 2,000 m)
Dielectric test voltage	2 kV (50/60 Hz, 1 min.)
Mechanical data	
Housing	Insulation group I, RAL 7035
Toggle	Insulation group II, red, sealable
Contact position indication	Marking on toggle, I ON / 0 OFF Real CPI (green OFF/red ON)
Protection degree acc. to EN 60529	IP20 / IP40 in enclosure with cover
Electrical endurance	$I_n < 32$ A: 20,000 ops. (AC), 1,500 ops. (DC) $I_n \geq 32$ A: 10,000 ops. (AC), 1,500 ops. (DC)
Mechanical endurance	20,000 ops.
Shock resistance acc. to IEC/EN 60068-2-27	25g, 2 shocks, 13 ms
Vibration resistance acc. to IEC/EN 60068-2-6	5g, 20 cycles at 5...150...5 Hz with load $0.8 I_n$
Environmental conditions (damp heat cyclic) acc. to IEC/EN 60068-2-30	28 cycles with 55 °C/90-96% and 25 °C/95-100% [°C/RH]
Ambient temperature	-25 ... +55 °C
Storage temperature	-40 ... +70 °C
Installation	
Terminal	Cylinder lift terminal
Safety wire guard	Yes
Two terminal openings for conductor and busbar	Yes
Cross-section of conductors	35 mm ²
Cross-section of busbars	10 mm ²
Torque	2.8 Nm
Screwdriver	No. 2 Pozidriv
Mounting	On DIN rail 35 mm acc. to EN 60715 by fast clip
Mounting position	Optional
Removal without disassembling of the busbar	Yes
Supply	Optional

Command and signaling

SD 200 switch disconnecter

Dimensions and weight	
Mounting dimensions acc. to DIN 43880	Mounting dimension 1
Pole dimensions (H x D x W)	88 x 69 x 17.5 mm
Pole weight	Approx. 85 g
Combination with auxiliary elements	
Auxiliary contact	Yes
Signal/auxiliary contact	Yes
Shunt trip	Yes
Undervoltage release	Yes
Motor operating device	Yes
Padlock	Yes
Approvals	CE and RoHS-conform Approvals: VDE/CCC/EAC/KEMA

Command and signaling

SD 200 switch disconnecter



SD 201



SD 202



SD 203



SD 204

SD 200

Switch disconnecter acc. to IEC/EN 60947-3 for panel installation onto DIN rail (35 mm)

Mounting depth: 68 mm

Mounting width: per pole = 17.5 mm = 1 module

Colour: grey, RAL 7035

Colour of switch lever: red RAL 3000

Special features

- Isolating characteristics acc. to IEC/EN 60947-3
- Clear contact position indication in red/green ("Real CPI")
- Highest performance at an increased voltage level: 25 kA conditional short-circuit current at $U_e = 253/440$ V AC acc. to IEC/EN 60947-3
- Protection degree IP20 = finger safe
- 35 mm² cylinder lift terminal with 2 terminal openings for two wires or one wire and one busbar for cross wiring
- Bottom fixed auxiliary contact as accessory for a space saving installation or upgrade of existing assemblies without additional mounting width
- Consistent design to other System pro M DIN rail products
- Cross wiring with MCBs or RCDs using busbars PS
- Durable device identification due to laser labeling
- Captive screws
- Compatibility with all MCB accessories
- Approved acc. to IEC/EN 60947-3 for international use

Ordering details

Rated current: 16 A						
Poles	Rated voltage	Bbn 4016779	Order details		Price 1	Pack unit
	V AC	EAN	Type code	Order code	piece	kg
1	253	904063	SD201/16	2CDD281101R0016	0.085	10
2	440	904124	SD202/16	2CDD282101R0016	0.170	5
3	440	904186	SD203/16	2CDD283101R0016	0.255	1
4	440	904247	SD204/16	2CDD284101R0016	0.340	1

Rated current: 25 A						
Poles	Rated voltage	Bbn 4016779	Order details		Price 1	Pack unit
	V AC	EAN	Type code	Order code	piece	kg
1	253	904070	SD201/25	2CDD281101R0025	0.085	10
2	440	904131	SD202/25	2CDD282101R0025	0.170	5
3	440	904193	SD203/25	2CDD283101R0025	0.255	1
4	440	904254	SD204/25	2CDD284101R0025	0.340	1

Rated current: 32 A						
Poles	Rated voltage	Bbn 4016779	Order details		Price 1	Pack unit
	V AC	EAN	Type code	Order code	piece	kg
1	253	904087	SD201/32	2CDD281101R0032	0.085	10
2	440	904148	SD202/32	2CDD282101R0032	0.170	5
3	440	904209	SD203/32	2CDD283101R0032	0.255	1
4	440	904261	SD204/32	2CDD284101R0032	0.340	1

Command and signaling

SD 200 switch disconnector



SD 201



SD 202



SD 203



SD 204

Ordering details

Rated current: 40 A						
Poles	Rated voltage	Bbn 4016779	Order details		Price 1	Pack
	V AC	EAN	Type code	Order code	piece	unit
1	253	904094	SD201/40	2CDD281101R0040	0.085	10
2	440	904155	SD202/40	2CDD282101R0040	0.170	5
3	440	904216	SD203/40	2CDD283101R0040	0.255	1
4	440	904278	SD204/40	2CDD284101R0040	0.340	1

Rated current: 50 A						
Poles	Rated voltage	Bbn 4016779	Order details		Price 1	Pack
	V AC	EAN	Type code	Order code	piece	unit
1	253	904100	SD201/50	2CDD281101R0050	0.085	10
2	440	904162	SD202/50	2CDD282101R0050	0.170	5
3	440	904223	SD203/50	2CDD283101R0050	0.255	1
4	440	904285	SD204/50	2CDD284101R0050	0.340	1

Rated current: 63 A						
Poles	Rated voltage	Bbn 4016779	Order details		Price 1	Pack
	V AC	EAN	Type code	Order code	piece	unit
1	253	904117	SD201/63	2CDD281101R0063	0.085	10
2	440	904179	SD202/63	2CDD282101R0063	0.170	5
3	440	904230	SD203/63	2CDD283101R0063	0.255	1
4	440	904292	SD204/63	2CDD284101R0063	0.340	1

Command and signaling

SHD 200 switch disconnecter



SHD 201

Technical data

Electrical data	
Standards	IEC/EN 60947-3
Poles	1P, 2P, 3P, 4P
Rated current I_n	16 A, 25 A, 32 A, 40 A, 50 A, 63 A
Utilization category	AC-22A, DC-21A
Rated voltage U_n	1P: 240 V AC, 60 V DC 2P: 415 V AC, 125 V DC 3...4P: 415 V AC
Insulation voltage U_i	440 V AC
Max. power frequency recovery voltage U_{max}	1P: 252 V AC, 63 V DC 2P: 436 V AC, 131 V DC 3...4P: 436 V AC
Min. operating voltage $U_{bmin.}$	12 V AC
Rated frequency f	50/60 Hz, DC
Suitable for isolation	Yes
Rated conditional short-circuit current	10 kA in series with NH 00 $\leq$ 63 A gG
Overvoltage category	III
Pollution degree	3
Rated impulse withstand voltage $U_{imp.}$ (1.2/50 μ s)	4 kV (test voltage 6.2 kV at sea level; 5 kV at 2,000 m)
Dielectric test voltage	2 kV (50/60 Hz, 1 min.)
Mechanical data	
Housing	Insulation group II, RAL 7035
Toggle	Insulation group II, red, sealable
Contact position indication	Marking on toggle, I ON / 0 OFF
Protection degree acc. to EN 60529	IP20 / IP40 in enclosure with cover
Electrical endurance	$I_n < 32$ A: 20,000 ops. (AC), 1,500 ops. (DC) $I_n \geq 32$ A: 10,000 ops. (AC), 1,500 ops. (DC)
Mechanical endurance	20,000 ops.
Shock resistance acc. to IEC/EN 60068-2-27	25g, 2 shocks, 13 ms
Vibration resistance acc. to IEC/EN 60068-2-6	5g, 20 cycles at 5...150...5 Hz with load $0.8 I_n$
Environmental conditions (damp heat cyclic) acc. to IEC/EN 60068-2-30	28 cycles with 55 °C/90-96% and 25 °C/95-100% [°C/RH]
Ambient temperature	-25 ... +55 °C
Storage temperature	-40 ... +70 °C
Installation	
Terminal	Cage terminal
Safety wire guard	No
Two terminal openings for conductor and busbar	No
Cross-section of conductors	25 mm ²
Torque	2.0 Nm
Screwdriver	No. 2 Pozidriv
Mounting	On DIN rail 35 mm acc. to EN 60715 by fast clip
Mounting position	Optional
Removal without disassembling of the busbar	No
Supply	Optional



Command and signaling

SHD 200 switch disconnecter

Dimensions and weight	
Mounting dimensions acc. to DIN 43880	Mounting dimension 1
Pole dimensions (H x D x W)	85 x 69 x 17.5 mm
Pole weight	Approx. 75 g
Combination with auxiliary elements	
Auxiliary contact	No
Signal/auxiliary contact	No
Shunt trip	No
Undervoltage release	No
Motor operating device	No
Padlock	Yes
Approvals	
CE and RoHS conform Approvals: VDE/CCC/EAC/KEMA	

Command and signaling

SHD 200 switch disconnecter



SHD 201



SHD 202



SHD 203



SHD 204

SHD 200

Switch disconnecter acc. to IEC/EN 60947-3 for panel installation onto DIN rail (35 mm)

Mounting depth: 69 mm

Mounting width: per pole = 17.5 mm = 1 module

Colour: grey, RAL 7035

Colour of switch lever: red RAL 3000

Special features

- Isolating characteristics acc. to IEC/EN 60947-3
- Protection degree IP20 = finger safe
- 25 mm² cage terminal
- Consistent design to all other System pro M DIN rail products
- Cross wiring with MCBs or RCDs using busbars PS
- Durable device identification due to laser labeling
- Captive screws
- Locking device as accessory for unauthorized ON/OFF switching
- Approved acc. to IEC/EN 60947-3 for international use

Ordering details

Rated current: 16 A						
Poles	Rated voltage	Bbn 4016779	Order details		Price 1	Pack unit
	V AC	EAN	Type code	Order code	piece	kg
1	240	904308	SHD201/16	2CDD271111R0016		0.075
2	415	904360	SHD202/16	2CDD272111R0016		0.150
3	415	904421	SHD203/16	2CDD273111R0016		0.225
4	415	904483	SHD204/16	2CDD274111R0016		0.300

Rated current: 25 A						
Poles	Rated voltage	Bbn 4016779	Order details		Price 1	Pack unit
	V AC	EAN	Type code	Order code	piece	kg
1	240	904315	SHD201/25	2CDD271111R0025		0.075
2	415	904377	SHD202/25	2CDD272111R0025		0.150
3	415	904438	SHD203/25	2CDD273111R0025		0.225
4	415	904490	SHD204/25	2CDD274111R0025		0.300

Rated current: 32 A						
Poles	Rated voltage	Bbn 4016779	Order details		Price 1	Pack unit
	V AC	EAN	Type code	Order code	piece	kg
1	240	904322	SHD201/32	2CDD271111R0032		0.075
2	415	904384	SHD202/32	2CDD272111R0032		0.150
3	415	904445	SHD203/32	2CDD273111R0032		0.225
4	415	904506	SHD204/32	2CDD274111R0032		0.300

Command and signaling

SHD 200 switch disconnecter



SHD 201



SHD 202



SHD 203



SHD 204

Ordering details

Rated current: 40 A						
Poles	Rated voltage	Bbn 4016779	Order details		Price 1	Pack unit
	V AC	EAN	Type code	Order code	piece	kg
1	240	904339	SHD201/40	2CDD271111R0040		0.075
2	415	904391	SHD202/40	2CDD272111R0040		0.150
3	415	904452	SHD203/40	2CDD273111R0040		0.225
4	415	904513	SHD204/40	2CDD274111R0040		0.300

Rated current: 50 A						
Poles	Rated voltage	Bbn 4016779	Order details		Price 1	Pack unit
	V AC	EAN	Type code	Order code	piece	kg
1	240	904346	SHD201/50	2CDD271111R0050		0.075
2	415	904407	SHD202/50	2CDD272111R0050		0.150
3	415	904469	SHD203/50	2CDD273111R0050		0.225
4	415	904520	SHD204/50	2CDD274111R0050		0.300

Rated current: 63 A						
Poles	Rated voltage	Bbn 4016779	Order details		Price 1	Pack unit
	V AC	EAN	Type code	Order code	piece	kg
1	240	904353	SHD201/63	2CDD271111R0063		0.075
2	415	904414	SHD202/63	2CDD272111R0063		0.150
3	415	904476	SHD203/63	2CDD273111R0063		0.225
4	415	904537	SHD204/63	2CDD274111R0063		0.300

Command and signaling

E 200 switches



E 200

Technical data E200 80...125 A

Electrical Data		
Standards	DIN EN 60947-3 (VDE0660-107); IEC/EN 60947-3	
Number of poles	1P, 2P, 3P, 4P	
Rated current I _e	80...125 A	
Rated voltage U _e	240/415 V AC; 60 V DC	
Rated frequency f	50/60 Hz; DC	
Utilization category	I _e 80 ... 125 A	AC-22A (1..4-pole)
		DC-21B (1/2-pole)
	Acc. to DIN EN 60947-3 (VDE0660-107); IEC/EN 60947-3	
Protection fuse	NH 00 gG ≤ Rated current E200	
Positive opening	Acc. to DIN VDE 0113	
Rated conditional short-circuit current	80 ... 100 A (1- to 4-pole): 25 kA, 125 A (1- to 4-pole): 6 kA	
Surge withstand capability U _{imp}	4 kV (EN 60947-1)	
Min. voltage U _{min.}	12 V AC/DC bei 0.1 VA	
Min. contact loading	24 V AC; 4 mA	
Mechanical Data		
Housing	Grey, RAL 7035	
Toggle	Red (RAL 3000) / grey (RAL 7000), sealable	
Contact position indication	On toggle (I ON / 0 OFF), on dome (I / 0)	
Protection degree acc. to IEC/EN 60529	IP10, IP40 in enclosure with cover	
Electrical endurance	80 ... 100 A: 1,500 ops., 125 A: 1,000 ops.	
Mechanical endurance	20,000 ops.	
Environmental conditions acc. to IEC/EN 60068-2-30	Constant climate 23/83, 40/93, 55/20 [°C/RH]	
	Alternating climate 25/95 - 40/93 [°C/RH]	
Ambient temperature	-25 ... +55 °C	
Storage temperature	-40 ... +70 °C	
Installation		
Terminal size	2.5 to 50 mm²	
Cross-section busbar	≥ 16 mm²	
Tightening torque	2.5 Nm	
Screw driver	Nr. 2 Pozidriv	
Mounting	On DIN rail 35 mm acc. to EN 60715 by fast clip	
Mounting position	Any	
Supply	Any	
Dimensions and weight		
Mounting dimensions acc. to DIN 43880	Mounting dimension 1	
Pole dimensions (H x D x W)	85 x 70 x 17.5 mm	
Pole weight	Ca. 95 g	
Accessories		
Auxiliary contact	Max. 3x S2C-H 6R	
Approvals	CE and RoHS conform	
	Approvals: VDE, CCC, KEMA, EAC	

Command and signaling

E 200 switches



E 201

E 200 switches

Isolator for panel installation onto DIN rail acc. to DIN EN 60715

Mounting depth: 70 mm

Mounting width: per pole = 17.5 mm = 1 module

Colour: grey, RAL 7035

Colour of switch lever: red RAL 3000 (r); grey RAL 7000 (g)

Special features

- Fast removal without dismantling of the busbar
- Captive screws with recessed/slotted head, Pozidriv size 2
- Add-on of up to 3 auxiliary contact S2C-H6R possible
- Integrated lay-on edge for labeling system ILS
- Locking device as accessory for unauthorized ON/OFF
- Approval: VDE, CCC, KEMA, EAC

Ordering details

Rated current: 80 A								
Poles	Rated voltage	Power loss	Bbn 4016779	Order details		Price 1 piece	Weight 1 piece	Pack unit
	V AC	W	EAN	Type code	Order code		kg	pc.
1NO	240	2.60	645737	E201/80g	2CDE281001R1080		0.095	10
1NO	240	2.60	645744	E201/80r	2CDE281001R0080		0.095	10
2NO	415	5.15	645911	E202/80g	2CDE282001R1080		0.190	5
2NO	415	5.15	645928	E202/80r	2CDE282001R0080		0.190	5
3NO	415	7.75	646093	E203/80g	2CDE283001R1080		0.290	3
3NO	415	7.75	646109	E203/80r	2CDE283001R0080		0.290	3
4NO	415	10.30	646277	E204/80g	2CDE284001R1080		0.390	2
4NO	415	10.30	646284	E204/80r	2CDE284001R0080		0.390	2

Rated current: 100 A								
Poles	Rated voltage	Power loss	Bbn 4016779	Order details		Price 1 piece	Weight 1 piece	Pack unit
	V AC	W	EAN	Type code	Order code		kg	pc.
1NO	240	3.95	645751	E201/100g	2CDE281001R1100		0.095	10
1NO	240	3.95	645738	E201/100r	2CDE281001R0100		0.095	10
2NO	415	7.90	645935	E202/100g	2CDE282001R1100		0.190	5
2NO	415	7.90	645942	E202/100r	2CDE282001R0100		0.190	5
3NO	415	11.85	646116	E203/100g	2CDE283001R1100		0.290	3
3NO	415	11.85	646123	E203/100r	2CDE283001R0100		0.290	3
4NO	415	15.80	646291	E204/100g	2CDE284001R1100		0.390	2
4NO	415	15.80	646307	E204/100r	2CDE284001R0100		0.390	2

Rated current: 125 A								
Poles	Rated voltage	Power loss	Bbn 4016779	Order details		Price 1 piece	Weight 1 piece	Pack unit
	V AC	W	EAN	Type code	Order code		kg	pc.
1NO	240	6.10	645775	E201/125g	2CDE281001R1125		0.095	10
1NO	240	6.10	645782	E201/125r	2CDE281001R0125		0.095	10
2NO	415	12.20	645959	E202/125g	2CDE282001R1125		0.190	5
2NO	415	12.20	645966	E202/125r	2CDE282001R0125		0.190	5
3NO	415	18.30	646130	E203/125g	2CDE283001R1125		0.33	3
3NO	415	18.30	646147	E203/125r	2CDE283001R0125		0.33	3
4NO	415	24.35	646314	E204/125g	2CDE284001R1125		0.44	2
4NO	415	24.35	646321	E204/125r	2CDE284001R0125		0.44	2

Command and signaling

E 463/3, E 480/3 switches



E463/3-KB



E463/3-SL



SA 2

Technical features	
Switching capacity	1.25 In; 1.1 Un; cosφ = 0.6 according to DIN VDE 0632
Rated voltage	250/400 V a.c.
Connection cross section	1 mm ² stranded wire/0.5 mm ² wire up to 25 mm ²
Pick-up torque	3 Nm max.
Positive opening	according to DIN VDE 0113
Ambient temperature	-25°C to +55°C
Storage temperature	-40°C to +70°C
Poles	3 NO
Short-circuit withstanding capacity	10 kA, 400 V a.c.

