



Panorama

Motor protection and control

Manual motor starters, contactors and overload relays

Power and productivity
for a better world™



ABB sets a new standard in motor control and power switching

Featuring AF technology as standard, the latest range of ABB's contactors establishes a new industry benchmark. The electronically controlled coil offers multiple benefits over conventional alternatives, and together with ABB's wide product offering – an optimal configuration, every time.



Access Global Support

The contactor and motor protection range from ABB is compatible with all major national and international standards and is available worldwide via a global distribution network. One contactor coil now handles 100 V – 250 V, AC/DC for use in Europe or Asia as well as North America.



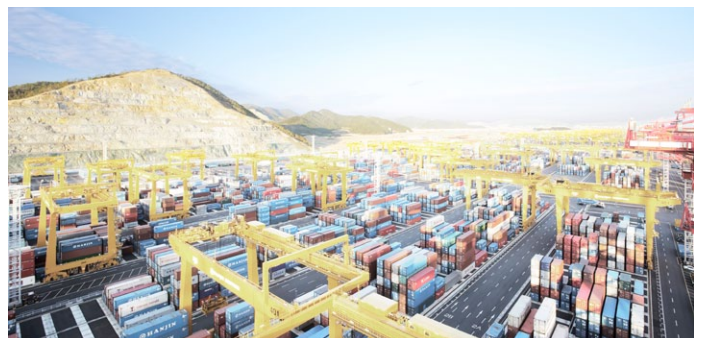
Simplify design

By reducing contactor coil energy consumption by up to 80%, panels can be built smaller and transformers more compact. All the features of the AF technology, along with access to drawings and coordination tables online, simplifies your design and assembly process.



Optimize logistics

With its contactor and motor protection range, ABB has managed to reduce the number of contactor coils to just four. The total number of product variants has been reduced by up to 90%. This simplifies the customers' logistics and cuts administration costs.



Secure uptime

Time to prevent stoppages caused by voltage fluctuations. The AF contactor ensures distinct operation in unstable networks and signifies a major advance in motor control and power switching. Voltage sags, dips and surges pose no threat. The AF contactor secures your uptime.



MacGregor. Keeping turnarounds brief.

Until the AF range was installed, voltage sags were affecting MacGregor's deck cranes. Conventional contactors welded shut, leading to several stoppages a week. No longer. Known for superior quality and an ability to operate in the most hostile environments, MacGregor deck cranes enjoy a global reputation for reliability. A small but vital component, the AF contactor helps maintain this reputation.

To keep things moving, you need Control. Connect to Control.

Explore all our case studies at www.abb.com/connecttocontrol

SSAB
Making certainty
standard

Gamesa
Taming the wind

LKAB
Providing fresh air

Mini contactors

3-pole contactors, for motor control and power switching

3-pole or 4-pole



IEC (1)	AC-3 Rated operational power	$\theta \leq 60\text{ }^{\circ}\text{C}$ (2), 400 V	kW	4	5.5
UL/CSA	3-phase motor rating	480 V	hp	3	5
AC / DC Control supply				—	—
AC Control supply				B6	B7
DC Control supply				BC6	BC7
IEC	AC-3 Rated operational current	$\theta \leq 60\text{ }^{\circ}\text{C}$ (2), 400 V	A	9	12
	AC-1 Rated operational current	$\theta \leq 40\text{ }^{\circ}\text{C}$, 690 V	A	16 (400 V)	20 (400 V)
UL/CSA	General use rating	600 V	A	12 (300 V)	16
NEMA	NEMA Size			—	—

(1) 1000 V IEC ratings available for AF146 ... AF2650 contactors.
(2) $\theta \leq 55\text{ }^{\circ}\text{C}$ for mini contactors and AF400 ... AF2650 contactors.

Main accessories

Auxiliary contact blocks	Front mounting	CAF6
	Side mounting	CA6
Timers	Electronic	
Interlocking units (4)	Mechanical	
Connection sets	Mechanical / Electrical	BSM6-30
	For reversing contactors	RV-BC6
	Varistor (AC / DC)	
	RC type (AC)	
Surge suppressors	Transil diode (DC)	RD7

(4) See available reversing contactors VB6, VB7 and VAS09 ... VAS16.

