

PRODUCT-DETAILS

## EF19-1.0 EF19-1.0 Electronic Overload Relay 0.30 ... 1.0 A



Extended Product Type	EF19-1.0
Product ID	1SAX121001R1102
EAN	4013614403996
Catalog Description	EF19-1.0 Electronic Overload Relay 0.30 1.0 A
Long Description	The EF19-1.0 is an 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. Single mounting kits are available as accessory. The EF19 and EF45 have ATEX and IECEx certification 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

## Popular Downloads

Data Sheet, Technical Information

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2CDC107025D0201

Subject to change without notice

Instructions and Manuals	2CDC107023M6803
Instructions and Manuals (Part 2)	1SAC200017M0002
Ex Operating Instructions	2CDC107043M6801
Time-Current Characteristic Curve	1SAX100509F0002 1SAX100510F0001
CAD Dimensional Drawing	2CDC001079B0201
Dimension Diagram	1SAX100403F0001

Dimensions	
Product Net Width	44.4 mm
Product Net Height	85 mm
Product Net Depth / Length	59.3 mm
Product Net Weight	0.158 kg

Rated Operational Voltage Auxiliary Circuit 600 V ACM Main Circuit 690 V AC Rated Operational Current 1 A Rated Frequency (f) Auxiliary Circuit 50 H Auxiliary Circuit 50 H Auxiliary Circuit 50 H Main Circuit 60 H Main Circuit 70	Technical	
Name       Main Circuit 680 VAC         Rated Operational Current       1 A         (a)       Auxiliary Circuit 60 H         Rated Frequency (f)       Auxiliary Circuit 60 H         Auxiliary Circuit 60 H       Main Circuit 60 H         Rated Impulse Withstand       Auxiliary Circuit 60 H         Voltage (Ump)       Main Circuit 6 H         Rated Impulse Withstand       Auxiliary Circuit 0 H         Voltage (Ump)       690 V         Number of Poles       3         Number of Poles       3         Number of Auxiliary       1         Contacts NC       1         Number of Protected       3         Poles       3         Contacts NO       1         Number of Protected       3         Poles       2(24 V) N C 3 A         Conventional Free-air       Auxiliary Circuit N C 6 A         Thermal Current (1(b)       2(24 V) N C 3 A         ACC-15 (l_a)       (240 V) N C 3 A         Contacts NO       2(24 V) N C 3 A         Query VN C 3 A       2(24 V) N C 3 A         ACC-15 (l_a)       (24 V) N C 3 A         Conventional Current       (24 V) N C 3 A         Conventional Current       (24 V) N C 3 A	Setting Range	0.30 1.0 A
(le) Rated Frequency (f) Auxiliary Circuit 50 Hz Auxiliary Circuit 50 Hz Auxiliary Circuit 60 Hz Auxiliary Circuit 60 Hz Auxiliary Circuit 60 Hz Auxiliary Circuit 60 Hz Main Circuit 60 Hz Auxiliary Circuit 00 Hz Contacts NO Number of Potected Contacts NO Number of Protected Conventional Free-air Thermal Current (lm) Rated Operational Current (240 V) NC 3 A (240 V) NC 3 A (250 V) NC 0 27 A (250 V) NC	Rated Operational Voltage	Auxiliary Circuit 600 V AC/DC Main Circuit 690 V AC
Auxiliary Circuit 60 Hz Auxiliary Circuit 50 Hz Main Circuit 50 Hz Main Circuit 50 Hz Main Circuit 60 Hz Main Circuit 6 Wz Main Circuit 7 Wz M	Rated Operational Current (I <sub>e</sub> )	1 A
