PRODUCT-DETAILS

AFS190-30-12-14

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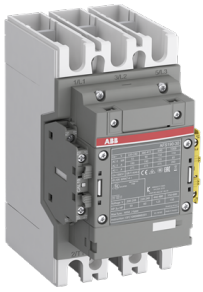

General Information

Extended Product Type	AFS190-30-12-14
Product ID	1SFL487082R1412
EAN	7320500540473
Catalog Description	AFS190-30-12-14
Long Description	The AFS190-30-12-14 is a 3 pole - 1000 V IEC or 600 V UL contactor with pre-mounted 1 left (1 N.O + 1 N.C.) and fixed 1 right (1 N.C.) side mounted auxiliary contact blocks with Main Circuit Bars connections, controlling motors up to 90 kW / 400 V AC (AC-3) or 125 hp / 480 V UL and switching power circuits up to 275 A (AC-1) or 250 A UL general use. AFS contactors can be easily integrated in machine manufacturer's systems complying with main standards EN ISO 13849 and EN 62061 - guaranteeing the safe use of your machinery and equipment. An easily identifiable yellow low energy auxiliary contact block ensures the status feedback circuits required in machine safety applications. Thanks to the AF technology, the contactor has a wide control voltage range (250-500 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

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Minimum Order Quantity	1 piece
Customs Tariff Number	85364900

Popular Downloads

EPLAN Data	9AAC412759_EPLAN
Data Sheet, Technical Information	1SBC100214C0202
Data Sheet, Technical Information (Part 2)	1SAC200017M0002
Instructions and Manuals	1SFC100008M0201
CAD Dimensional Drawing	2CDC001079B0201

Dimensions

Product Net Width	105 mm
Product Net Depth / Length	152 mm
Product Net Height	196 mm
Product Net Weight	2.4 kg

Technical

Number of Main Contacts NO	3
Number of Main Contacts NC	0
Number of Auxiliary Contacts NO	1
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 275 A
Rated Operational Current AC-1 (I_e)	(1000 V) 40 °C 250 A (1000 V) 60 °C 225 A (1000 V) 70 °C 185 A (690 V) 40 °C 275 A (690 V) 60 °C 250 A (690 V) 70 °C 200 A
Rated Operational Current AC-3 (I_e)	(415 V) 60 °C 190 A (440 V) 60 °C 190 A (500 V) 60 °C 135 A (690 V) 60 °C 135 A (1000 V) 60 °C 85 A (380 / 400 V) 60 °C 190 A (220 / 230 / 240 V) 60 °C 190 A
Rated Operational Current AC-3e (I_e)	(415 V) 60 °C 190 A (440 V) 60 °C 190 A (500 V) 60 °C 135 A (690 V) 60 °C 135 A (1000 V) 60 °C 85 A (380 / 400 V) 60 °C 190 A (220 / 230 / 240 V) 60 °C 190 A

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Rated Operational Current DC-1 (I_e)	(110 V) 2 Poles in Series, 40 °C 250 A (220 V) 3 Poles in Series, 40 °C 250 A
Rated Operational Current DC-3 (I_e)	(110 V) 2 Poles in Series, 40 °C 250 A (220 V) 3 Poles in Series, 40 °C 250 A
Rated Operational Current DC-5 (I_e)	(110 V) 2 Poles in Series, 40 °C 250 A (220 V) 3 Poles in Series, 40 °C 250 A
Rated Operational Power AC-3 (P_e)	(415 V) 90 kW (440 V) 110 kW (500 V) 90 kW (690 V) 132 kW (1000 V) 110 kW (380 / 400 V) 90 kW (220 / 230 / 240 V) 55 kW
Rated Operational Power AC-3e (P_e)	(415 V) 90 kW (440 V) 110 kW (500 V) 90 kW (690 V) 132 kW (1000 V) 110 kW (380 / 400 V) 90 kW (220 / 230 / 240 V) 55 kW
Rated Breaking Capacity AC-3	8 x Ie AC-3
Rated Breaking Capacity AC-3e	8.5 x Ie AC-3e
Rated Making Capacity AC-3	10 x Ie AC-3
Rated Making Capacity AC-3e	12 x Ie AC-3e
Short-Circuit Protective Devices	gG Type Fuses 355 A
Rated Short-time Withstand Current Low Voltage (I_{cw})	at 40 °C Ambient Temp, in Free Air, from a Cold State 10 s 1640 A at 40 °C Ambient Temp, in Free Air, from a Cold State 15 min 275 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 min 621 A at 40 °C Ambient Temp, in Free Air, from a Cold State 1 s 1900 A at 40 °C Ambient Temp, in Free Air, from a Cold State 30 s 878 A
Maximum Breaking Capacity	cos phi=0.45 (cos phi=0.35 for Ie > 100 A) at 440 V 3300 A cos phi=0.45 (cos phi=0.35 for Ie > 100 A) at 690 V 2200 A
Rated Insulation Voltage (U_i)	acc. to IEC 60947-4-1 and VDE 0110 (Gr. C) 1000 V acc. to UL/CSA 600 V
Rated Impulse Withstand Voltage (U_{imp})	Main Circuit 8 kV
Maximum Electrical Switching Frequency	(AC-1) 300 cycles per hour (AC-2 / AC-4) 150 cycles per hour (AC-3) 300 cycles per hour
Mechanical Durability	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 250 ... 500 V 60 Hz 250 ... 500 V DC Operation 250 ... 500 V
Coil Consumption	Holding at Max. Rated Control Circuit Voltage 50 Hz 16.1 V·A Holding at Max. Rated Control Circuit Voltage 60 Hz 16.1 V·A Holding at Max. Rated Control Circuit Voltage DC 2.5 W Pull-in at Max. Rated Control Circuit Voltage 50 Hz 260 V·A Pull-in at Max. Rated Control Circuit Voltage 60 Hz 260 V·A Pull-in at Max. Rated Control Circuit Voltage DC 230 W
Power Loss	at Rated Operating Conditions per Pole 7 W
Operate Time	Between Coil De-energization and NO Contact Opening 37 ... 47 ms Between Coil Energization and NO Contact Closing 25 ... 55 ms
Connecting Capacity Main Circuit	Flexible 2 x 50 ... 95 mm² Rigid Al-Cable 1 x 95 ... 185 mm² Rigid Cu-Cable 1 x 6 ... 150 mm²

