TRADE LINKS

Product Porfolio…. Powered by ABB

Electrification Products & Systems

CIRCUIT BREAKERS

(MCBs upto 100 amps, MCCBs upto 2500 amps, ACBs upto 6300 amps)



MAGNETIC CONTACTORS & CONTROL



SWITCHES & SOCKETS



ENERGY METERING



Brief Introduction of Trade Links



Mr. Ghulam Nabi Dar (late)
1906 ~ 1982

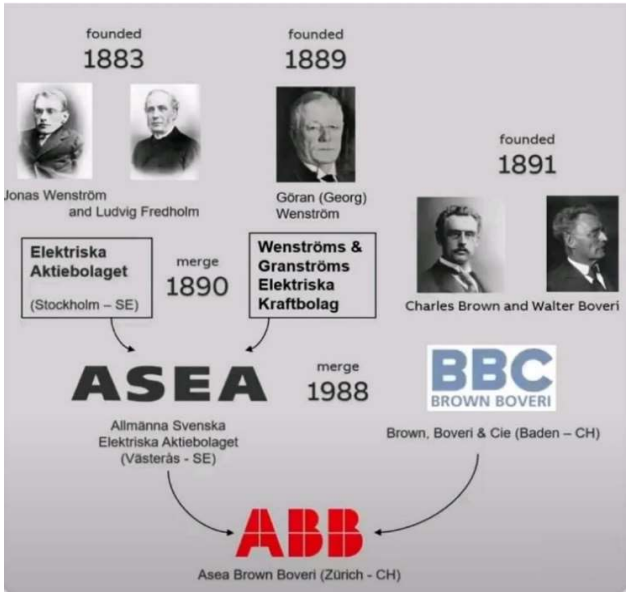
TRADE LINKS was established in **1999** to meet the emerging requirements of Sales Tax registration introduced by the Industry and Import Departments. While newly formed at that time, the company inherited decades of valuable experience, strong ethical values, and an excellent reputation from its parent organization, M/s **Ghulam Nabi & Sons**, **which was founded in 1935 by Late Mr. Ghulam Nabi Dar.**

Now in its third generation within the same line of business, TRADE LINKS supplies a broad range of high-quality electrical and mechanical components, specifically catering to the Power Generation, Paper, Cement, Sugar, and Textile industries. With its office located on **Brandreth Road, Lahore**—one of Pakistan's major industrial market—Trade Links continues to support its customers by providing prompt, reliable, and cost-effective solutions.

In 2005, Trade Links was privileged to represent ABB. Since then, the company has been supplying premium-quality ABB components along with replacement warranties, earning the trust and confidence of its valued customers.

Brief Introduction & history of ABB

ABB Group is a Swedish-Swiss multinational electrical engineering corporation. Incorporated in Switzerland as **ABB Ltd.**, and headquartered in Zurich, it is dual-listed on the Nasdaq Nordic exchange in Stockholm, Sweden, and the SIX Swiss Exchange in Zurich. ABB was ranked 340th in the Fortune Global 500 list of 2020 and has been a global Fortune 500 company for 24 years.



ABB's **Electrification** business offers products and services from substation to socket. Customers include a wide range of industry and utility operations, plus commercial and residential buildings. The business has strong exposure to a range of rapidly growing segments, including renewables, e-mobility, data centers and smart buildings.

TRADE LINKS

PRICE LIST 2026

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MINIATURE CIRCUIT BREAKERS (SJ)

IEC 60898-1 | **6 kA**

100 YEARS ORIGINAL SINCE 1924 OF MINIATURE CIRCUIT BREAKERS

100+ years ago, *Hugo Stotz made history. As electrical safety became increasingly important with electrification, his invention of the first resettable Miniature Circuit Breaker (MCB), patented in 1924, changed the way we protect our electrical systems.*

Protections against:

> Over Loads
> Short Circuits
> Resistive and inductive loads with low inrush current



TECHNICAL DATA	
Ambient temperature	°C -25…+55
Cross-section of conductors (top / bottom) mm2	Max. 35 mm2
Protection degree according to IEC 60898-1	IP20

No. of Poles	Breaking Capacity	Voltage	Series	Rating (A)	Order Code	Model	List Price (PKR)
1	6 kA	230V AC	SJ 201	2	2TAZ141100R0024	SJ201-C 2	3,000
				6	2TAZ141100R0064	SJ201-C 6	1,300
				10	2TAZ141100R0104	SJ201-C 10	1,300
				16	2TAZ141100R0164	SJ201-C 16	1,300
				20	2TAZ141100R0204	SJ201-C 20	1,300
				25	2TAZ141100R0254	SJ201-C 25	1,300
				32	2TAZ141100R0324	SJ201-C 32	1,300
				40	2TAZ141100R0404	SJ201-C 40	1,500
				63	2TAZ141100R0634	SJ201-C 63	3,300
2	6 kA	230 / 400V AC	SJ 202	6	2TAZ141200R0064	SJ202-C 6	4,000
				10	2TAZ141200R0104	SJ202-C 10	4,000
				16	2TAZ141200R0164	SJ202-C 16	3,300
				20	2TAZ141200R0204	SJ202-C 20	3,300
				25	2TAZ141200R0254	SJ202-C 25	3,300
				32	2TAZ141200R0324	SJ202-C 32	3,300
				40	2TAZ141200R0404	SJ202-C 40	3,500
				63	2TAZ141200R0634	SJ202-C 63	7,000
3	6 kA	230 / 400V AC	SJ 203	6	2TAZ141300R0064	SJ203-C 6	6,000
				10	2TAZ141300R0104	SJ203-C 10	6,000
				16	2TAZ141300R0164	SJ203-C 16	5,000
				20	2TAZ141300R0204	SJ203-C 20	5,000
				25	2TAZ141300R0254	SJ203-C 25	5,000
				32	2TAZ141300R0324	SJ203-C 32	5,000
				40	2TAZ141300R0404	SJ203-C 40	5,500
				63	2TAZ141300R0634	SJ203-C 63	9,500
4	6 kA	230 / 400V AC	SJ 204	6	2TAZ141400R0064	SJ204-C 6	10,000
				10	2TAZ141400R0104	SJ204-C 10	10,000
				16	2TAZ141400R0164	SJ204-C 16	7,800
				20	2TAZ141400R0204	SJ204-C 20	7,800
				25	2TAZ141400R0254	SJ204-C 25	7,800
				32	2TAZ141400R0324	SJ204-C 32	7,800
				40	2TAZ141400R0404	SJ204-C 40	8,500
				63	2TAZ141400R0634	SJ204-C 63	15,000

*NOTE: Accessories are not competible with **SJ** Series*

MINIATURE CIRCUIT BREAKERS (SH)

IEC 60898-1 | **6 kA**

MADE IN GERMANY

100 YEARS ORIGINAL SINCE 1924 OF MINIATURE CIRCUIT BREAKERS

100+ years ago, *Hugo Stotz made history. As electrical safety became increasingly important with electrification, his invention of the first resettable Miniature Circuit Breaker (MCB), patented in 1924, changed the way we protect our electrical systems.*



Protections against :

> Over Loads
> Short Circuits
> Resistive and inductive loads with low inrush current

In the event of a short-circuit or overload, it immediately disconnects the circuit 10 times faster than the blink of an eye

TECHNICAL DATA	
Ambient temperature	°C -25…+55
Cross-section of conductors (top / bottom) mm2	Max. 35 mm2
Protection degree according to IEC 60898-1	IP20

No. of Poles	Breaking Capacity	Voltage	Series	Rating (A)	Order Code	Model	List Price (PKR)
1	6 kA	230V AC	SH 201	2	2CDS211001R0024	SH201-C 2	4,000
				6	2CDS211001R0064	SH201-C 6	1,600
				10	2CDS211001R0104	SH201-C 10	1,600
				16	2CDS211001R0164	SH201-C 16	1,600
				20	2CDS211001R0204	SH201-C 20	1,600
				25	2CDS211001R0254	SH201-C 25	1,600
				32	2CDS211001R0324	SH201-C 32	1,600
				40	2CDS211001R0404	SH201-C 40	1,600
2	6 kA	230 / 400V AC	SH 202	2	2CDS212001R0024	SH202-C 2	13,500
				6	2CDS212001R0064	SH202-C 6	6,300
				10	2CDS212001R0104	SH202-C 10	6,300
				16	2CDS212001R0164	SH202-C 16	5,900
				20	2CDS212001R0204	SH202-C 20	5,900
				25	2CDS212001R0254	SH202-C 25	5,900
				32	2CDS212001R0324	SH202-C 32	5,900
				40	2CDS212001R0404	SH202-C 40	5,900
3	6 kA	230 / 400V AC	SH 203	2	2CDS213001R0024	SH203-C 2	26,000
				6	2CDS213001R0064	SH203-C 6	9,000
				10	2CDS213001R0104	SH203-C 10	9,000
				16	2CDS213001R0164	SH203-C 16	8,500
				20	2CDS213001R0204	SH203-C 20	8,500
				25	2CDS213001R0254	SH203-C 25	8,500
				32	2CDS213001R0324	SH203-C 32	8,500
				40	2CDS213001R0404	SH203-C 40	10,000
4	6 kA	230 / 400V AC	SH 204	6	2CDS214001R0064	SH204-C 6	20,000
				10	2CDS214001R0104	SH204-C 10	20,000
				16	2CDS214001R0164	SH204-C 16	17,500
				20	2CDS214001R0204	SH204-C 20	17,500
				25	2CDS214001R0254	SH204-C 25	17,500
				32	2CDS214001R0324	SH204-C 32	17,500
				40	2CDS214001R0404	SH204-C 40	22,000

MINIATURE CIRCUIT BREAKERS AC/DC (S200)

IEC/EN60898-1 : **6 kA** (Ics) - IEC/EN60947-2 : **10 kA** (Icu)

MADE IN GERMANY

100 YEARS ORIGINAL SINCE 1924 OF MINIATURE CIRCUIT BREAKERS

100+ years ago, *Hugo Stotz made history. As electrical safety became increasingly important with electrification, his invention of the first resettable Miniature Circuit Breaker (MCB), patented in 1924, changed the way we protect our electrical systems.*



Protections & Control of Circuits against :	Features :
Over Loads	Energy limiting
Short-Circuits	Fast breaking time (2.3 – 2.5 ms)
Resistive and inductive loads with low inrush current	Wide range of accessories
	Suitable for reverse feed

No. of Poles	Breaking Capacity	Voltage	Series	Rating (A)	Order Code	Model	List Price (PKR)
1	10 kA	253 V AC / 72 V DC	S 201	2	2CDS251001R0024	S201-C 2	6,000
				6	2CDS251001R0064	S201-C 6	3,000
				10	2CDS251001R0104	S201-C 10	3,000
				16	2CDS251001R0164	S201-C 16	2,700
				20	2CDS251001R0204	S201-C 20	2,700
				25	2CDS251001R0254	S201-C 25	2,700
				32	2CDS251001R0324	S201-C 32	2,700
				40	2CDS251001R0404	S201-C 40	2,700
				63	2CDS251001R0634	S201-C 63	3,350
2	10 kA	440 V AC / 125 V DC	S 202	2	2CDS252001R0024	S202-C 2	20,000
				6	2CDS252001R0064	S202-C 6	9,000
				10	2CDS252001R0104	S202-C 10	9,000
				16	2CDS252001R0164	S202-C 16	8,300
				20	2CDS252001R0204	S202-C 20	8,300
				25	2CDS252001R0254	S202-C 25	8,300
				32	2CDS252001R0324	S202-C 32	8,300
				40	2CDS252001R0404	S202-C 40	8,300
				63	2CDS252001R0634	S202-C 63	10,000
3	10 kA	230 / 400V AC	S 203	2	2CDS253001R0024	S203-C 2	30,000
				6	2CDS253001R0064	S203-C 6	14,000
				10	2CDS253001R0104	S203-C 10	14,000
				16	2CDS253001R0164	S203-C 16	13,000
				20	2CDS253001R0204	S203-C 20	13,000
				25	2CDS253001R0254	S203-C 25	13,000
				32	2CDS253001R0324	S203-C 32	13,000
				40	2CDS253001R0404	S203-C 40	13,000
				63	2CDS253001R0634	S203-C 63	16,500
4	10 kA	230 / 400V AC	S 204	2	2CDS254001R0024	S204-C 2	70,000
				6	2CDS254001R0064	S204-C 6	22,500
				10	2CDS254001R0104	S204-C 10	22,500
				16	2CDS254001R0164	S204-C 16	20,000
				20	2CDS254001R0204	S204-C 20	20,000
				25	2CDS254001R0254	S204-C 25	20,000
				32	2CDS254001R0324	S204-C 32	20,000
				40	2CDS254001R0404	S204-C 40	20,000
				63	2CDS254001R0634	S204-C 63	25,600

Accessories	Function	Order Code	Model	List Price (PKR)
Aux. Contact	1 NO + 1 NC	2CDS200936R0001	S2C-H11L	12,000
Auxiliary Contact 1CO	1 NO / 1 NC	2CDS200912R0001	S2C-H6R	12,000
Signal / Aux. Contact	C/O Contact (A/S)	2CDS200922R0001	S2C-S/H6R	14,000

RESIDUAL CURRENT CIRCUIT BREAKERS

Standards: IEC 61008

MADE IN ITALY

The **RCCBs FH200** series assures protection to people and installations against fault current to earth. A large offer for standard instantaneous AC and A types is particularly suitable for installation in domestic applications.

Detects imbalances between live and neutral currents, which can indicate a potential fault or leak.

They are current operated and do not require an earth connection to install.

