### **DATASHEET - ETR4-69-A**



No.

(Norway)

Timing relay, 1W, 0.05s-100h, multi-function, 24-240VAC/DC

ETR4-69-A Part no. Catalog No. 031891 Alternate Catalog XTTR6A100H69B **EL-Nummer** 4133309



### **Delivery program**

Derivery program			
Product range			ETR4 timing relays
Basic function			Timer relays
Function			Multi-functional On-delayed Off-delayed Fleeting contact on energization Flesting contact on de-energization Flashing, pulse initiating On- and Off-delayed Pulse forming Pulse generating
			Adjustable timing functions
Number of changeover contacts			1
Time range			0.05 s - 100 h
Time range			0.05 - 1 s 0.15 - 3 s 0.5 - 10 s 1.5 - 30 s 5 - 100 s 15 - 300 s 15 - 300 min 15 - 300 min 1.5 - 30 h 5 - 100 h
Rated operational current			
AC-14			
300 V	l <sub>e</sub>	А	3
380 V 400 V 415 V	le	А	3
			Value applies starting with release 001.
AC-15			
220 V 230 V 240 V	l <sub>e</sub>	A	3
300 V	l <sub>e</sub>	A	3
380 V 400 V 415 V	l <sub>e</sub>	A	3
			Value applies starting with release 001.
Voltage range	U <sub>LN</sub>	V	24 - 240 V AC, 50/60 Hz 24 – 240 V DC
Width		mm	22.5
Terminal marking according to EN 50042 A2 16 18			
Terminal marking according to EN 50042 A2 $16$ $18$			

## **Technical data**

General			
Standards			Standard IEC/EN 61812 VDE 0435
Lifespan, mechanical			
AC operated	Operations	x 10 <sup>6</sup>	30

DC operated	Operations	x 10 <sup>6</sup>	30
	operations	x 10-	
Climatic proofing			Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Ambient temperature			
Ambient temperature, storage		°C	- 45 - + 85
Open		°C	-25 - +60
Enclosed		°C	- 25 - + 45
Mounting position			As required
Mechanical shock resistance (IEC/EN 60068-2-27)			
Half-sinusoidal shock, 20 ms		g	
Make contact		g	4
Degree of protection			
Terminals			IP20
Weight		kg	0.1
Terminal capacities		mm <sup>2</sup>	
Solid		mm <sup>2</sup>	1 x (0.5 - 2.5)
			2 x (0.5 - 1.5)
Flexible with ferrule		mm <sup>2</sup>	1 x (0.5 - 2.5) 2 x (0.5 - 1.5)
Solid or stranded		AWG	1 x (20 - 14)
Contacts			
Rated impulse withstand voltage	U <sub>imp</sub>	V AC	4000
Rated impulse withstand voltage	U <sub>imp</sub>	V AC	6000
			Value applies starting with release 001.
Overvoltage category/pollution degree			111/2
Rated insulation voltage	Ui	V AC	400
Rated insulation voltage	Ui	V AC	600
			Value applies starting with release 001.
Rated operational voltage	Ue	V AC	300
Rated operational voltage	U <sub>e</sub>	V AC	440
			Value applies starting with release 001.
Safe isolation to EN 61140			
between coil and auxiliary contacts		V AC	250
between the auxiliary contacts		V AC	250
Making capacity			
AC-14 $\cos \varphi = 0.3400 \text{ V}$		A	48
AC-15 $\cos \varphi = 0.3220 \text{ V}$		А	50
DC-11 L/R - 40 ms		x I <sub>e</sub>	1.1
Breaking capacity			
AC-14 $\cos \varphi = 0.3440 \text{ V}$		А	3
AC-15 cos $\varphi$ = 0.3 220 V		A	3
DC-11 L/R - 40 ms		x I <sub>e</sub>	1.1
Rated operational current	le	А	
AC-14	le		
380 V 400 V 415 V	le	А	3
			Value applies starting with release 001.
AC14			
440 V	l <sub>e</sub>	A	3
AC-15			
220 V 230 V 240 V	le	A	3
DC-11			
Note			Making and breaking conditions to DC13, time constant as stated
L/R max. 15 ms		А	
24 V	l <sub>e</sub>	А	1.5
L/R max. 50 ms		А	1.2