Voltage (U <sub>imp</sub> )         Main Circuit 6 kV           Rated Insulation Voltage (U <sub>1</sub> )         690 V           Number of Poles         3           Number of Auxiliary         1           Contacts NC         1           Number of Puxiliary         1           Contacts NO         3           Number of Protected         3           Poles         3           Conventional Free-air         Auxiliary Circuit NC 6 A           Thermal Current (U <sub>th</sub> )         Auxiliary Circuit NO 6 A           Rated Operational Current         (240 V) NC 3 A           (400 V) NO 1.5 A         (400 V) NO 1.5 A           Conventional Current         (125 V) NC 0.55 A           (250 V) NO 0.57 A         (250 V) NO 0.57 A           Rated Operational Current         (125 V) NO 0.55 A           DC-13 (I <sub>e</sub> )         (250 V) NO 0.57 A           Conventing Capacity         Flexible with Ferrule 1/24 0.75 2.5 mm'           Auxiliary Circuit         Flexible with Insulated Ferrule 1/24 0.75 2.5 mm'           Connecting Capacity Main         Flexible with Insulated Ferrule 1/24 0.75 2.5 mm'           Connecting Capacity Main         Flexible with Insulated Ferrule 1/24 0.75 2.5 mm'           Connecting Capacity Main         Flexible with Insulated Ferrule 1/24 0.75 2.5 mm'	Rated Frequency (f)	Auxiliary Circuit 50 Hz Auxiliary Circuit 60 Hz Auxiliary Circuit DC Main Circuit 50 Hz Main Circuit 60 Hz
(U <sub>1</sub> ) Number of Poles Number of Auxiliary Contacts NC Number of Auxiliary Contacts NO Number of Protected Poles Conventional Free-air Thermal Current (I <sub>th</sub> ) Rated Operational Current AC-15 (I <sub>e</sub> ) AC-15 (I <sub>e</sub> ) Conventional Current (240 V) NC 3 A (400 V) NC 1.4 (400 V) NC 1.4 (400 V) NC 1.5 AC-15 (I <sub>e</sub> ) Conventional Current DC-13 (I <sub>e</sub> ) Conventional Current Conventional Current Conventional	Rated Impulse Withstand Voltage (U <sub>imp</sub> )	Auxiliary Circuit 6 kV Main Circuit 6 kV
Number of Auxiliary Contacts NC Number of Auxiliary Contacts NO Number of Protected Poles Conventional Free-air Thermal Current (I <sub>th</sub> ) Rated Operational Current AC-15 (I <sub>e</sub> ) AC-15 (I <sub>e</sub> ) Rated Operational Current AC-15 (I <sub>e</sub> ) Conventional Current (240 V) NC 3.A AC-15 (I <sub>e</sub> ) (240 V) NC 3.A (400 V) NC 1.1 (400 V) NC 1.1 (400 V) NC 1.1 (400 V) NC 1.1 (500 V) NC 0.55 (500 V) NC 0.55 (500 V) NC 0.55 (24 V) NC 0.55 (24 V) NC 0.55 (25 V) NC 0.55 (25 V) NC 0.55 (500 V) NC 0.55 (50	Rated Insulation Voltage (U <sub>i</sub> )	690 V
Contacts NC Number of Auxiliary Contacts NO Number of Protected Poles Conventional Free-air Thermal Current (I <sub>th</sub> ) Rated Operational Current AC-15 (I <sub>e</sub> ) (240 V) NC 3 A AC-15 (I <sub>e</sub> ) (240 V) NC 3 A (240 V) NC 0 55 (240 V) NC 0 55 (240 V) NC 0 55 (250 V) NC 0 27A (250 V) NC 0 27	Number of Poles	3
Contacts NO Number of Protected Poles Conventional Free-air Thermal Current (I <sub>th</sub> ) Rated Operational Current AC-15 (I <sub>e</sub> ) (240 V) NC 3 A AC-15 (I <sub>e</sub> ) (240 V) NC 3 A (240 V) NC 3 A (200 V) NC 0.75 A (500 V) NC 0.75 A (500 V) NC 0.75 A (500 V) NC 0.55 A (500 V) NC 0.55 A (250 V) NC 0.	Number of Auxiliary Contacts NC	1
