PRODUCT-DETAILS

AF45-40-00 20-60V DC

AF45-40-00 20-60V DC Contactor



General Information

Extended Product Type	AF45-40-00 20-60V DC
Product ID	1SBL337201R7200
EAN	3471522114426
Catalog Description	AF45-40-00 20-60V DC Contactor
Long Description	AF45 4-pole contactors are mainly used for controlling non-inductive or slightly inductive loads (i.e. resistance furnaces...) and generally for controlling power circuits up to 690 V AC and 440 V DC. The contactors can also be used for many other applications such lighting... The AF... contactors are fitted with an electronic coil interface which accepts a wide control voltage range, on AC 50/60 Hz or DC supplies. The same contactor can accept various supply voltages according to the different countries where the electrical equipment will be installed, or some fluctuation in the control voltage due to the local supply or network. The AF... contactors are also fully suitable for operation in AC or DC control circuit liable to voltage interruptions or voltage dip risks. Advantages: - Wide voltage range, e.g. 100 ... 250 V AC and DC - Can manage large voltage variations - Reduced power consumption - Very distinct closing and opening - Noise free - Can withstand voltage interruptions or voltage dips in the control supply (≤ 20 ms). The AF... series 4-pole contactors are of the block type design. - Main poles and auxiliary contact blocks: 4 N.O. main poles, front and side-mounted add-on auxiliary contact blocks - Control circuit: AC or DC operated - Accessories: a wide range of accessories is available.

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Ordering

Minimum Order Quantity	1 piece
Customs Tariff Number	85364900

Popular Downloads

Data Sheet, Technical Information	1SNC001003C0202
Instructions and Manuals	FPTC407734P0003
CAD Dimensional Drawing	2CDC001079B0201

Dimensions

Product Net Width	92 mm
Product Net Depth / Length	119.5 mm
Product Net Height	110 mm
Product Net Weight	1.42 kg

Technical

Number of Main Contacts NO	4
Number of Main Contacts NC	0
Number of Auxiliary Contacts NO	0
Number of Auxiliary Contacts NC	0
Standards	IEC/EN 60947-1, IEC/EN 60947-4-1, UL 508, CSA C22.2 No. 14, IEC 60077-1 (applicable parts), IEC 60077-2 (applicable parts), EN 50155 (applicable parts), TR CU 001/2011 (on request), IEC 61373, For compliance confirmation on applicable parts based on your application and combination, please consult your ABB sales representatives.
Rated Operational Voltage	Main Circuit 690 V
Rated Frequency (f)	Main Circuit 50 / 60 Hz
Conventional Free-air Thermal Current (I_{th})	acc. to IEC 60947-4-1, Open Contactors Θ = 40 °C 100 A
Rated Operational Current AC-1 (I_e)	(690 V) 40 °C 70 A (690 V) 55 °C 60 A (690 V) 70 °C 50 A
Rated Operational Current AC-3 (I_e)	(415 V) 55 °C 37 A (440 V) 55 °C 37 A (500 V) 55 °C 33 A (690 V) 55 °C 25 A (380 / 400 V) 55 °C 37 A (220 / 230 / 240 V) 55 °C 40
Rated Operational Power AC-3 (P_e)	(415 V) 25 kW (440 V) 25 kW (500 V) 30 kW (690 V) 30 kW (380 / 400 V) 22 kW (220 / 230 / 240 V) 15 kW
Rated Breaking Capacity AC-3	8 x Ie AC-3