Power consumptionImage: Image: Im	Conv. thermal current	I <sub>th</sub>	А	6
Max. hase, hase, contacts     A gG/set     A gG/set     F A gG/set	Short-circuit rating without welding			
Max. fuse, break contactsA g6/gitA G6/gitA G6/gitMax. survercurent protoctive device, 220/220 VTypeA 2-B41-HIMagnet systemsNSelect - HIPower onsamptionIVIPek-up ACIIISealing ACIVIPick-up DCIVISealing ACIVIDr Ley DCIVIDuty factorIIVMaximum operating frequencyIIIMaximum operating frequencyIIIACIIIIDIIIIRecover (daviation)IIIIRecover (daviation)IIIIRecover (daviation)IIIIIRecover (daviation)IIIIIRecover (daviation)IIIIIRecover (daviation)IIIIIRecover (daviation)IIIIIRecover (daviation)IIIIIRecover (daviation)IIIIIIRecover (daviation)IIIIIIRecover (daviation)IIIIIIRecover (daviation)IIIIIIRecover (daviation)I <td>Note</td> <td></td> <td></td> <td>When supplied directly from mains or transformer &gt; 1000 VA</td>	Note			When supplied directly from mains or transformer > 1000 VA
Max. overcurrent protocive device, 220/201/     Image: Provide system     Ac2-B4/1-HI       Home: system     Sealing System	Max. fuse, make contacts		A gG/gL	6
Magnet systems     Maximum systems       Power consumption     Image: Stating AC     Image: Stating	Max. fuse, break contacts		A gG/gL	6
Power consumption     Power consupprint     Power consupprint	Max. overcurrent protective device, 220/230 V		Туре	FAZ-B4/1-HI
Pickup A   VA   2     Sealing AC   VA   2     Pickup DC   VA   3     Sealing AC   VA   3     Pickup DC   VA   3     Saling AC   VA   3     Dury teor   VA   3     Maximum Operating Frequency   Operating   00     Maximum Operating Frequency   Operating   0     Maximum Operating Frequency   Operating   0     Maximum Operating Frequency   Operating   0     Maximum Operating Frequency   Image: State Stat	Magnet systems			
Seling ACYA2Pickup DCW13Seling DCW13Dury faorYB10Maximum operating fraguencyYB10Minimum command timeM10ACM50Do Tomo operating fraguencyM10ACMSDeptition accuracy (division)M10Receiver time (dieft 10% time delay)M30Receiver time (dieft 10% time delay)M30Reterromagnetic compatibility (EMC)M30Reterromagnetic compatibility (EMC)M10Reterromagnetic fields (RFI)M10appled standardM10appled standardM10<	Power consumption			
Percup DPercup	Pick-up AC		VA	2
Saila DCKeyKeyKeyADuty factorFey% P0Minum command timeFeyMoMoACNSSDebetion course (deviation)FeyNGRecover time (deviation)INGRecover time (deviation)INGRecover time (defor 10% time delay)INGContact changeour time (defor 10% time delay)INGArrischangeINGSArrischangeINSSArrischangeINSSIndicator (deviation)INSSArrischangeIISSIndicator (deviation)IISSArrischangeIISSIndicator (deviation)IISSIndicator (deviation)IISSIndic	Sealing AC		VA	2
Duty factor% DF Modification% DF Modification% DF ModificationMaximum operating frequencyOpath ModificationModificationMaximum command timemaxSolanceACmaxSolanceDCmaxSolanceRecovery dire (dire 100% time delay)ModificationSolanceContact changeover time (dire 100% time delay)ModificationSolanceElectromagnetic compatibility (EMC)ModificationSolanceElectromagnetic fieldscharge (ESD)ModificationSolanceAir dischargeModificationSolanceInterdischargeModificationSolanceInterdischargeModificationSolanceInterdischargeModificationSolanceInterdischargeModificationSolanceInterdischargeModificationSolanceInterdischargeModificationSolanceInterdischargeModificationSolanceInterdischargeModificationSolanceInterdischargeModificationSolanceInterdischargeModificationSolanceInterdischargeModificationSolanceInterdischargeModificationSolanceInterdischargeModificationSolanceInterdischargeModificationSolanceInterdischargeModificationSolanceInterdischargeModificationSolanceInterdischargeModificationSolanceInterdischargeSolanceS	Pick-up DC		W	1.8
NameParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipantParticipant<	Sealing DC		W	1.8
Minimu commanditime Image: Minimu commanditime   AC M   AC M   DC M   Repetition accuracy (deviation) M   Reportime (after 100% time delay) M   Contact changeover time tu   tu M   Electromagnetic compatibility (EMC)   Image: Minimu commanditime M   applied standard	Duty factor		% DF	100
AC     ms     scale       DC     ms     scale       Repetition accuracy (deviation)     ms     scale       Recovery time (after 100% time delay)     ms     for       Contact changeover time     ms     scale       Contact changeover time     ms     scale       applied standard     ms     scale       Ar discharge     ms     scale       Contact discharge     ms     scale       applied standard     ms     scale       optied standard     ms     scale       applied standard     ms     scale	Maximum operating frequency		Ops/h	4000
DC     MB     MB<	Minimum command time			