Overload relays

Thermal relays		Class 10 (Class 10A for TF140, TA200DU)	T16 (0.10...16 A)
Electronic relays		Class 10E, 20E, 30E	E16DU (0.10...16.9 A)

Manual motor starters

	Thermal / magnetic protection Class 10	MS116 (0.10...32 A) Ics up to 50 kA for class 10A MS132 (0.10...32 A) Ics up to 100 kA
	Magnetic only types	MO132 (0.16...32A)
Accessories	For contactor mounting	BEA7/132



4	5.5	7.5	4	5.5	7.5	11	15	18.5	18.5	22	30	37	45	55	75	75	90	110	132	160	200
5	7.5	10	5	7.5	10	15	20	20	30	40	50	60	60	75	100	100	125	150	200	250	300
—	—	—	AF09	AF12	AF16	AF26	AF30	AF38	AF40	AF52	AF65	AF80	AF96	AF116	AF140	AF146	AF190	AF205	AF265	AF305	AF370
AS09	AS12	AS16	AF09	AF12	AF16	AF26	AF30	AF38	AF40	AF52	AF65	AF80	AF96	AF116	AF140	AF146	AF190	AF205	AF265	AF305	AF370
ASL09	ASL12	ASL16	AF09	AF12	AF16	AF26	AF30	AF38	AF40	AF52	AF65	AF80	AF96	AF116	AF140	AF146	AF190	AF205	AF265	AF305	AF370
9	12	15.5	9	12	18	26	32	38	40	53	65	80	96	116	140	146	190	205	265	305	370
22	24	24	25	28	30	45	50	50	70	100	105	125	130	160	200	225	275	350	400	500	600
20	20	20	25	28	30	45	50	50	60	80	90	105	115	160	200	200	250	300	350	400	520
00	00	0	00	0	—	1	—	—	2	—	—	3	—	—	4	—	—	—	5	—	—

CA3-10 (1 x N.O.), CA3-01 (1 x N.C.)	CA4-10 (1 x N.O.) CA4-01 (1 x N.C.) CAL4-11 (1 x N.O. + 1 x N.C.)				CAL19		
TEF3-ON TEF3-OFF VM3	TEF4-ON TEF4-OFF VM4		VM96-4		VM19 (for same size contactors)		
	VEM4						
BER16C-3	BER16-4	BER38-4	BER65-4	BER96-4	BER140-4	BER205-4	BER370-4
RV5 (24...440 V)	Built-in surge protection						
RC5-1 (24...440 V)							
RT5 (12...264 V)							

T16 (0.10...16 A)	TF42 (0.10...38 A)		TF65 (22...67 A)	TF96 (40...96 A)	TF140DU (66...142 A) θ ≤ 55 °C	TA200DU (66...200 A) θ ≤ 55 °C
	EF19 (0.10...19 A)	EF19 (0.10...19 A) EF45 (9...45 A)	EF65 (25...70 A)	EF96 (36...100 A)	EF146 (54...150 A)	EF205 (63...210 A) EF370 (115...380 A)

MS116 (0.10...32 A) Ics up to 50 kA for class 10 A	MS450 (28...50 A) Ics up to 50 kA	
MS132 (0.10...32 A) Ics up to 100 kA		MS495 (45...100 A) Ics up to 50 kA
	MS497 (22...100 A) Ics up to 100 kA	
MO132 (0.16...32 A) Ics up to 100 kA	MO496 (16...100 A) Ics up to 100 kA	
	MO450 (40...50 A) Ics up to 50 kA	MO495 (63...100 A) Ics up to 50 kA
BEA16-3	BEA16-4	BEA38-4

Short-circuit protection devices

Tmax Circuit breaker and accessories



								
200	250	315	400	—	475	560	—	—
350	400	500	600	—	800	900	—	—
AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050	AF2650
AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050	AF2650
AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050	AF2650
400	460	580	750	—	860	1050	—	—
600	700	800	1050	1260	1350	1650	2050	2650
550	650	750	900	1210	1350	1650	2100	2700
—	6	—	7	—	—	8	—	—

