PRODUCT-DETAILS

AF1650-30-22-70

AF1650-30-22-70 100-250V 50/60Hz / 100-250V DC Contactor



General Information

Extended Product Type	AF1650-30-22-70
Product ID	1SFL677001R7022
EAN	7320500249710
Catalog Description	AF1650-30-22-70 100-250V 50/60Hz / 100-250V DC Contactor
Long Description	The AF1650-30-22-70 is a 3 pole - 1000 V IEC or 1000 V UL contactor pre-mounted auxiliary contacts and and Main Circuit Bars, controlling motors up to 560 kW / 400 V AC (AC-3) or 900 hp / 480 V UL and switching power circuits up to 1650 A (AC-1) or 1650 A UL general use. Thanks to the AF technology, the contactor has a wide control voltage range (100-250 V 50/60 Hz and DC), managing large control voltage variations, reducing panel energy consumptions and ensuring distinct operations in unstable networks. Furthermore, surge protection is built-in, offering a compact solution. AF contactors have a block type design, can be easily extended with add-on auxiliary contact blocks and an additional wide range of accessories.

Ordering

Minimum Order Quantity	1 piece
Customs Tariff Number	85364900

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Popular Downloads

EPLAN Data	9AAC200759_EPLAN
Data Sheet, Technical Information	1SBC100214C0202
Data Sheet, Technical Information (Part 2)	1SAC200017M0002
Instructions and Manuals	1SFC101002M5501
CAD Dimensional Drawing	2CDC001079B0201

Dimensions

Product Net Width	438 mm
Product Net Depth / Length	244 mm
Product Net Height	392 mm
Product Net Weight	33 kg
Dimension Diagram	53540930-7

Technical

Number of Main Contacts NO	3
Number of Main Contacts NC	0
Number of Auxiliary Contacts NO	2
Number of Auxiliary Contacts NC	2
Number of Poles	3P
Rated Operational Voltage	Main Circuit 1000 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 1650 A
Rated Operational Current AC-1 (I_e)	(1000 V) 40 °C 1650 A (1000 V) 55 °C 1450 A (1000 V) 70 °C 1270 A (690 V) 40 °C 1650 A (690 V) 55 °C 1450 A (690 V) 70 °C 1270 A
Rated Operational Current AC-3 (I_e)	(415 V) 55 °C 1060 A (440 V) 55 °C 1060 A (500 V) 55 °C 970 A (690 V) 55 °C 970 A (1000 V) 55 °C 400 A (220 / 230 / 240 V) 55 °C 1060 A
Rated Operational Current DC-1 (I_e)	(110 V) 1-Pole, 40 °C 1650 A (110 V) 2 Poles in Series, 40 °C 1650 A (220 V) 3 Poles in Series, 40 °C 1650 A (600 V) 3 Poles in Series, 40 °C 1650 A (850 V) 3 Poles in Series, 40 °C 1650 A
Rated Operational Power AC-3 (P_e)	(415 V) 630 kW (440 V) 710 kW (500 V) 710 kW (690 V) 1000 kW (1000 V) 600 kW (380 / 400 V) 560 kW (220 / 230 / 240 V) 315 kW