E 463/3-KB, E 480/3-KB, E 463/3-SL switches								
Rated current	Power loss	Rated voltage	Bbn 7612270	Order details		Price 1	Weight 1 piece	Pack unit
(per pole)	W	V AC	EAN	Type code	Order code	piece	kg	pc.
63	5.4	250/400	932528	E 463/3-KB	2CCE160300R0131		0.190	1
63	5.5	250/400	932535	E 463/3-SL	2CCE160301R0131		0.195	1
80	9.9	250/400	932542	E 480/3-KB	2CCE180300R0141		0.210	1

Padlock for E 463/3-SL with 2 keys						
	Bbn 7612270	Order details		Price 1	Weight 1 piece	Pack unit
	EAN	Type code	Order code	piece	kg	pc.
	587704	SA 2	GJF1101903R0002		0.020	1

Command and signaling

S800PV series 1500 switch disconnectors



S800PV-SP

		S802PV-M-H	S800PV-SD
General Data			
Tripping characteristics		none	none
Standards		IEC / EN 60947-3	IEC / EN 60947-3 and Annex D
Poles		2 (polarized)	2 ... 4
Rated current I_n	A	32, 63, 100	32, 63, 125
Rated insulation voltage U_i acc. to IEC/EN 60664-1	V	DC 1500	DC 1500
Rated impulse withstand voltage $U_{imp.}$ (1.2/50 μ s)	kV	8	8
Overvoltage category		III*	III*
Pollution degree		2	2
Suitability for isolation		yes	yes
Data acc. to IEC/EN 60947-3			
Rated operational voltage U_e	V	DC 1000V: 2-pole	DC 800V: 2-pole DC 1200V: 3-Pole DC 1500V: 4-pole
Min. operating voltage	V	-	-
Rated short-term withstand current I_{cw}	kA	1.5	1.5
Rated short-circuit making capacity I_{cm}	kA	0.5	0.5
Utilisation category		DC-21 A	DC-21 A, DC-PV2
Electrical and Mechanical Endurance	ops.	1500 electrical / 10000 mechanical	32, 63 A: 1500 electrical / 10000 mechanical 125 A: 1000 electrical / 8000 mechanical
Mechanical Data			
Housing		Material group I, RAL 7035	Material group I, RAL 7035
Toggle		black, lockable	black, lockable
Classification acc. To NF F 126-101, NF F 16-102		-	-
Protection degree acc. to EN 60529		IP20; IP40 (actuating end only)	IP20; IP40 (actuating end only)
Shock resistance acc. to IEC/EN 60068-2-30		IEC 61373 Cat. 1 Class B, 5 g / 30 ms acc. To IEC 60068-27 Test Ea	IEC 61373 Cat. 1 Class B, 5 g / 30 ms acc. To IEC 60068-27 Test Ea
Vibration resistance acc. to IEC/EN 60068-2-6		IEC 60068-2-6 Test Fc; 2 - 13.2 Hz/1 mm 13.2 - 100 Hz/0.7 g with load 100% x I_n	IEC 60068-2-6 Test Fc; 2 - 13.2 Hz/1 mm 13.2 - 100 Hz/0.7 g with load 100% x I_n
Environmental conditions (damp heat) acc. to IEC/EN 60068-2-30	°C/RH	12 + 12 cycle with 55°C/90 - 96% and 25°C/95 - 100%	12 + 12 cycle with 55°C/90 - 96% and 25°C/95 - 100%
Environmental conditions (dry heat) acc. to IEC/EN 60068-2-2 Test B	°C/RH	16 hours 55°C/2 hours 70°C with damp heat 55%	16 hours 55°C/2 hours 70°C with damp heat 55%
Ambient temperature	°C	-25 ... +60	-25 ... +60
Storage temperature	°C	-40 ... +70	-40 ... +70
Installation			
Terminal		Failsafe cage or ringlug terminal	Failsafe cage or ringlug terminal
Connections (top/bottom) - C_u only	mm ²	1 ... 50 stranded 1 ... 70 flexible	1 ... 50 stranded 1 ... 70 flexible
Tightening torque	Nm	3.5	3.5
	in-lbs.	31	31
Screwdriver		POZI 2	POZI 2
Mounting		any	any
Mounting position		any	any
Supply		any (taking into account the polarization)	any (taking into account the polarization)
Dimensions and weight			
Pole dimensions (H x L x W)	mm	95 x 26.5 x 82.5	95 x 26.5 x 82.5
Pole weight	g	240	240

*The pollution degree of the product, as defined in standard IEC 60947-1, is related to its micro environment, to which equipment is exposed. It may be different from that of the macro-environment. According to where the equipment is located, the pollution degree of the macro environment can be considered up to category IV, if protection is offered by means of such as an adequate enclosure or internal heating to prevent absorption or condensation of moisture.

Command and signaling

S800PV series 1500 switch disconnecter



S800PV-SD

Function: switch disconnecter for DC side isolation of PV systems.
Designed for PV installations of 1500 V DC.
Applications: Photovoltaic systems
Rated short-term withstand current, I_{cw} 1.5 kA

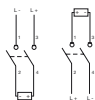
I_{cw}	Rated current	Bbn 7612271	Order details		Price 1 piece	Weight 1 piece	Pack unit
kA	In A	EAN	Type code	Order code		kg	pc.
1.5	32	271958	S802PV-SD32	2CCF019635R0001		0.43	1
1.5	63	271934	S802PV-SD63	2CCF019634R0001		0.43	1
1.5	125	271972	S802PV-SD125	2CCF019636R0001		0.43	1

I_{cw}	Rated current	Bbn 7612271	Order details		Price 1 piece	Weight 1 piece	Pack unit
kA	In A	EAN	Type code	Order code		kg	pc.
1.5	32	271996	S803PV-SD32	2CCF019637R0001		0.65	1
1.5	63	272016	S803PV-SD63	2CCF019638R0001		0.65	1
1.5	125	272030	S803PV-SD125	2CCF019639R0001		0.65	1

I_{cw}	Rated current	Bbn 7612271	Order details		Price 1 piece	Weight 1 piece	Pack unit
kA	In A	EAN	Type code	Order code		kg	pc.
1.5	32	272054	S804PV-SD32	2CCF019640R0001		0.86	1
1.5	63	272078	S804PV-SD63	2CCF019641R0001		0.86	1
1.5	125	272092	S804PV-SD125	2CCF019642R0001		0.86	1

Command and signaling

S800PV series 1500 switch disconnecter



S800PV-M-H

Function: this polarized disconnecter is designed to meet the requirements for photovoltaic systems. Only 54 mm wide, voltage up to 1000 V d.c. and a rated current up to 100 A.

Number of poles	Rated current In A	GTIN EAN 7612271	Order details		Weight 1 piece kg	Pack. unit
			Type Code	Order code		
2	32	419035	S802PV-M32-H	2CCP247204R0001	0.43	1
	63	419042	S802PV-M63-H	2CCP247205R0001	0.43	1
	100	419301	S802PV-M100-H	2CCP247212R0001	0.43	1

Command and signaling

E 210 switches



E 210

On-off switches

General	
Overall depth	68 mm
Width	0.5 or 1 module (9 or 18 mm)
Colour	grey, RAL 7035
Climatic resistance to	IEC 60068-2-2 (dry heat) IEC 60068-2-30 (humid heat) IEC 60068-2-1 (low temperatures)
Ambient temperature	- 25°C to + 55°C
Storage temperature	- 40°C to + 70°C
Connection cross-section (Cu)	from 1 x 1 mm ² to 1 x 6 mm ² or 2 x 2.5 mm ² solid; from 1 x 0.75 mm ² to 2 x 1.5 mm ² flexible with end ferrule or pin cable lug
Tightening torque	1,2-1,5 Nm
Contacts	Double interrupting
On-off switches (E211; E211X)	
Short-circuit withstand capacity Inc	3 kA; at 400 V cos ϕ = 0.8 (with fusing < 35 A / NH00)
Rated current In	16 A, 25 A, 32 A
Rated voltage Un	
in accordance with EN	250 VAC, 400 VAC
in accordance UL 508	240 VAC
Rated impulse withstand voltage Uimp	6 kV
Lowest operating voltage	24 VAC; 25 mA
Isolating features	to EN60669-2-4; IEC/EN 60947-3
Utilization category	AC-22 A, DC-22 A acc. IEC/EN 60947-3
LED voltage ranges	On-off switches E211X 115-250 VAC (Tolerance +/- 10%)
Frequency	50/60 Hz
Sealable	in the On and Off positions
Standards	DIN EN 60669-1 *VDE 0632-1 DIN EN 60669-2-4 *VDE 0632-2-4 UL 508
Approvals	VDE; UL; GOST; CCC

Utilization category for E211 On-off switches (according to standard IEC 60947-3)

Type	In	Utilization category		
		DC-22 A	AC-22 A	
E211-16-...	16 A	50 VDC / 16 A	200 VDC / 1 A	400 VAC / 16 A
E211-25-...	25 A	50 VDC / 25 A	200 VDC / 2 A	400 VDC / 25 A
E211-32-...-	32 A	50 VDC / 32 A	200 VDC / 3 A	400 VDC / 32 A

Command and signaling

E 210 switches

Change over, Group and control switches, pushbuttons and indicator lights

Change over, Group and Control switches (E213; E214; E218)	
Rated current In	16 A, 25 A
Rated voltage Un	
in accordance with EN	250 VAC, 400 VAC
in accordance UL 508	240 VAC
Lowest operating voltage	24 VAC; 25 mA
Frequency	50/60 Hz
Switches sealable	in the On and Off positions
Standards	DIN EN 60669-1 *VDE 0632-1 UL 508
Approvals	VDE; UL; GOST; CCC
Pushbuttons without and with LED (E215; E217)	
Rated current In	16 A
Rated voltage Un	
in accordance with EN	250 VAC
in accordance UL 508	240 VAC
Lowest operating voltage	24 VAC; 25 mA
LED voltage ranges	12-48 VAC / DC; 115-250 VAC; 60-220 VDC (Tolerance +/- 10%)
Frequency	50/60 Hz
Standards	DIN EN 60669-1 *VDE 0632-1 UL 508
Approvals	VDE; UL; GOST; CCC
Indicator lights (E219)	
LED voltage ranges	12-48 VAC / DC; 115-250 VAC; 60-220 VDC (Tolerance +/- 10%)
Frequency	50/60 Hz
Insulation voltage	250 V
Rated impulse withstand voltage Uimp	4 kV
Dissipated power	0.47-1 W
Standards	DIN EN 62094-1 UL 508
Approvals	VDE; UL; GOST; *1
Indicator lights with 2 LEDs	
LED voltage ranges	115-250 VAC; 12-48 VAC (tolerance +/- 10%)
Frequency	50/60 Hz
Insulation voltage	250 V
Rated impulse withstand voltage Uimp	4 kV
Dissipated power	0.8 W
Standards	DIN EN 62094-1
Approvals	VDE; GOST; *1
Indicator lights with 3 LEDs	
LED voltage ranges	415/250 VAC (tolerance +/- 10%)
Frequency	50/60 Hz
Insulation voltage	250 V
Rated impulse withstand voltage Uimp	4 kV
Dissipated power	1.2 W
Standards	DIN EN 62094-1
Approvals	VDE; GOST; *1

*1 = CCC approval not required

Command and signaling

E 210 switches



E 211-16-10



E211-16-20

These devices are specifically made for commanding loads and signaling electrical conditions in any low-voltage switchboard. They are available in half module or 1 module, depending on the contact-layout. The devices with indicator lights are equipped with a LED, which grants an optimal illumination with very low consumption.

The functions of these devices are particularly switching, pushing and signaling electrical conditions in any installations (low-voltage area)

General features

- Space-saving through 9 mm modules
- All terminals equipped with Pozidrive 1 screws
- Safe connection due to cage-clamp
- LED with bright colours and available in three different voltage ranges
- Different lens and button colours
- Compliance to international standards

E 211-... ON-OFF switches

For example, such devices are used to switch indicators or other electrical components (like fan's, air-conditions, e.g.). The On-Off switches distinguish themselves through simple handling, easy mounting and optimal functionality.

Rated current = 16 A									
Contacts	Rated voltage	Power loss	Width	Bbn 7612270	Order details		Price 1 piece	Weight 1 piece	Pack unit
	V AC	W	mm	EAN	Type code	Order code		kg	pc.
1 NO	250	0.32	9	938575	E211-16-10	2CCA703000R0001		0.035	10
2 NO	250/400	0.82	9	938582	E211-16-20	2CCA703005R0001		0.045	10
3 NO	250/400	1.14	18	938599	E211-16-30	2CCA703010R0001		0.080	10
4 NO	250/400	1.64	18	938605	E211-16-40	2CCA703015R0001		0.090	10

Rated current = 25 A									
Contacts	Rated voltage	Power loss	Width	Bbn 7612270	Order details		Price 1 piece	Weight 1 piece	Pack unit
	V AC	W	mm	EAN	Type code	Order code		kg	pc.
1 NO	250	0.75	9	938612	E211-25-10	2CCA703001R0001		0.035	10
2 NO	250/400	1.95	9	938629	E211-25-20	2CCA703006R0001		0.045	10
3 NO	250/400	2.70	18	938636	E211-25-30	2CCA703011R0001		0.080	10
4 NO	250/400	3.90	18	938643	E211-25-40	2CCA703016R0001		0.090	10

Rated current = 32 A									
Contacts	Rated voltage	Power loss	Width	Bbn 7612270	Order details		Price 1 piece	Weight 1 piece	Pack unit
	V AC	W	mm	EAN	Type code	Order code		kg	pc.
1 NO	250	1.12	9	938650	E211-32-10	2CCA703002R0001		0.035	10
2 NO	250/400	2.73	9	938667	E211-32-20	2CCA703007R0001		0.045	10
3 NO	250/400	3.85	18	938674	E211-32-30	2CCA703012R0001		0.080	10
4 NO	250/400	5.46	18	938681	E211-32-40	2CCA703017R0001		0.090	10

Command and signaling

E 210 switches



E211X-16-10

E 211X-... On-Off switches with yellow LED for contact indication

LED voltage 115-250 V AC

Rated current = 16 A										
Contacts	Rated voltage	Power loss	LED colour	Width	Bbn 7612270	Order details		Price 1 piece	Weight 1 piece	Pack unit
	V AC	W		mm	EAN	Type code	Order code		kg	pc.
1 NO	250	0.50	yellow	9	938872	E211X-16-10	2CCA703100R0001		0.040	10
2 NO	250/400	1.00	yellow	18	938889	E211X-16-20	2CCA703110R0001		0.050	10
3 NO	250/400	1.50	yellow	18	938896	E211X-16-30	2CCA703115R0001		0.060	10



E211X-16-20

Rated current = 25 A										
Contacts	Rated voltage	Power loss	LED colour	Width	Bbn 7612270	Order details		Price 1 piece	Weight 1 piece	Pack unit
	V AC	W		mm	EAN	Type code	Order code		kg	pc.
1 NO	250	1.15	yellow	9	938902	E211X-25-10	2CCA703101R0001		0.040	10
2 NO	250/400	2.30	yellow	18	938919	E211X-25-20	2CCA703111R0001		0.050	10
3 NO	250/400	3.45	yellow	18	938926	E211X-25-30	2CCA703116R0001		0.060	10

E 213-... Change over switches

The change-over switches distinguish themselves through simple handling, easy mounting and optimal functionality. Example applications include opening and closing of electrically operated flaps.



E213-16-001

Rated current = 16 A										
Contacts	Rated voltage	Power loss	LED colour	Width	Bbn 7612270	Order details		Price 1 piece	Weight 1 piece	Pack unit
	V AC	W		mm	EAN	Type code	Order code		kg	pc.
1 CO	250	0.32	-	9	938698	E213-16-001	2CCA703040R0001		0.041	10
2 CO	250	0.82	-	18	938704	E213-16-002	2CCA703045R0001		0.082	10



E 213-16-002

Rated current = 25 A										
Contacts	Rated voltage	Power loss	LED colour	Width	Bbn 7612270	Order details		Price 1 piece	Weight 1 piece	Pack unit
	V AC	W		mm	EAN	Type code	Order code		kg	pc.
1 CO	250	0.40	-	9	938711	E213-25-001	2CCA703041R0001		0.041	10
2 CO	250	0.88	-	18	938728	E213-25-002	2CCA703046R0001		0.082	10

Command and signaling

E 210 switches



E214-16-101



E214-16-202



E 218-16-11



E 218-16-22

E 214-... Group switches (I-O-II, manual-OFF-automatic)

The Group switches can be used to control the main installation of an emergency supply. Such devices distinguish themselves through simple handling, easy mounting and optimal functionality.

Rated current = 16 A									
Contacts	Rated voltage	Power loss	Width	Bbn 7612270	Order details		Price 1 piece	Weight 1 piece	Pack unit
	V AC	W	mm	EAN	Type code	Order code		kg	pc.
1 CO	250	0.32	9	938735	E214-16-101	2CCA703025R0001		0.041	10
2 CO	250	0.82	18	938742	E214-16-202	2CCA703030R0001		0.082	10

Rated current = 25 A									
Contacts	Rated voltage	Power loss	Width	Bbn 7612270	Order details		Price 1 piece	Weight 1 piece	Pack unit
	V AC	W	mm	EAN	Type code	Order code		kg	pc.
1 CO	250	0.40	9	938759	E214-25-101	2CCA703026R0001		0.041	10
2 CO	250	0.88	18	938766	E214-25-202	2CCA703031R0001		0.082	10

E 218-... Control switches

These devices can be used in distribution board for any control function. The control switches distinguish themselves through simple handling, easy mounting and optimal functionality.

Rated current = 16 A									
Contacts	Rated voltage	Power loss	Width	Bbn 7612270	Order details		Price 1 piece	Weight 1 piece	Pack unit
	V AC	W	mm	EAN	Type code	Order code		kg	pc.
1NO+1NC	250	0.50	9	938773	E218-16-11	2CCA703050R0001		0.041	10
2NO+2NC	250	1.00	18	938780	E218-16-22	2CCA703060R0001		0.082	10
3NO+1NC	250	1.50	18	938797	E218-16-31	2CCA703065R0001		0.082	10

Rated current = 25 A									
Contacts	Rated voltage	Power loss	Width	Bbn 7612270	Order details		Price 1 piece	Weight 1 piece	Pack unit
	V AC	W	mm	EAN	Type code	Order code		kg	pc.
1NO+1NC	250	0.75	9	938803	E218-25-11	2CCA703051R0001		0.041	10

Command and signaling

E 210 pushbuttons



E 215



E 217

E 215-... Pushbuttons (6 different button colours)

Pushbuttons without and with LED

These products are available in 9mm widths (= 0.5 modules).

The devices can be used in distribution boards and are all distinguished by their simple handling, ease of mounting and optimal functionality. The pushbuttons are used for remote control in all kinds of electrical installation (e.g. public, industrial). The range offers three different voltages. (Ranges: 12-48 V AC/DC; 115-250 V AC and 60-220 V DC).

Rated current = 16 A										
Contacts	Rated voltage	Power loss	Button colour	Width	Bbn 7612270	Order details		Price 1 piece	Weight 1 piece	Pack unit
						Type code	Order code			
	V AC	W		mm	EAN	Type code	Order code		kg	pc.
1NO+1NC	250	0.50	grey	9	938810	E215-16-11B	2CCA703150R0001		0.046	10
1NO+1NC	250	0.50	red	9	938827	E215-16-11C	2CCA703151R0001		0.046	10
1NO+1NC	250	0.50	green	9	938834	E215-16-11D	2CCA703152R0001		0.046	10
1NO+1NC	250	0.50	yellow	9	938841	E215-16-11E	2CCA703153R0001		0.046	10
1NO+1NC	250	0.50	black	9	938858	E215-16-11F	2CCA703154R0001		0.046	10
1NO+1NC	250	0.50	blue	9	938865	E215-16-11G	2CCA703155R0001		0.046	10

E 217-... Luminous Pushbuttons (5 different LED colours)

LED Voltage range = 115-250 V AC										
Contacts	Rated voltage	Power loss	LED colour	Width	Bbn 7612270	Order details		Price 1 piece	Weight 1 piece	Pack unit
						Type code	Order code			
	V AC	W		mm	EAN	Type code	Order code		kg	pc.
1 NO	250	1.10	white	9	938988	E217-16-10B	2CCA703160R0001		0.050	10
1 NO	250	1.10	red	9	938995	E217-16-10C	2CCA703161R0001		0.050	10
1 NO	250	1.10	green	9	939008	E217-16-10D	2CCA703162R0001		0.050	10
1 NO	250	1.10	yellow	9	939015	E217-16-10E	2CCA703163R0001		0.050	10
1 NO	250	1.10	blue	9	939022	E217-16-10G	2CCA703164R0001		0.050	10
1 NC	250	1.10	white	9	939084	E217-16-01B	2CCA703250R0001		0.050	10
1 NC	250	1.10	red	9	939091	E217-16-01C	2CCA703251R0001		0.050	10
1 NC	250	1.10	green	9	939107	E217-16-01D	2CCA703252R0001		0.050	10
1 NC	250	1.10	yellow	9	939114	E217-16-01E	2CCA703253R0001		0.050	10
1 NC	250	1.10	blue	9	939121	E217-16-01G	2CCA703254R0001		0.050	10

Command and signaling

E 210 pushbuttons



E 217

E 217-... Luminous Pushbuttons (5 different LED colours)

LED Voltage range = 12-48 V AC/DC										
Contacts	Rated voltage	Power loss	LED colour	Width	Bbn 7612270	Order details		Price 1 piece	Weight 1 piece	Pack unit
	V AC	W		mm	EAN	Type code	Order code		kg	pc.
1 NO	250	0.72	white	9	938933	E217-16-10B48	2CCA703170R0001		0.050	10
1 NO	250	0.72	red	9	938940	E217-16-10C48	2CCA703171R0001		0.050	10
1 NO	250	0.72	green	9	938957	E217-16-10D48	2CCA703172R0001		0.050	10
1 NO	250	0.72	yellow	9	938964	E217-16-10E48	2CCA703173R0001		0.050	10
1 NO	250	0.72	blue	9	938971	E217-16-10G48	2CCA703174R0001		0.050	10
1 NC	250	0.72	white	9	939039	E217-16-01B48	2CCA703260R0001		0.050	10
1 NC	250	0.72	red	9	939046	E217-16-01C48	2CCA703261R0001		0.050	10
1 NC	250	0.72	green	9	939053	E217-16-01D48	2CCA703262R0001		0.050	10
1 NC	250	0.72	yellow	9	939060	E217-16-01E48	2CCA703263R0001		0.050	10
1 NC	250	0.72	blue	9	939077	E217-16-01G48	2CCA703264R0001		0.050	10

LED Voltage range = 60-220 V DC										
Contacts	Rated voltage	Power loss	LED colour	Width	Bbn 7612270	Order details		Price 1 piece	Weight 1 piece	Pack unit
	V AC	W		mm	EAN	Type code	Order code		kg	pc.
1 NO	250	1.50	white	9	939138	E217-16-10B220	2CCA703165R0001		0.050	10
1 NO	250	1.50	red	9	939145	E217-16-10C220	2CCA703166R0001		0.050	10
1 NO	250	1.50	green	9	939152	E217-16-10D220	2CCA703167R0001		0.050	10
1 NO	250	1.50	yellow	9	939169	E217-16-10E220	2CCA703168R0001		0.050	10
1 NO	250	1.50	blue	9	939176	E217-16-10G220	2CCA703169R0001		0.050	10
1 NC	250	1.50	white	9	939183	E217-16-01B220	2CCA703255R0001		0.050	10
1 NC	250	1.50	red	9	939190	E217-16-01C220	2CCA703256R0001		0.050	10
1 NC	250	1.50	green	9	939206	E217-16-01D220	2CCA703257R0001		0.050	10
1 NC	250	1.50	yellow	9	939213	E217-16-01E220	2CCA703258R0001		0.050	10
1 NC	250	1.50	blue	9	939220	E217-16-01G220	2CCA703259R0001		0.050	10

Command and signaling

E 210 indicator lights



E 219

E 219-... Indicator Lights with LED (5 different colours)

Indicator Lights with LED

These products are available in 9 mm width (= 0.5 modules) and can be used for indicating any operational condition such as signaling loss of a phase.