Poles Conventional Free-air Conventional Free-air Auxiliary Circuit NC 6 A Thermal Current (I <sub>th</sub> ) Rated Operational Current AC-15 (I <sub>e</sub> ) (240 V) NC 3 A AC-15 (I <sub>e</sub> ) (240 V) NC 3 A (400 V) NC 1.1 A (400 V) NC 0.75 A (500 V) NC 0.55 A (500 V) NC 0.55 A (24 V) NC 1.5 A (250 V) NC 0.27 A (250 V) NC 0.55 A (250 V) NC 0.5		1
Thermal Current (i <sub>th</sub> )       Auxiliarý Circuit NO 6 A         Rated Operational Current       (240 V) NC 3 A         AC-15 (i <sub>e</sub> )       (240 V) NO 3 A         AC-15 (i <sub>e</sub> )       (240 V) NO 3 A         AC-15 (i <sub>e</sub> )       (240 V) NO 1.1 A         (500 V) NO 0.75 A       (500 V) NO 0.75 A         Rated Operational Current       (125 V) NO 0.55 A         DC-13 (i <sub>e</sub> )       (125 V) NO 0.57 A         (24 V) NC 1.5 A       (24 V) NC 1.5 A         (250 V) NO 0.27 A       (250 V) NO 0.27 A         (250 V) NO 0.55 A       (250 V) NO 0.55 A         (250 V) NO 0.55 A       (250 V) NO 0.55 A         (250 V) NO 0.55 A       (250 V) NO 0.55 A         (250 V) NO 0.55 A       (250 V) NO 0.55 A         Degree of Protection       IP20         Pollution Degree       3000000000000000000000000000000000000		3
AC-15 (I <sub>e</sub> ) (240 V) NO 3 A (400 V) NO 1.1 A (400 V) NO 1.1 A (500 V) NO 0.75 A (500 V) NO 0.75 A (500 V) NO 0.75 A (500 V) NO 0.5 A (24 V) NO 1.5 A (24 V) NO 1.5 A (24 V) NO 1.5 A (250 V) NO 0.27 A (250 V) NO 0.27 A (250 V) NO 0.27 A (60 V) NO 0.55 A (250 V) NO 0.55 A (60 V) NO 0.55 A (61 V) N		Auxiliary Circuit NC 6 A Auxiliary Circuit NO 6 A
DC-13 (I <sub>e</sub> ) (125 V) NO 0.5 A (24 V) NO 1.5 A (250 V) NO 0.27 A (250 V) NO 0.27 A (60 V) NO 0.27 A (60 V) NO 0.55 A (70 V) NO 0.55	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) NC 1.1 A (500 V) NC 0.75 A (500 V) NO 0.75 A
Degree of Protection IP20 Pollution Degree Connecting Capacity Flexible with Ferrule 1/2x 0.75 2.5 mm Auxiliary Circuit Flexible with Insulated Ferrule 1/2x 0.75 2.5 mm Flexible 1/2x 0.75 2.5 mm Rigid 1/2x 1 4 mm Connecting Capacity Main Flexible with Insulated Ferrule 1/2x 0.75 2.5 mm Circuit Flexible with Insulated Ferrule 1/2x 0.75 2.5 mm Rigid 1/2x 1 4 mm Right 1/2x Rigid 1/2x 1 4 mm Right 1/2x Rigid	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
Connecting Capacity Flexible with Ferrule 1/2x 0.75 2.5 mm <sup>2</sup> Auxiliary Circuit 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 Flexible with Ferrule 1/2x 0.75 2.5 mm <sup>2</sup> Circuit Flexible with Insulated 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> Rigid 1/2x 1 4 mm <sup>2</sup>	Degree of Protection	IP20
Auxiliary Circuit 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 Flexible with Ferrule 1/2x 0.75 2.5 mm <sup>2</sup> Circuit 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> Flexible 1/2x 0.75 2.5 mm <sup>2</sup> Rigid 1/2x 1 4 mm <sup>2</sup>	Pollution Degree	3
Circuit 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>		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>
		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>
	Tightening Torque	Auxiliary Circuit 0.8 1.2 N·m