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Connecting Capacity Auxiliary Circuit	Flexible with Ferrule 1x 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	Flexible 2 x 50 ... 95 mm² Rigid Al-Cable 1 x 95 ... 185 mm² Rigid Cu-Cable 1 x 6 ... 150 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
Recommended Screw Driver	Main Circuit M8 Control Circuit M3.5 Control Circuit 5.5 Control Circuit Pozidriv 2
Tightening Torque	Cable Lug 18 N·m Main Circuit 14 ... 31 N·m
Terminal Type	Main Circuit: Bars
Product Name	Block Contactor

Technical UL/CSA

Maximum Operating Voltage UL/CSA	Main Circuit 600 V
General Use Rating UL/CSA	(600 V AC) 250 A
Horsepower Rating UL/CSA	(200 ... 208 V AC) Three Phase 50 hp (220 ... 240 V AC) Three Phase 60 hp (440 ... 480 V AC) Three Phase 125 hp (550 ... 600 V AC) Three Phase 150 hp
Full Load Amps Motor Use	(200 ... 208 V AC) Three Phase 150 A (220 ... 240 V AC) Three Phase 154 A (440 ... 480 V AC) Three Phase 156 A (550 ... 600 V AC) Three Phase 144 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
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

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ABB EcoSolutions	Yes
ABB Site Meeting Group Waste To Landfill Target	Non-hazardous waste is sent to a landfill, where there is no alternative option available within 100km of a facility
End Of Life Disassembling Instructions	1SFC100112M0001
Environmental Product Declaration - EPD	1SFC100095D0201
Improved Energy Efficiency for Customers	Product Efficiency - Product requires less energy to operate compared to similar product on market or older products from the same line
Recyclability Rate of the Product acc. to EN45555	Design for Closing Resource Loops - Standard EN45555 - 79.2 %
Sustainable Material Content in Product (wt. %)	Recycled Metal - 35 %

Certificates and Declarations

CB Certificate	SE-82315
CQC Certificate	CQC2014010304676685
Declaration of Conformity - CCC	2020980304001306
Declaration of Conformity - CE	2CMT2018-005695
Declaration of Conformity - UKCA	2CMT2020-006125
EAC Certificate	1SFC101360D1101
SUVA Certificate	2CMT2019-005857
UL Certificate	20121023-E36588

Container Information

Package Level 1 Units	box 1 piece
Package Level 1 Width	160 mm
Package Level 1 Depth / Length	258 mm
Package Level 1 Height	235 mm
Package Level 1 Gross Weight	3 kg
Package Level 1 EAN	7320500540473

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)	4755 >> Contactors
E-Number (Finland)	3709005

Accessories

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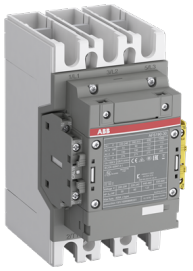
Identifier	Description	Type Quantity		Unit Of Measure
1SFN010832R1010	CEL19-10 Auxiliary Contact Block	CEL19-10	1	piece
1SFN010832R1001	CEL19-01 Auxiliary Contact Block	CEL19-01	1	piece
1SFN010820R1011	CAL19-11 Auxiliary Contact Block	CAL19-11	1	piece
1SFN074208R1000	LD146-30 Connection Module	LD146-30	1	piece
1SFN124203R1000	LT140-30L Terminal Shroud	LT140-30L	1	piece
1SFN074207R1000	LW140 Terminal Enlargement	LW140	1	piece
1SFN074210R1000	LX140 Terminal Extension	LX140	1	piece
1SFN074203R1000	LY140 Connecting Strip	LY140	1	piece
1SFN124801R1000	LT205-30C Terminal Shroud	LT205-30C	1	piece
1SFN124803R1000	LT205-30L Terminal Shroud	LT205-30L	1	piece
1SFN124804R1000	LT205-30Y Terminal Shroud	LT205-30Y	1	piece
1SFN074807R1000	LW205 Terminal Enlargement	LW205	1	piece
1SFN074810R1000	LX205 Terminal Extension	LX205	1	piece
1SFN074703R1000	LY185 Connecting Strip	LY185	1	piece
1SFN075103R1000	LY300 Connecting Strip	LY300	1	piece
1SFN075410R1000	LX370 Terminal Extension	LX370	1	piece
1SFN125406R1000	LT370-30D Terminal Shroud	LT370-30D	1	piece
1SFN125404R1000	LT370-30Y Terminal Shroud	LT370-30Y	1	piece
1SFN125403R1000	LT370-30L Terminal Shroud	LT370-30L	1	piece
1SFN125401R1000	LT370-30C Terminal Shroud	LT370-30C	1	piece

Categories

Low Voltage Products and Systems → Control Products → Contactors → Block Contactors → AFS Contactors → AFS190



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