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Rated Breaking Capacity AC-3	8 x Ie AC-3
Rated Making Capacity AC-3	10 x Ie AC-3
Rated Short-time Withstand Current Low Voltage (I_{cw})	at 40 °C Ambient Temp, in Free Air, from a Cold State 10 s 2200 A at 40 °C Ambient Temp, in Free Air, from a Cold State 15 min 7500 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 min 12000 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 s 10000 A at 40 °C Ambient Temp, in Free Air, from a Cold State 30 s 5500 A
Maximum Breaking Capacity	cos phi=0.45 (cos phi=0.35 for Ie > 100 A) at 440 V 12000 A
Rated Insulation Voltage (U_i)	acc. to IEC 60947-4-1 and VDE 0110 (Gr. C) 1000 V acc. to UL/CSA 1000 V
Rated Impulse Withstand Voltage (U_{imp})	Main Circuit 8 kV
Maximum Electrical Switching Frequency	(AC-1) 60 cycles per hour (AC-2 / AC-4) 60 cycles per hour (AC-3) 60 cycles per hour
Mechanical Durability	0.5 million
Maximum Mechanical Switching Frequency	300 cycles per hour
Coil Operating Limits	(acc. to IEC 60947-4-1) 0.85 x Uc Min. ... 1.1 x Uc Max. (at θ ≤ 70 °C)
Rated Control Circuit Voltage (U_c)	50 Hz 100 ... 250 V 60 Hz 100 ... 250 V DC Operation 100 ... 250 V
Coil Consumption	Holding at Max. Rated Control Circuit Voltage 50 Hz 48 V·A Holding at Max. Rated Control Circuit Voltage 60 Hz 48 V·A Holding at Max. Rated Control Circuit Voltage DC 20.5 V·A Pull-in at Max. Rated Control Circuit Voltage 50 Hz 2450 V·A Pull-in at Max. Rated Control Circuit Voltage 60 Hz 2450 V·A Pull-in at Max. Rated Control Circuit Voltage DC 2290 V·A
Power Loss	at Rated Operating Conditions per Pole 80 W
Operate Time	Between Coil De-energization and NC Contact Closing 35 ... 55 ms Between Coil De-energization and NO Contact Opening 35 ... 55 ms Between Coil Energization and NC Contact Opening 50 ... 80 ms Between Coil Energization and NO Contact Closing 50 ... 80 ms
Connecting Capacity Main Circuit	Bar 100 mm²
Connecting Capacity Auxiliary Circuit	Flexible with Ferrule 2x 0.75 ... 2.5 mm² Flexible with Insulated Ferrule 2x 0.75 ... 2.5 mm² Flexible 2x0.75 ... 2.5 mm² Solid 2 x 1 ... 4 mm² Stranded 2 x 1 .... 4 mm²
Connecting Capacity	Bar 100 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 IP00
Connecting Terminals (delivered in open position) Main Poles	M 3.5 (+,-) pozidriv 2 screw with cable clamp
Recommended Screw Driver	Main Circuit M12 Control Circuit Pozidriv 2 Control Circuit M3.5
Tightening Torque	Cable Lug 45 N·m Main Circuit 45 N·m
Terminal Type	Main Circuit: Bars
Suitable for Product Class	Block ContactorsBlock Contactors
Product Name	Block Contactor

Technical UL/CSA

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NEMA Size	8
Horsepower Rating NEMA	(230 V AC) Three Phase 450 Hp (460 V AC) Three Phase 900 Hp (575 V AC) Three Phase 900 Hp
Maximum Operating Voltage UL/CSA	Main Circuit 1000 V
General Use Rating UL/CSA	(1000 V AC) 1650 A (600 V AC) 1650 A
Horsepower Rating UL/CSA	(220 ... 240 V AC) Three Phase 450 hp (440 ... 480 V AC) Three Phase 900 hp (550 ... 600 V AC) Three Phase 1150 hp
Full Load Amps Motor Use	(440 ... 480 V AC) Three Phase 1030 A (550 ... 600 V AC) Three Phase 1050 A

Environmental

Ambient Air Temperature	Close to Contactor Fitted with Thermal O/L Relay (0.85 ... 1.1 Uc) -25 ... 50 °C Close to Contactor without Thermal O/L Relay (0.85 ... 1.1 Uc) -40 ... 70 °C Close to Contactor for Storage -40 ... 70 °C Operation -40 ... 70 °C Storage -40 ... +70 °C
Maximum Operating Altitude Permissible	Without Derating 3000 m

Material Compliance

Conflict Minerals Reporting Template (CMRT)	9AKK108467A5658
REACH Declaration	2CMT2021-006202
RoHS Declaration	2CMT2021-006277
RoHS Information	Following EU Directive 2011/65/EU and Amendment 2015/863 July 22, 2019
Toxic Substances Control Act - TSCA	2CMT2023-006525
WEEE B2C / B2B	Business To Business
WEEE Category	5. Small Equipment (No External Dimension More Than 50 cm)