Protections against :
Effects of Sinusoidal Alternating Earth Fault Currents
Indirect Contacts
Direct (with IΔn=30 mA) contacts



No. of Poles	Breaking Capacity	Rating (A)	Current Sensitivity	Order Code	Model	List Price (PKR)
2	6 kA	25	30mA	2CSF202006R1250	FH202 AC-25/0.03	16,000
		25	300mA	2CSF202006R3250	FH202 AC-25/0.3	16,000
		40	30mA	2CSF202006R1400	FH202 AC-40/0.03	17,000
		40	300mA	2CSF202006R3400	FH202 AC-40/0.3	17,000
		63	30mA	2CSF202006R1630	FH202 AC-63/0.03	20,000
		63	300mA	2CSF202006R3630	FH202 AC-63/0.3	20,000



No. of Poles	Breaking Capacity	Rating (A)	Current Sensitivity	Order Code	Model	List Price (PKR)
4	6 kA	25	30mA	2CSF204006R1250	FH204 AC-25/0.03	21,000
		25	300mA	2CSF204006R3250	FH204 AC-25/0.3	21,000
		40	30mA	2CSF204006R1400	FH204 AC-40/0.03	22,000
		40	300mA	2CSF204006R3400	FH204 AC-40/0.3	22,000
		63	30mA	2CSF204006R1630	FH204 AC-63/0.03	28,000
		63	300mA	2CSF204006R3630	FH204 AC-63/0.3	28,000
	10 kA	100	30mA	2CSF204023R1900	F204 AC-100/0.03-L	47,000
		100	300mA	2CSF204023R3900	F204 AC-100/0.3-L	47,000

MOULDED CASE CIRCUIT BREAKERS (MCCB)

SACE FORMULA DSA

3- POLE | FIXED TYPE | NON - ADJUSTABLE RANGE



Available in 1-pole & 2-pole (up to 125A), 3-pole & 4-pole (up tp 630A)

Information		
MODEL	**A1**	**A2**
Dimensions (W x D x H) mm	76.2 x 60 x 130	105 x 60 x 150
Current Type	AC/DC	
Operational Voltage Ue [V]	550 V AC / 250 V DC	
Terminal Connection	Front	

No. of Poles	Breaking Capacity	Rating (A)	Order Code	Model	List Price (PKR)
3	10 kA	16	1SDA068746R1	A1A 125	19,000
		20	1SDA066511R1	A1A 125	19,000
		25	1SDA066512R1	A1A 125	19,000
		30	1SDA066513R1	A1A 125	19,000
		40	1SDA066514R1	A1A 125	19,000
		50	1SDA066515R1	A1A 125	19,000
		60	1SDA066516R1	A1A 125	19,000
		80	1SDA066518R1	A1A 125	19,000
		100	1SDA066520R1	A1A 125	19,000
		125	1SDA066521R1	A1A 125	32,000

No. of Poles	Breaking Capacity	Rating (A)	Order Code	Model	List Price (PKR)
3	18 kA	15	1SDA066697R1	A1B 125	20,000
		20	1SDA066698R1	A1B 125	20,000
		25	1SDA066699R1	A1B 125	20,000
		32	1SDA068758R1	A1B 125	20,000
		40	1SDA066701R1	A1B 125	20,000
		50	1SDA066702R1	A1B 125	20,000
		60	1SDA066703R1	A1B 125	20,000
		80	1SDA066705R1	A1B 125	20,000
		100	1SDA066707R1	A1B 125	20,000
		125	1SDA066708R1	A1B 125	36,000
		160	1SDA066549R1	A2B 250	44,000
		250	1SDA066553R1	A2B 250	44,000



MOULDED CASE CIRCUIT BREAKERS (MCCB)

SACE FORMULA DSA

3- POLE | FIXED TYPE | NON - ADJUSTABLE RANGE

Information				
MODEL	**A1**	**A2**	**A3 (400A)**	**A3 (630A)**
Dimensions (W x D x H) mm	76.2 x 60 x 130	105 x 60 x 150	139.5 x 103.5 x 205	
Current Type	AC/DC			AC
Operational Voltage Ue [V]	550 V AC / 250 V DC			550 V AC
Terminal Connection	Front			

No. of Poles	Breaking Capacity	Rating (A)	Order Code	Model	List Price (PKR)
3	25 kA	**15**	1SDA066709R1	A1C 125	27,000
		20	1SDA066710R1	A1C 125	27,000
		25	1SDA066711R1	A1C 125	27,000
		30	1SDA066712R1	A1C 125	27,000
		40	1SDA066713R1	A1C 125	27,000
		50	1SDA066714R1	A1C 125	27,000
		60	1SDA066715R1	A1C 125	27,000
		80	1SDA066717R1	A1C 125	27,000
		100	1SDA066719R1	A1C 125	27,000
		125	1SDA066720R1	A1C 125	38,500
		160	1SDA066776R1	A2C 250	46,500
		250	1SDA066780R1	A2C 250	61,000

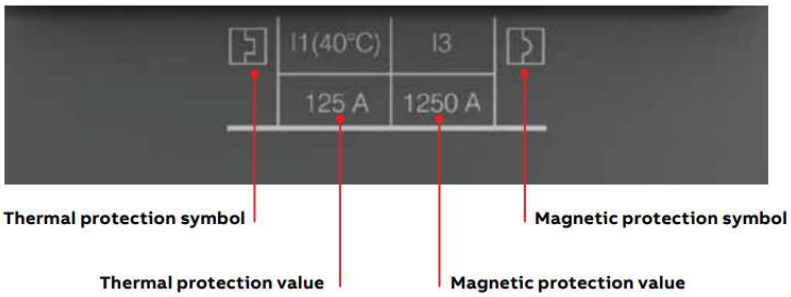
No. of Poles	Breaking Capacity	Rating (A)	Order Code	Model	List Price (PKR)
3	36 kA	**16**	1SDA068749R1	A1N 125	31,000
		20	1SDA066722R1	A1N 125	31,000
		25	1SDA066723R1	A1N 125	31,000
		30	1SDA066724R1	A1N 125	31,000
		40	1SDA066725R1	A1N 125	31,000
		50	1SDA066726R1	A1N 125	31,000
		60	1SDA066727R1	A1N 125	31,000
		80	1SDA066729R1	A1N 125	31,000
		100	1SDA066731R1	A1N 125	31,000
		125	1SDA066732R1	A1N 125	45,000
		160	1SDA066782R1	A2N 250	60,000
		250	1SDA066786R1	A2N 250	92,000
		400	1SDA066561R1	A3N 400	121,000
		630	1SDA066566R1	A3N 630	196,000

No. of Poles	Breaking Capacity	Rating (A)	Order Code	Model	List Price (PKR)
3	50kA	**400**	1SDA066563R1	A3S 400	146,000
		630	1SDA066567R1	A3S 630	210,000

MOULDED CASE CIRCUIT BREAKERS (MCCB)

SACE FORMULA DSA

4- POLE | FIXED TYPE | NON - ADJUSTABLE RANGE





Information		
MODEL	**A1**	**A2**
Dimensions (W x D x H) mm	140 x 60 x 130	145 x 60 x 150
Current Type	AC/DC	
Operational Voltage Ue [V]	550 V AC / 250 V DC	
Terminal Connection	Front	

No. of Poles	Breaking Capacity	Rating (A)	Order Code	Model	List Price (PKR)
4	10 kA	**15**	1SDA066524R1	A1A 125	28,000
		20	1SDA066525R1	A1A 125	28,000
		25	1SDA066526R1	A1A 125	28,000
		30	1SDA066527R1	A1A 125	28,000
		40	1SDA066528R1	A1A 125	28,000
		50	1SDA066529R1	A1A 125	28,000
		60	1SDA066530R1	A1A 125	28,000
		80	1SDA066532R1	A1A 125	28,000
		100	1SDA066534R1	A1A 125	28,000
		125	1SDA066535R1	A1A 125	42,000

No. of Poles	Breaking Capacity	Rating (A)	Order Code	Model	List Price (PKR)
4	18 kA	**15**	1SDA066733R1	A1B 125	30,000
		20	1SDA066734R1	A1B 125	30,000
		25	1SDA066735R1	A1B 125	30,000
		32	1SDA066736R1	A1B 125	30,000
		40	1SDA066737R1	A1B 125	30,000
		50	1SDA066738R1	A1B 125	30,000
		60	1SDA066739R1	A1B 125	30,000
		80	1SDA066741R1	A1B 125	30,000
		100	1SDA066743R1	A1B 125	30,000
		125	1SDA066744R1	A1B 125	46,000
		160	1SDA066555R1	A2B 250	62,000
		250	1SDA066559R1	A2B 250	62,000



MOULDED CASE CIRCUIT BREAKERS (MCCB)

SACE FORMULA DSA

4- POLE | FIXED TYPE | NON - ADJUSTABLE RANGE

Information				
MODEL	**A1**	**A2**	**A3 (400A)**	**A3 (630A)**
Dimensions (W x D x H) mm	140 x 60 x 130	145 x 60 x 150	186 x 103.5 x 205	
Current Type	AC/DC			AC
Operational Voltage Ue [V]	550 V AC / 250 V DC			550 V AC
Terminal Connection	Front			

No. of Poles	Breaking Capacity	Rating (A)	Order Code	Model	List Price (PKR)
4	25 kA	15	1SDA066745R1	A1C 125	37,000
		20	1SDA066746R1	A1C 125	37,000
		25	1SDA066747R1	A1C 125	37,000
		30	1SDA066748R1	A1C 125	37,000
		40	1SDA066749R1	A1C 125	37,000
		50	1SDA066750R1	A1C 125	37,000
		60	1SDA066751R1	A1C 125	37,000
		80	1SDA066753R1	A1C 125	37,000
		100	1SDA066755R1	A1C 125	37,000
		125	1SDA066756R1	A1C 125	52,000
		160	1SDA066788R1	A2C 250	70,000
		250	1SDA066792R1	A2C 250	90,000

No. of Poles	Breaking Capacity	Rating (A)	Order Code	Model	List Price (PKR)
4	36 kA	16	1SDA066757R1	A1N 125	41,000
		20	1SDA066758R1	A1N 125	41,000
		25	1SDA066759R1	A1N 125	41,000
		30	1SDA066760R1	A1N 125	41,000
		40	1SDA066761R1	A1N 125	41,000
		50	1SDA066762R1	A1N 125	41,000
		60	1SDA066763R1	A1N 125	41,000
		80	1SDA066765R1	A1N 125	41,000
		100	1SDA066767R1	A1N 125	41,000
		125	1SDA066768R1	A1N 125	58,000
		160	1SDA066794R1	A2N 250	80,000
		250	1SDA066798R1	A2N 250	120,000
		400	1SDA066569R1	A3N 400	210,000
		630	1SDA066574R1	A3N 630	260,000

No. of Poles	Breaking Capacity	Rating (A)	Order Code	Model	List Price (PKR)
4	50kA	400	1SDA066571R1	A3S 400	230,000
		630	1SDA066575R1	A3S 630	280,000

ABB

SACE FORMULA ACCESSORIES





Description	Frame	Detail	Order Code	List Price (PKR)
Shunt Opening Release	A1 / A2	220~250 V - AC / DC	1SDA066137R1	41,000
	A3		1SDA054873R1	45,000
Under Voltage Release	A1 / A2	220~250 V - AC / DC	1SDA066146R1	58,000
	A3		1SDA054891R1	62,000
Auxiliary Contact 1 C/O + 1 Signal	A1 / A2	250 V - AC / DC	1SDA066149R1	28,000
	A3		1SDA054910R1	30,000
Auxiliary Contact 2 C/O + 1 Signal	A1 / A2	250 V - AC / DC	1SDA066150R1	38,000
Auxiliary Contact 3 C/O + 1 Signal	A3	250 V - AC / DC	1SDA054911R1	60,000
Rotary Handle	A1 / A2	Direct	1SDA066154R1	25,000
	A3		1SDA066155R1	35,000
Rotary Handle	A1 / A2	Extended	1SDA066158R1	38,000
	A3		1SDA066159R1	47,000

Accessories are also available in other voltage ranges.
Price and availability on request.

MOULDED CASE CIRCUIT BREAKERS (XT)

3-POLE | ADJUSTABLE | 18 kA & 25 kA

MADE IN ITALY



Information	
MODEL	**XT1**
Dimensions (W x D x H) mm	76.2 x 70 x 130
Current Type	AC / DC
Operational Voltage Ue [V]	690 V AC / 500 V DC
Terminal Connection	Front

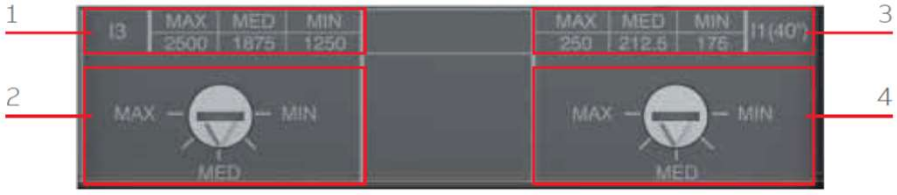
Key:

1. Current threshold for short-circuit protection

2. Rotary switch for short-circuit protection

3. Current threshold for overload protection

4. Rotary switch for overload threshold setting.



No. of Poles	Breaking Capacity	Trip Unit	Rating (A)	Adj. Range	Order Code	Model	List Price (PKR)
3	18 kA	Thermal	**16**	11 ~ 16	1SDA066799R1	XT1B 160	32,000
			20	14 ~ 20	1SDA066800R1	XT1B 160	32,000
			25	17 ~ 25	1SDA066801R1	XT1B 160	32,000
			32	22 ~ 32	1SDA066802R1	XT1B 160	32,000
			40	28 ~ 40	1SDA066803R1	XT1B 160	32,000
			50	35 ~ 50	1SDA066804R1	XT1B 160	32,000
			63	44 ~ 63	1SDA066805R1	XT1B 160	32,000
			80	56 ~ 80	1SDA066806R1	XT1B 160	32,000
			100	70 ~ 100	1SDA066807R1	XT1B 160	32,000
			125	87 ~125	1SDA066808R1	XT1B 160	50,000
			160	112~160	1SDA066809R1	XT1B 160	56,000

No. of Poles	Breaking Capacity	Trip Unit	Rating (A)	Adj. Range	Order Code	Model	List Price (PKR)
3	25 kA	Thermal	**16**	11 ~ 16	1SDA080825R1	XT1C 160	34,000
			20	14 ~ 20	1SDA080826R1	XT1C 160	34,000
			25	17 ~ 25	1SDA067391R1	XT1C 160	34,000
			32	22 ~ 32	1SDA067392R1	XT1C 160	34,000
			40	28 ~ 40	1SDA067393R1	XT1C 160	34,000
			50	35 ~ 50	1SDA067394R1	XT1C 160	34,000
			63	44 ~ 63	1SDA067395R1	XT1C 160	34,000
			80	56 ~ 80	1SDA067396R1	XT1C 160	34,000
			100	70 ~ 100	1SDA067397R1	XT1C 160	34,000
			125	87 ~ 125	1SDA067398R1	XT1C 160	52,000
			160	112~ 160	1SDA067399R1	XT1C 160	60,000

MOULDED CASE CIRCUIT BREAKERS (XT)

3-POLE | ADJUSTABLE | 36 kA

MADE IN ITALY





Trip units

Family Name	Application		Protection functions
Ekip	—	for distribution	LS/I
	M	for motor protection	I
	G	for generator protection	LSI
	N	for oversized neutral	LSIG
	E	for energy metering	LIU

Information					
MODEL	XT1	XT3	XT4	XT5	XT6
Dimensions (W x D x H) mm	76.2 x 70 x 130	105 x 70 x 150	105 x 82.5 x 160	140 x 103.5 x 205	210 x 103.5 x 268
Current Type	AC / DC			AC	
Operational Voltage Ue [V]	690 V AC / 500 V DC			690 V AC	
Terminal Connection	Front				

Poles	Breaking Capacity	Trip Unit	Rating (A)	Adj. Range	Order Code	Model	List Price (PKR)
3	36 kA	Thermal	16	11 ~ 16	1SDA080827R1	XT1N 160	38,000
			20	14 ~ 20	1SDA080828R1	XT1N 160	38,000
			25	17 ~ 25	1SDA080829R1	XT1N 160	38,000
			32	22 ~ 32	1SDA067411R1	XT1N 160	38,000
			40	28 ~ 40	1SDA067412R1	XT1N 160	38,000
			50	35 ~ 50	1SDA067413R1	XT1N 160	38,000
			63	44 ~ 63	1SDA067414R1	XT1N 160	38,000
			80	56 ~ 80	1SDA067415R1	XT1N 160	38,000
			100	70 ~ 100	1SDA067416R1	XT1N 160	38,000
			125	87 ~ 125	1SDA067417R1	XT1N 160	54,000
			160	112~ 160	1SDA067418R1	XT1N 160	65,000
			250	175~ 250	1SDA068059R1	XT3N 250*	95,000
			250	175~ 250	1SDA068092R1	XT4N 250	110,000
		Electronic	400	160~ 400	1SDA100354R1	XT5N 400	175,000
			630	250~ 630	1SDA100355R1	XT5N 630	205,000
			800	320~ 800	1SDA100719R1	XT6N 800	421,000
			1000	400~1000	1SDA100720R1	XT6N 1000	450,000

