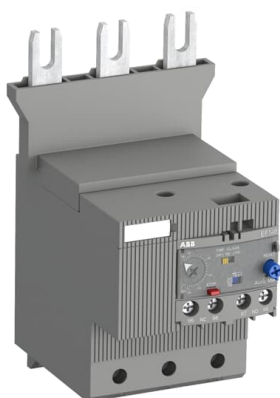


PRODUCT-DETAILS

# EF146-150

## EF146-150 Electronic Overload Relay



### General Information

Extended Product Type	EF146-150
Product ID	1SAX351001R1101
EAN	4013614442230
Catalog Description	EF146-150 Electronic Overload Relay

Long Description	<p>The EF146 is a self-supplied electronic overload relay, which means no extra external supply is needed. It offers reliable and fast protection for motors in the event of overload or phase failure. Easy to use like a thermal overload relay and compatible with standard motor applications, the electronic overload relay is convincing, above all, due to its wide setting range, high accuracy, high operational temperature range and the possibility to select a trip class (10E, 20E, 30E). Further features are the temperature compensation, trip contact (NC), signal contact (NO), automatic- or manual reset selectable, trip-free mechanism, STOP- and Test function and a trip indication. The overload relays are connected directly to the contactors. The EF65, EF96 and EF146 have ATEX and IECEx certification 1)</p>
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1) ATEX is valid for products produced from week 42, 2014.  
IECEx is valid for products produced from week 15, 2017.

### Ordering

Minimum Order Quantity	1 piece
Customs Tariff Number	85364900

### Dimensions

Product Net Width	89.05 mm
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Product Net Height	150.4 mm
Product Net Depth / Length	105.2 mm
Product Net Weight	0.879 kg

## Popular Downloads

Data Sheet, Technical Information	2CDC107041D0201
Data Sheet, Technical Information (Part 2)	1SAX100509F0001 1SAX100510F0001
Instructions and Manuals	2CDC107028M6803
Instructions and Manuals (Part 2)	2CDC107043M6801
Dimension Diagram	1SAX300407F0001

## Technical

Setting Range	54 ... 150 A
Rated Operational Voltage	Auxiliary Circuit 600 V AC/DC Main Circuit 1000 V AC
Rated Operational Current (I <sub>e</sub> )	150 A
Rated Operational Current AC-3 (I <sub>e</sub> )	150 A
Rated Frequency (f)	Auxiliary Circuit 50 Hz Auxiliary Circuit 60 Hz Auxiliary Circuit DC Main Circuit 50 Hz Main Circuit 60 Hz
Rated Impulse Withstand Voltage (U <sub>imp</sub> )	Auxiliary Circuit 6 kV Main Circuit 8 kV
Rated Insulation Voltage (U <sub>i</sub> )	1000 V
Number of Poles	3
Number of Auxiliary Contacts NC	1
Number of Auxiliary Contacts NO	1
Number of Protected Poles	3
Conventional Free-air Thermal Current (I <sub>th</sub> )	Auxiliary Circuit NC 6 A Auxiliary Circuit NO 6 A
Rated Operational Current AC-15 (I <sub>e</sub> )	(240 V) NC 3 A (240 V) NO 3 A (400 V) NC 1.1 A (400 V) NO 1.1 A (500 V) NC 0.75 A (500 V) NO 0.75 A
Rated Operational Current DC-13 (I <sub>e</sub> )	(125 V) NC 0.55 A (125 V) NO 0.5 A (24 V) NC 1.5 A (24 V) NO 1.5 A (250 V) NC 0.27 A (250 V) NO 0.27 A (60 V) NC 0.55 A (60 V) NO 0.55 A
Degree of Protection	Housing IP20 Main Circuit Terminals IP10
Pollution Degree	3
Connecting Capacity Auxiliary Circuit	Flexible with Ferrule 1/2x 0.75 ... 2.5 mm <sup>2</sup> Flexible with Insulated Ferrule 1/2x 0.75 ... 2.5 mm <sup>2</sup>