The range offers three different voltages.

(Ranges: 12-48 V AC/DC; 115-250 V AC and 110-220 V DC).

Single indicator light - LED Voltage range = 115-250 V AC								
Power loss	LED colour	Width	Bbn 7612270	Order details		Price 1 piece	Weight 1 piece	Pack unit
W		mm	EAN	Type code	Order code		kg	pc.
0.47	white	9	939282	E219-B	2CCA703400R0001		0.04	10
0.47	red	9	939299	E219-C	2CCA703401R0001		0.04	10
0.47	green	9	939305	E219-D	2CCA703402R0001		0.04	10
0.47	yellow	9	939312	E219-E	2CCA703403R0001		0.04	10
0.47	blue	9	939329	E219-G	2CCA703404R0001		0.04	10

Single indicator light - LED Voltage range = 12-48 V AC/DC								
Power loss	LED colour	Width	Bbn 7612270	Order details		Price 1 piece	Weight 1 piece	Pack unit
W		mm	EAN	Type code	Order code		kg	pc.
0.40	white	9	939237	E219-B48	2CCA703420R0001		0.04	10
0.40	red	9	939244	E219-C48	2CCA703421R0001		0.04	10
0.40	green	9	939251	E219-D48	2CCA703422R0001		0.04	10
0.40	yellow	9	939268	E219-E48	2CCA703423R0001		0.04	10
0.40	blue	9	939275	E219-G48	2CCA703424R0001		0.04	10

Single indicator light - LED Voltage range = 60-220 V DC								
Power loss	LED colour	Width	Bbn 7612270	Order details		Price 1 piece	Weight 1 piece	Pack unit
W		mm	EAN	Type code	Order code		kg	pc.
1.00	white	9	939336	E219-B220	2CCA703405R0001		0.04	10
1.00	red	9	939343	E219-C220	2CCA703406R0001		0.04	10
1.00	green	9	939350	E219-D220	2CCA703407R0001		0.04	10
1.00	yellow	9	939367	E219-E220	2CCA703408R0001		0.04	10
1.00	blue	9	939374	E219-G220	2CCA703409R0001		0.04	10

Command and signaling

E 210 indicator lights



E 219-2CD



E 219-3CDE

Double indicator light - LED Voltage range = 12-24 V AC							
Power loss	LED colour	Width	Bbn 7612271	Order details		Price 1 piece	Pack 1 piece unit
W		mm	EAN	Type code	Order code	kg	pc.
0.8	green, red	9	413347	E219-2CD48	2CCA703911R0001	0.042	10

Double indicator light - LED Voltage range = 115-230 V AC							
Power loss	LED colour	Width	Bbn 7612271	Order details		Price 1 piece	Pack 1 piece unit
W		mm	EAN	Type code	Order code	kg	pc.
0.8	green, red	9	413330	E219-2CD	2CCA703910R0001	0.042	10

Triple indicator light - LED Voltage range = 415-230 V AC							
Power loss	LED colour	Width	Bbn 7612271	Order details		Price 1 piece	Pack 1 piece unit
W		mm	EAN	Type code	Order code	kg	pc.
1.2	red, red, red	9	413309	E219-3C	2CCA703900R0001	0.044	10
1.2	green, green, green	9	413316	E219-3D	2CCA703901R0001	0.044	10
1.2	red, yellow, green	9	413323	E219-3CDE	2CCA703902R0001	0.044	10

Command and signaling

E 210 accessories



E 210-DH



E 210-ASV9

Accessories for E 210 device series

Dummy housing for 9 mm wide units

The modular width of 18 mm must be complied with to use the devices in the SMISLINE socket system. The dummy housing is ready-made with two expanding connectors. Always snap on dummy housing on the left.

Bbn 7612270	Order details		Price 1 piece	Weight 1 piece	Pack unit
EAN	Type code	Order code	kg	pc.	
404208	E210-DH	2CCA703480R0001	0.18	10	

Padlock

Bbn 7612270	Order details		Price 1 piece	Weight 1 piece	Pack unit
EAN	Type code	Order code	kg	pc.	
to use for 9 and 18 mm wide units	404215	E210-ASV9	2CCA703648R0001	0.01	10

Command and signaling

Installation contactors



ABB's hum-free installation contactor designs now offer a wider range of ratings from 16 A to 100 A. Widely used in buildings for switching and controlling lighting, heating, ventilation, motor and pumps, the installation contactors take noise reduction to a new level. With an innovative AC / DC coil design that eliminates hum, a broad selection of common accessories as well as manual and automatic versions, installation contactors offer peace of mind in noise-sensitive applications.



Optimum interface

Quiet and reliable in every application

ABB's hum-free contactors feature innovative AC / DC coils. The range covers ratings from 16 A to 100 A and offers accessories to suit customer requirements in every application. An integrated indicator makes diagnostics quicker and provides reliable information about the contactor's status at a glance.



Easy to install

Simple solution that saves time

Reduce installation time and stock levels, with a universal auxiliary contact block that can be attached to the contactors by hand. Installation contactors fit easily with ABB's System Pro M compact range, making them fully compatible with other modular DIN-rail components.



Global availability

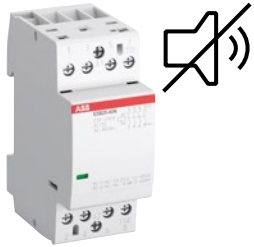
Whatever you need, wherever you need it

Installation contactors are available in single and multi-packs to meet different customer needs and to optimize warehousing space. Every ABB product enjoys expert local support worldwide to make communication easier and delivery faster.

Command and signaling

Installation contactors

Features and benefits



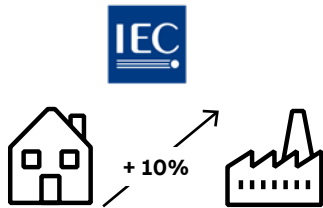
Hum-free operation

With an innovative AC / DC design that eliminates hum, the range meets the needs of applications demanding silent operation, for example hotel rooms and residential buildings.



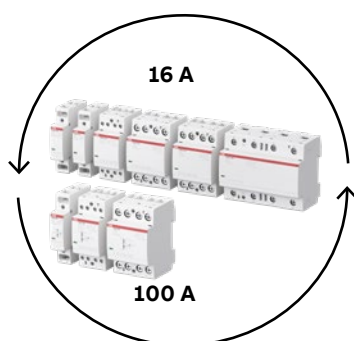
Single and multiple packaging

The right packaging for your needs- our products are available in a choice of different packaging and delivery quantities. This allows you to warehouse according to your needs and save up to 50% on your inventory.



Wide application range

The ESB installation contactors range meets both the industrial standard IEC 60947-4-1 and the household standard IEC 61095 as well as pollution degree class 3. Due to multiple certification and inherent robustness, the contactors can be used in 10% more applications in both residential and industrial settings.



Comprehensive solution

ABB's ESB and EN installation contactors range offers a complete solution from 16 A to 100 A, offering an answer to all customer needs from a single supplier.

With 16 A, 25 A and 100 A versions, tender specifications can be met with competitive pricing.

Command and signaling

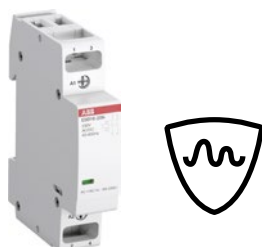
Installation contactors

Features and benefits



Save up to 15% space with group mounting

ESB16..N, ESB/EN20..N and ESB100..N can be group mounted. There is no need for a distance piece in between contactors, saving both valuable space in cabinets and money.



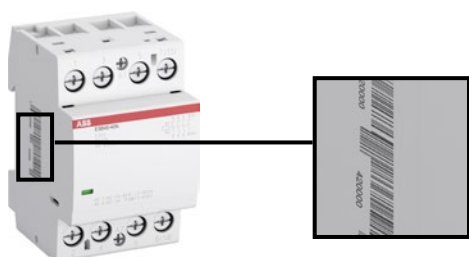
Built-in protective circuit

Protect the contactor without additional space-demanding components against remote lightning strikes and overvoltages.



Design in accordance with System Pro M

Contactors and accessories are designed according to System pro M range and ABB's modular DIN-rail components and fit in dedicated panels.



EAN-code for an easy identification

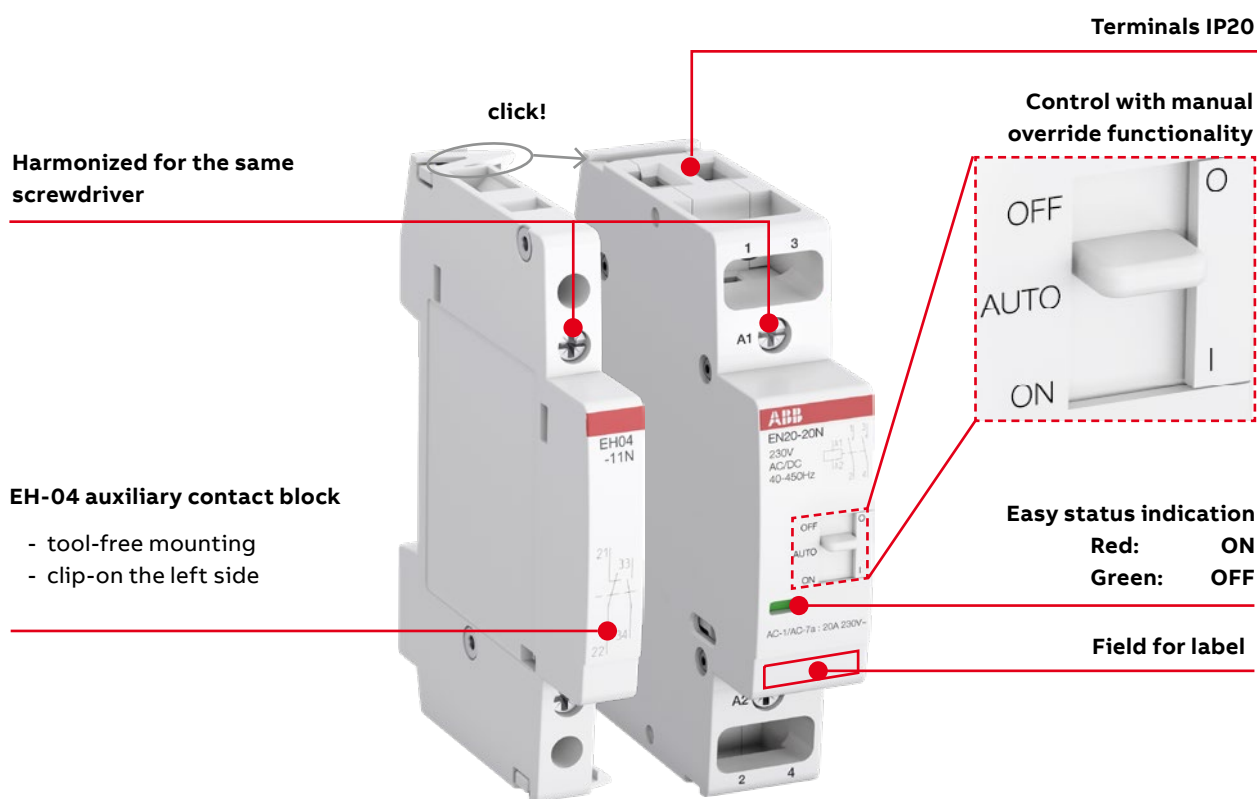
Just scan the EAN-code printed on the side of the devices and save up to 80% time identifying the product in your system. This way, handling and identifying your products in warehouse and cashier system is easy.

Command and signaling

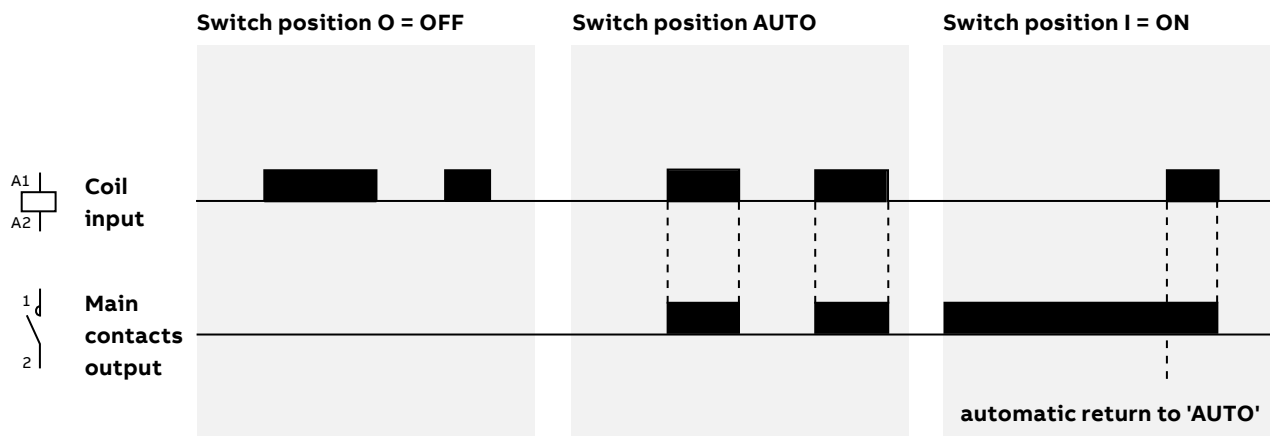
Installation contactors

Easy installation and maintenance

ABB's installation contactors come with many features that make installation and maintenance easier. The mechanical Indicator with green and red color for status indication ensures a quick diagnostic of the system. Also, some specialty types feature a manual override functionality with a toggle switch to control independently from control source. Accessories can be mounted tool-free on the contactor, for example auxiliaries, space holders as well as security and safety covers.



Operation mode EN-versions



Command and signaling

Installation contactors

Overview contactors



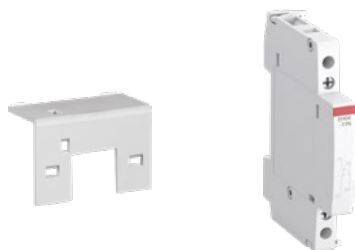
Type		ESB16..N	ESB20..N EN20..N	ESB25..N EN25..N	ESB40..N EN40..N	ESB63..N	ESB100..N
AC-1/AC-7a (A)		16	20	25	40	63	100
Modular Width		1	1	2	3	3	3/6
Accessories							
 Auxiliary contact blocks	2 NO	EH04-20N	EH04-20N	EH04-20N	EH04-20N	EH04-20N	EH04-20N
	1 NO + 1 NC	EH04-11N	EH04-11N	EH04-11N	EH04-11N	EH04-11N	EH04-11N
 Distance piece	up to 40 °C	-	-	-	-	-	-
	between 40 °C and 55 °C	-	-	ESB-DIS*	ESB-DIS*	ESB-DIS*	-
 Covers		-	-	ESB-PLK24	ESB-PLK40/63	ESB-PLK40/63	-

*If several contactors are mounted adjacently and the duty time is longer than one hour, every second contactor needs a distance piece, Type ESB-DIS (1/2 module). This is not necessary at an ambient temperature ≤ 40 °C .

Command and signaling

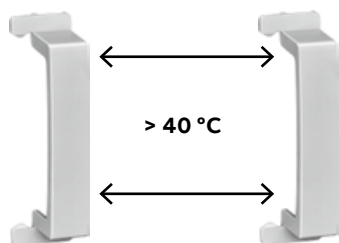
Installation contactors

Overview accessories



Tool-free accessories

Speed up installation and maintenance time by mounting accessories tool-free to the contactor. Auxiliaries, security safety covers and space holders are easily and quickly installed.



Distance pieces

If the ambient temperature in your control cabinet exceeds 40 °C and the duty time is longer than an hour, you need to use a distance piece between each second contactor for the ESB25..N to ESB63..N.



Sealing covers

Protect the security of your employees/ customers' installation with sealing covers. They are available in different sizes and can be clipped on easily.



Auxiliary contact blocks

ABB's new range of auxiliary contact blocks are mounted on the left side of the contactors. Simply clip them on - no tools required! Valuable inventory space can be saved with the new auxiliary contact block which is designed to fit all contactors of the range.

Command and signaling

Installation contactors

Ordering details ESB16..N - 16 A, AC-1 /AC-7a, AC/DC operated

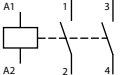
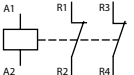
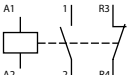
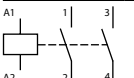
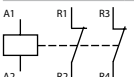
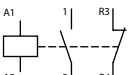


ESB16..N

The ESB16..N installation contactors are used to control single-phase loads up to 16 A and can be operated by AC or DC voltages. These contactors are made for use in household applications as well as in industrial environment.

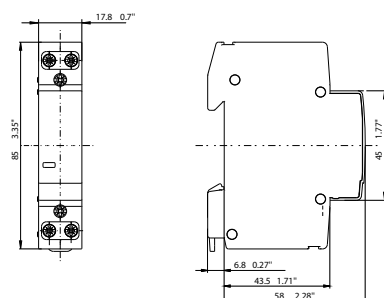
ESB16..N series is providing the following benefits:

- Hum-free operation, low power consumption and integrated overvoltage protection.
- Various contact combinations and accessories are available.

Main contacts	Width ⁽¹⁾	Rated control circuit voltage ⁽²⁾	Bbn 3471523	Order details		Price 1 piece	Weight 1 piece	Pack unit
				V AC/DC	EAN			
Single packaging								
	1	24	004337	ESB16-20N-01	1SBE111111R0120		0.14	1
		230	004481	ESB16-20N-06	1SBE111111R0620		0.14	1
	1	24	004313	ESB16-02N-01	1SBE111111R0102		0.14	1
		230	004467	ESB16-02N-06	1SBE111111R0602		0.14	1
	1	24	004320	ESB16-11N-01	1SBE111111R0111		0.14	1
		230	004474	ESB16-11N-06	1SBE111111R0611		0.14	1
Multiple packaging								
	1	24	004726	ESB16-20N-01	1SBE111111M0120		0.14	12
		230	004870	ESB16-20N-06	1SBE111111M0620		0.14	12
	1	24	004702	ESB16-02N-01	1SBE111111M0102		0.14	12
		230	004856	ESB16-02N-06	1SBE111111M0602		0.14	12
	1	24	004719	ESB16-11N-01	1SBE111111M0111		0.14	12
		230	004863	ESB16-11N-06	1SBE111111M0611		0.14	12

(1) In number of modular spacings.

(2) Other control voltages: see voltage code table and contact ABB for availability of products.



ESB16..N

Dimensions mm, inches

Command and signaling

Installation contactors

Ordering details ESB20..N - 20 A, AC-1 /AC-7a, AC/DC operated

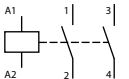
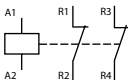
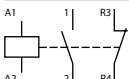
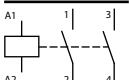
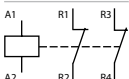
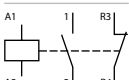


ESB20..N

The ESB20..N installation contactors are used to control single-phase loads up to 20 A and can be operated by AC or DC voltages. These contactors are made for use in household applications as well as in industrial environment.

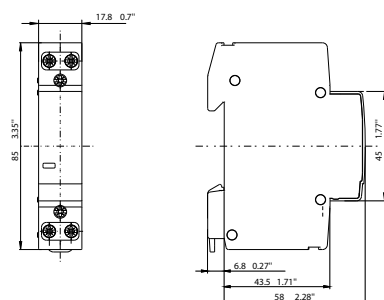
ESB20..N series is providing the following benefits:

- Hum-free operation, low power consumption and integrated overvoltage protection.
- Various contact combinations and accessories are available.