	Main Circuit 0.8 1.5 N·m
Wire Stripping Length	Auxiliary Circuit 9 mm Main Circuit 9 mm
Recommended Screw Driver	Auxiliary Circuit Pozidriv 2 Main Circuit Pozidriv 2
Mounting Position	16
Power Loss	at Rated Operating Conditions per Pole 0.005 0.054 W
Suitable For	AF09 AF12 AF16 AF26
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
Contact Rating UL/CSA	(NC:) B600 (NC:) Q600 (NO:) B600 (NO:) Q600
Connecting Capacity Main	Flexible 1/2x 16-10 AWG
Circuit UL/CSA	Stranded 1/2x 16-10 AWG
Connecting Capacity	Flexible 1/2x 18-10 AWG
Auxiliary Circuit UL/CSA	Stranded 1/2x 18-10 AWG
Tightening Torque	Auxiliary Circuit 7 1 in·lb
UL/CSA	Main Circuit 7 13 in·lb

Environmental	
Ambient Air Temperature	Operation -25 +70 °C Operation Compensated -25 +70 °C Storage -50 +80 °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	3g / 3 150 Hz
RoHS Status	Following EU Directive 2011/65/EU and Amendment 2015/863 July 22. 2019

Certificates and Declarations	
ABS Certificate	1SAA941002-0102
ATEX Certificate	1SAA941004-3901
BV Certificate	1SAA941002-0201
CB Certificate	1SAA964002-2002
CCS Certificate	1SAA941001-0901
CQC Certificate	CQC2008010309289447
Declaration of Conformity - CCC	2020980309000285
Declaration of Conformity - CE	1SAD101100-3601
Declaration of Conformity - UKCA	1SAD201100-3601
DNV Certificate	1SAA941003-0302
EAC Certificate	1SAA941003-2701
IECEx Certificate	1SAA941000-4001
LR Certificate	1SAA941002-0501

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RINA Certificate	RINA_ELE376813CS
RMRS Certificate	1SAA964000-0703
UL Certificate	E48139-19990512

Container Information	
Package Level 1 Units	1 piece
Package Level 1 Width	91 mm
Package Level 1 Height	51.5 mm
Package Level 1 Depth / Length	68 mm
Package Level 1 Gross Weight	0.183 kg
Package Level 1 EAN	4013614403996
Package Level 2 Units	100 piece
Package Level 2 Width	463 mm
Package Level 2 Height	276 mm
Package Level 2 Depth / Length	263 mm
Package Level 2 Gross Weight	18.863 kg
Package Level 2 EAN	4013614483271

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
ETIM 8	EC001080 - Electronic overload relay
eClass	V11.0 : 27371502
UNSPSC	39122330
IDEA Granular Category Code (IGCC)	5365 >> Electronic overload relay
E-Number (Finland)	3706152
E-Number (Sweden)	3224181

Accessories				
Identifier	Description	Туре	Quantity	Unit Of Measure
1SAX101910R1001	DB19EF Single Mounting Kit	DB19EF	1	piece
1SAX101911R1001	DRS-F-01 Remote Reset Coil	DRS-F-01	1	piece
1SAX101911R1002	DRS-F-02 Remote Reset Coil	DRS-F-02	1	piece
1SAX101911R1003	DRS-F-03 Remote Reset Coil	DRS-F-03	1	piece
1SAX101911R1004	DRS-F-04 Remote Reset Coil	DRS-F-04	1	piece
1SAX101911R1011	DRS-F-EF-01 Remote Coil	DRS-F-EF-01	1	piece
1SAX101911R1012	DRS-F-EF-02 Remote Coil	DRS-F-EF-02	1	piece
1SAX101911R1013	DRS-F-EF-03 Remote Coil	DRS-F-EF-03	1	piece
1SAX101911R1014	DRS-F-EF-04 Remote Coil	DRS-F-EF-04	1	piece
1SAZ701903R1001	WRH-F Holder	WRH-F	1	piece
1SAZ701903R1011	WRB-400 Bowden Wire	WRB-400	1	piece
1SAZ701903R1012	WRB-600 Bowden Wire	WRB-600	1	piece
1SAZ701903R1013	WRB-1000 Bowden Wire	WRB-1000	1	piece
1SAZ701903R1030	WRBG Gasket	WRBG	1	piece
1SFA616162R1014	KPR3-101L Reset push button	KPR-101L	1	piece

## Categories

Low Voltage Products and Systems  $\rightarrow$  Control Products  $\rightarrow$  Contactors  $\rightarrow$  Electronic Overload Relays