	Flexible 1/2x 0.75 ... 2.5 mm <sup>2</sup> Rigid 1/2x 1 ... 4 mm <sup>2</sup>
Connecting Capacity Main Circuit	Flexible with Ferrule 1x 10 ... 70 mm <sup>2</sup> Flexible with Ferrule 2x 10 ... 35 mm <sup>2</sup> Flexible with Insulated Ferrule 1x 10 ... 70 mm <sup>2</sup> Flexible with Insulated Ferrule 2x 2 ... 35 mm <sup>2</sup> Flexible 1x 10 ... 70 mm <sup>2</sup> Flexible 2x 10 ... 35 mm <sup>2</sup> Rigid 1x 10 ... 95 mm <sup>2</sup> Rigid 2x 10 ... 35 mm <sup>2</sup>
Tightening Torque	Auxiliary Circuit 0.8 ... 1.2 N·m Main Circuit 10 N·m
Wire Stripping Length	Auxiliary Circuit 9 mm Main Circuit 20 mm
Recommended Screw Driver	Auxiliary Circuit Pozidriv 2 Main Circuit Hexagon 4
Mounting Position	Position 1 to 6
Power Loss	at Rated Operating Conditions per Pole 0.204 ... 1.575 W
Suitable For	AF116 AF140 AF146
Standards	IEC/EN 60947-1 IEC/EN 60947-4-1 IEC/EN 60947-5-1 UL 60947-1 UL 60947-4-1

## Technical UL/CSA

Maximum Operating Voltage UL/CSA	Main Circuit 600 V AC
Ampere Rating UL/CSA	150 A
Contact Rating UL/CSA	(NC:) B600 (NC:) Q600 (NO:) B600 (NO:) Q600
Connecting Capacity Main Circuit UL/CSA	Flexible 1x 6-00 AWG Flexible 2x 6-2 AWG Stranded 2x 6-2 AWG Stranded 1x 6-00 AWG
Connecting Capacity Auxiliary Circuit UL/CSA	Flexible 1/2x 18-10 AWG Stranded 1/2x 18-10 AWG
Tightening Torque UL/CSA	Auxiliary Circuit 7 ... 1 in·lb Main Circuit 70 in·lb

## Environmental

Ambient Air Temperature	Operation -25 ... +70 °C Operation Compensated -25 ... +70 °C Storage -50 ... +85 °C
Ambient Air Temperature Compensation	Yes
Maximum Operating Altitude Permissible	2000 m
Resistance to Shock acc. to IEC 60068-2-27	11 ms Pulse 25g
Resistance to Vibrations acc. to IEC 60068-2-6	5g / 3 ... 150 Hz
RoHS Status	Following EU Directive 2011/65/EU

## Certificates and Declarations (Document Number)

ABS Certificate	15AA941002-0102
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ATEX Certificate	1SAA941004-3901
BV Certificate	1SAA941002-0201
CB Certificate	1SAA942013-2001
CCC Certificate	1SAA942006-3803
CCS Certificate	1SAA941001-0901
cUL Certificate	cUL_E48139
Declaration of Conformity - CE	1SAD938516-0180
DNV Certificate	1SAA941003-0301
DNV GL Certificate	1SAA941003-0302
EAC Certificate	1SAA941003-2701
GOST Certificate	1SAA941001-2701
Instructions and Manuals	2CDC107028M6803
Instructions and Manuals (Part 2)	2CDC107043M6801
LR Certificate	1SAA941002-0501
RINA Certificate	RINA_ELE376813CS
RMRS Certificate	1SAA941001-0701
RoHS Information	1SAD938513-0180
UL Certificate	UL_E48139

## Container Information

Package Level 1 Units	1 piece
Package Level 1 Width	160 mm
Package Level 1 Height	107 mm
Package Level 1 Depth / Length	97 mm
Package Level 1 Gross Weight	0.984 kg
Package Level 1 EAN	4013614442230
Package Level 2 Units	20 piece
Package Level 2 Width	489 mm
Package Level 2 Height	227 mm
Package Level 2 Depth / Length	332 mm
Package Level 2 Gross Weight	20.243 kg
Package Level 2 EAN	4013614483394

## Classifications

Object Classification Code	F
ETIM 4	EC001080 - Electronic overload relay
ETIM 5	EC001080 - Electronic overload relay
ETIM 6	EC001080 - Electronic overload relay
ETIM 7	EC001080 - Electronic overload relay
eClass	7.0 27371502
UNSPSC	39121521
E-Number (Sweden)	3210247

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## Categories

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Low Voltage Products and Systems → Control Products → Contactors → Electronic Overload Relays