Main contacts	Width ⁽¹⁾	Rated control circuit voltage ⁽²⁾	Bbn 3471523	Order details		Price 1 piece	Weight 1 piece	Pack unit
				V AC/DC	EAN			
Single packaging								
	1	24	004566	ESB20-20N-01	1SBE121111R0120		0.14	1
		230	004641	ESB20-20N-06	1SBE121111R0620		0.14	1
	1	24	004559	ESB20-02N-01	1SBE121111R0102		0.14	1
		230	005372	ESB20-02N-06	1SBE121111R0602		0.14	1
	1	24	005310	ESB20-11N-01	1SBE121111R0111		0.14	1
		230	005389	ESB20-11N-06	1SBE121111R0611		0.14	1
Multiple packaging								
	1	24	004962	ESB20-20N-01	1SBE121111M0120		0.14	12
		230	005112	ESB20-20N-06	1SBE121111M0620		0.14	12
	1	24	004948	ESB20-02N-01	1SBE121111M0102		0.14	12
		230	005099	ESB20-02N-06	1SBE121111M0602		0.14	12
	1	24	004955	ESB20-11N-01	1SBE121111M0111		0.14	12
		230	005105	ESB20-11N-06	1SBE121111M0611		0.14	12

(1) In number of modular spacings.

(2) Other control voltages: see voltage code table and contact ABB for availability of products.



ESB20..N

Dimensions mm, inches

Command and signaling

Installation contactors

Ordering details ESB25..N - 25 A, AC-1/AC-7a, AC/DC operated

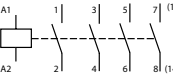
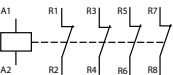
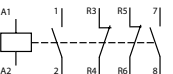
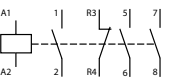
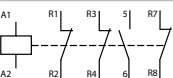
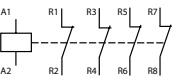
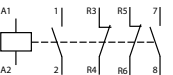
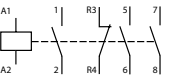
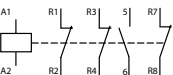


ESB25..N

The ESB25..N installation contactors are used to control single and three-phases loads up to 25 A and can be operated by AC or DC voltages. These contactors are made for use in household applications as well as in industrial environment.

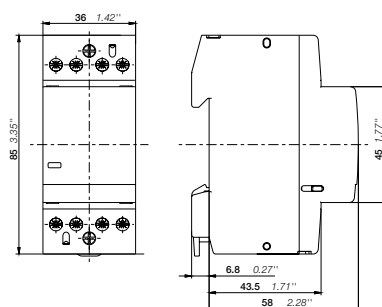
ESB25..N series is providing the following benefits:

- Hum-free operation, low power consumption and integrated overvoltage protection.
- Various contact combinations and accessories are available.

Main contacts	Width ⁽¹⁾	Rated control circuit voltage ⁽²⁾	Bbn 4013614	Order details		Price 1 piece	Weight 1 piece	Pack unit		
				V AC/DC	EAN				Type code	Order code
Single packaging										
	2	24	523977	ESB25-40N-01	1SAE231111R0140		0.245	1		
		230...240	524257	ESB25-40N-06	1SAE231111R0640		0.235	1		
	2	24	523915	ESB25-04N-01	1SAE231111R0104		0.245	1		
		230...240	524196	ESB25-04N-06	1SAE231111R0604		0.235	1		
	2	24	523946	ESB25-22N-01	1SAE231111R0122		0.245	1		
		230...240	524226	ESB25-22N-06	1SAE231111R0622		0.235	1		
	2	24	523960	ESB25-31N-01	1SAE231111R0131		0.245	1		
		230...240	524240	ESB25-31N-06	1SAE231111R0631		0.235	1		
	2	24	523922	ESB25-13N-01	1SAE231111R0113		0.245	1		
		230...240	524202	ESB25-13N-06	1SAE231111R0613		0.235	1		
Multiple packaging										
	2	24	519420	ESB25-40N-01	1SAE231111M0140		0.245	6		
		230...240	519703	ESB25-40N-06	1SAE231111M0640		0.235	6		
	2	24	519369	ESB25-04N-01	1SAE231111M0104		0.245	6		
		230...240	519642	ESB25-04N-06	1SAE231111M0604		0.235	6		
	2	24	519390	ESB25-22N-01	1SAE231111M0122		0.245	6		
		230...240	519673	ESB25-22N-06	1SAE231111M0622		0.235	6		
	2	24	519413	ESB25-31N-01	1SAE231111M0131		0.245	6		
		230...240	519697	ESB25-31N-06	1SAE231111M0631		0.235	6		
	2	24	519376	ESB25-13N-01	1SAE231111M0113		0.245	6		
		230...240	519659	ESB25-13N-06	1SAE231111M0613		0.235	6		

(1) In number of modular spacings.

(2) Other control voltages: see voltage code table and contact ABB for availability of products.



ESB25..N

Dimensions mm, inches

Command and signaling

Installation contactors

Ordering details ESB40..N - 40 A, AC-1/AC-7a, AC/DC operated

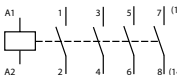
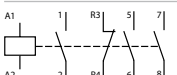
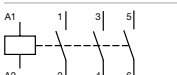
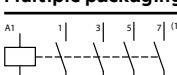


ESB40..N

The ESB40..N installation contactors are used to control single and three-phases loads up to 40 A and can be operated by AC or DC voltages. These contactors are made for use in household applications as well as in industrial environment.

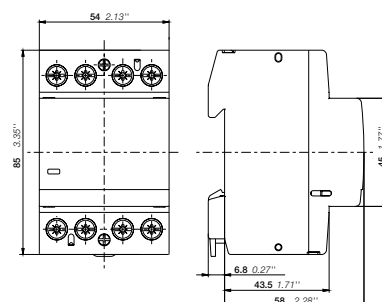
ESB40..N series is providing the following benefits:

- Hum-free operation, low power consumption and integrated overvoltage protection.
- Various contact combinations and accessories are available.

Main contacts	Width ⁽¹⁾	Rated control circuit voltage ⁽²⁾	Bbn 4013614	Order details		Price 1 piece	Weight 1 piece	Pack 1 piece unit
				V AC/DC	EAN			
Single packaging								
	3	24	524639	ESB40-40N-01	1SAE341111R0140	0.405	1	
		230	524820	ESB40-40N-06	1SAE341111R0640	0.405	1	
	3	24	524608	ESB40-22N-01	1SAE341111R0122	0.405	1	
		230	524790	ESB40-22N-06	1SAE341111R0622	0.405	1	
	3	24	524622	ESB40-31N-01	1SAE341111R0131	0.405	1	
		230	524813	ESB40-31N-06	1SAE341111R0631	0.405	1	
	3	24	524615	ESB40-30N-01	1SAE341111R0130	0.385	1	
		230	524806	ESB40-30N-06	1SAE341111R0630	0.385	1	
	3	24	524592	ESB40-20N-01	1SAE341111R0120	0.370	1	
		230	524783	ESB40-20N-06	1SAE341111R0620	0.370	1	
Multiple packaging								
	3	24	520075	ESB40-40N-01	1SAE341111M0140	0.405	4	
		230	520266	ESB40-40N-06	1SAE341111M0640	0.405	4	
	3	24	520044	ESB40-22N-01	1SAE341111M0122	0.405	4	
		230	520235	ESB40-22N-06	1SAE341111M0622	0.405	4	
	3	24	520068	ESB40-31N-01	1SAE341111M0131	0.405	4	
		230	520259	ESB40-31N-06	1SAE341111M0631	0.405	4	
	3	24	520051	ESB40-30N-01	1SAE341111M0130	0.385	4	
		230	520242	ESB40-30N-06	1SAE341111M0630	0.385	4	
	3	24	520037	ESB40-20N-01	1SAE341111M0120	0.370	4	
		230	520228	ESB40-20N-06	1SAE341111M0620	0.370	4	

(1) In number of modular spacings.

(2) Other control voltages: see voltage code table and contact ABB for availability of products.



ESB40..N

Dimensions mm, inches

Command and signaling

Installation contactors

Ordering details ESB63..N - 63 A, AC-1/AC-7a, AC/DC operated



ESB63..N

The ESB63..N installation contactors are used to control single and three-phases loads up to 63 A and can be operated by AC or DC voltages. These contactors are made for use in household applications as well as in industrial environment.

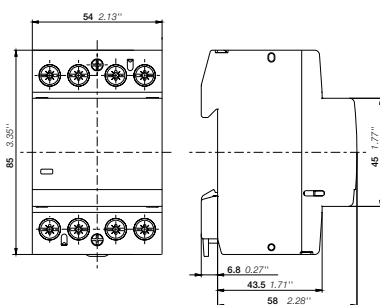
ESB63..N series is providing the following benefits:

- Hum-free operation, low power consumption and integrated overvoltage protection.
- Various contact combinations and accessories are available.

Main contacts	Width ⁽¹⁾	Rated control circuit voltage ⁽²⁾	Bbn 4013614	Order details		Price 1 piece	Weight 1 piece	Pack unit		
				V AC/DC	EAN				Type code	Order code
kg pc.										
Single packaging										
	3	24	525278	ESB63-40N-01	1SAE351111R0140		0.405	1		
		230	525544	ESB63-40N-06	1SAE351111R0640		0.405	1		
	3	230	525537	ESB63-31N-06	1SAE351111R0631		0.405	1		
	3	230	525520	ESB63-30N-06	1SAE351111R0630		0.385	1		
	3	24	525247	ESB63-20N-01	1SAE351111R0120		0.37	1		
		230	525506	ESB63-20N-06	1SAE351111R0620		0.37	1		
Multiple packaging										
	3	24	520716	ESB63-40N-01	1SAE351111M0140		0.405	4		
		230	520983	ESB63-40N-06	1SAE351111M0640		0.405	4		
	3	230	520976	ESB63-31N-06	1SAE351111M0631		0.405	4		
	3	230	520969	ESB63-30N-06	1SAE351111M0630		0.385	4		
	3	24	520686	ESB63-20N-01	1SAE351111M0120		0.37	4		
		230	520945	ESB63-20N-06	1SAE351111M0620		0.37	4		

(1) In number of modular spacings.

(2) Other control voltages: see voltage code table and contact ABB for availability of products.



ESB63..N

Dimensions mm, inches

Command and signaling

Installation contactors

Ordering details ESB100..N - 100 A, AC-1/AC-7a, AC/DC operated



ESB100-20N



ESB100-40N

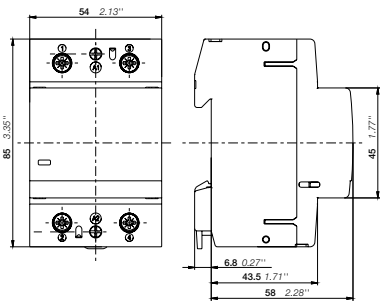
The ESB100..N installation contactors are used to control single and three-phases loads up to 100 A and can be operated by AC or DC voltages. These contactors are made for use in household applications as well as in industrial environment.

ESB100..N series is providing the following benefits:

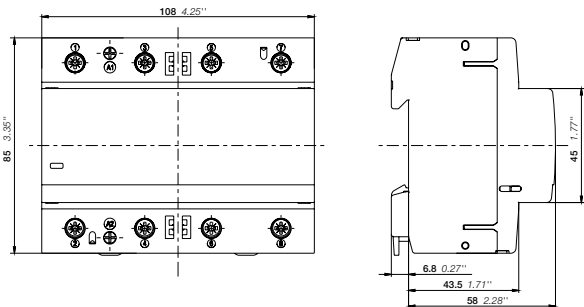
- Hum-free operation, low power consumption and integrated overvoltage protection.
- Various contact combinations and accessories are available.

Main contacts	Width ⁽¹⁾	Rated control circuit voltage	Bbn 4013614	Order details		Price	Weight	Pack
				V AC/DC	EAN	Type code	Order code	1 piece
Single packaging								
	6	24	533112	ESB100-40N-01	1SAE661111R0140		0.405	1
		230	533211	ESB100-40N-06	1SAE661111R0640		0.405	1
	3	24	533013	ESB100-20N-01	1SAE361111R0120		0.81	1
		230	533037	ESB100-20N-06	1SAE361111R0620		0.81	1
Multiple packaging								
	3	24	533235	ESB100-20N-01	1SAE361111M0120		1.62	2
		230	533259	ESB100-20N-06	1SAE361111M0620		1.62	2

(1) In number of modular spacings.



ESB100-20N



ESB100-40N

Dimensions mm, inches

Command and signaling

Installation contactors

Ordering details EN20N -20 A, manually/automatic operated



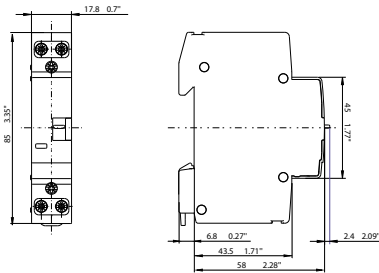
EN20..N

The EN20..N installation contactors are used to control single-phase loads up to 20 A and can be operated by AC or DC voltages. They have a built-in toggle switch to be operated manually or automatically. These contactors are made for use in household applications as well as in industrial environment.

EN20..N series is providing the following benefits:

- Hum-free operation, low power consumption and integrated overvoltage protection and manual override.
- Various contact combinations and accessories are available.

Main contacts	Width ⁽¹⁾	Rated control circuit voltage ⁽¹⁾ V AC/DC	Bbn 3471523 EAN	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
				Type code	Order code			
				Single packaging				
	1	24	004689	EN20-20N-01	1SBE122111R0120		0.14	1
		230	004696	EN20-20N-06	1SBE122111R0620		0.14	1
Multiple packaging								
	1	24	005426	EN20-20N-01	1SBE122111M0120		0.14	12
		230	005433	EN20-20N-06	1SBE122111M0620		0.14	12



EN20..N

Dimensions mm, inches

Command and signaling

Installation contactors

Ordering details EN25..N, manually/automatic operated



EN25..N

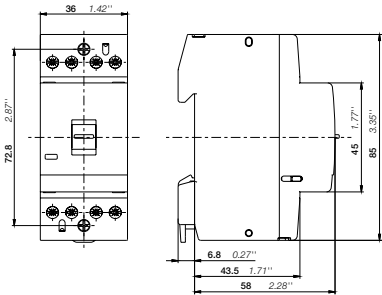
The EN25..N installation contactors are used to control single- and three-phase loads up to 25 A and can be operated by AC or DC voltages. They have a built-in toggle switch to be operated manually or automatically. These contactors are made for use in household applications as well as in industrial environment.

EN25..N series is providing the following benefits:

- Hum-free operation, low power consumption and integrated overvoltage protection and manual override.
- Various contact combinations and accessories are available.

Main contacts	Width ⁽¹⁾	Rated control circuit voltage	Bbn 4013614	Order details		Price 1 piece	Weight 1 piece	Pack unit
				V AC/DC	EAN	Type code	Order code	kg
Single packaging								
	2	24	524431	EN25-40N-01	1SAE232111R0140		0.250	1
		230 ... 240	524554	EN25-40N-06	1SAE232111R0640		0.240	1
	2	24	524424	EN25-31N-01	1SAE232111R0131		0.250	1
		230 ... 240	524547	EN25-31N-06	1SAE232111R0631		0.240	1
	2	230 ... 240	524530	EN25-30N-06	1SAE232111R0630		0.235	1
Multiple packaging								
	2	24	519871	EN25-40N-01	1SAE232111M0140		0.250	6
		230 ... 240	519994	EN25-40N-06	1SAE232111M0640		0.240	6
	2	24	519864	EN25-31N-01	1SAE232111M0131		0.250	6
		230 ... 240	519987	EN25-31N-06	1SAE232111M0631		0.240	6
	2	230 ... 240	519970	EN25-30N-06	1SAE232111M0630		0.235	6

(1) In number of modular spacings.



EN25..N

Dimensions mm, inches

Command and signaling

Installation contactors

Ordering details EN40..N, manually/automatic operated



EN40..N

The EN40..N installation contactors are used to control single- and three-phase loads up to 40 A and can be operated by AC or DC voltages. They have a built-in toggle switch to be operated manually or automatically. These contactors are made for use in household applications as well as in industrial environment.

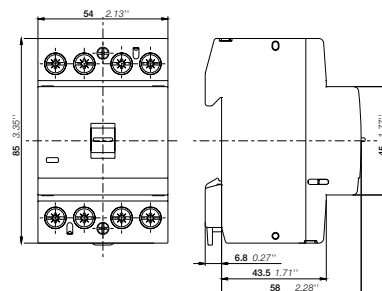
EN40..N series is providing the following benefits:

- Hum-free operation, low power consumption and integrated overvoltage protection and manual override.
- Various contact combinations and accessories are available.

Main contacts	Width ⁽¹⁾	Rated control circuit voltage ⁽²⁾	Bbn 4013614	Order details		Price 1 piece	Weight 1 piece	Pack unit
		V AC/DC	EAN	Type code	Order code		kg	pc.
Single packaging								
	3	24	524943	EN40-40N-01	1SAE342111R0140		0.410	1
		230	525148	EN40-40N-06	1SAE342111R0640		0.410	1
	3	24	524936	EN40-31N-01	1SAE342111R0131		0.410	1
		230	525131	EN40-31N-06	1SAE342111R0631		0.410	1
	3	230	525124	EN40-30N-06	1SAE342111R0630		0.410	1
	3	230	525117	EN40-20N-06	1SAE342111R0620		0.375	1
Multiple packaging								
	3	24	520389	EN40-40N-01	1SAE342111M0140		0.410	4
		230	520587	EN40-40N-06	1SAE342111M0640		0.410	4
	3	24	520372	EN40-31N-01	1SAE342111M0131		0.410	4
		230	520570	EN40-31N-06	1SAE342111M0631		0.410	4
	3	230	520563	EN40-30N-06	1SAE342111M0630		0.410	4
	3	230	520556	EN40-20N-06	1SAE342111M0620		0.375	4

(1) In number of modular spacings.

(2) Other control voltages: see voltage code table and contact ABB for availability of products.



EN40..N

Dimensions mm, inches

Command and signaling

Installation contactors

Ordering details installation contactors accessories



EH04-20N

Auxiliary contact blocks

Suitable for	Auxiliary contacts	Bbn 4013614	Order details		Price 1 piece	Weight 1 piece	Pack unit
		EAN	Type code	Order code		kg	pc.
Single packaging							
ESB16..N, ESB20..N, ESB25..N, ESB40..N, ESB63..N, ESB100..N, EN20..N, EN25..N, EN40..N		527814	EH04-11N	1SAE901901R1011		0.040	1
		527821	EH04-20N	1SAE901901R1020		0.040	1
Multiple packaging							
ESB16..N, ESB20..N, ESB25..N, ESB40..N, ESB63..N, ESB100..N, EN20..N, EN25..N, EN40..N		528019	EH04-11N	1SAE901901M1011		0.040	6
		528026	EH04-20N	1SAE901901M1020		0.040	6

Accessories

Suitable for	Description	Bbn 4013614	Order details		Price 1 piece	Weight 1 piece	Pack unit
		EAN	Type code	Order code		kg	pc.
Sealing covers							
ESB25..N, EN25..N	sealing cover	420221	ESB-PLK24	GHE3201903R0001		0.002	10
ESB40..N, ESB63..N, EN40..N	sealing cover	420931	ESB-PLK40/63	GHE3401903R0001		0.003	10
Distance piece							
ESB25..N, ESB40..N, ESB63..N, EN25..N, EN40..N	distance piece	420207	ESB-DIS ¹⁾	GHE3201902R0001		0.002	10

1) If several contactors are mounted adjacently and the duty time is longer than one hour, every second contactor needs a distance piece, Type ESB-DIS (1/2 module). This is not necessary at an ambient temperature ≤ 40 °C or on Type ESB16..N, ESB/EN20..N and ESB100..N.