MOULDED CASE CIRCUIT BREAKERS (XT)

3-POLE | ADJUSTABLE | 50 kA

MADE IN ITALY



Information						
MODEL	**XT1**	**XT2**	**XT4**	**XT5**	**XT6**	**XT7**
Dimensions (W x D x H) mm	76.2 x 70 x 130	90 x 82.5 x 130	105 x 82.5 x 160	140 x 103.5 x 205	210 x 103.5 x 268	210 x 166 x 268
Current Type	AC / DC			AC		
Operational Voltage Ue [V]	690 V AC / 500 V DC			690 V AC		
Terminal Connection	Front					

Poles	Breaking Capacity	Trip Unit	Rating (A)	Adj. Range	Order Code	Model	List Price (PKR)
3	50 kA*	Thermal	**16**	11 ~ 16	1SDA080830R1	XT1S 160	72,000
			25	17 ~ 25	1SDA080832R1	XT1S 160	72,000
			40	28 ~ 40	1SDA080834R1	XT1S 160	72,000
			63	44 ~ 63	1SDA067432R1	XT1S 160	72,000
			100	70 ~ 100	1SDA067434R1	XT1S 160	72,000
			125	87 ~ 125	1SDA067435R1	XT1S 160	72,000
			160	112~ 160	1SDA067436R1	XT1S 160	72,000
			250	175~ 250	1SDA068221R1	XT3S 250	110,000

Poles	Breaking Capacity	Trip Unit	Rating (A)	Adj. Range	Order Code	Model	List Price (PKR)
3	50 kA	Thermal	**1.6**	1.12 ~ 1.6	1SDA067540R1	XT2S 160	91,000
			2.5	1.75 ~ 2.5	1SDA067542R1	XT2S 160	91,000
			4	2.8 ~ 4.0	1SDA067544R1	XT2S 160	91,000
			6.3	4.4 ~ 6.3	1SDA067546R1	XT2S 160	91,000
			10	7.0 ~ 10	1SDA067548R1	XT2S 160	91,000
			16	12.5 ~ 16	1SDA067550R1	XT2S 160	76,000
			25	17 ~ 25	1SDA067552R1	XT2S 160	76,000
			40	28 ~ 40	1SDA067554R1	XT2S 160	76,000
			63	44 ~ 63	1SDA067556R1	XT2S 160	76,000
			80	56 ~ 80	1SDA067557R1	XT2S 160	76,000
			100	70 ~ 100	1SDA067558R1	XT2S 160	76,000
			125	87 ~ 125	1SDA067559R1	XT2S 160	76,000
			160	112 ~ 160	1SDA067560R1	XT2S 160	76,000
			250	175 ~ 250	1SDA068312R1	XT4S 250	115,000
		Electronic	**400**	160 ~ 400	1SDA100424R1	XT5S 400	190,000
			630	250 ~ 630	1SDA100425R1	XT5S 630	218,000
			800	320 ~ 800	1SDA100741R1	XT6S 800	443,000
			1000	400~1000	1SDA100742R1	XT6S 1000	475,000
			1250	500~1250	1SDA100864R1	XT7S 1250	500,000
			1600	640~1600	1SDA100865R1	XT7S 1600	570,000

MOULDED CASE CIRCUIT BREAKERS (XT)

3-POLE | ADJUSTABLE | 70 kA

MADE IN ITALY



Information						
MODEL	XT1	XT2	XT4	XT5	XT6	XT7
Dimensions (W x D x H) mm	76.2 x 70 x 130	90 x 82.5 x 130	105 x 82.5 x 160	140 x 103.5 x 205	210 x 103.5 x 268	210 x 166 x 268
Current Type	AC / DC			AC		
Operational Voltage Ue [V]	690 V AC / 500 V DC			690 V AC		
Terminal Connection	Front					

Poles	Breaking Capacity	Trip Unit	Rating (A)	Adj. Range	Order Code	Model	List Price (PKR)
3	70 kA*	Thermal	16	11 ~ 16	1SDA080835R1	XT1H 160	76,000
			25	17 ~ 25	1SDA080837R1	XT1H 160	76,000
			40	28 ~ 40	1SDA080839R1	XT1H 160	76,000
			63	44 ~ 63	1SDA067450R1	XT1H 160	76,000
			100	70 ~ 100	1SDA067452R1	XT1H 160	76,000
			125	87 ~ 125	1SDA067453R1	XT1H 160	76,000
			160	112~ 160	1SDA067454R1	XT1H 160	76,000

Poles	Breaking Capacity	Trip Unit	Rating (A)	Adj. Range	Order Code	Model	List Price (PKR)
3	70 kA	Thermal	1.6	1.12 ~ 1.6	1SDA067584R1	XT2H 160	96,000
			2.5	1.75 ~ 2.5	1SDA067586R1	XT2H 160	96,000
			4	2.8 ~ 4.0	1SDA067588R1	XT2H 160	96,000
			6.3	4.4 ~ 6.3	1SDA067590R1	XT2H 160	96,000
			10	7.0 ~ 10	1SDA067592R1	XT2H 160	96,000
			16	12.5 ~ 16	1SDA067594R1	XT2H 160	80,000
			25	17 ~ 25	1SDA067596R1	XT2H 160	80,000
			40	28 ~ 40	1SDA067598R1	XT2H 160	80,000
			63	44 ~ 63	1SDA067600R1	XT2H 160	80,000
			80	56 ~ 80	1SDA067601R1	XT2H 160	80,000
			100	70 ~ 100	1SDA067602R1	XT2H 160	80,000
			125	87 ~ 125	1SDA067603R1	XT2H 160	80,000
			160	112 ~ 160	1SDA067604R1	XT2H 160	80,000
			250	175 ~ 250	1SDA068345R1	XT4H 250	120,000
		Electronic	400	160 ~ 400	1SDA100490R1	XT5H 400	267,000
			630	250 ~ 630	1SDA100491R1	XT5H 630	278,000
			800	320 ~ 800	1SDA100763R1	XT6H 800	500,000
			1000	400~1000	1SDA100764R1	XT6H 1000	550,000
			1250	500~1250	1SDA100928R1	XT7H 1250	570,000
			1600	640~1600	1SDA100929R1	XT7H 1600	660,000

MOULDED CASE CIRCUIT BREAKERS (XT)

4-POLE | ADJUSTABLE | 18 kA & 25kA

MADE IN ITALY



Information	
MODEL	**XT1**
Dimensions (W x D x H) mm	101.6 x 70 x 130
Current Type	AC / DC
Operational Voltage Ue [V]	690 V AC / 500 V DC
Terminal Connection	Front

XT - Simply XTraordinary

Sace Tmax XT moulded case circuit breakers guarantee an extremely high performance level while being progressively smaller in size, simple to install and able to provide increasingly better safety.

No. of Poles	Breaking Capacity	Trip Unit	Rating (A)	Adj. Range	Order Code	Model	List Price (PKR)
4	18 kA	Thermal	**16**	11 ~ 16	1SDA066810R1	XT1B 160	45,000
			20	14 ~ 20	1SDA066811R1	XT1B 160	45,000
			25	17 ~ 25	1SDA066812R1	XT1B 160	45,000
			32	22 ~ 32	1SDA066813R1	XT1B 160	45,000
			40	28 ~ 40	1SDA066814R1	XT1B 160	45,000
			50	35 ~ 50	1SDA066815R1	XT1B 160	45,000
			63	44 ~ 63	1SDA066816R1	XT1B 160	45,000
			80	56 ~ 80	1SDA066817R1	XT1B 160	45,000
			100	70 ~ 100	1SDA066818R1	XT1B 160	45,000
			125	87 ~125	1SDA066819R1	XT1B 160	65,000
			160	112~160	1SDA066821R1	XT1B 160	75,000

No. of Poles	Breaking Capacity	Trip Unit	Rating (A)	Adj. Range	Order Code	Model	List Price (PKR)
4	25 kA	Thermal	**16**	11 ~ 16	1SDA080840R1	XT1C 160	50,000
			20	14 ~ 20	1SDA080841R1	XT1C 160	50,000
			25	17 ~ 25	1SDA067400R1	XT1C 160	50,000
			32	22 ~ 32	1SDA067401R1	XT1C 160	50,000
			40	28 ~ 40	1SDA067402R1	XT1C 160	50,000
			50	35 ~ 50	1SDA067403R1	XT1C 160	50,000
			63	44 ~ 63	1SDA067404R1	XT1C 160	50,000
			80	56 ~ 80	1SDA067405R1	XT1C 160	50,000
			100	70 ~ 100	1SDA067406R1	XT1C 160	50,000
			125	87 ~ 125	1SDA067409R1	XT1C 160	70,000
			160	112~ 160	1SDA067410R1	XT1C 160	80,000

MOULDED CASE CIRCUIT BREAKERS (XT)

4-POLE | ADJUSTABLE | 36 kA

MADE IN ITALY



Information					
MODEL	**XT1**	**XT3**	**XT4**	**XT5**	**XT6**
Dimensions (W x D x H) mm	101.6 x 70 x 130	140 x 70 x 150	140 x 82.5 x 160	186 x 103.5 x 205	210 x 103.5 x 268
Current Type	AC/DC			AC	
Operational Voltage Ue [V]	690 V AC / 500 V DC		690 V AC / 750 V DC	690 V AC	
Terminal Connection	Front				

Poles	Breaking Capacity	Trip Unit	Rating (A)	Adj. Range	Order Code	Model	List Price (PKR)
4	36 kA	Thermal	**32**	22 ~ 32	1SDA067419R1	XT1N 160	60,000
			40	28 ~ 40	1SDA067420R1	XT1N 160	60,000
			50	35 ~ 50	1SDA067421R1	XT1N 160	60,000
			63	44 ~ 63	1SDA067422R1	XT1N 160	60,000
			80	56 ~ 80	1SDA067423R1	XT1N 160	60,000
			100	70 ~ 100	1SDA067424R1	XT1N 160	60,000
			125	87 ~ 125	1SDA067427R1	XT1N 160	75,000
			160	112~ 160	1SDA067428R1	XT1N 160	85,000
			250	175~ 250	1SDA068070R1	XT3N 250*	125,000
			250	175~ 250	1SDA068111R1	XT4N 250	150,000
		Electronic	**400**	160~ 400	1SDA100396R1	XT5N 400	225,000
			630	250~ 630	1SDA100397R1	XT5N 630	270,000
			800	320~ 800	1SDA100732R1	XT6N 800	550,000
			1000	400~1000	1SDA100733R1	XT6N 1000	600,000



MOULDED CASE CIRCUIT BREAKERS (XT)

4-POLE | ADJUSTABLE | 50 kA & 70 kA

MADE IN ITALY

Information					
MODEL	**XT1**	**XT4**	**XT5**	**XT6**	**XT7**
Dimensions (W x D x H) mm	101.6 x 70 x 130	140 x 82.5 x 160	186 x 103.5 x 205	210 x 103.5 x 268	280 x 166 x 268
Current Type	AC/DC		AC		
Operational Voltage Ue [V]	690 V AC / 500 V DC	690 V AC / 750 V DC	690 V AC		
Terminal Connection	Front				

Poles	Breaking Capacity	Trip Unit	Rating (A)	Adj. Range	Order Code	Model	List Price (PKR)
4	50 kA*		**16**	12.5 ~ 16	1SDA080845R1	XT1S 160	95,000
			25	17 ~ 25	1SDA080847R1	XT1S 160	95,000
			40	28 ~ 40	1SDA080849R1	XT1S 160	95,000
			63	44 ~ 63	1SDA067440R1	XT1S 160	95,000
			80	56 ~ 80	1SDA067441R1	XT1S 160	95,000
			100	70 ~ 100	1SDA067442R1	XT1S 160	95,000
			125	87 ~ 125	1SDA067445R1	XT1S 160	95,000
			160	112 ~ 160	1SDA067446R1	XT1S 160	95,000
	50 kA		**250**	175 ~ 250	1SDA068331R1	XT4S 250	160,000
		Electronic	**400**	160 ~ 400	1SDA100466R1	XT5S 400	250,000
			630	250 ~ 630	1SDA100467R1	XT5S 630	290,000
			800	320 ~ 800	1SDA100754R1	XT6S 800	600,000
			1000	400~1000	1SDA100755R1	XT6S 1000	620,000
			1250	500~1250	1SDA101116R1	XT7S 1250	650,000
			1600	640~1600	1SDA101117R1	XT7S 1600	750,000

Poles	Breaking Capacity	Trip Unit	Rating (A)	Adj. Range	Order Code	Model	List Price (PKR)
4	70 kA*	Thermal	**16**	12.5 ~ 16	1SDA080850R1	XT1H 160	100,000
			25	17 ~ 25	1SDA080852R1	XT1H 160	100,000
			40	28 ~ 40	1SDA080854R1	XT1H 160	100,000
			63	44 ~ 63	1SDA067458R1	XT1H 160	100,000
			80	56 ~ 80	1SDA067459R1	XT1H 160	100,000
			100	70 ~ 100	1SDA067460R1	XT1H 160	100,000
			125	87 ~ 125	1SDA067463R1	XT1H 160	100,000
			160	112 ~ 160	1SDA067464R1	XT1H 160	100,000
	70 kA		**250**	175 ~ 250	1SDA068364R1	XT4H 250	175,000
		Electronic	**400**	160 ~ 400	1SDA100528R1	XT5H 400	350,000
			630	250 ~ 630	1SDA100529R1	XT5H 630	365,000
			800	320 ~ 800	1SDA100776R1	XT6H 800	650,000
			1000	400~1000	1SDA100777R1	XT6H 1000	715,000
			1250	500~1250	1SDA101172R1	XT7H 1250	750,000
			1600	640~1600	1SDA101173R1	XT7H 1600	875,000

SACE XT ACCESSORIES





Auxiliary Contacts - AUX			
Frame	**Detail**	**Order Code**	**List Price (PKR)**
XT1 ~ XT6	1 C/O + 1 Tripped Contact 250V AC/DC (1Q+1SY)	1SDA066431R1	24,000
XT1 ~ XT6	2 C/O + 1 Tripped Contact 250V AC/DC (1Q+1SY)	1SDA066433R1	35,000
XT2 ~ XT6	3 C/O + 1 Tripped Contact 250V AC/DC (3Q+1SY)	1SDA066434R1	47,000
XT7	4 C/O 1 Tripped Contact 400V AC	1SDA073750R1	41,000

Shunt Opening Release - SOR			
Frame	**Detail**	**Order Code**	**List Price (PKR)**
XT1 ~ XT4	220-240V AC/DC	1SDA066317R1	28,000
XT5 ~ XT6	110-240V AC/DC	1SDA104926R1	30,000
XT7	220-240V AC/DC	1SDA073674R1	42,000

Under Voltage Release - UVR			
Frame	**Detail**	**Order Code**	**List Price (PKR)**
XT1 ~ XT4	220-240V AC/DC	1SDA066392R1	44,000
XT5 ~ XT6	220-240V AC/DC	1SDA104944R1	46,000
XT7	220-240V AC/DC	1SDA073700R1	42,000

Motor			
Frame	**Detail**	**Order Code**	**List Price (PKR)**
XT1 & XT3	Direct Action Motor Operator 220…250V AC/DC	1SDA066460R1	123,000
XT2 & XT4	Stored Energy Motor Operator 220…250V AC/DC	1SDA066466R1	325,000
XT5	Stored Energy Motor Operator 220…250V AC/DC	1SDA104886R1	375,000
XT6	Stored Energy Motor Operator 220…250V AC/DC	1SDA104896R1	665,000
XT7M	Spring Charge Motor 220...250V AC/DC	1SDA104922R1	480,000

Accessories are also available in other voltage ranges.
Price and availability on request.