CAL18		
VM750H VM750V		VM1650H
BEM460-30	BEM750-30	

E500DU (150...500 A)	E800DU (250...800 A)	E1250DU (375...1250 A)
----------------------	----------------------	------------------------



4-pole contactors

IEC	AC-1 Rated operational current	$\theta \leq 40\text{ }^{\circ}\text{C}$, 690 V	A
UL/CSA	General use rating	600 V	A
AC Control supply		Type	
DC Control supply		Type	
AC / DC Control supply		Type	

													
25	30	45	55	70	100	125	200	250	300	350	550	800	1000
25	30	45	55	80	80	105	170	200	250	300	420	540	—
AF09	AF16	AF26	AF38	A45	A50	A75	EK110	EK150	EK175	EK210	EK370	EK550	EK1000
AF09	AF16	AF26	AF38	AE45	AE50	AE75	EK110	EK150	EK175	EK210	EK370	EK550	EK1000
AF09	AF16	AF26	AF38	AF45	AF50	AF75	—	—	—	—	—	—	—

Mini contactor relays

IEC	AC-15 Rated operational current	400 V	A
UL/CSA	Pilot duty		
AC Control supply		Type	
DC Control supply		Type	
AC / DC Control supply		Type	

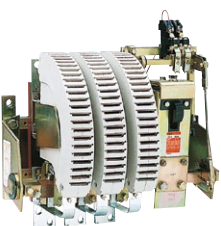
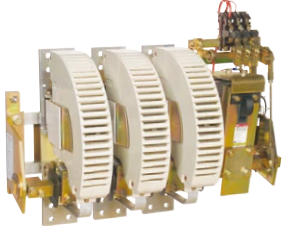


3		
A 600		
		
2 2	3 1	4 0
K6-22Z	K6-31Z	K6-40E
KC6-22Z	KC6-31Z	KC6-40E
—	—	—

Contactor relays

					
4-pole	4-pole				
3	3				
A 600, Q 300	A 600, Q 600				
					
2 2	3 1	4 0	2 2	3 1	4 0
NS22E	NS31E	NS40E	NF22E	NF31E	NF40E
NSL22E	NSL31E	NSL40E	NF22E	NF31E	NF40E
—	—	—	NF22E	NF31E	NF40E

R contactors

DC Circuit switching	AC Circuit switching	Special versions
 DC-1 Rated current up to 5000 A DC-3/DC-5 Rated current up to 2000 A 1500 V with poles in series IOR.. 63-...-CC to IOR.. 5100-...-CC	 AC-1 Rated current up to 5000 A AC-3 Rated power up to 1500 kW (1520 A - 440 V) IOR.. 63-...-MT to IOR.. 5100-...-MT	 AC / DC Coupling: LOR.. contactors Slip ring motor control: FOR .. contactors Field discharge: AM(F)-CC-JORE contactors AC / DC Switching (N.C./N.O. main poles): NOR & JOR contactors Latching contactors for energy saving and safety requirements: AMA or AME contactors

Specific contactors

Capacitor switching	DC Circuit switching	
 12.5 to 80 kvar UA16 to UA110 types UA16..RA to UA110..RA types	 100 A, 440 V, DC-1 GA75, GAE75 types	 275 to 2050 A, 1000 V, DC-1 GAF185 to GAF2050 types

Contact us

ABB France

Low Voltage Products Division

3, rue Jean Perrin

F-69687 Chassieu cedex / France

ABB STOTZ-KONTAKT GmbH

Eppelheimer Straße 82

D-69123 Heidelberg / Germany

ABB AB

Control Products

Low Voltage Products

SE-721 61 Västerås / Sweden

You can find the address of your local sales organisation
on the [ABB home page](#)



www.abb.com/connecttocontrol



www.abb.com/lowvoltage

Note

We reserve the right to make technical changes or modify the contents of this document without prior notice.

ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB.

Copyright© 2013 ABB - All rights reserved