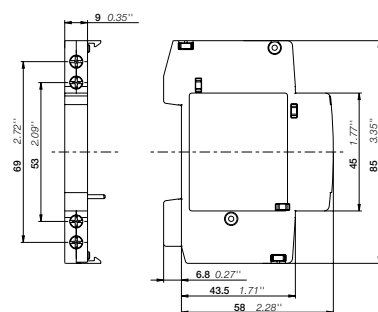
ESB-PLK24



ESB-DIS



ESB-SPK40/63



EH04..N

Dimensions mm, inches

Command and signaling

E290 Latching relays



E290

E290 Latching Relay

General			
Overall depth	68 mm		
Overall width	1 module (18 mm)		
Color	grey, RAL 7035		
Climate resistance in accordance with	IEC 60068-2-2 (dry heat)		
	IEC 60068-2-30 (humid heat)		
	IEC 60068-2-1 (low temperature)		
Ambient temperature	-25°C to +55°C		
Storage temperature	-40°C to +70°C		
Contact system	Double interruption		
Tightening torque	1.2 - 1.5 Nm		
Weight	0.122 kg		
Standards	50 Hz	IEC/EN 60669-1; IEC/EN 60669-2-2	
	60 Hz	IEC 60669-1; IEC 60669-2-2	
Approvals	50 Hz	VDE; EAC	
	60 Hz	RINA	
Power Circuit			
Rated Current I _n			
	E290-16-.../...	16 A	–
	E290-32-.../...	–	32 A
Rated voltage U _n	250 VAC		250 VAC
Frequency	50/60 Hz		50/60 Hz
Short circuit withstand capacity I _{nc}	3 kA		3 kA
Back-up fuses (gL)	max. 16 A		max. 32 A
Latching Relay contact configurations for 16 A and 32 A Additional power contacts for 16 A (attachable) (not for 32 A version)		1NO; 2NO; 1NO + 1NC 1CO; 2NO; 1NO + 1NC	
Max. DC current per contact with 24 VDC	5 A		8 A
Bounce time	50 Hz	< 3 ms	
	60 Hz	< 6 ms	
Power loss in W per contact	0.32 W		1.2 W
Rated impulse withstand voltage U _{imp}	4 kV		
Max. lamp load			
Glow lamps (20 W - 200 W)	3000 W		4000 W
Flourescent lamps, uncorrected power factor (cos. 0.5)	1800 W		2200 W
Flourescent lamps, corrected power factor (cos. 0.9)			
	serial	3000 W	4000 W
	parallel	2500 W	3200 W
	single	1800 W	2200 W
	double	2500 W	3200 W
(see also lamp load table)			

Command and signaling

E290 Latching relays

E290 Latching Relay

Lifetime (switching cycles)	
Electrical (AC1 rated current load)	150000
Mechanical	250000
Connector cross-sections	
Connecting terminals	solid from 1x1 mm ² to 1x10 mm ² or 2x2.5 mm ² flexible from 1x0.75 mm ² to 1x16 mm ² (Cu) with end ferrule or pin cable lug
Control Circuit	
Rated control voltages U _n	
	AC: 8 V; 12 V; 24 V; 48 V; 115 V; 230 V
	DC: –; –; 12 V*; 24 V; 60 V*; 110 V* * for 50 Hz devices only
AC/DC ratio ¹⁾	1: 0.5 (not available for 8 VAC and 12 VAC coils)
Operation limits	+/- 10% = 0.9 - 1.1 x U _n
Minimum command duration	50 ms
Max. switching operations	15 x per min. at I _n 16 A; 8 x per min. at I _n 32 A
switching noise	60 dB (A) (distance 1 m)
Max. number of illuminated buttons (0.6 mA)	(see table on page 16)
Max. glow lamp current parallel to the 230 V control buttons	5 mA

Coil Consumption – E290 Latching Relay

Product type	Control voltage	Coil consumption average pull-in current	Control voltage	Coil consumption average pull-in current
	V AC	A	V DC	A
E290				
	230	0.062	110*	0.057*
	115	0.070	60*	0.105*
	48	0.212	24	0.207
	24	0.434	12*	0.558*
	12	1.263	–	–
	8	2.048	–	–
E291S*				
	230	0.051	110	0.047
	24	0.378	12	0.355
	12	0.803	–	–
	8	1.088	–	–
E294				
	230	0.120	–	–
	24	0.684	–	–

1) Coil supply voltage: All E290 50Hz devices can be supplied with AC or DC control voltage.
The ratio of 1 : 0.5 applies, i.e. a 230 VAC coil can also be used for 110 VDC. (See Ordering data.)

NO = normally-open contact; NC = normally-closed contact; CO = changeover contact

* for 50 Hz devices only

Command and signaling

E290 Latching relays

Switching components for E290

E292-16-... Contact Module (attachable only to 16 A I_n version)	
Rated current I _n per E292 contact	16 A
Rated voltage U _n	250 VAC
Frequency	50/60 Hz
Max. no. attachable (additional main contacts)	1 unit (attachable on the right side of the main module)
Contact configurations	1CO; 2NO; 1NO+1NC
Max. DC current per contact with 24 VDC	8 A
Min. switching load (for 50 Hz devices only)	24 V; 10 mA
E299-... Auxiliary Contacts	
Max. no. attachable (signaling or control contacts)	1 unit (attachable on the right side of the main module)
Number of contacts	1 NO + 1 NC; 2 NO
Min. switching load	24 V, 10 mA
Max. current per contact with AC	5.0 A
Max. current per contact with 24 VDC	5.0 A

Control components for E290

E294 Central On-Off Control Module (different control voltage potential)	
Max. no. attachable	1 unit (attachable on the left side of the main module)
Rated current I _n max.	1 A
Rated voltage U _n	250 VAC
E295-PS Permanent Signal Module	
Max. no. attachable	1 unit (attachable on the left side of the main module)
Rated current I _n max.	1 A
Rated voltage U _n	250 VAC
E295-GM Group Module	
Use of group switching modules	1 unit per defined group
Rated current I _n max.	1 A
Rated voltage U _n	250 VAC
E296-CP Compensator	
Compensation when using illuminated buttons	Wiring parallel to the main module
Compensation	50 Hz 2.2 uF
	60 Hz 2.2 uF
Rated voltage U _n	50 Hz 250 VAC
	60 Hz 310 VAC

Command and signaling

E297 Installation relay



E290

E297 Installation Relays

General		
Overall depth	68mm	
Overall width	1 module (18mm)	
Colour	grey, RAL 7035	
Climate resistance in accordance with	IEC 60068-2-2 (dry heat)	
	IEC 60068-2-30 (humid heat)	
	IEC 60068-2-1 (low temperatures)	
Ambient temperature	- 25 °C to + 55 °C	
Storage temperature	- 40 °C to + 70 °C	
Tightening torque	1.2 - 1.5 Nm	
Weight	0.122 kg	
Standards	EN 60669-1; EN 60669-2-2	
Approval	VDE; EAC	
Power circuit		
Rated current In	16 A	
Rated voltage Un	250 VAC	
Frequency	50-60 Hz	
Short circuit withstand capacity Inc	3 kA	
Back-up fuses (gL)	max. 16 A	
Installation relay contact configurations	1NO; 2NO; 1NO+1NC	
Additional Power contacts 16A (attachable)	1CO; 2NO; 1NO+1NC	
Max. DC current per contact with 24 VDC	8 A	
Min. switching load	24 V; 10 mA	
Bounce time	< 3 ms	
Power loss in W per contact	0.50 W	
Rated Impulse withstand voltage Uimp	4 kV	
Max. lamp load		
Glow lamps (20 W-200 W)	3000 W	
Fluorescent lamps, uncorrected power factor (cos. 0.5)	1800 W	
Fluorescent lamps, corrected power factor (cos. 0.9)	serial	3000 W
	parallel	2500 W
	single	1800 W
	double	2500 W
(see also lamp load table)		
Lifetime (switching cycles)		
Electrical (AC1 rated current load)	150,000	
Mechanical	250,000	

Command and signaling

E297 Installation relay

E297 Installation Relays

Application categories		
Switching capacity in accordance with	AC-1 (based on EN 60947)	16 A
	AC-5b (based on EN 60947)	5 A
	AC-7a (based on EN 61095)	16 A
	AC-7c (based on EN 61095)	5 A
Connector cross-sections		
Main connecting terminals		solid from 1 x 1 mm ² to 1 x 10 mm ² or 2 x 2.5 mm ² flexible from 1 x 0.75 mm ² up to 1 x 6 mm ² (Cu) with end ferrule or pin cable lug
Control circuit		
Coil rated voltages Un AC/DC		8 VAC; 12 VAC; 24 VAC/24 VDC; 48 VAC/48 VDC; 115 VAC/110 VDC; 230 VAC
AC/DC ratio 3)		1 : 1
Operation limits		+/- 10% = 0.9 - 1.1 x Un
Switching noise		60 dB (A) (distance 1 m)
Max. switching operations		15 x per min. at In 16 A
Coil power loss		
	AC	DC
Pick up	< 2.8 VA	< 2.0 W
Holding	< 2.6 VA	< 1.8 W

Switching components for E297

E298 Contact Module	
Max. no. attachable 2) (additional main contacts)	1 unit (attachable on the right side of the main module)
Rated current In per E298 contact	16 A
Rated voltage Un	250 VAC
Frequency	50 Hz
Number of contacts	1CO; 2NO; 1NO+1NC
Max. DC current per contact with 24 VDC	5 A
Min. switching load	24 V; 10 mA
E299-11 Auxiliary Contacts	
Max. no. attachable 2) (signaling or control contacts)	1 unit (attachable on the right side of the main module)
Number of contacts	1 NO+1 NC
Max. current per contact with AC	5.0 A
Max. current per contact with 24 VDC	5.0 A

Command and signaling

E290 Latching relays



E290

Latching Relay

This 18 mm wide DIN rail mounted device is designed for direct installation in main distribution or sub-distribution systems (mounted on 35 mm DIN mounting rails). The devices are activated by means of control pulses and guarantee energy-optimized lighting control. As a rule, installations with latching relays are used where the lighting control system can be operated from at least three points in different locations. Those latching relays are designed for a rated current of 16 A or 32 A.

Standard number of contacts:

1 NO contact, 2 NO contacts or 1 NO contact + 1 NC contact

The number of switching contacts can be increased by a maximum of two main contacts using a snap-on main module (E292-...-...). As a result, up to four lighting sets can be switched by a single device.

A signaling and/or indicating facility can be created using the additional snap-on auxiliary contact module (E299-11).

The various standard AC/DC coil voltages complete the comprehensive and interesting product range. The additional devices can be snapped onto the latching relay on the left or right side.

Rated current = 16 A									
Contact config.	Power loss	Width [mm]	Coil control voltage	Bbn 7612270	Order details		Price 1 piece	Weight	Pack unit
	[W]		[VAC/VDC]	EAN	Type code	Order code		kg.	pc.
1NO	0.32	18	8VAC	939558	E290-16-10/8	2TAZ312000R2061		0.114	10
	0.32	18	12VAC	939565	E290-16-10/12	2TAZ312000R2051		0.114	10
	0.32	18	24VAC/12VDC	939572	E290-16-10/24	2TAZ312000R2041		0.114	10
	0.32	18	48VAC/24VDC	939589	E290-16-10/48	2TAZ312000R2031		0.114	10
	0.32	18	115VAC/60VDC	939596	E290-16-10/115	2TAZ312000R2021		0.114	10
	0.32	18	230VAC/110VDC	939602	E290-16-10/230	2TAZ312000R2011		0.114	10
Rated current = 32 A									
Contact config.	Power loss	Width [mm]	Coil control voltage	Bbn 7612270	Order details		Price 1 piece	Weight	Pack unit
	[W]		[VAC/VDC]	EAN	Type code	Order code		kg.	pc.
1NO	1.20	18	8VAC	939619	E290-32-10/8	2TAZ322000R2061		0.114	10
	1.20	18	12VAC	939626	E290-32-10/12	2TAZ322000R2051		0.114	10
	1.20	18	24VAC/12VDC	939633	E290-32-10/24	2TAZ322000R2041		0.114	10
	1.20	18	48VAC/24VDC	939640	E290-32-10/48	2TAZ322000R2031		0.114	10
	1.20	18	115VAC/60VDC	939657	E290-32-10/115	2TAZ322000R2021		0.114	10
	1.20	18	230VAC/110VDC	939664	E290-32-10/230	2TAZ322000R2011		0.114	10
Rated current = 16 A									
Contact config.	Power loss	Width [mm]	Coil control voltage	Bbn 7612270	Order details		Price 1 piece	Weight	Pack unit
	[W]		[VAC/VDC]	EAN	Type code	Order code		kg.	pc.
2NO	0.64	18	8VAC	939671	E290-16-20/8	2TAZ312000R2062		0.122	10
	0.64	18	12VAC	939688	E290-16-20/12	2TAZ312000R2052		0.122	10
	0.64	18	24VAC/12VDC	939695	E290-16-20/24	2TAZ312000R2042		0.122	10
	0.64	18	48VAC/24VDC	939701	E290-16-20/48	2TAZ312000R2032		0.122	10
	0.64	18	115VAC/60VDC	939718	E290-16-20/115	2TAZ312000R2022		0.122	10
	0.64	18	230VAC/110VDC	939725	E290-16-20/230	2TAZ312000R2012		0.122	10

NO = normally-open contact; NC = normally-closed contact; CO = changeover contact

Command and signaling

E290 Latching relays

Rated current = 32 A								
Contact config.	Power loss	Width [mm]	Coil control voltage	Bbn 7612270	Order details		Price 1 piece	Weight Pack unit
	[W]		[VAC/VDC]	EAN	Type code	Order code	kg.	pc.
	2.40	18	8VAC	939732	E290-32-20/8	2TAZ322000R2062	0.122	10
	2.40	18	12VAC	939749	E290-32-20/12	2TAZ322000R2052	0.122	10
	2.40	18	24VAC/12VDC	939756	E290-32-20/24	2TAZ322000R2042	0.122	10
	2.40	18	48VAC/24VDC	939763	E290-32-20/48	2TAZ322000R2032	0.122	10
	2.40	18	115VAC/60VDC	939770	E290-32-20/115	2TAZ322000R2022	0.122	10
	2.40	18	230VAC/110VDC	939787	E290-32-20/230	2TAZ322000R2012	0.122	10
Rated current = 16 A								
Contact config.	Power loss	Width [mm]	Coil control voltage	Bbn 7612270	Order details		Price 1 piece	Weight Pack unit
	[W]		[VAC/VDC]	EAN	Type code	Order code	kg.	pc.
	0.50	18	8VAC	939794	E290-16-11/8	2TAZ312000R2063	0.122	10
	0.50	18	12VAC	939800	E290-16-11/12	2TAZ312000R2053	0.122	10
	0.50	18	24VAC/12VDC	939817	E290-16-11/24	2TAZ312000R2043	0.122	10
	0.50	18	48VAC/24VDC	939824	E290-16-11/48	2TAZ312000R2033	0.122	10
	0.50	18	115VAC/60VDC	939831	E290-16-11/115	2TAZ312000R2023	0.122	10
	0.50	18	230VAC/110VDC	939848	E290-16-11/230	2TAZ312000R2013	0.122	10
Rated current = 32 A								
Contact config.	Power loss	Width [mm]	Coil control voltage	Bbn 7612270	Order details		Price 1 piece	Weight Pack unit
	[W]		[VAC/VDC]	EAN	Type code	Order code	kg.	pc.
	1.20	18	8VAC	939855	E290-32-11/8	2TAZ322000R2063	0.122	10
	1.20	18	12VAC	939862	E290-32-11/12	2TAZ322000R2053	0.122	10
	1.20	18	24VAC/12VDC	939879	E290-32-11/24	2TAZ322000R2043	0.122	10
	1.20	18	48VAC/24VDC	939886	E290-32-11/48	2TAZ322000R2033	0.122	10
	1.20	18	115VAC/60VDC	939893	E290-32-11/115	2TAZ322000R2023	0.122	10
	1.20	18	230VAC/110VDC	939909	E290-32-11/230	2TAZ322000R2013	0.122	10

Command and signaling

E290 Latching relays



E291S



E292



E293/X



E294



E295



E299

Sequential Latching Relay

The sequential latching relay is an 18 mm wide device which has two NO contacts. The preset switching sequence for the main contacts enables the switching on and off, of different lighting sets to be „programmed“. The E291S has an easily visible switch position display on the front.

Standard number of contacts:

2 NO contacts

Rated current = 16 A									
Contact config.	Power loss	Width [mm]	Coil control voltage	Bbn 7612270	Order details		Price 1 piece	Weight	Pack unit
	[W]		[VAC/VDC]	EAN	Type code	Order code		kg.	pc.
2NO	0.64	18	8VAC	939919	E291S-16-20/8	2TAZ313000R2062		0.110	10
	0.64	18	12VAC	939923	E291S-16-20/12	2TAZ313000R2052		0.110	10
	0.64	18	24VAC/12VDC	939930	E291S-16-20/24	2TAZ313000R2042		0.110	10
	0.64	18	230VAC/110VDC	939947	E291S-16-20/230	2TAZ313000R2012		0.110	10

Accessories for E290 Latching Relays

Accessories and additional devices for combinations with Latching Relays

Main Contact Module

Rated current = 16 A									
Contact config.	Power loss	Width [mm]	Coil control voltage	Bbn 7612270	Order details		Price 1 piece	Weight	Pack unit
	[W]		[VAC/VDC]	EAN	Type code	Order code		kg.	pc.
2NO	0.64	9		939480	E292-16-20	2CCA704300R0001		0.045	10
1NO+1NC	0.32	9		939503	E292-16-11	2CCA704301R0001		0.045	10
1CO	0.32	9		939527	E292-16-001	2CCA704302R0001		0.045	10

Central On-Off Control Module

	9	same control voltage	939381	E293/X	2TAZ312004R1003		0.041	10
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Central On-Off Control Module (with different control voltages)

	18	24VAC	939411	E294/24	2TAZ312001R2043		0.110	5
	18	230VAC	939442	E294/230	2TAZ312001R2013		0.110	5

Permanent Signal Module

	18		939459	E295-PS	2TAZ312005R1003		0.041	10
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Group Module

	18		939466	E295-GM	2TAZ310002R1000		0.059	10
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Compensator

	18		939473	E296-CP	2TAZ310003R1000		0.055	10
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Auxiliary Contact for Latching and Installation relays

Rated current = 5 A									
1NO+1NC	0.10	9		939985	E299-11	2CCA704340R0001		0.045	10
2NO	0.10	9			E200-20	2CCA704341R0001		0.045	10

Intermediate piece (for heating dissipation - bag contains 5 items)

	18		100989	ZLS725	2CCS500900R0181		0.100	1 bag
	9		104703	ZLS726	2CCS400900R0091		0.070	1 bag

Command and signaling

E290 60Hz Mechanical latching relay – Ordering data

Standard devices – E290 60 Hz Latching Relay

Cont. config.	Rated Voltage	Power loss  W	Width mm	Coil control voltage VAC/VDC	Ordering data		Bbn 7612271	Weight per unit kg	Pack. unit
	VAC				Type code	Order code	EAN		units
Rated current = 16 A									
1NO	250	0.32	18	230VAC	E290-16-10/230-60	2TAZ352000R2011	503901	0.111	10
1NO	250	0.32	18	115VAC	E290-16-10/115-60	2TAZ352000R2021	504328	0.111	10
1NO	250	0.32	18	48VAC	E290-16-10/48-60	2TAZ352000R2031	504359	0.111	10
1NO	250	0.32	18	24VAC	E290-16-10/24-60	2TAZ352000R2041	504380	0.111	10
1NO	250	0.32	18	24VDC	E290-16-10/24DC	2TAZ352000R2071	504472	0.111	10
1NO	250	0.32	18	12VAC	E290-16-10/12-60	2TAZ352000R2051	504410	0.111	10
1NO	250	0.32	18	8VAC	E290-16-10/8-60	2TAZ352000R2061	504441	0.111	10
2NO	250	0.64	18	230VAC	E290-16-20/230-60	2TAZ352000R2012	503918	0.122	10
2NO	250	0.64	18	115VAC	E290-16-20/115-60	2TAZ352000R2022	504335	0.122	10
2NO	250	0.64	18	48VAC	E290-16-20/48-60	2TAZ352000R2032	504366	0.122	10
2NO	250	0.64	18	24VAC	E290-16-20/24-60	2TAZ352000R2042	504397	0.122	10
2NO	250	0.64	18	24VDC	E290-16-20/24DC	2TAZ352000R2072	504489	0.122	10
2NO	250	0.64	18	12VAC	E290-16-20/12-60	2TAZ352000R2052	504427	0.122	10
2NO	250	0.64	18	8VAC	E290-16-20/8-60	2TAZ352000R2062	504458	0.122	10
1NO+1NC	250	0.50	18	230VAC	E290-16-11/230-60	2TAZ352000R2013	504311	0.121	10
1NO+1NC	250	0.50	18	115VAC	E290-16-11/115-60	2TAZ352000R2023	504342	0.121	10
1NO+1NC	250	0.50	18	48VAC	E290-16-11/48-60	2TAZ352000R2033	504373	0.121	10
1NO+1NC	250	0.50	18	24VAC	E290-16-11/24-60	2TAZ352000R2043	504403	0.121	10
1NO+1NC	250	0.50	18	24VDC	E290-16-11/24DC	2TAZ352000R2073	504496	0.121	10
1NO+1NC	250	0.50	18	12VAC	E290-16-11/12-60	2TAZ352000R2053	504434	0.121	10
1NO+1NC	250	0.50	18	8VAC	E290-16-11/8-60	2TAZ352000R2063	504465	0.121	10
Rated current = 32 A									
1NO	250	1.20	18	230VAC	E290-32-10/230-60	2TAZ362000R2011	504502	0.111	10
1NO	250	1.20	18	115VAC	E290-32-10/115-60	2TAZ362000R2021	504533	0.111	10
1NO	250	1.20	18	48VAC	E290-32-10/48-60	2TAZ362000R2031	504564	0.111	10
1NO	250	1.20	18	24VAC	E290-32-10/24-60	2TAZ362000R2041	504595	0.111	10
1NO	250	1.20	18	12VAC	E290-32-10/12-60	2TAZ362000R2051	504625	0.111	10
1NO	250	1.20	18	8VAC	E290-32-10/8-60	2TAZ362000R2061	504656	0.111	10
2NO	250	2.40	18	230VAC	E290-32-20/230-60	2TAZ362000R2012	504519	0.123	10
2NO	250	2.40	18	115VAC	E290-32-20/115-60	2TAZ362000R2022	504540	0.123	10
2NO	250	2.40	18	48VAC	E290-32-20/48-60	2TAZ362000R2032	504571	0.123	10
2NO	250	2.40	18	24VAC	E290-32-20/24-60	2TAZ362000R2042	504601	0.123	10
2NO	250	2.40	18	12VAC	E290-32-20/12-60	2TAZ362000R2052	504632	0.123	10
2NO	250	2.40	18	8VAC	E290-32-20/8-60	2TAZ362000R2062	504663	0.123	10
1NO+1NC	250	1.20	18	230VAC	E290-32-11/230-60	2TAZ362000R2013	504526	0.121	10
1NO+1NC	250	1.20	18	115VAC	E290-32-11/115-60	2TAZ362000R2023	504557	0.121	10
1NO+1NC	250	1.20	18	48VAC	E290-32-11/48-60	2TAZ362000R2033	504588	0.121	10
1NO+1NC	250	1.20	18	24VAC	E290-32-11/24-60	2TAZ362000R2043	504618	0.121	10
1NO+1NC	250	1.20	18	12VAC	E290-32-11/12-60	2TAZ362000R2053	504649	0.121	10
1NO+1NC	250	1.20	18	8VAC	E290-32-11/8-60	2TAZ362000R2063	504670	0.121	10

Command and signaling

E290 60Hz Mechanical latching relay – Ordering data

Accessories and additional devices for combinations with Latching relays

Cont. config.	Rated Voltage	Power loss	Width	Coil control voltage	Ordering data		Bbn 7612270	Weight per unit	Pack. unit
	VAC	 W	mm	VAC/VDC	Type code	Order code	EAN	kg	units
Main Contact Module (Rated current = 16 A)									
1NO+1NC	250	0.32	9		E292-16-11-60	2CCA704306R0001	503017	0.045	10
2NO	250	0.64	9		E292-16-20-60	2CCA704305R0001	503024	0.045	10
1CO	250	0.32	9		E292-16-001-60	2CCA704307R0001	503000	0.045	10
Central ON-OFF Control Module (with different control voltages)									
			18	230VAC	E294/230-60	2TAZ352001R2013	504687	0.110	5
			18	24VAC	E294/24-60	2TAZ352001R2043	504694	0.109	5
Permanent Signal Module									
			9		E295-PS	2TAZ312005R1003	939459	0.041	10
Group Module									
			18		E295-GM	2TAZ310002R1000	939466	0.059	10
Compensator									
			18		E296-CP	2TAZ310003R1000	939473	0.055	10
Auxiliary Contact for Latching and Installation Relays (Rated current = 5 A)									
1NO+1NC	250	0.10	9		E299-11-60	2CCA704342R0001	503031	0.045	10
2NO	250	0.10	9		E299-20-60	2CCA704343R0001	503048	0.045	10
Intermediate piece (for heating dissipation – bag contains 5 items)									
			18		ZLS725	2CCS500900R0181	100989	0.100	1 bag
			9		ZLS726	2CCS400900R0091	104703	0.070	1 bag

* with Bbn 7612271

NO = normally-open contact; NC = normally-closed contact; CO = changeover contact

Command and signaling

E297 Installation relay



E297

E297 Installation Relays

The E297 installation relay is an electromechanical switching device controlled by means of a continuous pulse. The coils have a low level of switching noise, are optimized for low power loss and therefore ensure safe and fault-free use in various applications. Either AC or DC control voltage can be applied. The installation relay is designed for a rated current of 16 A.