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Rated Making Capacity AC-3	10 x Ie AC-3
Short-Circuit Protective Devices	gG Type Fuses 80 A
Rated Short-time Withstand Current Low Voltage (I_{cw})	at 40 °C Ambient Temp, in Free Air, from a Cold State 10 s 650 A at 40 °C Ambient Temp, in Free Air, from a Cold State 15 min 110 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 min 250 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 s 1000 A at 40 °C Ambient Temp, in Free Air, from a Cold State 30 s 370 A
Maximum Breaking Capacity	cos phi=0.45 (cos phi=0.35 for Ie > 100 A) at 440 V 900 A cos phi=0.45 (cos phi=0.35 for Ie > 100 A) at 690 V 490 A
Maximum Electrical Switching Frequency	(AC-1) 300 cycles per hour (AC-2 / AC-4) 150 cycles per hour (AC-3) 300 cycles per hour
Rated Operational Current DC-1 (I_e)	(110 V) 2 Poles in Series, 40 °C 70 A (110 V) 2 Poles in Series, 55 °C 60 A (110 V) 2 Poles in Series, 70 °C 50 A (110 V) 3 Poles in Series, 40 °C 70 A (110 V) 3 Poles in Series, 55 °C 60 A (110 V) 3 Poles in Series, 70 °C 50 A (110 V) 4 Poles in Series, 40 °C 70 A (110 V) 4 Poles in Series, 55 °C 60 A (110 V) 4 Poles in Series, 70 °C 50 A (220 V) 3 Poles in Series, 40 °C 70 A (220 V) 3 Poles in Series, 55 °C 60 A (220 V) 3 Poles in Series, 70 °C 50 A (220 V) 4 Poles in Series, 40 °C 70 A (220 V) 4 Poles in Series, 55 °C 60 A (220 V) 4 Poles in Series, 70 °C 50 A (72 V) 1-Pole, 40 °C 70 A (72 V) 1-Pole, 55 °C 60 A (72 V) 1-Pole, 70 °C 50 A (72 V) 2 Poles in Series, 40 °C 70 A (72 V) 2 Poles in Series, 55 °C 60 A (72 V) 2 Poles in Series, 70 °C 50 A (72 V) 3 Poles in Series, 40 °C 70 A (72 V) 3 Poles in Series, 55 °C 60 A (72 V) 3 Poles in Series, 70 °C 50 A (72 V) 4 Poles in Series, 40 °C 70 A (72 V) 4 Poles in Series, 55 °C 60 A (72 V) 4 Poles in Series, 70 °C 50 A
Rated Operational Current DC-3 (I_e)	(110 V) 2 Poles in Series, 40 °C 70 A (110 V) 2 Poles in Series, 55 °C 60 A (110 V) 2 Poles in Series, 70 °C 50 A (110 V) 3 Poles in Series, 40 °C 70 A (110 V) 3 Poles in Series, 55 °C 60 A (110 V) 3 Poles in Series, 70 °C 50 A (110 V) 4 Poles in Series, 40 °C 70 A (110 V) 4 Poles in Series, 55 °C 60 A (110 V) 4 Poles in Series, 70 °C 50 A (220 V) 3 Poles in Series, 40 °C 70 A (220 V) 3 Poles in Series, 55 °C 60 A (220 V) 3 Poles in Series, 70 °C 50 A (220 V) 4 Poles in Series, 40 °C 70 A (220 V) 4 Poles in Series, 55 °C 60 A (220 V) 4 Poles in Series, 70 °C 50 A (72 V) 1-Pole, 40 °C 70 A (72 V) 1-Pole, 55 °C 60 A (72 V) 1-Pole, 70 °C 50 A (72 V) 2 Poles in Series, 40 °C 70 A (72 V) 2 Poles in Series, 55 °C 60 A (72 V) 2 Poles in Series, 70 °C 50 A (72 V) 3 Poles in Series, 40 °C 70 A (72 V) 3 Poles in Series, 55 °C 60 A (72 V) 3 Poles in Series, 70 °C 50 A (72 V) 4 Poles in Series, 40 °C 70 A (72 V) 4 Poles in Series, 55 °C 60 A (72 V) 4 Poles in Series, 70 °C 50 A
Rated Operational	(110 V) 2 Poles in Series, 40 °C 70 A