Repetition accuracy (deviation)     Image: Marcine of the second	AC		ms	50
Recovery time (after 100% time delay)     Image: Recovery time (after 100% time delay) </td <td>DC</td> <td></td> <td>ms</td> <td>30</td>	DC		ms	30
Contact changeover time tu ms 4   Electromagnetic compatibility (EMC)     Electrostatic discharge (ESD)     applied standard KV 8   Contact discharge KV 6   Electromagnetic fields (RFI)     applied standard KV 80-1000-4-2   applied standard KV 8   Burst So 1000 MHz: 10 12-27 GHz: 1    Radio interference suppression KV 80-1000 MHz: 10 12-27 GHz: 3   Burst Suply cables: 2 sicard dischese (Surge) Suply cables: 2 kV (asymmetrical) sicard dischese (Surge)	Repetition accuracy (deviation)		%	≦ 0.5
Electron     Electron       applied standard     Implied standa	Recovery time (after 100% time delay)		ms	70
Electrostatic discharge (ESD) Index (EV)   applied standard IC/EN 61000-4-2   Air discharge KV 8   Contact discharge KV 6   Electromagnetic fields (RFI) IC/EN 61000-4-3   applied standard IC/EN 61000-4-3   Radio interference suppression S0 100 MHz: 10 4.2 GHz: 3   Burst Supply cables: 2 Signal cables: 1 Signal cables: 1 Signa	Contact changeover time	t <sub>u</sub>	ms	4
applied standard   IC/EN 61000-4-2     Air discharge   KV   8     Contact discharge   KV   6     Electromagnetic fields (RFI)   IC/EN 61000-4-3     applied standard   IC/EN 61000-4-3     Radio interference suppression   Sinther Sinth Class B (conducted)     Burst   Sinth Class B (conducted)     power pulses (Surge)   KV   Sinth Class	Electromagnetic compatibility (EMC)			
Air discharge   KV   8     Contact discharge   KV   6     Electromagnetic fields (RFI)   FC   FC     applied standard   FC   FC     Radio interference suppression   FC   S0 - 1000 MHz: 10 14 - 2 GHz: 3 20 - 27 GHz: 1     Burst   Scholl and Scholl a	Electrostatic discharge (ESD)			
Contact discharge   kV   6     Electromagnetic fields (RFI)   FC   FC     applied standard   FC   FC   FC     applied standard   FC   FC   FC   FC     Radio interference suppression   FC	applied standard			IEC/EN 61000-4-2
Electromagnetic fields (RFI)   Image: Field Standard   Image: Field Standard     applied standard   Image: Field Standard   Image: Field Standard     Image: Field Standard   Image: Field Standard   Image: Field Standard     Image: Field Standard   Image: Field Standard   Image: Field Standard     Image: Field Standard   Image: Field Standard   Image: Field Standard     Radio interference suppression   Image: Field Standard   Image: Field Standard     Burst   Image: Field Standard   Image: Field Standard   Image: Field Standard     power pulses (Surge)   Image: Field Standard   Image: Field Standard   Image: Field Standard     glower pulses (Surge)   Image: Field Standard   Image: Field Standard   Image: Field Standard     glower pulses (Surge)   Image: Field Standard   Image: Field Standard   Image: Field Standard     glower pulses (Surge)   Image: Field Standard   Image: Field Standard   Image: Field Standard     glower pulses (Surge)   Image: Field Standard   Image: Field Standard   Image: Field Standard     glower pulses (Surge)   Image: Field Standard   Image: Field Standard   Image: Field Standard     glower pulses (Surge)   Image: Field Standard <t< td=""><td>Air discharge</td><td></td><td>kV</td><td>8</td></t<>	Air discharge		kV	8
applied standard IEC/EN 61000-4-3   IEC/EN 61000-4-3 IEC/EN 61000-4-3   IEC/EN 61000-4-3 IEC/EN 61000-4-3   Radio interference suppression IEC/EN 61000-4-3   Burst IEN 55011, Class B (conducted) EN 55011, Class B (radiated)   power pulses (Surge) IEC/EN 61000-4-4	Contact discharge		kV	6
Radio interference suppression Image: Provide the suppression B0 - 1000 MHz: 10 14 - 2 GHz: 3 20 - 2.7 GHz: 1   Burst EN 55011, Class B (conducted) EN 55011, Class B (radiated)   Burst Supply cables: 2 Signal cables: 1 according to IEC/EN 61000-4-4   power pulses (Surge) Image: Provide the suppression of the superscript of the suppression of the suppression of the suppression of the suppression of the superscript of the	Electromagnetic fields (RFI)			
Image: Provide the second s	applied standard			IEC/EN 61000-4-3
Burst KV Supply cables: 2 Signal cables: 1 according to IEC/EN 61000-4-4   power pulses (Surge) CM CM 2 kV (symmetrical) according to IEC/EN 61000-4-5			V/m	1.4 - 2 GHz: 3
power pulses (Surge) Signal cables: 1 according to IEC/EN 61000-4-4   2 kV (symmetrical) 4 kV (asymmetrical) according to IEC/EN 61000-4-5	Radio interference suppression			
4 kV (asymmetrical) according to IEC/EN 61000-4-5	Burst		kV	Signal cables: 1
Immunity to line-conducted interference to (IEC/EN 61000-4-6) V 10	power pulses (Surge)			4 kV (asymmetrical)
	Immunity to line-conducted interference to (IEC/EN 61000-4-6)		V	10

# Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	In	А	6
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	1.4
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	0
Static heat dissipation, non-current-dependent	P <sub>vs</sub>	W	1.8
Heat dissipation capacity	P <sub>diss</sub>	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	60
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures			Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat			Meets the product standard's requirements.
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects			Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation			Meets the product standard's requirements.
10.2.5 Lifting			Does not apply, since the entire switchgear needs to be evaluated.

10.2.6 Mechanical impact	Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions	Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES	Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances	Meets the product standard's requirements.
10.5 Protection against electric shock	Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components	Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections	Is the panel builder's responsibility.
10.8 Connections for external conductors	Is the panel builder's responsibility.
10.9 Insulation properties	
10.9.2 Power-frequency electric strength	Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage	Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material	Is the panel builder's responsibility.
10.10 Temperature rise	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.12 Electromagnetic compatibility	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.13 Mechanical function	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

## **Technical data ETIM 7.0**

Relays (EG000019) / Timer relay (EC001439)				
Electric engineering, automation, process control engineering / Low-voltage swite	ch technology / I	Relay and	socket / Timed relay (ecl@ss10.0.1-27-37-16-05 [AKF092013])	
Type of electric connection			Screw connection	
Function delay-on energization			Yes	
Function delay on de-energization			Yes	
Function floating contact on energization			Yes	
Function floating contact on de-energization			Yes	
Function star-delta			No	
Function pulse shaping			Yes	
Function flashing, starting with pause, fixed time			Yes	
Function flashing, starting with pulse, fixed time			Yes	
Clock function, starting with pause, variable			Yes	
Clock function, starting with pulse, variable			Yes	
With plug-in socket			No	
Remote operation possible			No	
Suitable for remote control			No	
Pluggable on auxiliary contact block			No	
Rated control supply voltage Us at AC 50HZ		V	24 - 240	
Rated control supply voltage Us at AC 60HZ		V	24 - 240	
Rated control supply voltage Us at DC		V	24 - 240	
Voltage type for actuating			AC/DC	
Nominal current		Α	3	
Time range		S	0.05 - 360000	
Number of outputs, undelayed, normally closed contact			0	
Number of outputs, undelayed, normally open contact			0	
Number of outputs, undelayed, change-over contact			0	
Number of outputs, delayed, normally closed contact			0	
Number of outputs, delayed, normally open contact			0	
Number of outputs, delayed, change-over contact			0	
Outputs, reversible delayed/undelayed			Yes	
With semiconductor output			No	
Suitable for DIN rail (top hat rail) mounting			Yes	
Suitable for front mounting			No	
Width		mm	23	
Height		mm	83	

Time not running, contact 15 – 18 closed

Time running, contact 15 – 18 not closed

Time running, contact 15 - 18 closed

-		
Λn	nrova	
AU	ппла	
- 1P	P. 0 . a	

IEC/EN 61812-1; IEC/EN 60947-5-1; UL 508; CSA-22.2 No. 14; CE marking
E29184
NKCR
12528
3211-03
UL listed, CSA certified
IEC: IP20, UL/CSA Type: -
ר 1 3