Standard number of contacts:

1 NO contact, 2 NO contacts or 1 NO contact + 1 NC contact

In addition, the number of main contacts can be increased to four contact lines using the snap-on E298 Main contact module so that three different groups of loads can be switched and controlled safely.

The various AC/DC coil voltages complete the comprehensive and interesting product range. The additional devices can be snapped onto the installation relay on the right side.

Rated current = 16 A									
Contact config.	Power loss	Width [mm]	Coil control voltage	Bbn 7612270	Order details		Price 1 piece	Weight kg.	Pack unit
	[W]		[VAC/VDC]	EAN	Type code	Order code		pc.	
1NO	0.50	18	8VAC	940004	E297-16-10/8	2TAZ311000R2061		0.113	10
	0.50	18	12VAC	940011	E297-16-10/12	2TAZ311000R2051		0.113	10
	0.50	18	24VAC/24VDC	940028	E297-16-10/24	2TAZ311000R2041		0.113	10
	0.50	18	48VAC/48VDC	940035	E297-16-10/48	2TAZ311000R2031		0.113	10
	0.50	18	115VAC/110VDC	940042	E297-16-10/115	2TAZ311000R2021		0.113	10
	0.50	18	230VAC	940059	E297-16-10/230	2TAZ311000R2011		0.113	10

Rated current = 16 A									
Contact config.	Power loss	Width [mm]	Coil control voltage	Bbn 7612270	Order details		Price 1 piece	Weight	Pack unit
	[W]		[VAC/VDC]	EAN	Type code	Order code		kg.	pc.
1NO+1NC	0.50	18	8VAC	940066	E297-16-11/8	2TAZ311000R2063	940066	0.121	10
	0.50	18	12VAC	940073	E297-16-11/12	2TAZ311000R2053	940073	0.121	10
	0.50	18	24VAC/24VDC	940080	E297-16-11/24	2TAZ311000R2043	940080	0.121	10
	0.50	18	48VAC/48VDC	940097	E297-16-11/48	2TAZ311000R2033	940097	0.121	10
	0.50	18	115VAC/110VDC	940103	E297-16-11/115	2TAZ311000R2023	940103	0.121	10
	0.50	18	230VAC	940110	E297-16-11/230	2TAZ311000R2013	940110	0.121	10

Rated current = 16 A									
Contact config.	Power loss	Width [mm]	Coil control voltage	Bbn 7612270	Order details		Price 1 piece	Weight kg.	Pack unit pc.
	[W]		[VAC/VDC]	EAN	Type code	Order code			
2NO	1.00	18	8VAC	940127	E297-16-20/8	2TAZ311000R2062		0.121	10
	1.00	18	12VAC	940134	E297-16-20/12	2TAZ311000R2052		0.121	10
	1.00	18	24VAC/24VDC	940141	E297-16-20/24	2TAZ311000R2042		0.121	10
	1.00	18	48VAC/48VDC	940158	E297-16-20/48	2TAZ311000R2032		0.121	10
	1.00	18	115VAC/110VDC	940165	E297-16-20/115	2TAZ311000R2022		0.121	10
	1.00	18	230VAC	940172	E297-16-20/230	2TAZ311000R2012		0.121	10

Command and signaling

E297 Installation relay



E298



E299

Accessories for E297 Installation Relays

Accessories and additional devices for combinations with Installation Relays

Main Contact Module 16A									
Rated current = 16 A									
Contact config.	Power loss	Width [mm]	Coil control voltage	Bbn 7612270	Order details		Price 1 piece	Weight	Pack unit
	[W]		[VAC/VDC]	EAN	Type code	Order code		kg.	pc.
2NO	0.64	9		939961	E298-16-20	2CCA704320R0001		0.045	10
1NO+1NC	0.32	9		939954	E298-16-11	2CCA704321R0001		0.045	10
1CO	0.32	9		939978	E298-16-001	2CCA704322R0001		0.045	10

Contact config.	Power loss	Width [mm]	Coil control voltage	Bbn 7612270	Order details		Price 1 piece	Weight	Pack unit
	[W]		[VAC/VDC]	EAN	Type code	Order code		kg.	pc.
1NO+1NC	0.10	9		939985	E299-11	2CCA704340R0001		0.045	10
2NO	0.10	9			E200-20	2CCA704341R0001		0.045	10

Auxiliary Contact for Latching and Installation relays									
Rated current = 5 A									
1NO+1NC	0.10	9		939985	E299-11	2CCA704340R0001		0.045	10
2NO	0.10	9			E200-20	2CCA704341R0001		0.045	10

Intermediate piece (for heating dissipation - bag contains 5 items)									
		18		100989	ZLS725	2CCS500900R0181		0.100	1 bag
		9		104703	ZLS726	2CCS400900R0091		0.070	1 bag



Notes

Lined area for notes, consisting of multiple horizontal lines.

Command and signaling

E 260 latching relays



E 260

Technical features	
	E 260/E 260 C
Rated load at 250 V AC	8 A
Incandescent lamp load	1000 W
Fluorescent lamp load in twin-lamp circuit	1000 W
Fluorescent lamp load shunt compensated	350 W ①
Fluorescent lamp load inductive or capacitive	500 W
Electronic ballast	Ion m 70 A/10 ms ②
Inductive load, $\cos\phi = 0.6/230\text{ V} \sim$	5 A
Contact rating at DC	100 W
Minimum contact rating	4 V AC/10 mA
Contact gap/contact material	0.5 mm/Ag Sn02
Service life mechanical switchover at 103/h	$> 10^7$
Service life at rated load $\cos\phi = 1$ and 103/h	$> 10^5$
Service life with filament lamps at 103/h	800 W $> 10^5$, 1000 W $> 0.8 \times 10^5$
Service life at rated load $\cos\phi = 0.6$ and 103/h	$> 10^4$
Max. switching rate	$10^3/\text{h}$
Bounce time	3 ms
Connection capacity	2 x 1.5 mm ² with connector sleeve
Tightening torque	0.5 ... 0.8 Nm
ON duration at rated voltage	100%
Coil voltage range	0.9 to 1.1 Un
Minimum command time/interval between commands	50/1000 ms
Ambient temperature	-20 °C / -4 °F to 50 °C / 122 °F
Control current when controlled locally	230 V AC 115 mA, after 10s 8 mA $\pm 20\%$
Control current when controlled centrally	230 V AC 8 mA, after 10s 3 mA $\pm 20\%$
Max. parallel capacity of individual control wire at 230 V $\sim$	0.7 μF (ca. 2000 m)
Max. parallel capacity of central control wire at 230 V $\sim$	0.2 μF (ca. 700 m)
Max. glow lamp current – parallel to 230 V control buttons	10 mA
Max. induced voltage at 230 V control inputs	0.2 Un

Latching relays for lamp installations on request.

① E 260 C can not be used with fluorescent lamp load shunt compensated.

② In the case of electronic control gear, take into account a 40-fold inrush current.

E 260 electronic latching relays

The electronic version of latching relays guarantees maximum reliability, life, and noiseless operation. The E 260 C version also allows centralized reset function (ON/OFF).

Command and signaling

E 260 latching relays



E 260

Latching relays with control electronics

Coil voltage UC = 24 V AC/DC

Contacts	Power loss	Bbn 4016779	Order details		Price 1 piece	Weight 1 piece	Pack unit
	W ①	EAN	Type code	Order code		kg	pc.
1 NO	2.4 (3.0)	57592 8	E 261-24	2CDE441000R0301		0.085	1
1 NO+1 NC	2.4 (3.5)	57595 9	E 266-24	2CDE444000R0301		0.096	1
2 NO	2.4 (3.5)	57593 5	E 262-24	2CDE442000R0301		0.096	1

Coil voltage UC = 230 V AC

Contacts	Power loss	Bbn 4016779	Order details		Price 1 piece	Weight 1 piece	Pack unit
	W ①	EAN	Type code	Order code		kg	pc.
1 NO	1.5 (2.0)	57596 6	E 261-230	2CDE141000R0301		0.085	1
1 NO+1 NC	1.7 (3.6)	57598 0	E 266-230	2CDE144000R0301		0.096	1
2 NO	1.7 (3.6)	57597 3	E 262-230	2CDE142000R0301		0.096	1

Latching relays with control electronics for central ON/OFF switch

The central commands have always priority and reliably switch on/off any given number of devices connected in parallel, irrespective of their previous switching position. Local control inputs are blocked when a central command is received. Same potential at central / local control input.

Coil voltage UC = 24 V AC/DC

Contacts	Power loss	Bbn 4016779	Order details		Price 1 piece	Weight 1 piece	Pack unit
	W ①	EAN	Type code	Order code		kg	pc.
1 NO	2.4 (3.0)	57599 7	E 261 C-24	2CDE441000R0311		0.085	1
1 NO+1 NC	2.4 (3.5)	57601 7	E 266 C-24	2CDE444000R0311		0.096	1
2 NO	2.4 (3.5)	57600 0	E 262 C-24	2CDE442000R0311		0.096	1

Coil voltage UC = 230 V AC

Contacts	Power loss	Bbn 4016779	Order details		Price 1 piece	Weight 1 piece	Pack unit
	W ①	EAN	Type code	Order code		kg	pc.
1 NO	1.5 (2.0)	57602 4	E 261 C-230	2CDE141000R0311		0.085	1
1 NO+1 NC	1.7 (3.0)	57604 8	E 266 C-230	2CDE144000R0311		0.096	1
2 NO	1.7 (3.0)	57603 1	E 262 C-230	2CDE142000R0311		0.096	1

Command and signaling

STD50 dimmers



STD 50



STD-EP

Technical features	
Rated voltage	230 V ~ 50 Hz
Ambient temperature	0 °C to + 35 °C
Interference suppression	CE

STD50 dimmers for the control of lamps and ballast

Dimmer for brightness control of filament lamps , 230 V tungsten halogen lamps, Iv halogen lamps with conventional transformers (phase control)

Description/ application	Power loss	Bbn 4016779	Order details		Price 1 piece	Weight 1 piece	Pack unit
	W	EAN	Type code	Order code		kg	pc.
	5 ①	02790 6	STD 50-3	GHV0211370R0074		0.155	1

Dimmer for brightness control of filament lamps , 230 V tungsten halogen lamps, Iv halogen lamps with ABB electronic transformers (reverse phase)

Description/ application	Power loss	Bbn 4016779	Order details		Price 1 piece	Weight 1 piece	Pack unit
	W	EAN	Type code	Order code		kg	pc.
	4 ①	03300 8	STD 50-4	GHV0211370R0075		0.105	1

① power loss = 1% of connected load (4 or 5 W max)

Electronic potentiometer for electronic control gear with control input 0/1 - 10 V DC, control current 50 mA DC
Rated current (terminal 3 and 4) 4 A $\cos\phi = 0.9$; switching capacity 700 VA

Description/ application	Power loss	Bbn 4016779	Order details		Price 1 piece	Weight 1 piece	Pack unit
	W	EAN	Type code	Order code		kg	pc.
	5 ②	27050 2	STD-EP	GHV0211370R0076		0.073	1

Memory touch controller for electronic control gear
Rated voltage/switching output 4 A (~ 10 electronic control gear units)
 $\cos\phi = 0.9$; 3 A $\cos\phi = 0.5$, switching capacity 700 VA

Description/ application	Power loss	Bbn 4016779	Order details		Price 1 piece	Weight 1 piece	Pack unit
	W	EAN	Type code	Order code		kg	pc.
for electronic control gear with control input 1 – 10 V DC control current 50 mA max.	1	27070 0	STD-MTS	GHV0210881R0004		0.110	1

② power loss = 1% of connected load (7 W max)

Command and signaling

STD universal dimmer for phase control and reverse phase control



STD-500 U



STD-420 E



STD OCP, STD-OCD,
STD-OCT

Technical features		
Rated voltage		230 V ~ ± 10%, 50/60 Hz
Rated current	STD U	2.17 A
	STD E	1.83 A
Max. connected load	U	500 W/VA
	E	420 W/VA
Power extension		1 U + max. 6 E/phase = > max. 3 kVA
Min. connected load	STD U	60 W/VA
	STD E	200 W/VA
Max. line length		100m pushbutton cable, 2 m data line
Interference suppression		CE
Ambient temperature		0 ... + 45 °C, higher temperatures reduce the power

Electronic protection against short circuit, overload, excessive temperature, automatic load recognition, soft-OFF function optional, memory function, minimum brightness control, visual overload indication.

Universal dimmer for phase control and reverse phase control

Universal dimmer STD-500 U and the connected power extension unit STD-420 E are suitable for the brightness control of:

- glow lamps
- 230 V halogen glow lamps
- lv halogen glow lamps with conventional transformer (phase control)
- electronic transformers for lv halogen glow lamps (reverse phase control) e.g.:
ABB ETR-70-230, 105-230, 150-230

The STD-500 U dimmer can be operated by one or more unlit pushbuttons (N- or L-controlled) or via a data line:

- EIB control element SB/S
- Powernet control element PSB

Power unit STD-420 E is used to boost the connected load and is controlled exclusively by the preset command of the STD-500 U dimmer. The parallel connection of the outputs of the universal high-performance dimmer and the pertaining power extensions (up to 6 units; connection with enclosed RJ 12 line cut to length) allow for a dimming power of 3,000 W/VA max at one load line.

Not suitable for dimming fluorescent lamps, transformers with current monitor and high-reactance transformers.

Contacts	Power loss W	Bbn 4016779 EAN	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
			Type code	Order code			
high-performance dimmer	6	06692 8	STD-500 U	GJB0006590A0178			1
extension	6	06693 5	STD-420 E	GJB0006590A0179			1
rotary operation element	–	06698 0	STD-OCD	GJB0006590A0183			1
button operation element	–	06695 9	STD-OCP	GJB0006590A0181			1
timer operation element	–	07056 7	STD-OCT	GJB0006590A0185			1

Note: Load and control cables must not be laid in one cable

Command and signaling

STD universal dimmer for phase control and reverse phase control

Plug-in operation elements:

pushbutton operation element (STD-OCP)
 rotary operation element (STD-OCD)
 timer (STD-OCT)

Application

Remove dimmer cap and snap on operation element to provide for control of dimmer with central pushbutton or rotary operation. Local operation elements are still active. Apart from the manual local control feature, the timer also allows for time-programmed operations.

Basic timer functions:

- year time switch with 48 time programs
- optional with/without decentralized pushbutton control
- special programs: adjustable background brightness, cycle, display and emergency light, holiday program
- running reserve: 5 hours

The universal Master dimmer for LED retrofit Lamps. 6586-500

Product advantages

- Reliable and comfortable dimming of LED lamps
- Tuned to replacement lamps (retrofit LEDs)
- Brightness regulator downward compatible also suitable for conventional incandescent lamps, 230 V halogen lamps and low-voltage halogen lamps with conventional inductive and electronic transformers.
- Touch-dimmer with local operation
- Adjustable minimum / maximum brightness Staircase light function with automatic switch-off function and pre-warning function according to DIN 18015-2
- Perfect function and comfortable operation
- Harmonious and flicker-free dimming process
- No humming or buzzing due to transistor technology
- Numerous practical special functions
- Extremely compact construction as MDRC device (1 MW)



6586-500

Technical features	
Max. connected load	2 - 100 W/VA (Retrofit-LED-load).
Max. connected load	10 - 200 W/VA (Non-LED-load).
Rated voltage	230 V~, +10 % / -10 %, 50 Hz - 60 Hz
Ambient temperature	0 °C bis 35 °C
Standards	IEC 60669-2-1, British Standard EN 60669-2-1

	Bbn 4011395	Order details		Price 1 piece	Weight 1 piece	Pack unit
	EAN	Type code	Order code		kg	pc.
	208519	6586-500	6590-0-0191			1

Command & Signalling

Busch-Dimmer®

Product	Article-No.	Order-No.	Pack/Qty
	Busch-Dimmer® ^{1) 2) 3) 4) 5)} MDRC, LED, 20-800 W Touch dimmer with local operation. Optimised for dimming of retrofit LED lamps (LEDi). For dimmable Retrofit-LEDs (LEDi). For dimmable Retrofit-LEDs (LEDi) with conventional or electronic transformers. For incandescent lamps, 230V tungsten halogen lamps and lowvoltage halogen lamps with conventional transformers or electronic transformers and dimmable halogen energy-saving lamps. Mix operation of LEDi with conventional loads possible. With the following functions: memory, snooze, wake-up, children's room, central off, cleaning light and time function. For staircase lighting control with automatic switch-off and warning function according to DIN 18015-2. Supports the adherence to the energy saving ordinance (EnEV 2014). Low-noise level by MOSFET transistors. With electronic short-circuit protection. With electronic overload protection. With manually adjustable operating mode: trailing / leading edge control. With adjustable minimum/maximum brightness. With light value storage. Operation also possible via conventional push buttons (2020 US, 2021/6 UK). Extension unit input for short switching pulses (push-button) and continuous contact (switch/timer). Extension unit input designed as wide voltage input (8-230 V; AC/DC); galvanic isolation. Nominal voltage: 110 - 230 V, +10% / -10% Rated frequency: 50 Hz/60 Hz Nominal power: 20 - 300 W/VA (leading edge control in 230 V~ networks) Nominal power: 40 - 800 W/VA (trailing edge control in 230 V~ networks) Nominal power: 20 - 150 W/VA (leading edge control in 110/127 V~ networks) Nominal power: 40 - 400 W/VA (trailing edge control in 110/127 V~ networks) Rated voltage: 110 - 230 V, +10 % / -10 % Temperature range (Device): 0 °C to 35 °C Module width: 4 MW IEC 60669-2-1, British Standard EN 60669-2-1		
	    		
grey	STD 6586/14	2CKA006590A0193	1

¹⁾ Illumination of the push switch is only possible with N-conductor terminal.

²⁾ In case of electronic transformers, 5 % transformer losses.

³⁾ In the case of conventional transformers, take ~20% transformer loss into account.

⁴⁾ 1 MW □ 18 mm.