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Current DC-5 (I_e)	(110 V) 2 Poles in Series, 55 °C 60 A (110 V) 2 Poles in Series, 70 °C 50 A (110 V) 3 Poles in Series, 40 °C 70 A (110 V) 3 Poles in Series, 55 °C 60 A (110 V) 3 Poles in Series, 70 °C 50 A (110 V) 4 Poles in Series, 40 °C 70 A (110 V) 4 Poles in Series, 55 °C 60 A (110 V) 4 Poles in Series, 70 °C 50 A (220 V) 3 Poles in Series, 40 °C 50 A (220 V) 3 Poles in Series, 55 °C 50 A (220 V) 3 Poles in Series, 70 °C 50 A (220 V) 4 Poles in Series, 40 °C 70 A (220 V) 4 Poles in Series, 55 °C 60 A (220 V) 4 Poles in Series, 70 °C 50 A (72 V) 1-Pole, 40 °C 50 A (72 V) 1-Pole, 55 °C 50 A (72 V) 1-Pole, 70 °C 50 A (72 V) 2 Poles in Series, 40 °C 70 A (72 V) 2 Poles in Series, 55 °C 60 A (72 V) 2 Poles in Series, 70 °C 50 A (72 V) 3 Poles in Series, 40 °C 70 A (72 V) 3 Poles in Series, 55 °C 60 A (72 V) 3 Poles in Series, 70 °C 50 A (72 V) 4 Poles in Series, 40 °C 70 A (72 V) 4 Poles in Series, 55 °C 60 A (72 V) 4 Poles in Series, 70 °C 50 A
Rated Insulation Voltage (U_i)	acc. to IEC 60947-4-1 1000 V acc. to UL/CSA 600 V
Rated Impulse Withstand Voltage (U_{imp})	8 kV
Mechanical Durability	10 million
Maximum Mechanical Switching Frequency	300 cycles per hour
Rated Control Circuit Voltage (U_c)	DC Operation 20 ... 60 V
Coil Consumption	Holding at Max. Rated Control Circuit Voltage 50 Hz 7 V·A Holding at Max. Rated Control Circuit Voltage 50 Hz 2.8 W Holding at Max. Rated Control Circuit Voltage 60 Hz 7 V·A Holding at Max. Rated Control Circuit Voltage 60 Hz 2.8 W Pull-in at Max. Rated Control Circuit Voltage 50 Hz 210 V·A Pull-in at Max. Rated Control Circuit Voltage 60 Hz 210 V·A
Operate Time	Between Coil De-energization and NC Contact Closing 35 ... 115 ms Between Coil De-energization and NO Contact Opening 30 ... 110 ms Between Coil Energization and NO Contact Closing 30 ... 100 ms
Mounting on DIN Rail	TH35-15 (35 x 15 mm Mounting Rail) acc. to IEC 60715 TH75-25 (75 x 25 mm Mounting Rail) acc. to IEC 60715
Mounting by Screws (not supplied)	2 x M6 screws placed diagonally
Connecting Capacity Main Circuit	Flexible with Cable End 6 ... 16 mm² Rigid Cable 6 ... 25 mm²
Connecting Capacity Auxiliary Circuit	Flexible with Cable End 0.75 ... 2.5 mm² Rigid Cable 1 ... 4 mm²
Degree of Protection	acc. to IEC 60529, IEC 60947-1, EN 60529 Coil Terminals IP20 acc. to IEC 60529, IEC 60947-1, EN 60529 Main Terminals IP10
Connecting Terminals (delivered in open position) Main Poles	M 6 (+,-) pozidriv 2 screws with 1x (13 x 10 mm) connector
Terminal Type	Screw Terminals

Technical UL/CSA

Maximum Operating Voltage UL/CSA	Main Circuit 600 V
General Use Rating	(600 V AC) 80 A

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UL/CSA

Environmental

Ambient Air Temperature	Close to Contactor for Storage -60 ... +80 °C Near Contactor for Operation in Free Air -40 ... 70 °C
Climatic Withstand	acc. to IEC 60068-2-30 and 60068-2-11 - UTE C 63-100 specification II
Maximum Operating Altitude Permissible	Without Derating 3000 m
Resistance to Shock acc. to IEC 60068-2-27	Closed, Shock Direction: B1 10 g Open, Shock Direction: B1 5 g Shock Direction: A 20 g Shock Direction: B2 15 g Shock Direction: C1 20 g Shock Direction: C2 20 g
Shock and Vibration Withstand acc. to IEC 61373	Category 1, Class B

Material Compliance

Conflict Minerals Reporting Template (CMRT)	9AKK108467A5658
REACH Declaration	2CMT2021-006202
RoHS Information	2CMT2021-006277
RoHS Status	Following EU Directive 2011/65/EU and Amendment 2015/863 July 22, 2019
WEEE B2C / B2B	Business To Business
WEEE Category	5. Small Equipment (No External Dimension More Than 50 cm)

Certificates and Declarations

CB Certificate	CB_CN45489
CCC Certificate	CCC_2018010304134049
CQC Certificate	CQC2018010304134049
CSA Certificate	CSA_1033838_LR056745
Declaration of Conformity - CCC	2020980304001624
Declaration of Conformity - CE	1SBD250803U1000
Declaration of Conformity - UKCA	1SBD250820U1000
EAC Certificate	EAC_RU C-FR ME77 B01010
GOST Certificate	GOST_POCCFRME77B07175
UL Certificate	UL_20120830-E312527-10-1
UL Listing Card	UL_E312527

Container Information

Package Level 1 Units	1 piece
Package Level 1 Width	142 mm
Package Level 1 Depth / Length	190 mm
Package Level 1 Height	136 mm
Package Level 1 Gross Weight	1.42 kg

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Package Level 1 EAN	3471522114426
Package Level 2 Units	box 8 piece
Package Level 2 Width	503 mm
Package Level 2 Depth / Length	153 mm
Package Level 2 Height	307 mm
Package Level 2 Gross Weight	11.36 kg
Package Level 3 Units	84 piece

Classifications

Object Classification Code	Q
ETIM 7	EC000066 - Power contactor, AC switching
ETIM 8	EC000066 - Power contactor, AC switching
ETIM 9	EC000066 - Power contactor, AC switching
eClass	V11.0 : 27371003
UNSPSC	39121529

Categories

Low Voltage Products and Systems → Control Products → Contactors → Block Contactors → AF Contactors → AF45



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