ABB EcoSolutions

End Of Life Disassembling Instructions	1SFC100112M0005
Environmental Product Declaration - EPD	1SFC100110D0201 2TFP200026A1001

Certificates and Declarations

ABS Certificate	15-LD1408622-PDA
BV Certificate	BV_13409-C0BV
CB Certificate	SEMKO_SE-74013
CCS Certificate	GB14T00030
CQC Certificate	CQC2003010304101933 CQC2015010304752548
Declaration of Conformity - CCC	2020980304001303 2020980304001043
Declaration of	2CMT2019-005796

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Conformity - CE	
Declaration of Conformity - UKCA	2CMT2020-006118
DNV GL Certificate	TAE00001W1
EAC Certificate	9AKK107046A8618
GL Certificate	GL_20263-04HH
LOVAG Certificate	SE-201993
LR Certificate	16-20064
PRS Certificate	TE_2092_880423_16
RINA Certificate	ELE060313XG_002
RMRS Certificate	9AKK107045A6978
UL Certificate	UL_20130904-E73397
UL Listing Card	UL_E73397

Container Information

Package Level 1 Units	box 1 piece
Package Level 1 Width	555 mm
Package Level 1 Depth / Length	395 mm
Package Level 1 Height	500 mm
Package Level 1 Gross Weight	35 kg
Package Level 1 EAN	7320500249710

External Classifications and Standards

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
IDEA Granular Category Code (IGCC)	4758 >> Iec Contactors
E-Number (Finland)	3707165

Accessories

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Identifier	Description	Type	Quantity	Unit Of Measure
1SFN076407R1000	LW1250 Terminal Enlargement	LW1250	1	piece
1SFN165503R9215	AF1250 Cover Replacement Part	Spare Part Cover AF1250	1	piece
1SFN165503R9245	AF1250 Base Replacement Part	Spare Part Bottom AF1250	1	piece
1SFN166403R1000	ZL1250 Main Contact Kit	ZL1250	1	piece
1SFN165503R9216	AF1350 Cover Replacement Part	Spare Part Cover AF1350	1	piece
1SFN165503R9250	AF1350 Base Replacement Part	Spare Part Bottom AF1350	1	piece
1SFN166503R1000	ZL1350 Main Contact Kit	ZL1350	1	piece
1SFN166503R1001	ZL1350-1 Main Contact Kit	ZL1350-1	1	piece
1SFN165503R9246	AF1350/1650 Base Replacement Part	Spare Part Bottom AF1350/AF1650	1	piece
1SFN165503R9218	AF1650 Cover Replacement Part	Spare Part Cover AF1650	1	piece
1SFN165503R9247	AF1650 Base Replacement Part	Spare Part Bottom AF1650	1	piece
1SFN165503R9251	AF1650 Base Replacement Part	Spare Part Bottom AF1650	1	piece
1SFN166510R1001	ZW1650 Arc Shute	ZW1650	1	piece
1SFN166521R1070	ZP1650-70 Circuit Board	ZP1650-70	1	piece
1SFN166703R1000	ZL1650 Main Contact Kit	ZL1650	1	piece
1SFN166703R1001	ZL1650-1 Main Contact Kit	ZL1650-1	1	piece
1SFN156570R7026	ZAF1650-70 100-250V AC/DC Operating Coil	ZAF1650-70	1	piece
1SFN165503R9219	AF1650T Cover Replacement Part	Spare Part Cover AF1650T	1	piece
1SFN165503R9126	T-Delay board Replacement Kit	T-Delay board	1	piece
1SFN165503R9223	AF2650T Cover Replacement Part	Spare Part Cover AF2650T	1	piece
1SFN165503R9211	AF400 Cover Replacement Part	Spare Part Cover AF400	1	piece
1SFN165703R1000	ZL400 Main Contact Kit	ZL400	1	piece

Categories

Low Voltage Products and Systems → Control Products → Contactors → Block Contactors → AF Contactors → AF1650

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