ABB Eco Solutions™

AIR CIRCUIT BREAKERS (ACB) Emax 2 (E1)

3 & 4 POLE | COMPACT, POWERFUL & INTELLIGENT

MADE IN ITALY



Designed for space-saving installations

Information		
POLES	**3**	**4**
Dimensions (W x D x H) mm	210 x 183 x 296	280 x 183 x 296
Current Type	AC	
Operational Voltage Ue [V]	690 V	
Terminal Connection	Front	
Terminal Type	Bolt	
Built-in Aux. Contacts	4	

3 P — 66 kA*	Rating (A)	Adj. Range	Model	Order Code	Trip Unit	List Price (PKR)
	1600	640~1600	E1.2N 1600	1SDA070881R1	Dip Switch	1,020,000

4 P — 66 kA*	Rating (A)	Adj. Range	Model	Order Code	Trip Unit	List Price (PKR)
	1600	640~1600	E1.2N 1600	1SDA071511R1	Dip Switch	1,325,000

Accessories			
Description	**Detail**	**Order Code**	**List Price (PKR)**
SOR	Shunt Opening Release 220~240V -AC/DC	1SDA073674R1	42,000
SCR	Shunt Closing Release 220~240V -AC/DC	1SDA073687R1	42,000
UVT	Under Voltage Release 220~240V -AC/DC	1SDA073700R1	42,000
AUX	Auxiliary Contacts (4 open/closed C/O contacts)	1SDA073750R1	42,000
YR	Electrical Indication with Remote Reset 220V -AC/DC	1SDA073746R1	96,000
M	Spring Charging Motor 220...250 V -AC/DC	1SDA073711R1	225,000

Accessories are also available in other voltage ranges.
Price and availability on request.

ABB Eco Solutions™

AIR CIRCUIT BREAKERS (ACB) - Emax 2

3-POLE | EFFICIENCY & CONTROL | 66 kA

MADE IN ITALY

DIP SWITCH



TOUCH SCREEN



Information		
FRAME SIZE	**E2.2**	**E4.2**
Dimensions (W x D x H) mm	276 x 270 x 371	384 x 270 x 371
Current Type	AC	
Operational Voltage Ue [V]	690 V	
Terminal Connection	Rear flat Horizontal	
Terminal Type	Bolt	
Built-in Aux. Contacts	4	
Rated Service Short-Circuit Breaking Capacity, in % of Icu (Ics):	100%	
Built-in Aux. Contacts	4	
Rated insulation Voltage	1000 V	

	Rating (A)	Adj. Range	Model	Order Code	Trip Unit	List Price (PKR)
3 P — 66 kA	**1600**	640~1600	E2.2N 1600	1SDA070991R1	Dip Switch	1,130,000
				1SDA070994R1	Touch Screen	1,325,000
	2000	800~2000	E2.2N 2000	1SDA071031R1	Dip Switch	1,250,000
				1SDA071034R1	Touch Screen	1,450,000
	2500	1000~2500	E2.2N 2500	1SDA071061R1	Dip Switch	1,625,000
				1SDA071064R1	Touch Screen	1,825,000
	3200	1280~3200	E4.2N 3200	1SDA071142R1	Dip Switch	2,060,000
				1SDA071145R1	Touch Screen	2,260,000
	4000	1600~4000	E4.2N 4000	1SDA071192R1	Dip Switch	2,755,000
				1SDA071195R1	Touch Screen	2,950,000

Withdrawable & Extra High Breaking Capacity are also available on request.

ABB Eco Solutions™

AIR CIRCUIT BREAKERS (ACB) - Emax 2

3-POLE | EFFICIENCY & CONTROL | 85 kA

MADE IN ITALY

Ekip Dip: The standard trip unit



Ekip Dip LI
Ekip Dip LSI
Ekip Dip LSIG

Ekip Touch: The smart trip unit



Ekip Touch LI
Ekip Touch LSI
Ekip Touch LSIG

Ekip Hi-Touch: The ultimate trip unit



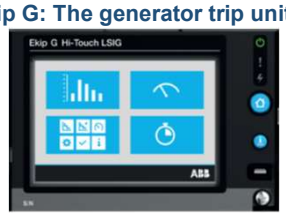
Ekip Hi-Touch LSI
Ekip Hi-Touch LSIG

Ekip LCD: The hardened trip unit



Ekip LCD LI
Ekip LCD LSI
Ekip LCD LSIG
Ekip Hi-LCD LSI
Ekip Hi-LCD LSIG
Ekip G LCD LSIG
Ekip G Hi-LCD LSIG

Ekip G: The generator trip unit



Ekip G Touch LSIG
Ekip G Hi-Touch LSIG

Default functionalities and upgradability of the trip units:

	Standard Protection	Standard Measures	Measuring Package	Voltage Protections	Frequency Protections	Power Protections	Adaptive Protections	Data Logger	Network Analyzer	Advanced Voltage Protections	ROCOF Protections
Ekip Touch	●	●	↑	↑	↑	↑	↑	↑	↑	↑	↑
Ekip G Touch	●	●	●	↑	↑	↑	↑	●	↑	↑	↑
Ekip Hi-Touch	●	●	●	●	●	↑	●	●	●	↑	↑
Ekip G Hi-Touch	●	●	●	●	●	●	●	●	●	●	●

● Available by default
↑ Upgradable
↑ Some elements of the package are already provided by default. It is possible to upgrade the trip unit to achieve the complete package.

	Rating (A)	Adj. Range	Model	Order Code	Trip Unit	List Price (PKR)
3 P — 85 kA	1600	640~1600	E2.2S 1600	1SDA071001R1	Dip Switch	1,160,000
				1SDA071004R1	Touch Screen	1,360,000
	2000	800~2000	E2.2S 2000	1SDA071041R1	Dip Switch	1,495,000
				1SDA071044R1	Touch Screen	1,695,000
	2500	1000~2500	E2.2S 2500	1SDA071071R1	Dip Switch	1,870,000
				1SDA071074R1	Touch Screen	2,070,000
	3200	1280~3200	E4.2S 3200	1SDA071152R1	Dip Switch	2,260,000
				1SDA071155R1	Touch Screen	2,460,000
	4000	1600~4000	E4.2S 4000	1SDA071202R1	Dip Switch	3,050,000
				1SDA071205R1	Touch Screen	3,250,000

Withdrawable & Extra High Breaking Capacity are also available on request.

ABB Eco Solutions™

AIR CIRCUIT BREAKERS (ACB) - Emax 2

3-POLE | EFFICIENCY & CONTROL | 100 kA

MADE IN ITALY

Ekip Dip: The standard trip unit

- *Overcurrent protection for distribution systems*
- *Phase and neutral current measurements*
- *LED Permanent trip cause signalization*
- *Ekip Multimeter to display data and measurements*

Ekip Touch: The smart trip unit

- *Advanced set of protections and measurements, always upgradable and customizable*
- *Intuitive touchscreen interface*
- *High measurement accuracy of electrical parameters*

Ekip Hi-Touch: The ultimate trip unit

- *Complete set of protections and measurements*
- *Dual settings of protection*
- *Network Analyzer function*

Ekip G: The generator trip unit

- *Designed for installations with generators such as Genset, cogeneration and marine applications*
- *Dedicated set of generator protections*

Ekip LCD: The hardened trip unit

- *Suitable for installation in aggressive environments and secure applications*
- *Available for both distribution and generator protection functions*

Information			
FRAME SIZE	**E2.2**	**E4.2**	**E6.2**
Dimensions (W x D x H) mm	276 x 270 x 371	384 x 270 x 371	762 x 270 x 371
Current Type	AC		
Operational Voltage Ue [V]	690 V		
Terminal Connection	Rear flat Horizontal		
Terminal Type	Bolt		
Built-in Aux. Contacts	4		
Rated Service Short-Circuit Breaking Capacity, in % of Icu (Ics):	100%		
Built-in Aux. Contacts	4		
Rated insulation Voltage	1000 V		

	Rating (A)	Adj. Range	Model	Order Code	Trip Unit	List Price (PKR)
3 P — 100 kA	**1600**	640~1600	E2.2H 1600	1SDA071011R1	Dip Switch	1,200,000
				1SDA071014R1	Touch Screen	1,400,000
	2000	800~2000	E2.2H 2000	1SDA071051R1	Dip Switch	1,550,000
				1SDA071054R1	Touch Screen	1,750,000
	2500	1000~2500	E2.2H 2500	1SDA071081R1	Dip Switch	1,925,000
				1SDA071084R1	Touch Screen	2,125,000
	3200	1280~3200	E4.2H 3200	1SDA071162R1	Dip Switch	2,330,000
				1SDA071165R1	Touch Screen	2,530,000
	4000	1600~4000	E4.2H 4000	1SDA071212R1	Dip Switch	3,150,000
				1SDA071215R1	Touch Screen	3,350,000
	5000	1600~4000	E6.2H 5000	1SDA071262R1	Dip Switch	4,930,000
				1SDA071265R1	Touch Screen	5,150,000
	6300	1600~4000	E6.2H 6300	1SDA071292R1	Dip Switch	7,000,000
				1SDA071295R1	Touch Screen	7,230,000

Withdrawable & Extra High Breaking Capacity are also available on request.

ABB Eco Solutions™

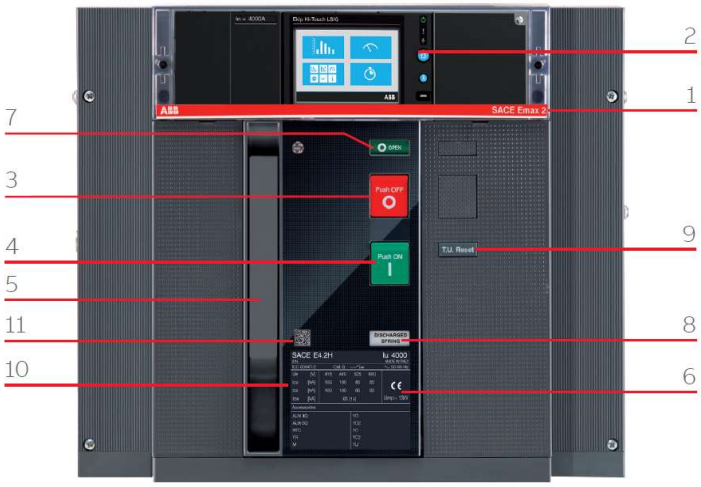
AIR CIRCUIT BREAKERS (ACB) - Emax 2

4-POLE | EFFICIENCY & CONTROL | 66 kA

MADE IN ITALY

Key

1 Trademark and size of circuit- breaker
2 SACE Ekip protection trip unit
3 Pushbutton for manual opening
4 Pushbutton for manual closing
5 Lever to manually charge closing springs
6 Electrical rating plate
7 Mechanical device to signal open “O” and closed “I”
8 Signal for springs charged or discharged
9 Mechanical signalling of overcurrent release tripped
10 Size and serial number
11 QR code



Information		
FRAME SIZE	**E2.2**	**E4.2**
Dimensions (W x D x H) mm	366 x 270 x 371	510 x 270 x 371
Current Type	AC	
Operational Voltage Ue [V]	690 V	
Terminal Connection	Rear flat Horizontal	
Terminal Type	Bolt	
Built-in Aux. Contacts	4	
Rated Service Short-Circuit Breaking Capacity, in % of Icu (Ics):	100%	
Built-in Aux. Contacts	4	
Rated insulation Voltage	1000 V	

	Rating (A)	Adj. Range	Model	Order Code	Trip Unit	List Price (PKR)
4 P — 66 kA	**1600**	640~1600	E2.2N 1600	1SDA071621R1	Dip Switch	1,500,000
				1SDA071624R1	Touch Screen	1,700,000
	2000	800~2000	E2.2N 2000	1SDA071661R1	Dip Switch	1,650,000
				1SDA071664R1	Touch Screen	1,850,000
	2500	1000~2500	E2.2N 2500	1SDA071691R1	Dip Switch	2,150,000
				1SDA071694R1	Touch Screen	2,350,000
	3200	1280~3200	E4.2N 3200	1SDA071772R1	Dip Switch	2,700,000
				1SDA071775R1	Touch Screen	2,900,000
	4000	1600~4000	E4.2N 4000	1SDA071822R1	Dip Switch	3,650,000
				1SDA071825R1	Touch Screen	3,850,000

Withdrawable & Extra High Breaking Capacity are also available on request.

ABB Eco Solutions™

AIR CIRCUIT BREAKERS (ACB) - Emax 2

4-POLE | EFFICIENCY & CONTROL | 85 kA

MADE IN ITALY



Triple marking certification (IEC, UL, CCC).

Information		
FRAME SIZE	**E2.2**	**E4.2**
Dimensions (W x D x H) mm	366 x 270 x 371	510 x 270 x 371
Current Type	AC	
Operational Voltage Ue [V]	690 V	
Terminal Connection	Rear flat Horizontal	
Terminal Type	Bolt	
Built-in Aux. Contacts	4	
Rated Service Short-Circuit Breaking Capacity, in % of Icu (Ics):	100%	
Built-in Aux. Contacts	4	
Rated insulation Voltage	1000 V	

	Rating (A)	Adj. Range	Model	Order Code	Trip Unit	List Price (PKR)
4 P — 85 kA	**1600**	640~1600	E2.2S 1600	1SDA071631R1	Dip Switch	1,550,000
				1SDA071634R1	Touch Screen	1,750,000
	2000	800~2000	E2.2S 2000	1SDA071671R1	Dip Switch	2,000,000
				1SDA071674R1	Touch Screen	2,200,000
	2500	1000~2500	E2.2S 2500	1SDA071701R1	Dip Switch	2,500,000
				1SDA071704R1	Touch Screen	2,700,000
	3200	1280~3200	E4.2S 3200	1SDA071782R1	Dip Switch	3,000,000
				1SDA071785R1	Touch Screen	3,200,000
	4000	1600~4000	E4.2S 4000	1SDA071832R1	Dip Switch	4,050,000
				1SDA071835R1	Touch Screen	4,250,000

Withdrawable & Extra High Breaking Capacity are also available on request.