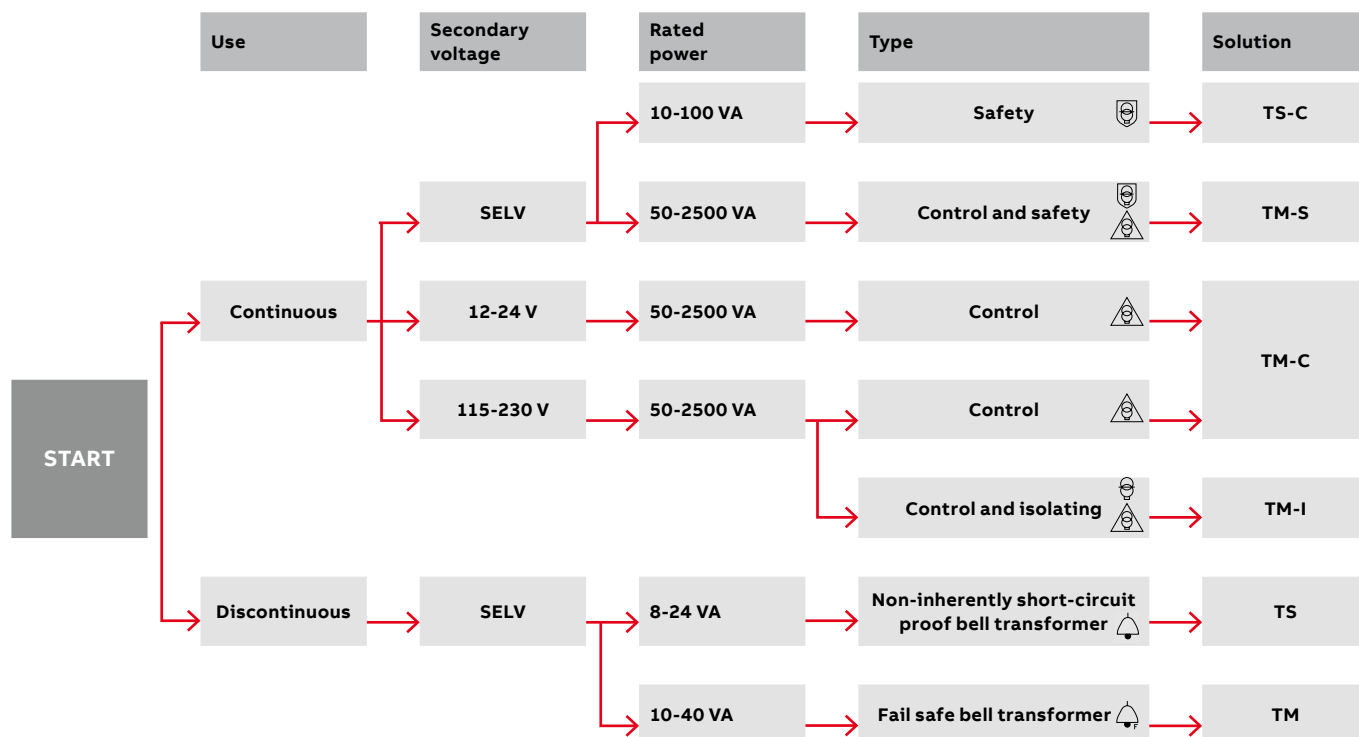
⁵⁾ Recommendation: Please use loads and types of one producer..

Command and signaling

Transformers selection table

Bell transformers for discontinuous use		
 		
Series	TM	TS
Reference standard	IEC EN 61558-2-8	IEC EN 61558-2-8
Classification	Fail safe	Non-inherently short-circuit proof
Thermal protection integrated in secondary		■
Rated power	10, 15, 30, 40 VA	8, 16, 24 VA
Operation	Discontinuous	Discontinuous
Primary circuit voltage ratings	230 V a.c.	230 V a.c.
Secondary circuit characteristics	Double insulation between primary and secondary windings	■
	Full power on all outputs	■
	SELV secondary (no-load output voltage <50 V a.c.)	■
Dimensions	2 modules [10, 15 VA]	2 modules [8, 16 VA]
	3 modules [30, 40 VA]	3 modules [24 VA]

① See page 6/58 for the choice of the protections.



Command and signaling

Transformers selection table

Safety transformers for general use	Control transformers for general use	Control and Safety transformers for general use	Control and Isolating transformers for general use
			
TS-C	TM-C	TM-S	TM-I
IEC EN 61558-2-6	CEI EN 61558-2-2	CEI EN 61558-2-2 CEI EN 61558-2-6	CEI EN 61558-2-2 CEI EN 61558-2-4
Non-inherently short-circuit proof	Non-short-circuit proof control transformer a	Non-short-circuit-proof control and safety transformer a	Non-short-circuit-proof control and isolating transformer a
■			
10, 16, 25, 40, 63, 100 VA	50 to 2500 VA	50 to 2500 VA	50 to 2500 VA
Continuous	Continuous	Continuous	Continuous
230 V a.c.	230/400 V a.c.	230/400V a.c.	230/400 V a.c.
■		■	■
■	■	■	■
■		■	
2 modules [10 VA] 3 modules [16 VA] 4 modules [25 VA, 40 VA] 5 modules [63 VA] 6 modules [100 VA]	See overall dimensions 13/60	See overall dimensions 13/60	See overall dimensions 13/60

	Bell transformer	TM, TS
	Transformers for supplying extra low voltage, suitable for loads that require a discontinuous supply, in particular doorbells and chimes. The primary and secondary circuits are perfectly isolated and separated. Reference standard: IEC EN 61558-2-8	
	Control transformer	TM-C, TM-S*, TM-I*
	Transformer for supplying control circuits, for example commands, signaling, interlocks, etc. Reference standard: CEI EN 61558-2-2	
	Safety transformer	TS-C, TM-S*
	Isolation transformer for supplying safety extra low voltage circuits (<50 V on no load). Accidental contact with the secondary winding phases can be withstood without any danger. Reference standard: CEI EN 61558-2-6	
	Isolating transformer	TM-I*
	Transformer in which the primary and secondary windings are electrically separated by a double or reinforced insulation, to protect the circuit supplied by the secondary against hazards due to accidental simultaneous contact with earth and live parts, or grounded parts that may become live in the event of an insulation fault. Reference standard: CEI EN 61558-2-4	

* TM-S and TM-I both comply to two standards.

Command and signaling

Control, isolating and safety transformers selection table

Selection table of products and secondary protections											
Primary protection: see in Chapter 6 of Electrical installation solutions for buildings - Technical details											
											
Power VA	Secondary voltage	TM-C Control				TM-S Control/Safety				TM-I Control/Isolating	
		12 V	24 V	115 V	230 V	12 V	24 V	24 V	48 V	115 V	230 V
50	Transformer	2CSM207113R0801		2CSM207213R0801		2CSM236893R0801		2CSM204653R0801 ②		2CSM204583R0801	
	Fuse gauge ①	4 A	2 A	0.4 A	0.2 A	4 A	2 A	2 A	1 A	0.4 A	0.2 A
100	Transformer	2CSM207103R0801		2CSM236933R0801		2CSM207163R0801		2CSM204643R0801		2CSM201123R0801	
	Fuse gauge ①	8 A	4 A	0.8 A	0.4 A	8 A	4 A	4 A	2 A	0.8 A	0.4 A
	Breaker type	S202 C8	S202 C4	S202 C1	S202 C0,5	S202 C8	S202 C4	S202 C4	S202 C2	S202 C1	S202 C0,5
160	Transformer	2CSM236853R0801		2CSM207203R0801		2CSM202073R0801		2CSM204633R0801		2CSM204533R0801	
	Fuse gauge ①	12 A	6.3 A	1.25 A	0.63 A	12 A	6.3 A	6.3 A	3.15 A	1.25 A	0.63 A
	Breaker type	S202 C13	S202 C8	S202 C1.6	S202 C-	S202 C13	S202 C8	S202 C8	S202 C4	S202 C1.6	-
200	Transformer	2CSM236823R0801		2CSM236883R0801		2CSM260043R0801				2CSM204513R0801	
	Fuse gauge ①	16 A	8 A	1.6 A	0.8 A	16 A	8 A			1.6 A	0.8 A
	Breaker type	S202 C16	S202 C8	S202 C2	S202 C1	S202 C16	S202 C8			S202 C2	S202 C1
250	Transformer	2CSM207093R0801		2CSM236923R0801		2CSM260063R0801		2CSM204673R0801		2CSM204493R0801	
	Fuse gauge ①	20 A	10 A	2 A	1 A	20 A	10 A	10 A	5 A	2 A	1 A
	Breaker type	S202 C20	S202 C10	S202 C2	S202 C1	S202 C20	S202 C10	S202 C10	S202 C6	S202 C2	S202 C1
320	Transformer	2CSM236843R0801		2CSM236923R0801		2CSM260063R0801		2CSM204673R0801		2CSM204493R0801	
	Fuse gauge ①	25 A	12 A	2.5 A	1.25 A	25 A	12 A	12 A	6.3 A	2.5 A	1.25 A
	Breaker type	S202 C25	S202 C13	S202 C3	S202 C1,6	S202 C25	S202 C13	S202 C13	S202 C8	S202 C3	S202 C1,6
400	Transformer	2CSM289703R0801		2CSM207193R0801		2CSM260103R0801		2CSM204613R0801		2CSM201073R0801	
	Fuse gauge ①	32 A	16 A	3.15 A	1.6 A	32 A	16 A	16 A	8 A	3.15 A	1.6 A
	Breaker type	S202 C32	S202 C16	S202 C4	S202 C2	S202 C32	S202 C16	S202 C16	S202 C8	S202 C4	S202 C2
630	Transformer	2CSM236813R0801		2CSM207183R0801		2CSM260053R0801		2CSM204603R0801		2CSM204423R0801	
	Fuse gauge ①	50 A	25 A	5 A	2.5 A	50 A	25 A	25 A	12 A	5 A	2.5 A
	Breaker type	S202 C50	S202 C25	S202 C6	S202 C3	S202 C50	S202 C25	S202 C25	S202 C13	S202 C6	S202 C3
1000	Transformer	2CSM292873R0801		2CSM236913R0801		2CSM260093R0801				2CSM204413R0801	
	Fuse gauge ①	80 A	40 A	8 A	4 A	80 A	40 A			8 A	4 A
	Breaker type	S292 C80	S202 C40	S202 C8	S202 C4	S292 C80	S202 C40			S202 C8	S202 C4
1600	Transformer	2CSM292863R0801		2CSM201813R0801		2CSM260083R0801				2CSM204403R0801	
	Fuse gauge ①	125 A	63 A	16 A	8 A	125 A	63 A			16 A	8 A
	Breaker type	S292 C125	S202 C63	S202 C16	S202 C8	S292 C125	S202 C63			S202 C16	S202 C8
2000	Transformer	2CSM292853R0801		2CSM236903R0801		2CSM260073R0801				2CSM204383R0801	
	Fuse gauge ①	160 A	80 A	16 A	8 A	160 A	80 A			16 A	8 A
	Breaker type	-	S292 C80	S202 C20	S202 C10	-	S292 C80			S202 C20	S202 C10
2500	Transformer	2CSM236943R0801		2CSM207173R0801		2CSM204663R0801				2CSM204363R0801	
	Fuse gauge ①	200 A	100 A	20 A	10 A	200 A	100 A			20 A	10 A
	Breaker type	-	S292 C100	S202 C25	S202 C13	-	S292 C100			S202 C25	S202 C13

① FUSES

- Gauge ≤ 6.3 A use aM fuses with high breaking capacity and IEC601266-compliant
- Gauge > 6.3 A use gG fuses IEC60269-2 or IEC60269-3-compliant

- ② TM-S 50/24-48 P complies with IEC EN 61558-2-4 on the secondary circuit at 48 V and with IEC EN 61558-2-6 on the secondary circuit at 24 V

Command and signaling

TM-C, TM-S, TM-I control, isolating and safety transformers



TM

Technical characteristics		TM-C	TM-S	TM-I
Rated primary voltage Un	[V]	230/400 a.c.	230/400 a.c.	230/400 a.c.
Primary voltage adjustment outlets ±15 V		No	Yes	Yes
Max ambient temperature ③	[°C]	40	40	40
Rated secondary voltage Un	[V]	12-24, 115-230 a.c.	12-24, 24-48 a.c. b	115-230 a.c.
Rated frequency	[Hz]	50/60	50/60	50/60
Isolation voltage between primary and secondary	[kV]	3.5	4.8	4.8
Rated powers	[VA]	50-2500	50-2500	50-2500
Primary cable section (Ø max)	[mm²]	6	6	6
Operating temperature	[°C]	①	①	①
Approvals		ENEC (Up to 1000 VA), UR, CSA	ENEC (Up to 1000 VA), UR, CSA	ENEC (Up to 1000 VA), UR, CSA
Standards		CEI EN 61558-2-2	CEI EN 61558-2-2 CEI EN 61558-2-6	CEI EN 61558-2-2 CEI EN 61558-2-6

① See technical details
② TM-S 50/24-48 P complies to CEI EN 61558-2-4 on the 48 V secondary and to CEI EN 61558-2-6 on the 24 V secondary
③ Maximum temperature without any power draw. See technical details for power draw according to temperature.

Command and signaling

TM-C, TM-S, TM-I control, isolating and safety transformers



TM-I

TM-C control transformer

Transformer for supplying control circuits, for example commands, signaling, interlocks, etc. Reference standard: CEI EN 61558-2-2.

TM-S safety transformer

Isolation transformer for supplying safety extra low voltage circuits (<50 V on no load). Accidental contact with the secondary winding phases can be withstood without any danger. Reference standard: CEI EN 61558-2-6

TM-I isolating transformer

Transformer in which the primary and secondary windings are electrically separated by a double or reinforced insulation, to protect the circuit supplied by the secondary against hazards due to accidental simultaneous contact with earth and live parts, or grounded parts that may become live in the event of an insulation fault.

Reference standard: CEI EN 61558-2-4

Since TM-C, TM-S and TM-I transformers are not provided with built-in protection, they must therefore be protected according with these rules:

- Primary: line protection must reach or exceed the recommended value in Chapter 6 of Electrical installation solutions for buildings - Technical details. This device guarantees line protection and service continuity but doesn't protect the transformer.
- Secondary: transformer protection must be chosen according to tables in the previous pages. This device protect the transformer.



TM-S



TM-C

TM-C single phase control transformers, primary 230-400 V

Rated power	Secondary voltage	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
VA	V a.c.	EAN	Type code	Order code		kg	pc.
50	12-24	071136	TM-C 50/12-24	2CSM207113R0801		1.1	1
100	12-24	071037	TM-C 100/12-24	2CSM207103R0801		2	1
160	12-24	368533	TM-C 160/12-24	2CSM236853R0801		3	1
200	12-24	368236	TM-C 200/12-24	2CSM236823R0801		3.2	1
250	12-24	070931	TM-C 250/12-24	2CSM207093R0801		3.6	1
320	12-24	368434	TM-C 320/12-24	2CSM236843R0801		4.4	1
400	12-24	897033	TM-C 400/12-24	2CSM289703R0801		5.5	1
630	12-24	368137	TM-C 630/12-24	2CSM236813R0801		7.8	1
1000	12-24	928737	TM-C 1000/12-24	2CSM292873R0801		13.2	1
1600	12-24	928638	TM-C 1600/12-24	2CSM292863R0801		21.2	1
2000	12-24	928539	TM-C 2000/12-24	2CSM292853R0801		25.5	1
2500	12-24	369431	TM-C 2500/12-24	2CSM236943R0801		26.8	1
50	115-230	072133	TM-C 50/115-230	2CSM207213R0801		1.1	1
100	115-230	369332	TM-C 100/115-230	2CSM236933R0801		2	1
160	115-230	072034	TM-C 160/115-230	2CSM207203R0801		3	1
200	115-230	368830	TM-C 200/115-230	2CSM236883R0801		3.2	1
250	115-230	071532	TM-C 250/115-230	2CSM207153R0801		3.6	1
320	115-230	369233	TM-C 320/115-230	2CSM236923R0801		4.4	1
400	115-230	071938	TM-C 400/115-230	2CSM207193R0801		5.5	1
630	115-230	071839	TM-C 630/115-230	2CSM207183R0801		7.8	1
1000	115-230	369134	TM-C 1000/115-230	2CSM236913R0801		13.2	1
1600	115-230	018131	TM-C 1600/115-230	2CSM201813R0801		21.2	1
2000	115-230	369035	TM-C 2000/115-230	2CSM236903R0801		25.5	1
2500	115-230	071730	TM-C 2500/115-230	2CSM207173R0801		26.8	1

Command and signaling

TM-C, TM-S, TM-I control, isolating and safety transformers

TM-S single phase control and safety transformers, primary 230-400 V ±15							
Rated power	Secondary voltage	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
VA	V a.c.	EAN	Type code	Order code		kg	pc.
50	12-24	368939	TM-S 50/12-24 P	2CSM236893R0801		1.1	1
100	12-24	071631	TM-S 100/12-24 P	2CSM207163R0801		2	1
160	12-24	020738	TM-S 160/12-24 P	2CSM202073R0801		3	1
200	12-24	600435	TM-S 200/12-24 P	2CSM260043R0801		3.2	1
250	12-24	601135	TM-S 250/12-24 P	2CSM260113R0801		3.6	1
320	12-24	600633	TM-S 320/12-24 P	2CSM260063R0801		4.4	1
400	12-24	601036	TM-S 400/12-24 P	2CSM260103R0801		5.5	1
630	12-24	600534	TM-S 630/12-24 P	2CSM260053R0801		7.8	1
1000	12-24	600930	TM-S 1000/12-24 P	2CSM260093R0801		13.2	1
1600	12-24	600831	TM-S 1600/12-24 P	2CSM260083R0801		21.2	1
2000	12-24	600732	TM-S 2000/12-24 P	2CSM260073R0801		25.5	1
2500	12-24	046639	TM-S 2500/12-24 P	2CSM204663R0801		26.8	1
50	24-48	046530	TM-S 50/24-48 P	2CSM204653R0801		1.1	1
100	24-48	046431	TM-S 100/24-48 P	2CSM204643R0801		2	1
160	24-48	046332	TM-S 160/24-48 P	2CSM204633R0801		3	1
250	24-48	046837	TM-S 250/24-48 P	2CSM204683R0801		3.2	1
320	24-48	046738	TM-S 320/24-48 P	2CSM204673R0801		3.6	1
400	24-48	046134	TM-S 400/24-48 P	2CSM204613R0801		4.4	1
630	24-48	046035	TM-S 630/24-48 P	2CSM204603R0801		5.5	1

TM-I single phase control and isolating transformers, primary 230-400 V ±15							
Rated power	Secondary voltage	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
VA	V a.c.	EAN	Type code	Order code		kg	pc.
50	115-230	045830	TM-I 50/115-230 P	2CSM204583R0801		1.1	1
100	115-230	011231	TM-I 100/115-230 P	2CSM201123R0801		2	1
160	115-230	045335	TM-I 160/115-230 P	2CSM204533R0801		3	1
200	115-230	045137	TM-I 200/115-230 P	2CSM204513R0801		3.2	1
250	115-230	045038	TM-I 250/115-230 P	2CSM204503R0801		3.6	1
320	115-230	044932	TM-I 320/115-230 P	2CSM204493R0801		4.4	1
400	115-230	010739	TM-I 400/115-230 P	2CSM201073R0801		5.5	1
630	115-230	044239	TM-I 630/115-230 P	2CSM204423R0801		7.8	1
1000	115-230	044130	TM-I 1000/115-230 P	2CSM204413R0801		13.2	1
1600	115-230	044031	TM-I 1600/115-230 P	2CSM204403R0801		21.2	1
2000	115-230	043836	TM-I 2000/115-230 P	2CSM204383R0801		25.5	1
2500	115-230	043638	TM-I 2500/115-230 P	2CSM204363R0801		26.8	1

Accessories						
	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
	EAN	Type code	Order code		kg	pc.
Mounting bracket for DIN rail (up to 160 VA)	010333	TM-C-DIN	2CSM201033R0801		0.10	10

Command and signaling

TS-C safety isolating transformers for general use



TS 25 C



TS 100 C

TS-C		TS 10 C	TS 16 C	TS 25 C	TS 40 C	TS 63 C	TS 100 C
Primary rated voltage Un	[V]	230 a.c.	230 a.c.	230 a.c.	230 a.c.	230 a.c.	230 a.c.
Secondary rated voltage Un	[V]	12 - 24 V a.c.	12 - 24 V a.c.	12 - 24 V a.c.	12 - 24 V a.c.	12 - 24 V a.c.	12 - 24 V a.c.
Tolerance on secondary voltage (full load)	[%]	< +/- 5% (according to standards)					
Tolerance on secondary voltage (off load)	[%]	<100% rated secondary voltage (according to standards)					
Rated frequency	[Hz]	50/60	50/60	50/60	50/60	50/60	50/60
Rated power (continuous use)	[VA]	10	16	25	40	63	100
Maximum output current (at 24 V)	[A]	0.42	0.67	1.04	1.67	2.63	4.17
Power loss (off load)	[W]	< 2.5	< 3	< 4	< 4.5	< 4.5	< 1
Power loss (full load)	[W]	< 5	< 5	< 5	< 10	< 15	< 20
Modules	[No.]	2	3	4	4	5	6
Cable section	[mm ² -AWG]	2.5					
Tightening torque	[Nm]	0.5					
Protection degree		IP 20					
Standards		IEC/EN 61558-2-6					
Approvals							
Temperature class resistance		B (corresponding to maximum 120 °C)					

TS-C safety isolating transformers for general use

These transformers are non-inherently short-circuit proof. In fact they are equipped with a thermal protective device which automatically restores the power when the transformer is sufficiently cooled down. So even during an overload or a short-circuit they maintain their temperature below the specified limits and they continue functioning after the fault's removal.