ABB Eco Solutions™

AIR CIRCUIT BREAKERS (ACB) - Emax 2

4-POLE | EFFICIENCY & CONTROL | 100 kA

MADE IN ITALY

From a traditional circuit breaker to a real Power Manager. SACE Emax 2 embeds more and more functionalities to become the all-in-one solution able to manage the low-voltage distribution systems.

> Performance **> Control** **> Connectivity** **> Ease of use**

Information			
FRAME SIZE	**E2.2**	**E4.2**	**E6.2**
Dimensions (W x D x H) mm	366 x 270 x 371	510 x 270 x 371	888 x 270 x 371
Current Type	AC		
Operational Voltage Ue [V]	690 V		
Terminal Connection	Rear flat Horizontal		
Terminal Type	Bolt		
Built-in Aux. Contacts	4		
Rated Service Short-Circuit Breaking Capacity, in % of Icu (Ics):	100%		
Built-in Aux. Contacts	4		
Rated insulation Voltage	1000 V		

	Rating (A)	Adj. Range	Model	Order Code	Trip Unit	List Price (PKR)
4 P — 100 kA	**1600**	640~1600	E2.2H 1600	1SDA071641R1	Dip Switch	1,600,000
				1SDA071644R1	Touch Screen	1,800,000
	2000	800~2000	E2.2H 2000	1SDA071681R1	Dip Switch	2,050,000
				1SDA071684R1	Touch Screen	2,250,000
	2500	1000~2500	E2.2H 2500	1SDA071711R1	Dip Switch	2,550,000
				1SDA071714R1	Touch Screen	2,750,000
	3200	1280~3200	E4.2H 3200	1SDA071792R1	Dip Switch	3,070,000
				1SDA071795R1	Touch Screen	3,270,000
	4000	1600~4000	E4.2H 4000	1SDA071842R1	Dip Switch	4,160,000
				1SDA071845R1	Touch Screen	4,360,000
	5000	1600~4000	E6.2H 5000	1SDA071892R1	Dip Switch	6,550,000
				1SDA071895R1	Touch Screen	6,750,000
	6300	1600~4000	E6.2H 6300	1SDA071922R1	Dip Switch	9,350,000
				1SDA071925R1	Touch Screen	9,550,000

Withdrawable & Extra High Breaking Capacity are also available on request.

SACE EMAX 2 ACCESSORIES






Accessories				
Description		**Detail**	**Order Code**	**List Price (PKR)**
ABB	**YU**	**Under Voltage Release** 220~240V - AC/DC	1SDA073700R1	42,000
ABB	**YO**	**Shunt Opening Release** 220~240V -AC/DC	1SDA073674R1	42,000
ABB	**YC**	**Shunt Closing Release** 220~240V -AC/DC	1SDA073687R1	42,000
ABB	**M**	**Geared Motor** 220~250V -AC/DC	1SDA073725R1	225,000
ABB	**AUX**	**Auxiliary Contacts** open/closed 6 Change Over	1SDA073756R1	170,000
ABB	**RTC**	Ready to Close Contact 250 V	1SDA073773R1	6,000
ABB	**S51**	Signal Indication Trip 250 V	1SDA073778R1	25,000
ABB	**IP54**	Flange Different Keys	1SDA073867R1	155,000
ABB	**YR**	Electrical Indication Trip with Remote Reset 220 V AC/DC	1SDA073749R1	95,000
ABB	**UVD**	Electronic Time Delay for UVR 220~250V -AC/DC	1SDA038320R1	195,000
ABB	**MOC**	Mechanical Operation Counter	1SDA073781R1	85,000
ABB	**KLC-D**	Key Lock in Open Position	1SDA073791R1	45,000
ABB	**PBC**	Transparent Protection Cover for ON/OFF Buttons (Padlockable D=4)	1SDA073859R1	18,000
ABB	**PLC**	Pad Lock Device in Open Position Dia = 4mm	1SDA073803R1	21,000
ABB		Mechanical Interlocking for 2 ACBs in Horizontal Position		On Request
ABB		Mechanical Interlocking for 3 ACBs in Horizontal Position		On Request

Accessories are also available in other voltage ranges.
Price and availability on request.

3-P MAGNETIC CONTACTORS (AX)

220~230 V AC | WITH CONVENTIONAL COIL

MADE IN BULGARIA

Control made simple
The performance you need



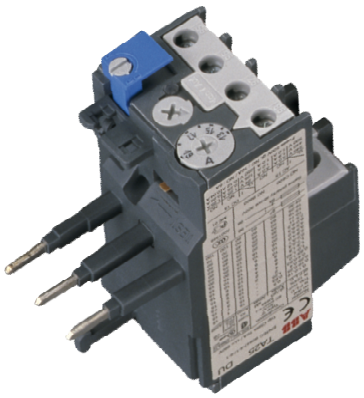
Amps @ 415V		kW	HP	Aux.	Order Code	Model	List Price (PKR)
AC-3	AC-1			Contacts			
9	22	4	5	1 NO	1SBL901074R8010	**AX09 - 30 - 10**	8,000
12	25	5.5	7.5	1 NO	1SBL911074R8010	**AX12 - 30 - 10**	8,500
18	27	7.5	10	1 NO	1SBL921074R8010	**AX18 - 30 - 10**	12,000
25	32	11	15	1 NO	1SBL931074R8010	**AX25 - 30 - 10**	17,000
32	55	15	25	1 NO	1SBL281074R8010	**AX32 - 30 - 10**	23,000
40	60	18.5	30	1 NO	1SBL321074R8010	**AX40 - 30 - 10**	33,000
50	100	22	40	1NO + 1NC	1SBL351074R8011	**AX50 - 30 - 11**	38,500
65	115	30	60	1NO + 1NC	1SBL371074R8011	**AX65 - 30 - 11**	48,500
80	125	37	60	1NO + 1NC	1SBL411074R8011	**AX80 - 30 - 11**	64,000

Auxiliary Contacts					
Contacts	**Mounting**	**For Contactor**	**Order Code**	**Model**	**List Price (PKR)**
1 NO	Front	AX 09 ~ AX 80	1SBN019010R1001	**CA5X-10**	1,900
1 NC	Front		1SBN019010R1010	**CA5X-01**	1,900
1NO + 1NC	Side		1SBN019020R1011	**CAL5X-11**	3,500

Mechanical Interlocks				
For Contactor	**Description**	**Order Code**	**Model**	**List Price (PKR)**
AX 09 ~ AX 40	Horizontal Mechanical & Electrical with 2NC contacts	1SBN030400R1000	**VE5-1**	3,100
AX 50 ~ AX 80		1SBN030400R3000	**VE5-2**	4,500

Electronic timers					
For Contactor	**Range**	**Delay Type**	**Order Code**	**Model**	**List Price (PKR)**
AX 09 ~ AX 80	0.1...1 s 1...10 s 10...100 s	ON-Delay	1SBN020312R1000	**TEF5 ON**	35,000
		OFF-Delay	1SBN020314R1000	**TEF5 OFF**	35,000

THERMAL OVERLOAD RELAYS
FOR AX CONTACTORS



For Contactor	Range in Amps	Order Code	Model	List Price (PKR)
AX9 … AX40	0.10 ... 0.16	1SAZ211201R2005	TA25DU-0.16M	12,000
	0.16 ... 0.25	1SAZ211201R2009	TA25DU-0.25M	12,000
	0.25 ... 0.40	1SAZ211201R2013	TA25DU-0.4M	12,000
	0.40 ... 0.63	1SAZ211201R2017	TA25DU-0.63M	12,000
	0.63 ... 1.00	1SAZ211201R2021	TA25DU-1.0M	12,000
	1.00 ... 1.40	1SAZ211201R2023	TA25DU-1.4M	11,000
	1.30 ... 1.80	1SAZ211201R2025	TA25DU-1.8M	11,000
	1.70 ... 2.40	1SAZ211201R2028	TA25DU-2.4M	11,000
	2.20 ... 3.10	1SAZ211201R2031	TA25DU-3.1M	11,000
	2.80 ... 4.00	1SAZ211201R2033	TA25DU-4.0M	11,000
	3.50 ... 5.00	1SAZ211201R2035	TA25DU-5.0M	11,000
	4.50 ... 6.50	1SAZ211201R2038	TA25DU-6.5M	11,000
	6.00 ... 8.50	1SAZ211201R2040	TA25DU-8.5M	11,000
	7.50 ... 11.0	1SAZ211201R2043	TA25DU-11M	11,000
	10.0 ... 14.0	1SAZ211201R2045	TA25DU-14M	13,500
	13.0 ... 19.0	1SAZ211201R2047	TA25DU-19M	13,500
	18.0 ... 25.0	1SAZ211201R2051	TA25DU-25M	18,000
	24.0 ... 32.0	1SAZ211201R2053	TA25DU-32M	18,000

For Contactor	Range in Amps	Order Code	Model	List Price (PKR)
AX32 … AX40	18 ... 25	1SAZ311201R2001	TA42DU-25M	27,000
	24 ... 32	1SAZ311201R2002	TA42DU-32M	30,000
	29 ... 42	1SAZ311201R2003	TA42DU-42M	32,000

For Contactor	Range in Amps	Order Code	Model	List Price (PKR)
AX50 … AX80	36 ... 52	1SAZ321201R2004	TA75 DU-52M	36,000
	45 ... 63	1SAZ321201R2005	TA75 DU-63M	36,000
	60 ... 80	1SAZ321201R2006	TA75 DU-80M	46,000

3-P MAGNETIC CONTACTORS (AFC)

220~230 V AC | WITH CONVENTIONAL COIL

AFC contactors for motor starting and power switching up to 96 A



Amps @ 415V		kW	HP	Aux.	Order Code	Model	List Price (PKR)
AC-3	AC-1			Contacts			
9	25	4	5	1 NO	1SBL131001R8010	**AFC09-30-10**	7,000
12	28	5.5	7.5	1 NO	1SBL151001R8010	**AFC12-30-10**	8,000
18	30	7.5	10	1 NO	1SBL171001R8010	**AFC16-30-10**	9,000
26	45	11	15	-	1SBL231001R8000	**AFC26-30-00**	14,500
32	50	15	25	-	1SBL271001R8000	**AFC30-30-00**	19,000
40	70	18.5	30	-	1SBL341001R8000	**AFC40-30-00**	26,500
53	100	22	40	-	1SBL361001R8000	**AFC52-30-00**	29,000
65	105	30	60	-	1SBL381001R8000	**AFC65-30-00**	34,000
80	125	37	60	-	1SBL391001R8000	**AFC80-30-00**	53,000



Auxiliary Contacts					
For Contactor	Mounting	Contacts	Order Code	Model	List Price (PKR)
AFC 09 … AFC 80	Front	1 NO	1SBN010110R1010	**CA4-10**	1,600
	Front	1 NC	1SBN010110R1001	**CA4-01**	1,600
	Side	1NO + 1NC	1SBN010120R1011	**CAL4-11**	3,200



Mechanical Interlocks				
For Contactor	Description	Order Code	Model	List Price (PKR)
AFC 09 ... AFC 30	Mechanical	1SBN030105T1000	**VM4**	6,000
AFC 40 ... AFC 80		1SBN033405T1000	**VM96-4**	7,500



Electronic timers					
For Contactor	Range	Delay Type	Order Code	Model	List Price (PKR)
AFC 09 … AFC 80	0.1...1 s 1...10 s 10...100 s	ON-Delay	1SBN020112R1000	**TEF4-ON**	23,000
		OFF-Delay	1SBN020114R1000	**TEF4-OFF**	23,000

3-POLE MAGNETIC CONTACTORS (AF)

100 ~ 250 V AC / DC | ELECTRONIC COIL

MADE IN FRANCE / SWEDEN



The AF advantage :

- > *Universal coil:* ***Handles AC / DC with wide voltage range (100…250V)***
- > *Integerated Protection:* ***Built-in Surge suppressor***
- > *Energy Efficient:* ***Consumes up to 80% less power than standard models***
- > *Silent Operation:* ***Reliable, hum-free performance***

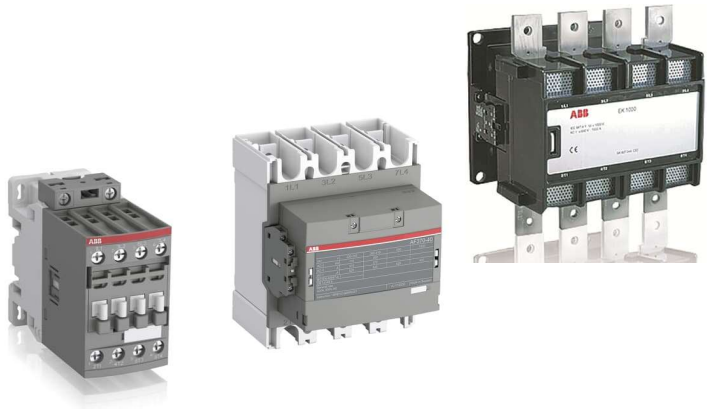
3-Pole

Amps @ 415V		kW	HP	Aux. Contacts	Order Code	Model	List Price (PKR)
AC-3	AC-1						
9	25	4	5	1 NO	1SBL137001R1310	**AF09 - 30 - 10**	9,700
12	28	5.5	7.5	1 NO	1SBL157001R1310	**AF12 - 30 - 10**	10,500
18	30	7.5	10	1 NO	1SBL177001R1310	**AF16 - 30 - 10**	14,000
26	45	11	15	-----	1SBL237001R1300	**AF26 - 30 - 00**	18,500
32	50	15	20	-----	1SBL277001R1300	**AF30 - 30 - 00**	25,000
38	50	18.5	20	-----	1SBL297001R1300	**AF38 - 30 - 00**	34,500
40	70	18.5	30	1NO + 1NC	1SBL347001R1311	**AF40 - 30 - 11**	47,000
53	100	22	40	1NO + 1NC	1SBL367001R1311	**AF52 - 30 - 11**	42,500
65	105	30	50	1NO + 1NC	1SBL387001R1311	**AF65 - 30 - 11**	56,500
80	125	37	60	1NO + 1NC	1SBL397001R1311	**AF80 - 30 - 11**	74,500
96	130	45	60	1NO + 1NC	1SBL407001R1311	**AF96 - 30 - 11**	71,500
116	160	55	75	1NO + 1NC	1SFL427001R1311	**AF116 - 30- 11**	86,000
146	225	75	100	1NO + 1NC	1SFL467001R1311	**AF146 - 30- 11**	99,000
190	275	90	125	1NO + 1NC	1SFL487002R1311	**AF190 - 30- 11**	156,000
205	350	110	150	1NO + 1NC	1SFL527002R1311	**AF205 - 30- 11**	194,000
265	400	132	200	1NO + 1NC	1SFL547002R1311	**AF265 - 30- 11**	270,000
305	500	160	250	2NO + 2NC	1SFL587002R1322	**AF305 - 30- 22**	283,000
370	600	200	300	1NO + 1NC	1SFL607002R1311	**AF370 - 30- 11**	328,000
400	600	200	350	1NO + 1NC	1SFL577001R7011	**AF400 - 30- 11**	425,000
460	700	250	400	1NO + 1NC	1SFL597001R7011	**AF460 - 30- 11**	505,000
580	800	315	500	1NO + 1NC	1SFL617001R7011	**AF580 - 30- 11**	850,000
750	1050	400	600	1NO + 1NC	1SFL637001R7011	**AF750 - 30- 11**	1,985,000
860	1350	475	800	1NO + 1NC	1SFL657001R7011	**AF1350 - 30- 11**	On Request
1050	1650	560	900	1NO + 1NC	1SFL677001R7011	**AF1650 - 30- 11**	On Request

4-P MAGNETIC CONTACTORS (AF/EK)

100 ~ 250 V AC / DC | ELECTRONIC COIL

MADE IN FRANCE / SWEDEN



4-Pole

Rating at 415V **AC-1 Amps**	**kW** @ 415 V AC	**Aux. Contacts**	**Order Code**	**Model**	**List Price (PKR)**
45 A	11	---	1SBL237201R1300	**AF26 - 40 - 00**	31,000
70 A	22	---	1SBL347201R1300	**AF40 - 40 - 00**	55,000
100 A	30	---	1SBL367201R1300	**AF52 - 40 - 00**	73,000
125 A	45	---	1SBL397201R1300	**AF80 - 40 - 00**	99,000
160 A	55	2NO+2NC	1SFL427101R1322	**AF116 - 40 - 22**	181,000
200 A	75	2NO+2NC	1SFL447101R1322	**AF140 - 40 - 22**	205,000
275 A	90	2NO+2NC	1SFL487102R1322	**AF190 - 40 - 22**	300,000
350 A	110	2NO+2NC	1SFL527102R1322	**AF205 - 40 - 22**	337,000
400 A	132	2NO+2NC	1SFL547102R1322	**AF265 - 40 - 22**	426,000
525 A	200	2NO+2NC	1SFL607102R1322	**AF370 - 40 - 22**	486,000
800 A	315	1NO+1NC	SK827041-AL	**EK550 - 40 - 11**	850,000
1000 A	400	1NO+1NC	SK827044-AL	**EK1000 - 40 - 11**	1,150,000

NF AUXILIARY CONTACTORS

100 ~ 250 V AC / DC | ELECTRONIC COIL

MADE IN FRANCE



> AC/DC Operated (100 … 250V AC/DC)

> A reduction of the coil's energy consumption by 80% lets you save energy

> Secure your uptime by letting the AF technology overbridge voltage drops and sags

> Built-in surge suppression

No. of contacts	Contact configuration	Order Code	Model	List Price (PKR)
4	**2 NO + 2 NC**	1SBH137001R1322	**NF 22E-13**	17,500
4	**3 NO + 1 NC**	1SBH137001R1331	**NF 31E-13**	17,500
4	**4 NO + 0 NC**	1SBH137001R1340	**NF 40E-13**	17,500
8	**4 NO + 4 NC**	1SBH137001R1344	**NF 44E-13**	31,000
8	**6 NO + 2 NC**	1SBH137001R1362	**NF 62E-13**	31,000

AUXILIARY CONTACTS
FOR AF / NF CONTACTORS



Auxiliary Contacts					
For Contactor	**Contacts**	**Mounting**	**Order Code**	**Model**	**List Price (PKR)**
AF09 ... AF96 NF..	**1 NO**	Front	1SBN010110R1010	**CA4-10**	1,600
	1 NC	Front	1SBN010110R1001	**CA4-01**	1,600
	1 NO + 1 NC	Side	1SBN010120R1011	**CAL4-11**	3,200
AF116 ~ AF370	**1 NO + 1 NC**	Side	1SFN010820R1011	**CAL19-11**	5,500
AF400 ~ AF1650	**1 NO + 1 NC**	Side	1SFN010720R1011	**CAL18-11**	10,200

MECHANICAL INTERLOCKS
FOR AF CONTACTORS



Mechanical Interlocks				
For Contactor	**Type**	**Order Code**	**Model**	**List Price (PKR)**
AF 09 ... AF 38	Mechanical	1SBN030105T1000	**VM4**	6,200
AF 40 ... AF 96	Mechanical	1SBN033405T1000	**VM96-4**	7,500
AF 116 ... AF 370	Mechanical	1SFN030300R1000	**VM19**	38,500
AF 400 ... AF 1250	Mechanical	1SFN035700R1000	**VM 750 H**	56,500

ELECTRONIC TIMER
FOR AF 09 ... AF 96



Electronic Timer					
Type	**Range**	**Mounting**	**Order Code**	**Model**	**List Price (PKR)**
On Delay	0.1 ~ 100 Sec.	Front	1SBN020112R1000	**TEF4-ON**	23,000
Off Delay	0.1 ~ 100 Sec.	Front	1SBN020114R1000	**TEF4-OFF**	23,000

ABB

THERMAL OVERLOAD RELAYS

FOR AFC / AF CONTACTORS

> Manual or automatic reset selectable
> Phase loss sensitive acc. to IEC/EN 60947-4-1
> Temperature compensation
> With ATEX certification



For Contactor	Range in Amps	Order Code	Model	List Price (PKR)
AF 09 … AF 38 & AFC 09 … AFC 38	0.10 ... 0.13	1SAZ721201R1005	TF42-0.13	13,500
	0.13 ... 0.17	1SAZ721201R1008	TF42-0.17	13,500
	0.17 ... 0.23	1SAZ721201R1009	TF42-0.23	13,500
	0.23 ... 0.31	1SAZ721201R1013	TF42-0.31	13,500
	0.31 ... 0.41	1SAZ721201R1014	TF42-0.41	13,500
	0.41 ... 0.55	1SAZ721201R1017	TF42-0.55	13,500
	0.55 ... 0.74	1SAZ721201R1021	TF42-0.74	13,500
	0.74 ... 1.00	1SAZ721201R1023	TF42-1.0	13,500
	1.00 ... 1.30	1SAZ721201R1025	TF42-1.3	13,500
	1.30 ... 1.70	1SAZ721201R1028	TF42-1.7	13,500
	1.70 ... 2.30	1SAZ721201R1031	TF42-2.3	13,500
	2.30 ... 3.10	1SAZ721201R1033	TF42-3.1	13,500
	3.10 ... 4.20	1SAZ721201R1035	TF42-4.2	13,500
	4.20 ... 5.70	1SAZ721201R1038	TF42-5.7	13,500
	5.70 ... 7.60	1SAZ721201R1040	TF42-7.6	13,500
	7.60 ... 10.0	1SAZ721201R1043	TF42-10	13,500
	10.0 ... 13.0	1SAZ721201R1045	TF42-13	15,000
	13.0 ... 16.0	1SAZ721201R1047	TF42-16	15,000
	16.0 ... 20.0	1SAZ721201R1049	TF42-20	15,000
	20.0 ... 24.0	1SAZ721201R1051	TF42-24	19,000
	24.0 ... 29.0	1SAZ721201R1052	TF42-29	22,000
	29.0 ... 35.0	1SAZ721201R1053	TF42-35	23,000
	35.0 ... 38.0	1SAZ721201R1055	TF42-38	23,000

For Contactor	Range in Amps	Order Code	Model	List Price (PKR)
AFC 40 / AF 40	22.0…28.0	1SAZ811201R1001	TF65-28	37,000
	25.0…33.0	1SAZ811201R1002	TF65-33	37,000
AFC 50 / AF 52	30.0…40.0	1SAZ811201R1003	TF65-40	37,000
	36.0…47.0	1SAZ811201R1004	TF65-47	42,500
AFC 65 / AF 65	44.0…53.0	1SAZ811201R1005	TF65-53	42,500
	50.0…60.0	1SAZ811201R1006	TF65-60	42,500
	57.0…67.0	1SAZ811201R1007	TF65-67	47,500
AFC 80 / AF 80	40.0…51.0	1SAZ911201R1001	TF96-51	47,500
	48.0…60.0	1SAZ911201R1002	TF96-60	47,500
AF 96	57.0…68.0	1SAZ911201R1003	TF96-68	50,000
	65.0…78.0	1SAZ911201R1004	TF96-78	55,500
	75.0…87.0	1SAZ911201R1005	TF96-87	58,000
	84.0…96.0	1SAZ911201R1006	TF96-96	58,000
AF116, AF140	66…90	1SAZ431201R1001	TF140DU-90	50,000
	80…110	1SAZ431201R1002	TF140DU-110	52,500
	100…135	1SAZ431201R1003	TF140DU-135	57,500
	110…142	1SAZ431201R1004	TF140DU-142	57,500

MANUAL MOTOR STARTER

WITH THERMAL & ELECTROMAGNETIC PROTECTION

MADE IN GERMANY



Motor starters with short circuit, overload andphase loss protection

MS132 / MS165 is ATEX and IECEx certified.

kW 400V	**Setting Range (A)**	**icu (kA)**	**Order Code**	**Model**	**List Price (PKR)**
0.25	**0.63 ... 1.00**	50	1SAM250000R1005	MS116-1.0	18,000
0.55	**1.00 ... 1.60**	50	1SAM250000R1006	MS116-1.6	18,000
0.75	**1.60 ... 2.50**	50	1SAM250000R1007	MS116-2.5	18,000
1.5	**2.50 ... 4.00**	50	1SAM250000R1008	MS116-4.0	18,000
2.2	**4.00 ... 6.30**	50	1SAM250000R1009	MS116-6.3	18,000
4.0	**6.30 ... 10.0**	50	1SAM250000R1010	MS116-10	18,000
5.5	**8.00 ... 12.0**	25	1SAM250000R1012	MS116-12	18,000
7.5	**10.0 ... 16.0**	16	1SAM250000R1011	MS116-16	18,000
kW 400V	**Setting Range (A)**	**icu (kA)**	**Order Code**	**Model**	**List Price (PKR)**
0.03	**0.10 ... 0.16**	100	1SAM350000R1001	MS132-0.16	25,500
0.06	**0.16 ... 0.25**	100	1SAM350000R1002	MS132-0.25	25,500
0.09	**0.25 ... 0.40**	100	1SAM350000R1003	MS132-0.4	20,500
0.18	**0.40 ... 0.63**	100	1SAM350000R1004	MS132-0.63	20,500
0.25	**0.63 ... 1.00**	100	1SAM350000R1005	MS132-1.0	20,500
0.55	**1.00 ... 1.60**	100	1SAM350000R1006	MS132-1.6	20,500
0.75	**1.60 ... 2.50**	100	1SAM350000R1007	MS132-2.5	20,500
1.5	**2.50 ... 4.00**	100	1SAM350000R1008	MS132-4.0	20,500
2.2	**4.00 ... 6.30**	100	1SAM350000R1009	MS132-6.3	20,500
4.0	**6.30 ... 10.0**	100	1SAM350000R1010	MS132-10	20,500
5.5	**8.00 ... 12.0**	100	1SAM350000R1012	MS132-12	24,000
7.5	**10.0 ... 16.0**	100	1SAM350000R1011	MS132-16	24,000
9	**16.0 ... 20.0**	100	1SAM350000R1013	MS132-20	24,000
11	**20.0 ... 25.0**	50	1SAM350000R1014	MS132-25	24,000
15	**25.0 ... 32.0**	50	1SAM350000R1015	MS132-32	28,500
22	**30.0 ... 42.0**	50	1SAM451000R1015	MS165-42	72,000
22	**40.0 ... 54.0**	30	1SAM451000R1016	MS165-54	81,000
30	**52.0 ... 65.0**	30	1SAM451000R1017	MS165-65	75,000
37	**62.0 ... 73.0**	30	1SAM451000R1018	MS165-73	77,000
45	**70.0 ... 80.0**	30	1SAM451000R1019	MS165-80	80,000

Accessories						
For	**Function**	**Contacts**	**Mounting**	**Order Code**	**Model**	**List Price (PKR)**
MS 116	**Auxiliary**	1NO + 1NC	Side	1SAM201902R1001	**HK1-11**	5,500
MS 132	**Auxiliary**	1NO + 1NC	Front	1SAM201901R1001	**HKF1-11**	5,500
MS 165	**Signal**	1NO + 1NC	Side	1SAM201903R1001	**SK1-11**	8,800
MS 495	**Auxiliary**	1NO + 1NC	Front	1SAM401901R1001	**HK4-11**	11,500
	Auxiliary	1NO + 1NC	Side	1SAM401902R1001	**HKS4-11**	13,000
	Signal	1NO + 1NC	Side	1SAM401904R1001	**SK4-11**	24,000
MS 116	Shunt Trip 200-240V		Side	1SAM201910R1003	AA1-230	On Request
MS 132	Under Voltage Release 230V		Side	1SAM401905R1002	UA4 230	On Request

ABB

PILOT DEVICES

22 MM



Item / Type	Color	Code	Order Code	Model	List Price (PKR)
LED Indication Light		**R**	1SFA619403R5231	**CL2-523R**	2,000
 230V AC		**G**	1SFA619403R5232	**CL2-523G**	2,000
		Y	1SFA619403R5233	**CL2-523Y**	2,000
		B	1SFA619403R5234	**CL2-523L**	2,000
		C	1SFA619403R5238	**CL2-523C**	2,000

Item / Type	Color	Contacts	Order Code	Model	List Price (PKR)
Push Button	Red	**1 0**	1SFA619100R1011	**CP1-10R-10**	2,500
 Momentary Maximum 300 V Non-illuminated flush		**2 0**	1SFA619100R1021	**CP1-10R-20**	4,500
		0 1	1SFA619100R1041	**CP1-10R-01**	2,600
		0 2	1SFA619100R1051	**CP1-10R-02**	4,500
		1 1	1SFA619100R1071	**CP1-10R-11**	4,500
	Green	**1 0**	1SFA619100R1012	**CP1-10G-10**	2,500
		2 0	1SFA619100R1022	**CP1-10G-20**	4,500
		0 1	1SFA619100R1042	**CP1-10G-01**	2,500
		0 2	1SFA619100R1052	**CP1-10G-02**	4,500
		1 1	1SFA619100R1072	**CP1-10G-11**	4,500

Item	Type / Position / Contacts	Order Code	Model	List Price (PKR)
Selector Switch	**Maintained / 2-positions / 1 0**	1SFA619201R1011	**C2SS2-10R-10**	3,800
	**Maintained / 2-positions / 2 0**	1SFA619201R1076	**C2SS2-10B-11**	4,000
	Maintained / 3-positions / 2 0	1SFA619210R1026	**C3SS1-10B-20**	3,700

Item	Type / Position / Contacts	Order Code	Model	List Price (PKR)
Emergency Stop	**Maintained / Twist release / 1 0**	1SFA619550R1041	**CE4T-10R-01**	9,500
	**Maintained / Twist release / 1 1**	1SFA619550R1071	**CE4T-10R-11**	11,000

POWER METER
M1M 20 MODBUS



M1M 20 Modbus is a power meter with aux supply 100-230 V AC/DC, LCD display, Modbus RTU