They are ideal for supplying permanent power to meters, auxiliary electronic devices (e.g. measurement, video-entry phone systems, BUS communication) and circuits with safety extremely-low voltage (SELV) for bathrooms and showers, lighting, fountains, electro-medical devices and suchlike. These devices take up very little space, from 2-module size for the 10 VA version up to 6-module size for the 100 VA version.

Rated power (continuous)	Secondary rated voltage	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
VA	V	EAN	Type code	Order code		kg	pc.
10	12-24	285557	TS 10/12-24 C	2CSM228555R0812		0.35	1
16	12-24	285656	TS 16/12-24 C	2CSM228565R0812		0.45	1
25	12-24	928508	TS 25/12-24 C	2CSM251043R0811		0.92	1
40	12-24	928607	TS 40/12-24 C	2CSM401043R0811		1.1	1
63	12-24	928706	TS 63/12-24 C	2CSM631043R0811		1.15	1
100	12-24	285755	TS 100/12-24 C	2CSM228575R0812		1.45	1

Command and signaling

TM bell transformers



TM 15/12



TM 40/12

Technical characteristics		
Primary rated voltage Un	[V]	230 a.c.
Secondary rated voltage Un	[V]	4, 8, 12, 24
Tolerance on secondary voltage (with load)	[%]	+/- 15% (according to standards)
Rated frequency	[Hz]	50/60
Rated power (discontinuous use)	[VA]	10, 15, 30, 40
Power loss (off load)	[W]	<2.5 (TM10, TM15), <3 (TM30, TM40), <1.25 (TM15 ES)
Modules	[No.]	2 (TM10, TM15), 3 (TM30, TM40)
Cable section	[mm ² -AWG]	2.5 - 14
Tightening torque	[Nm]	0.5
Protection degree		IP 20
Standards		IEC/EN 61558-2-8
Approvals		 

TM fail safe bell transformers

These transformers, with safety extremely-low voltage secondary (SELV), are suitable for loads that require a discontinuous supply, and in particular doorbells and chimes. Fail safe operation and excellent safety are assured thanks to the perfect isolation and separation between the primary and secondary circuits. In addition, the Energy Saving TM-ES version allows reducing power losses by 50%.

Maximum rated power a (discontinuous) VA	Secondary voltage rating V c.a.	Bbn 8012542 EAN	Order details		Price 1 piece	Weight 1 piece	Pack unit
			Type code	Order code		kg	pc.
10	4-8-12	287155	TM10/12	2CSM228715R0802		0.30	6
10	12-24	287254	TM10/24	2CSM228725R0802		0.30	6
15	4-8-12	287353	TM15/12	2CSM228735R0802		0.30	6
15	12-24	287452	TM15/24	2CSM228745R0802		0.30	6
15	4-8-12	285854	TM15/12 ES	2CSM228585R0802		0.30	1
30	4-8-12	287551	TM30/12	2CSM228755R0802		0.45	4
30	12-24	287650	TM30/24	2CSM228765R0802		0.45	4
40	4-8-12	287759	TM40/12	2CSM228775R0802		0.45	4
40	12-24	287858	TM40/24	2CSM228785R0802		0.45	4

① See diagrams below for the RMS power on each secondary output

Command and signaling

TS bell transformers



TS 8/8



TS 8/12 SW



TS 24/8-12-24

Technical characteristics		
Primary rated voltage Un	[V]	230 a.c.
Secondary rated voltage Un	[V]	4, 6, 8, 12, 24
Tolerance on secondary voltage (with load)	[%]	± 15% (according to standards)
Rated frequency	[Hz]	50/60
Rated power (discontinuous use)	[VA]	8, 16, 24
Power loss (off load)	[W]	<2.5 (TS8, TS16), <3 (TS24), <0.8 (TS8/8 ES), <1.2 (TS16/8-12 ES)
Modules	[No.]	2 (TS8, TS16), 3 (TS24)
Cable section	[mm ² -AWG]	2.5 - 14
Tightening torque	[Nm]	0.5
Protection degree		IP 20
Standards		IEC/EN 61558-2-8
Approvals		 

TS non-inherently short-circuit proof bell transformers

These transformers, with safety extremely-low voltage secondary (SELV), are suitable for driving loads that call for a discontinuous supply, and in particular doorbells and chimes. In addition to perfect isolation and separation between the primary and secondary circuits, the TS transformers have a thermal protection device integrated into the secondary that makes them resistant to short circuit currents (non-inherently short-circuit proof). The TS range is extended with the Energy Saving TS-ES series, which allows reducing power losses by 50%, and the TS8/SW series, that is equipped with a switch for controlling loads connected to the secondary.

Maximum rated power a (discont.) VA	Secondary voltage rating V c.a.	Switch 0-1	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
				EAN	Type code	Order code	kg	pc.
8	8		285953	TS8/8 ES	2CSM228595R0812	0.35	1	
8	8		286653	TS8/8	2CSM228665R0812	0.35	6	
8	12		286851	TS8/12	2CSM228685R0812	0.35	6	
8	24		286752	TS8/24	2CSM228675R0812	0.35	6	
8	8	■	368304	TS8/8 SW	2CSM081302R0811	0.35	6	
8	12	■	368403	TS8/12 SW	2CSM081402R0811	0.35	6	
8	4-6-8	■	368601	TS8/4-6-8 SW	2CSM081012R0811	0.35	6	
8	4-8-12	■	368700	TS8/4-8-12 SW	2CSM081022R0811	0.35	6	
16	8-12		286059	TS16/8-12 ES	2CSM228605R0812	0.35	1	
16	8		286455	TS16/8	2CSM228645R0812	0.35	6	
16	12		286356	TS16/12	2CSM228635R0812	0.35	6	
16	24		286158	TS16/24	2CSM228615R0812	0.35	6	
16	4-6-8		286554	TS16/4-6-8	2CSM228655R0812	0.35	6	
16	4-8-12		286257	TS16/4-8-12	2CSM228625R0812	0.35	6	
24	4-8-12		287056	TS24/4-8-12	2CSM228705R0812	0.45	4	
24	8-12-24		286950	TS24/8-12-24	2CSM228695R0812	0.45	4	

① See diagrams below for the rms power on each secondary output

Command and signaling

RI, BR, TSM, TSR bells and buzzers



TSM



RI230

Technical characteristics				
		RI12, BR12	RI230, BR230	TSM, TSR
Rated Voltage U _n	[V c.a.]	12	230	230
Rated frequency	[Hz]	50/60	50/60	50
Power consumption	[VA]	4	6	5,5
Sound level	Bell [dB]	80 ⁽¹⁾	80 ⁽¹⁾	80 ⁽²⁾
	Buzzer [dB]	70 ⁽¹⁾	70 ⁽¹⁾	70 ⁽²⁾
	Three-tones [dB]			84 ⁽²⁾
Max permanent working time	max 15 sec., after a rest time last 60 sec.			TSM: 1 min TSR: 5 min
Type of sound signal		D	D	
Duration of operation		discontinuous	discontinuous	discontinuous
Max cable cross-section	[mm ²]	4	4	10
Mounting position		flexible	flexible	vertical only
Protection degree		IP20	IP20	IP20-IP40
Modules (18 mm)	[No.]	1	1	2
Standard		EN 62080	EN 62080	EN 62080

⁽¹⁾ at 0.6 meter distance

⁽²⁾ at 1 meter distance

Bells and buzzers

The range of bell and buzzer includes modular versions as 12V or 230V types for acoustic signaling in residential and commercial sectors as well as industry application such as alarms notification, supervision and intensive use (schools, factories etc...). TSM and TSR versions also include a transformer: the input is 230V a.c. and the bell is supplied in 12 or 24 V.

RI electro-mechanical modular bells					
Rated voltage	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece
V AC	EAN	Type code	Order code	kg	pc.
12	258810	RI12	2CSM232345R0821	0.081	10
230	258919	RI230	2CSM232335R0821	0.083	10

BR electro-mechanical modular buzzers					
Rated voltage	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece
V AC	EAN	Type code	Order code	kg	pc.
12	273813	BR12	2CSM232365R0821	0.075	10
230	258711	BR230	2CSM232355R0821	0.077	10

Command and signaling

SM, RM, TSM, TSR bells and buzzers



TSR

TSM modular electronic bell (two-tones) + transformer included							
Rated voltage	Use	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
V AC		EAN	Type code	Order code		kg	pc.
230	Discontinuous	007005	TSM	2CSM100000R0841		0.300	6
TSR bell + buzzer + transformer included							
Rated voltage	Use	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
V AC		EAN	Type code	Order code		kg	pc.
230	Discontinuous	369608	TSR	2CSM100000R0831		0.300	1

Command and signaling

CP-D primary switch mode power supplies



CP-D

Technical features							
		CP-D 12/0.83	CP-D 12/2.1	CP-D 24/0.42	CP-D 24/1.3	CP-D 24/2.5	CP-D 24/4.2
Input circuit							
Rated input voltage U _{in}	[V AC]	100-240					
Input voltage range	[V AC]	90-264					
	[V DC]	120-375					
Frequency range	[Hz]	47-63					
Hold-up time	[ms]	min. 30	min. 30	min. 30	min. 30	min. 60	min. 60
Internal input fuse, slow-acting (250 V AC)	[A]	1	2	1	2	2	3.15
Typical power dissipation at 230 V AC	[W]	13	31	12	38	70	114
Inrush current limiting (max 3 ms)	[A]	30	50	30	50	60	60
Output circuit							
Rated output voltage	[V DC]	12	12	24	24	24	24
Tolerance of the output		±1%					
Adjustment range of the output voltage	[V DC]	-	-	-	24-28	24-28	24-28
Rated output current I _r	[A]	0.83	2.10	0.42	1.30	2.50	4.20
Rated output power	[W]	10	30	10	30	60	100
Resistance to reverse feed	[V DC]	18 / 1 s	18 / 1 s	35 / 1 s	35 / 1 s	35 / 1 s	35 / 1 s
Parallel connection		Yes, using CP-D RU					
Series connection		Allowed, to increase voltage					
Output circuit: no-load, overload, and short-circuit behaviour							
Characteristic curve of output		U/I characteristic curve					
Short-circuit behavior		continuous short-circuit stability					
Overload protection		output power limiting					
No-load protection		continuous no-load stability					
Current limiting at short circuit	[A]	typ 1.4	typ 5.9	typ 0.78	typ 4.2	typ 6.05	typ 11.5
LED status indicator							
Green LED (DC ON)		Output voltage applied					
Red LED (DC LOW)		Output voltage too low					
Operating temperature	[°C]	-40...+70					
Derating of the output current 60°C < Ta ≤ 70 °C		2.5% / °C					
Approval / Marks (depending on device)		cULus, cURus, CCC, EAC, CE, RCM					

Command and signaling

CP-D primary switch mode power supplies



CP-D 12/0.83,
CP-D 24/0.42



CP-D 12/2.1
CP-D 24/1.3



CP-D 24/2.5



CP-D 24/4.2

Primary switch mode power supplies

- Output voltages 12 V, 24 V
- Adjustable output voltages (devices > 10 W)
- Output currents 0.42 A / 0.83 A / 1.3 A / 2.1 A / 2.5 A / 4.2 A
- Power range 10 W, 25 W, 30 W, 60 W, 100 W
- Wide range input 100-240 V AC (90-264 V AC, 120-375 V DC)
- High efficiency of up to 89 %
- Low power dissipation and low heating
- Free convection cooling (no forced cooling with ventilators)
- Ambient temperature range during operation -40°C...+70 °C
- Open-circuit, overload and short-circuit stable
- Integrated input fuse
- LEDs for status indication
- Light-grey enclosure in RAL 7035
- Various approvals and marks

Rated input voltage	Rated output voltage/current	Bbn	Order details		Price 1 piece	Weight 1 piece	Pack unit
V	V / A	EAN	Type code	Order code		kg (lb.)	pc.
100-240 V AC	12 V DC / 0.83 A		CP-D 12/0.83	1SVR427041R1000		0.06/0.13	1
100-240 V AC	12 V DC / 2.1 A		CP-D 12/2.1	1SVR427043R1200		0.19/0.41	1
100-240 V AC	24 V DC / 0.42 A		CP-D 24/0.42	1SVR427041R0000		0.06/0.13	1
100-240 V AC	24 V DC / 1.3 A		CP-D 24/1.3	1SVR427043R0100		0.19/0.41	1
100-240 V AC	24 V DC / 2.5 A		CP-D 24/2.5	1SVR427044R0200		0.25/0.56	1
100-240 V AC	24 V DC / 4.2 A		CP-D 24/4.2	1SVR427045R0400		0.32/0.71	1

CP-D RU for decoupling of two CP-D power supply units

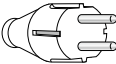
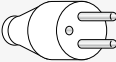
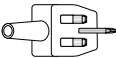
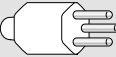
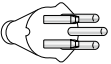
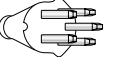
Input voltage range	Rated input current	Rated output voltage/current	Bbn	Order details		Price 1 piece	Weight 1 piece	Pack unit
V	A	V / A	EAN	Type code	Order code		kg (lb.)	pc.
9-35 V DC	2 x 5 A	24 V DC / 1 x 10 A		CP-D RU	1SVR427049R0000		0.075 / 0.165	1

Command and signaling

Modular sockets selection table

Series selection

For further information about sockets selection by country please see in Chapter 6 of Electrical installation solutions for buildings - Technical details

		M1175	M1173	M1170	M1174	M1363	M1011
	EU 10A	■	■	■	■		■
	Schuko 10 A / 16 A	■	■	■			
	Italian 10 A		■	■			
	Italian 16 A			■			
	French 10 A / 16 A	Pluggable but not earthed	Pluggable but not earthed	Pluggable but not earthed	■		
	British 13 A					■	
	Swiss						■
							■
							■
							■

Command and signaling

Modular sockets selection table

Model selection

RAL 7035				
German Schuko Standard				
	M1175			2CSM210000R0721
	M1175-L	 Indicator light		2CSM212000R0721
	M1175-FL	 Indicator light	 Fuse 6.3 A aM	2CSM214000R0721
	M1175-C	 Cover IP30		2CSM211000R0721
Italian P30 standard				
	M1173			2CSM110000R0701
	M1173-L	 Indicator light		2CSM112000R0701
Italian dual standard				
	M1170			2CSM210000R0701
French Standard				
	M1174	2CSM110000R0711	2CSM110000R0711	

Command and signaling

Modular sockets selection table

RAL 7035			
British Standard			
	M1363	2CSM259343R0721	2CSM259343R0721
	M1363-L	 Indicator light	2CSM258163R0721
Swiss standard SEV 2011			
	M1011-T13	Single-phase 10 A Type 13	2CSM220685R0721
	M1011-T23	Single-phase 16 A Type 23	2CSM220695R0721
	M1011-T15	Three-phase 10 A Type 15	2CSM220705R0721
	M1011-T25	Three-phase 16 A Type 25	2CSM220715R0721

Command and signaling

Modular sockets



Modular sockets

Technical specifications

Rated voltage Un	[V]	250 a.c.					
Rated current In	[A]	16 (M1170, M1173, M1174, M1175), 13 (M1363),					
Rated frequency	[Hz]	50/60					
Power loss	[W]	0,6					
Modules	[No.]	2.5 for M117x 3 for M1011, M1363					
Safety shutters		yes, on entire range					
Cable section (ø min./max.)	[mm²]	2.5 / 16					
Tightening torque	[Nm]	1.2					
Temperature	storage	[°C]	-40 ... +70				
	operating	[°C]	-25 ... +35				
Protection degree		IP20 / IP30 versions with cover, when cover is closed					
		M1011	M1175	M1173	M1170	M1174	M1363
Reference standards		SEV 1011	DIN VDE 0620-1	CEI 23-50		NF C 61 314	BS1363
Approvals		SEV	VDE, EAC	IMQ, EAC	EAC	LCIE, CEBEC, EAC	BSI

Indicator light technical specifications

Type	fluorescent torpedo-shaped lamp					
Function	Indication of power supply presence (M1363, M1173, M1175)					
Light colour	green					
Power consumption	[W]	0.25				

Fuse technical specifications

Type	5 x 20mm up to 6.3 A aM	
Function	phase protection	
Breaking capacity	[A]	1500
Reference standard	IEC EN 60127	

Command and signaling

Modular sockets



M1175



M1175-C



M1175-C



M1175-FL



M1173

Modular sockets

Modular sockets allow the connection of devices, tools or electrical and electronic non modular equipments in civil and industrial electrical switchboards.

The range is composed by standard versions as well as upgraded versions with additional features as light indicator, protection fuse and cover.

German Shuko standard modular sockets

Color	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
	EAN	Type code	Order code	kg	pc.	
grey	027850	M1175	2CSM210000R0721	0,120	4	
■ grey with cover	029052	M1175-C	2CSM211000R0721	0,140	4	

German Shuko standard modular sockets with integrated indicator light and fuse

Color	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
	EAN	Type code	Order code	kg	pc.	
■ grey with light	028253	M1175-L	2CSM212000R0721	0,140	4	
■ grey with light and fuse	028659	M1175-FL	2CSM214000R0721	0,160	4	

Italian P30 standard modular sockets

Color	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
	EAN	Type code	Order code	kg	pc.	
grey	004103	M1173	2CSM110000R0701	0,120	4	

Italian P30 standard modular sockets with integrated indicator light

Color	Bbn 8012542	Order details		Price 1 piece	Weight 1 piece	Pack unit
	EAN	Type code	Order code	kg	pc.	
■ grey with light	027058	M1173-L	2CSM112000R0701	0,140	4	

Command and signaling

Modular sockets



M1170



M1174



M1363

Italian dual standard modular sockets						
Color	Bbn	Order details		Price	Weight	Pack
	8012542			1 piece	1 piece	unit
		EAN	Type code	Order code	kg	pc.
grey		027454	M1170	2CSM210000R0701	0,120	4
French standard modular sockets						
Color	Bbn	Order details		Price	Weight	Pack
	8012542			1 piece	1 piece	unit
		EAN	Type code	Order code	kg	pc.
grey		006602	M1174	2CSM110000R0711	0,140	4
British standard modular sockets.						
Color	Bbn	Order details		Price	Weight	Pack
	8012542			1 piece	1 piece	unit
		EAN	Type code	Order code	kg	pc.
grey		593430	M1363	2CSM259343R0721	0,140	4
grey with light		581635	M1363-L	2CSM258163R0721	0,140	4

Command and signaling

Modular sockets



M1011-T13



M1011-T23



M1011-T15



M1011-T25

Swiss standard modular sockets						
The M1011 series, with SEV certification, allows to plug four types of swiss standard plugs, single- and three-phase e with currents up to 10 A or 16 A.						
They can be mounted on DIN rail or Smissline rails without supply connection.						
Color	Bbn	Order details			Price	Pack
	8012542				1 piece	1 piece unit
	EAN	Type code	Order code		kg	pc.
■ grey	Single-phase 10 A	206873	M1011-T13	2CSM220685R0721	0.140	2
■ grey	Single-phase 16 A	206972	M1011-T23	2CSM220695R0721	0.140	2
■ grey	Three-phase 10 A	207078	M1011-T15	2CSM220705R0721	0.170	2
■ grey	Three-phase 16 A	207177	M1011-T25	2CSM220715R0721	0.170	2

Command and signaling

MA1-8001 DIN rail adapter



MA1-8001



MA1-8121

MA1-8001 DIN rail adapter

Through an appropriate kit, this product born with the Modular Range of Pilot devices is the perfect case for alongside Ø 22 mm pilot devices with “System pro M compact” products. The Ø 22 mm pilot devices can now find a greater use even within distribution or automation switchboards with modular panels maintaining an high aesthetic level.

The MA1-8001 offers a lot of advantages:

- Fast and easy mounting
- Simple wiring
- Simple maintenance
- Less depth of operators
- Perfect harmony alongside the “System pro M compact” products

Using MA1-8001 it's possible to put together “System pro M compact” products with LED pilot light, potentiometer, key selectors, toggle switches, selector switches, push- buttons, mushroom buttons and emergency stop, illuminated or not.

For detailed description of the industrial devices that can be installed using this kit, see technical catalogue 1SFC151003C0201

Color	Bbn 7320500	Order details		Price	Weight	Pack
		EAN	Type code	Order code	1 piece	1 piece
					kg	pc.
DIN rail adapter KIT (2 modules) ① ②	357880	MA1-8001	1SFA611920R8001		0.023	1
DIN rail adapter (2 modules) ①	357702	MA1-8131	1SFA611920R8131		0.020	10

① Can be used only with Modular range pilot devices units; it cannot be used with the old CBK range or Compact range products.

② KIT includes one Din rail adapter, one empty block and 2 pins

Technical notes

- To assemble the new housing with push-buttons, selector switch and indicator lamps, contact blocks and lamp blocks for DIN rails must be used.
- The MCBH-00 holder is not necessary, because the housing hooks directly to contact blocks.
- To line up with “System pro M compact” products, a maximum of 3 blocks must be used.
- In the configuration with 3 contacts, it is advisable to use securing pins to make the blocks more solid.
- In making up actuators or indicator lamps that use a single contact, one or two MDB-2 empty blocks must be used.