Order Code	Model	List Price (PKR)
2TAZ662012R2000	**M1M 20 MODBUS**	**60,000**

Mounting		Front Panel
Dimensions (mm)		96 x 96 x 77
IP Rating		IP51
Accuracy Class		Class 0.5S
Standard	IEC 61557-12 PMD	PMD/S/K55/0.5
Auxiliary Power Supply (L-N)		100-230 V AC/DC ±15%
HMI	Display	LCD
	Password protection	Yes
Measurement	Current Measurement Input	50mA - 6A
	Voltage measuement Input	80-265 VAC (L-N)
		138-458 VAC (L-L)
	Measurement via CT (…/1A or …/5A)	Yes
	Sample per cycle	128
Real Time	TRMS current (I)	Yes
	TRMS voltage (V)	Yes
	Frequency (f)	Yes
	Active, Reactive and Apparent power	Yes
	Power 0.43	Yes
	Timers	Yes
Energy	Active, Reactive and Apparent energy	Yes
	4 quadrants energy (import/export)	Yes
Power Quality	THD (I, VLN, VLL)	Yes
	Individual Harmonics	No
	Neutral current	Calculated
Logging	Alarms	15
Communication	Additional I/O	No
	Modbus RTU	Yes
	Modbus TCP/IP	Yes
	Communication interface	RJ45
Digial Output	Voltage Range	5 - 48 V DC
	Current Range	2 - 100mA
Digital Input	Voltage	24 V DC

ENERGY ANALYZER

M4M 20



M4M *as a stand-alone network analyzer guarantees all power monitoring needs in the energy distribution system: from high-accuracy energy efficiency monitoring of electrical parameters to complete power quality analysis. Thanks to its connectivity capabilities, M4M can get leverage on the integration in ABB scalable energy and asset management solutions. Thanks to MID certification, M4M allows now to fulfil all legal requirements for accounting and energy acquisition*

M4M 20 MODBUS is a network analyzer with 2 digital outputs, aux supply 48-240 V AC/DC, Bluetooth and Modbus RTU

		Order Code	Model	List Price (PKR)
		2CSG251141R4051	**M4M 20 MODBUS**	**150,000**
Mounting			Front Panel	
Dimensions (mm)			96 x 96 x 77	
IP Rating			IP54	
Accuracy Class			Class 0.5S	
Standard	IEC 61557-12 PMD		PMD/S/K70/0.5	
Auxiliary Power Supply (V)			48 - 240 V AC/DC ± 15%	
HMI	Display		Graphic colour	
	Notifications		Yes	
	Homepage and favourite page		Yes	
	Password protection		Yes	
Measurement	Current Measurement Input		50mA - 6A	
	Voltage measuement Input		50 - 480 V AC (L-N)	
	Direct voltage measurement		up to 690 V L-L	
	Measurement via CT (…/1A or …/5A)		Yes	
	Sample per cycle		128	
Real Time	TRMS current (I)		Yes	
	TRMS voltage (V)		Yes	
	Frequency (f)		Yes	
	Active, Reactive and Apparent power		Yes	
	Power 0.43		Yes	
	Operating timer, countdown timer		Yes	
Energy	Active, Reactive and Apparent energy		Yes	
	4 quadrants energy (import/export)		Yes	
Power Quality	THD (I, VLN, VLL)		Yes	
	Neutral current		Calculated	
Data recording and logs	Single alarms		25	
	Warnings, alarms and errors logs		Yes	
	Min/Max Demand values		Basic	
Connectivity	Bluetooth Low Energy		Yes	
	Communication Protocols	Modbus RTU, Modbus TCP/IP, Profibus DP-V0, BACnet/IP		
	Communication interface		RS485 with optical isolation	
Digial Output	Voltage (min - max)		5 - 240 V AC/DC	
	Current (min - max)		2 - 100mA	
Analogue Output	Programmable Electrical Parameters		Span (0 - 20 mA or 4 - 20mA)	
Digital Input	Voltage (max)		240 V AC/DC	

PFI RELAY
RVC



RVC Power Factor Controller

Key screen power factor controller, 6 & 12 outputs, used for Co-compensation only, with communication function

Order Code	Model	List Price (PKR)
0	RVC-L-6	290,000
0	RVC-L-12	370,000

Parameters	
Display	LCD display
Mounting position	Vertical panel mounting
Dimensions H x W x D (mm)	144 x 144 x 43
	Cut-out: 138 x 138
Operating voltage	100 Vac to 440 Vac
Voltage measurement	100 Vac to 440 Vac
Accuracy	1% Full scale
Frequency range	50 or 60 Hz +/- 5% (automatically adapts to the grid frequency)
Alarm contact rating (voltage free contact)	NO contact
	Max. continuous current: 5 A
	Rated/ max. breaking voltage: 250 Vac/ 440 Vac
Power 0.43 Setting	From 0.7 inductive to 0.7 capacitive
Switching time between steps	Programmable from 1 s to 999 s
Mode of switching	The modes of switching for all the programmable switching sequences are integral, direct,
	linear or circular

ABB

PLUGGABLE RELAYS

BASES & HOLDERS



	Control Voltage	No. of Contacts	Contact Rating	Order Code	Model	List Price (PKR)
8 Pins — Miniature	12V DC	2 c/o	12A @ 250V	1SVR405611R4100	CR-M012DC2L	4,000
	24V DC			1SVR405611R1100	CR-M024DC2L	4,000
	230V AC			1SVR405611R3100	CR-M230AC2L	4,600
	Standard Base for CR-M 2 c/o Relay			1SVR405651R1000	CR-M2SS	2,200
	Plastic holder for socket			1SVR405659R1000	CR-MH	600

	Control Voltage	No. of Contacts	Contact Rating	Order Code	Model	List Price (PKR)
14 Pins — Miniature	12V DC	4 c/o	6A @ 250V	1SVR405613R4100	CR-M012DC4L	4,500
	24V DC			1SVR405613R1100	CR-M024DC4L	3,000
	230V AC			1SVR405613R3100	CR-M230AC4L	3,000
	Standard Base			1SVR405651R3000	CR-M4SS	2,000
	Plastic holder for socket			1SVR405659R1000	CR-MH	600

	Control Voltage	No. of Contacts	Contact Rating	Order Code	Model	List Price (PKR)
8 Pins — Universal	12V DC	2 c/o	12A @ 250V	1SVR405621R4100	CR-U012DC2L	6,000
	24V DC			1SVR405621R1100	CR-U024DC2L	10,000
	230V AC			1SVR405621R3100	CR-U230AC2L	6,000
	Standard Base			1SVR405670R0000	CR-U2S	3,000
	Metal holder for socket			1SVR405669R0000	CR-UH	1,700

	Control Voltage	No. of Contacts	Contact Rating	Order Code	Model	List Price (PKR)
11 Pins — Universal	12V DC	3 c/o	10A @ 250V	1SVR405622R4100	CR-U012DC3L	6,000
	24V DC			1SVR405622R1100	CR-U024DC3L	11,000
	230V AC			1SVR405622R3100	CR-U230AC3L	6,500
	Standard Base			1SVR405660R0000	CR-U3S	3,000
	Metal holder for socket			1SVR405669R0000	CR-UH	1,800



CR-M



CR-M4SS



CR-MH



CR-U



CR-U2/3S



CR-UH

Available Voltages ; *12, 24, 48, 60, 110, 125, 220V DC*
12, 24, 48, 110, 120, 230V AC

Available Types ; *LED, LED and free-wheeling diode, Gold contacts,*

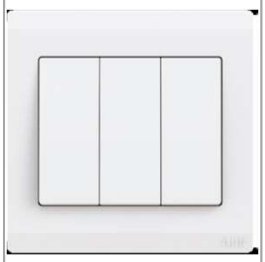
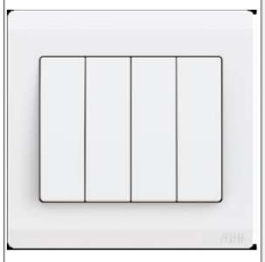
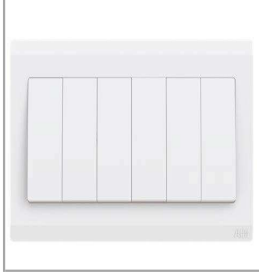
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SWITCHES & SOCKETS

Inora

Simplicity for timeless design



Picture	Description	Order Code	Model	List Price (PKR)
	1 G - 1 W, 10A Switch	2TCZ171001R0030	BL101	665
	1 G - 2 W, 10A Switch	2TCZ171002R0030	BL105	850
	2 G - 1 W, 10A Switch	2TCZ171003R0030	BL102	1,000
	3 G - 1 W, 10A Switch	2TCZ171005R0030	BL103	1,400
	4 G - 1 W, 10A Switch	2TCZ171007R0030	BL104	2,150
	6 G - 2 W, 10A Switch	2TCZ171028R0030	BL198	4,500

ABB

SWITCHES & SOCKETS

Inora

Simplicity for timeless design



Picture	Description	Order Code	Model	List Price (PKR)
	1 G - 1 W, 20A DP Switch w/Neon	2TCZ171020R0070	BL111S	2,050
	1 G - 2 W, 10A Push Switch Marked BELL	2TCZ171013R0090	BL176	3,350
	1 G - 2 W, 10A Push Switch Marked BELL	2TCZ171011R0030	BL429	1,000
	Speed Rotary Control - Regulator	2TCZ174009R0010	BL422	5,700
	1-Gang Blank Plate	2TCZ175001R0010	BL504	475
	2 G, Blank Plate	2TCZ175002R0010	BL505	650

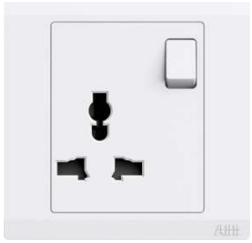
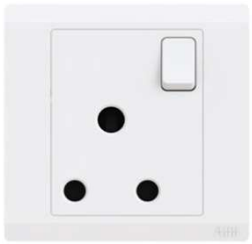
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SWITCHES & SOCKETS

Inora

Simplicity for timeless design



Picture	Description	Order Code	Model	List Price (PKR)
	13A - 250V Switched Multi-Socket Outlet	2TCZ172003R0040	BL294	1,500
	1 G - 15A Switched Socket SP	2TCZ172012R0050	BL209	1,750
	2 G - 13A Switched Socket with Neon	2TCZ172011R0040	BL230	2,800
	2 G - 13A Switched Multi Socket SP w/USB, Type A+C	2TCZ172018R0040	BL250	23,000
	2 G USB Charger,Type A+C	2TCZ172015R0010	BL249	7,000

ABB

SWITCHES & SOCKETS

Inora

Simplicity for timeless design



Picture	Description	Order Code	Model	List Price (PKR)
	1 G Telephone Outlet with Shutter, RJ11	2TCZ173006R0010	BL321	1,250
	1 G TV Outlet,dead-end line	2TCZ173001R0010	BL301	1,300
	2 G TV / Data Outlet RJ45 Cat.5e	2TCZ173016R0010	BL325	2,850
	1 G Data Outlet RJ45 Cat.6	2TCZ173008R0010	BL333	3,500
	2 G Data Outlet RJ45 Cat. 6	2TCZ173014R0010	BL329	7,000

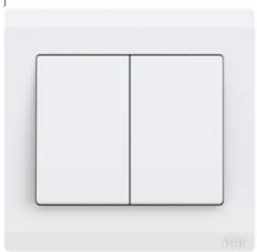
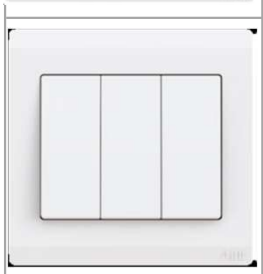
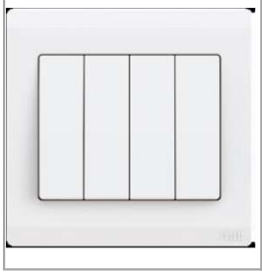
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SWITCHES & SOCKETS

Inora

Simplicity for timeless design



Picture	Description	Order Code	Model	List Price (PKR)
	Shaver Socket	2TCZ174002R0010	BL401	On Request
	Electronic Card Switch 16A	2TCZ174004R0060	BL402	On Request
	2 G Switch w/Neon 10A Do Not Disturb (DND) / Make Up Room (MUR)	2TCZ174006R0030	BL493	On Request
	2 G - 2 W, 10A Switch	2TCZ171004R0030	BL106	On Request
	3 G - 2 W, 10A Switch	2TCZ171006R0030	BL107	On Request
	4 G - 2 W, 10A Switch	2TCZ171008R0030	BL108	On Request

SOFT STARTERS

PSTX



The advanced range

- *Rated operational current: 30 to 1250 A*
- *Three-phase controlled*
- *Operational voltage: 208 – 690 VAC*
- *Wide rated control supply voltage: 100 – 250 V, 50/60 Hz (inside-delta: 2160 A)*
- *Both in-line and inside-delta connection*
- *Coated circuit boards protecting from dust, moist and corrosive atmosphere*
- *Detachable keypad rated IP66 (4X outdoor)*
- *Built-in bypass for energy saving and easy installation*
- *Built-in Modbus RTU for monitoring and control*
- *Support for all major communication protocols*
- *Analog output for measurement of current, voltage, power 0.43 etc.*

kW	IEC Max rated operational ie A	Order Code	Model	List Price (PKR)
15	30	1SFA898103R7000	**PSTX 30-600-70**	On Request
18.5	37	1SFA898104R7000	**PSTX 37-600-70**	
22	45	1SFA898105R7000	**PSTX 45-600-70**	
30	60	1SFA898106R7000	**PSTX 60-600-70**	
37	72	1SFA898107R7000	**PSTX 72-600-70**	
45	85	1SFA898108R7000	**PSTX 85-600-70**	
55	106	1SFA898109R7000	**PSTX 105-600-70**	
75	143	1SFA898110R7000	**PSTX 142-600-70**	
90	171	1SFA898111R7000	**PSTX 170-600-70**	
110	210	1SFA898112R7000	**PSTX 210-600-70**	
132	250	1SFA898113R7000	**PSTX 250-600-70**	
160	300	1SFA898114R7000	**PSTX 300-600-70**	
200	370	1SFA898115R7000	**PSTX 370-600-70**	
250	470	1SFA898116R7000	**PSTX 470-600-70**	
315	570	1SFA898117R7000	**PSTX 570-600-70**	
400	720	1SFA898118R7000	**PSTX 720-600-70**	
450	840	1SFA898119R7000	**PSTX 840-600-70**	
560	1050	1SFA898120R7000	**PSTX 1050-600-70**	
710	1200	1SFA898121R7000	**PSTX 1250-600-70**	

ABB

VFDs

ACS 355



ABB machinery drive ACS355 series

Applications where to use

Pumps	*Compressors*
Fans	*Cutting machines, shears, saws*
Conveyors	*Extruders*
Material handling machines	*Machine tools, mixers, stirrers*
Gates, doors, barriers	*Spinning machines*
	Centrifuges

Specification	
Voltage and power ranges	1-phase, 200 to 240 V:0.37 to 2.2 kW
	3-phase, 200 to 240 V:0.37 to 11 kW
Protection Class	IP21
Programming	Parameter programming
	Sequence programming
Ambient temperature	- 10 to +40 oC, no frost allowed, +50 oC with 10% derating.
Brake chopper	Yes
Suggested maximum motor cable length	30 to 60 m
Switching frequency	up to 16 kHz
Output frequency	0 to 599 Hz
Overload capacity	150% for 60 s, 180%for 2 s
Number of preset speeds	7

kW	IEC Max rated operational ie A	Order Code	Model	List Price (PKR)
0.75	2.4	3ABD0000058244	ACS355-03E-02A4-4+J404	On Request
1.1	3.3	3AUA0000058185	ACS355-03E-03A3-4+J404	
1.5	4.1	3AUA0000058186	ACS355-03E-04A1-4+J404	
2.2	5.6	3AUA0000058187	ACS355-03E-05A6-4+J404	
4	8.8	3AUA0000058189	ACS355-03E-08A8-4+J404	
5.5	12.5	3AUA0000058190	ACS355-03E-12A5-4+J404	
7.5	15.6	3AUA0000058191	ACS355-03E-15A6-4+J404	
11	23.1	3AUA0000058192	ACS355-03E-23A1-4+J404	
22	31	3AUA0000058193	ACS355-03E-31A0-4+J404	
18.5	38	3AUA0000058194	ACS355-03E-38A0-4+J404	
22	44	3AUA0000058195	ACS355-03E-44A0-4+J404	

ABB

VFDs

ACS 580



ABB general purpose drives

ACS580, 0.75 to 355 kW / 1 to 500 hp

Voltage and power ranges		3-phase, 380 to 480 V, +10/ -15%, 0.75 to 355 kW
		3-phase, 208 to 240 V, +10/ -15%, 0.75 to 75 kW
		Auto-identification of input line
Frequency		48 to 63 Hz
Power 0.43		0.98
Motor Connection	Voltage	3-phase, from 0 to *U* supply
Frequency		0 to 500 Hz
Continuous loading capability		Rated output current *I* 2N
Overload capacity		At normal use 1.1 x I 2N for 1 minute every 10 minutes
		At heavy-duty use 1.5 x I 2hd for 1 minute every 10 minutes
		Always 1.8 x *I* 2hd for 2 seconds every 60 seconds
Switching frequency Selectable		Default 4 kHz / 1 kHz, 2 kHz, 4 kHz, 8 kHz, 12 kHz
Acceleration / Deceleration time		0.1 to 1800 s
Speed control	Open loop	20% of motor nominal slip / < 1% s with 100% torque step
	Closed loop	0.1% of motor nominal speed / 0.5% s with 100% torque step
Torque control	Open loop	< 10 ms with nominal torque / ± 5% with nominal torque
	Closed loop	< 10 ms with nominal torque / ± 2% with nominal torque

kW	IEC Max rated operational ie A	Order Code	Model	List Price (PKR)
1.5	4.1	3ABD50000038939	ACS580-01-04A1-4+J400	On Request
2.2	5.7	3ABD50000038940	ACS580-01-05A7-4+J400	
4	9.5	3ABD50000038941	ACS580-01-09A5-4+J400	
5.5	12.7	3ABD50000038953	ACS580-01-12A7-4+J400	
7.5	18	3ABD50000038959	ACS580-01-018A-4+J400	
11	26	3ABD50000038960	ACS580-01-026A-4+J400	
15	33	3ABD50000038961	ACS580-01-033A-4+J400	
18.5	39	3ABD50000038962	ACS580-01-039A-4+J400	
22	46	3AXD50000038963	ACS580-01-046A-4+J400	
30	62	3ABD00045433-D	ACS580-01-062A-4+J400	
37	73	3AUA0000080499	ACS580-01-073A-4+J400	
45	88	3ABD00045435-D	ACS580-01-088A-4+J400	
55	106	3AUA0000080503	ACS580-01-106A-4+J400	
75	145	3AUA0000080504	ACS580-01-145A-4+J400	
90	169	3ABD00045438-D	ACS580-01-169A-4+J400	
110	206	3AUA0000232421	ACS580-01-206A-4+J400	
132	246	3AUA0000080507	ACS580-01-246A-4+J400	
160	293	3AUA0000080508	ACS580-01-293A-4+J400	

VFDs

ACS 880-01



wall-mounted single drives

Cover all your possibilities with our all-compatible ACS880 industrial drives designed to tackle any of your motor-driven applications, in any industries

***U_N* = 400 V (range 380 to 415 V).**
The power ratings are valid at nominal voltage 400 V (0.55 to 250 kW).

Nominal ratings			Order Code	Model	List Price (PKR)
PN (kW)	IN (A)	IMAX (A)			
0.75	2.4	3.1	3ABD00035958-D	ACS880-01-02A4-3	On Request
1.1	3.3	4.1	3AUA0000107975	ACS880-01-03A3-3	
1.5	4.0	5.6	3AUA0000107976	ACS880-01-04A0-3	
2.2	5.6	6.8	3ABD00035961-D	ACS880-01-05A6-3	
3	8.0	9.5	3ABD00035962-D	ACS880-01-07A2-3	
4	10	12.2	3AUA0000107989	ACS880-01-09A4-3	
5.5	12.9	16	3AUA0000107990	ACS880-01-12A6-3	
7.5	17	21	3ABD00035965-D	ACS880-01-017A-3	
11	25	29	3AUA0000107992	ACS880-01-025A-3	
15	32	42	3AUA0000107993	ACS880-01-032A-3	
18.5	38	54	3AUA0000108019	ACS880-01-038A-3	
22	45	64	3AUA0000108020	ACS880-01-045A-3	
30	61	76	3AUA0000108021	ACS880-01-061A-3	
37	72	104	3AUA0000108022	ACS880-01-072A-3	
45	87	122	3ABD00035949-D	ACS880-01-087A-3	
55	105	148	3ABD00035950-D	ACS880-01-105A-3	
75	145	178	3ABD00035951-D	ACS880-01-145A-3	
90	169	247	3ABD00035952-D	ACS880-01-169A-3	
110	206	287	3AUA0000108028	ACS880-01-206A-3	
132	246	350	3ABD00035954-D	ACS880-01-246A-3	
160	293	418	3AUA0000108034	ACS880-01-293A-3	
200	363	498	3AUA0000108037	ACS880-01-363A-3	
250	430	545	3AUA0000108038	ACS880-01-430A-3	

SWITCH DISCONNECTORS
LOAD BREAK SWITCHES



Front operated Switch-disconnectors 16 to 4000 Amperes

The switch disconnector is largely used as the main switch in low voltage switchgears for distribution of power, starting and stopping motors and isolating loads during maintenance.

The range from 16 to 125 Amps *are either base plate or door mounted by snap-on or screw fitting front operated 3, 4, 6 and 8-pole are available as standard.*

From 160 to 4000 Amps *the switch disconnectors, also called load break switches, are designed as pole modules and they are available as 1, 2, 3 and 4-pole versions, front or side operated.*

Typical switch-disconnector applications:

Switching of mixed loads for basically any application:
- Control panels
- Low-voltage switchgears
- Low-voltage substations

Motor disconnecting in various applications:
- Machine builders
- Motor control centers
- HVAC, pumps and conveyors

Heavy industries:
- Pulp & Paper
- Food & Beverage
- Refining & petrochemicals

Power generation and renewables:
- Wind turbines
- Solar plants
- Generating sets
- Power plants

Poles	Rating	Order Code	Model	List Price (PKR)
3	100 A	1SCA105004R1001	OT100F3	On Request
	125 A	1SCA105033R1001	OT125F3	
	160 A	1SCA138208R1001	OT160G03K	
	250 A	1SCA022763R5040	OT250E03K	
	400 A	1SCA022763R5390	OT400E03K	
	630 A	1SCA022779R4940	OT630E03K	
	800 A	1SCA022779R5160	OT800E03K	
	1000 A	1SCA108353R1001	OT1000E03K	
	1250 A	1SCA108356R1001	OT1250E03K	
	1600 A	1SCA108352R1001	OT1600E03K	
	2000 A	1SCA108359R1001	OT2000E03K	
	2500 A	1SCA108361R1001	OT2500E03K	
	3200 A	1SCA128480R1001	OT3200E03	
	4000 A	1SCA124847R1001	OT4000E03	

MANUAL CHANGEOVERS
TRANSFER SWITCHES



- > Heavy duty performance
- > Reliable in extreme conditions
- > Energy efficiency
- > Space saving

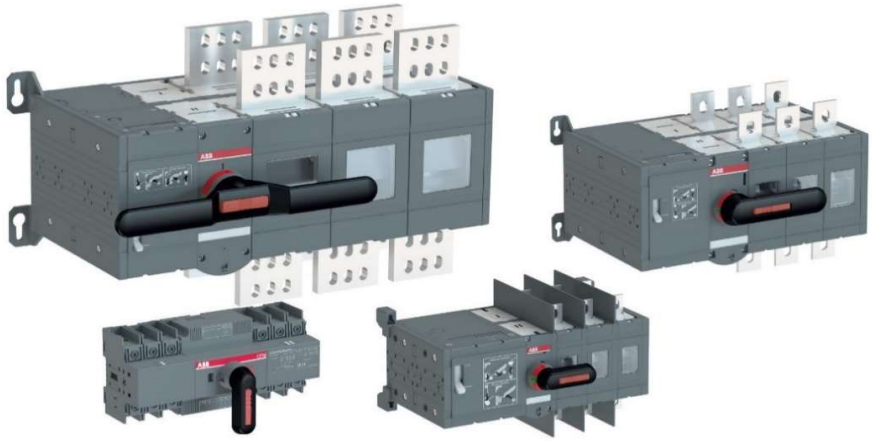
Poles	Rated current and power			Order Code	Model	Handle Options (To be ordered sperately)		
	AC-21A / AC-22A		AC-23A			Direct Operation knob	Selector handle (external)	Pistol handle (external)
	≤ 415V	400V	400...415V					
	I	S	I/P					
	A	**kVA**	**A / kW**					
3	**16 A**	11	16 / 7.5	1SCA104816R1001	**OT16F3C**	**OHBS3** 	**OHBS2** 	**OHB45** 
	25 A	17	20 / 9	1SCA104863R1001	**OT25F3C**			
	40 A	27	23 / 11	1SCA104913R1001	**OT40F3C**			
	63 A	43	63 / 30	1SCA105338R1001	**OT63F3C**	**OHBS9** 		
	80 A	55	75 / 37	1SCA105402R1001	**OT80F3C**			
	100 A	70	80 / 37	1SCA105008R1001	**OT100F3C**			
	125 A	86	90 / 45	1SCA105037R1001	**OT125F3C**			
4	**160 A**	110	160 / 90	1SCA022775R9440	**OT160E04CP**	Pistol Type Handle and Shaft included		
	200 A	135	200 / 110	1SCA022771R7280	**OT200E04CP**			
	250 A	170	250 / 140	1SCA022775R4640	**OT250E04CP**			
	315 A	215	315 / 160	1SCA022775R7150	**OT315E04CP**			
	400 A	275	400 / 220	1SCA022771R8680	**OT400E04CP**			
	630 A	435	630 / 355	1SCA022785R6130	**OT630E04CP**			
	800 A	550	800 / 450	1SCA022785R6210	**OT800E04CP**			
	1000 A	680	1000 / 560	1SCA022872R1500	**OT1000E04CP**			
	1250 A	850	1250 / 710	1SCA022872R1250	**OT1250E04CP**			
	1600 A	1000	1250 / 710	1SCA022872R2310	**OT1600E04CP**			
	2000 A	1350	-	1SCA103912R1001	**OT2000E04CP**			
	2500 A	1700	-	1SCA103906R1001	**OT2500E04CP**			
	3200 A	2170	-	1SCA129158R1001	**OT3200E04CP**			

Recommended accessories: Handles, shafts and parallel connection kit

Suitable for switches	Operating type	Handle type	Order Code	Shaft type	Order Code
OT16…40F_C	Direct operation	OHBS3	1SCA108320R1001	-	-
OT63…125F_C	Direct operation	OHBS9	1SCA108665R1001	-	-
OT16…125F_C	Selector handle (external)	OHBS2	1SCA105220R1001	OXS6X120	1SCA101654R1001
	Pistol handle (external)	OHB45	1SCA022817R2130	OXP6X170	1SCA108224R1001

ABB

MOTORISED CHANGEOVERS



Uninterrupted power supply with motorized functionality

I-O-II -operation

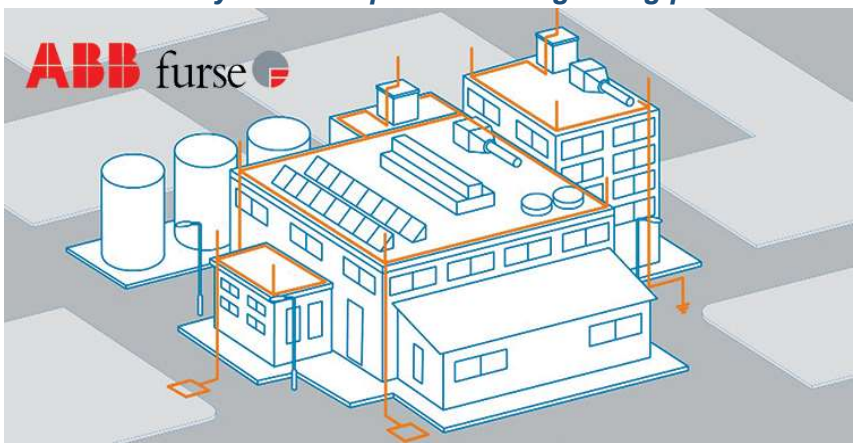
Poles	Rated current (1) AC-21A, AC-22A ≤ 415V, I	Rated power 400V S	Rated current AC-31B / AC-33B 415V, I	Order Code	Model	List Price (PKR)
	A	**kVA**	**A / kW**			
	Motor voltage Ue 220...240 V AC ²					
4	**250**	170	250 / 250	1SCA022846R1910	OTM250E4CM230C	On Request
	400	275	400 / 400	1SCA022847R3250	OTM400E4CM230C	
	630	435	650 / 650	1SCA022873R1990	OTM630E4CM230C	
	800	550	720 / 650	1SCA022872R8340	OTM800E4CM230C	
	1000	680	1000 / 1000	1SCA112703R1001	OTM1000E4CM230C	
	1250	850	1250 / 1000	1SCA112702R1001	OTM1250E4CM230C	
	1600	1000	1600 / 1000	1SCA112704R1001	OTM1600E4CM230C	
	2000	1350	-	1SCA112712R1001	OTM2000E4CM230C	
	2500	1700	-	1SCA112713R1001	OTM2500E4CM230C	
	3200	-	-	1SCA129242R1001	OTM3200E4CM230C	

ABB

EARTHING & LIGHTNING PROTECTION

furse

More than 90 years of experience in lightning protection



Protection against the consequences of lightning strikes and electrical surges is paramount to any building design.

Solutions

Lightning Protection

Surge Protection Devices

Earthing

FurseWELD **Exothermic Welding**

The consequences of lightning can be devastating; direct lightning strikes can damage structures, as well as create fire, explosion and electric shock hazards, which degrade electronic systems and disrupt essential services.

Furse *delivers critical life safety, together with long-lasting, reliable protection for structures and the electronic systems held within, for which we have tailored our essential products and services.*

Products overview



ESE (OPR)



Fixing accessories



Down conductor



Lightning stroke counter



SPD



ESE test set