#### **Characteristics**

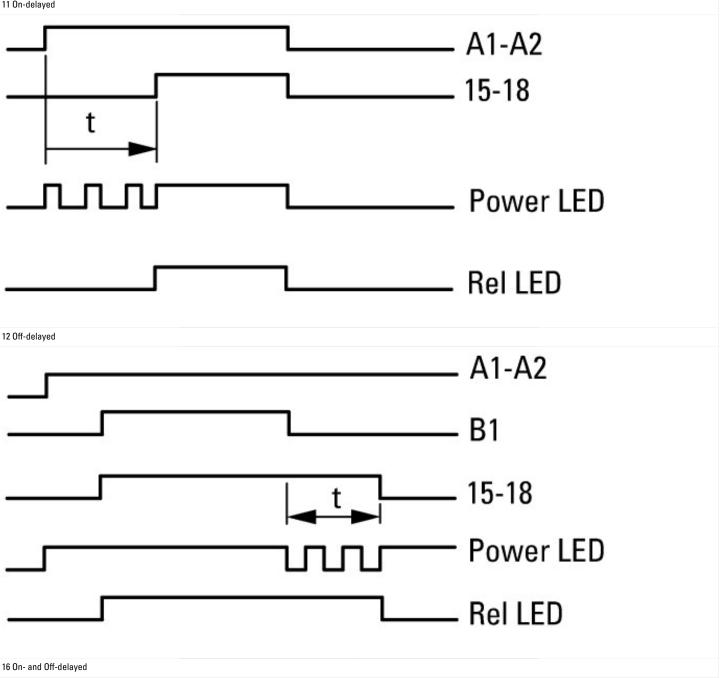
#### Flow diagram for timing functions

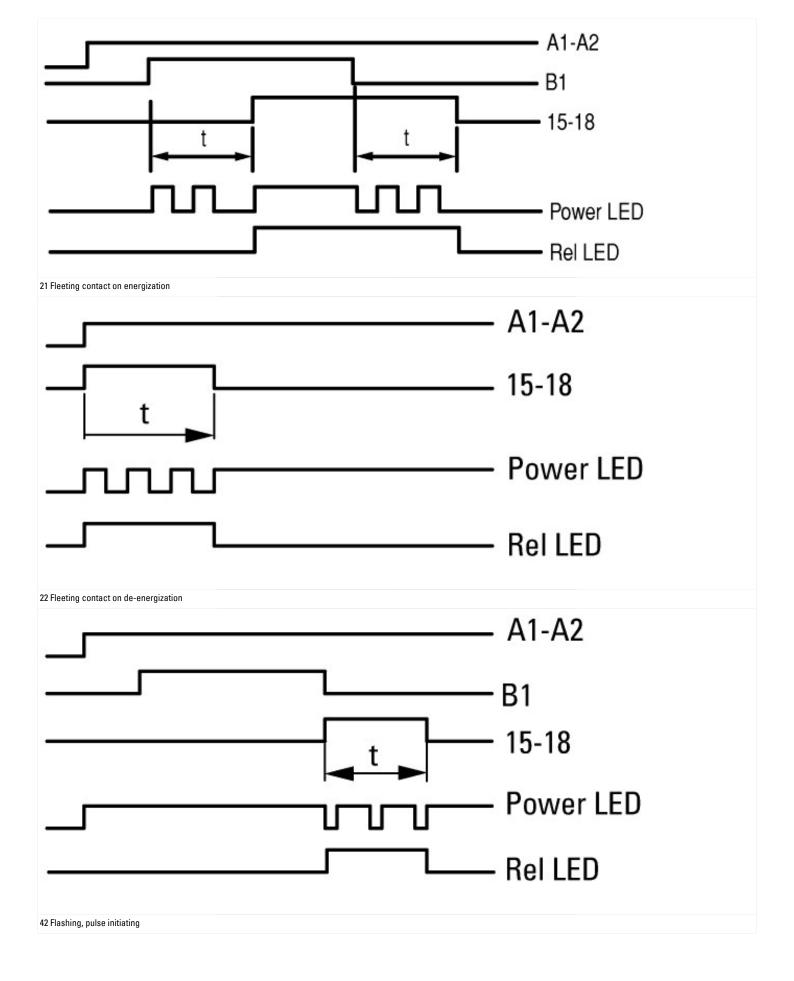
LED legend

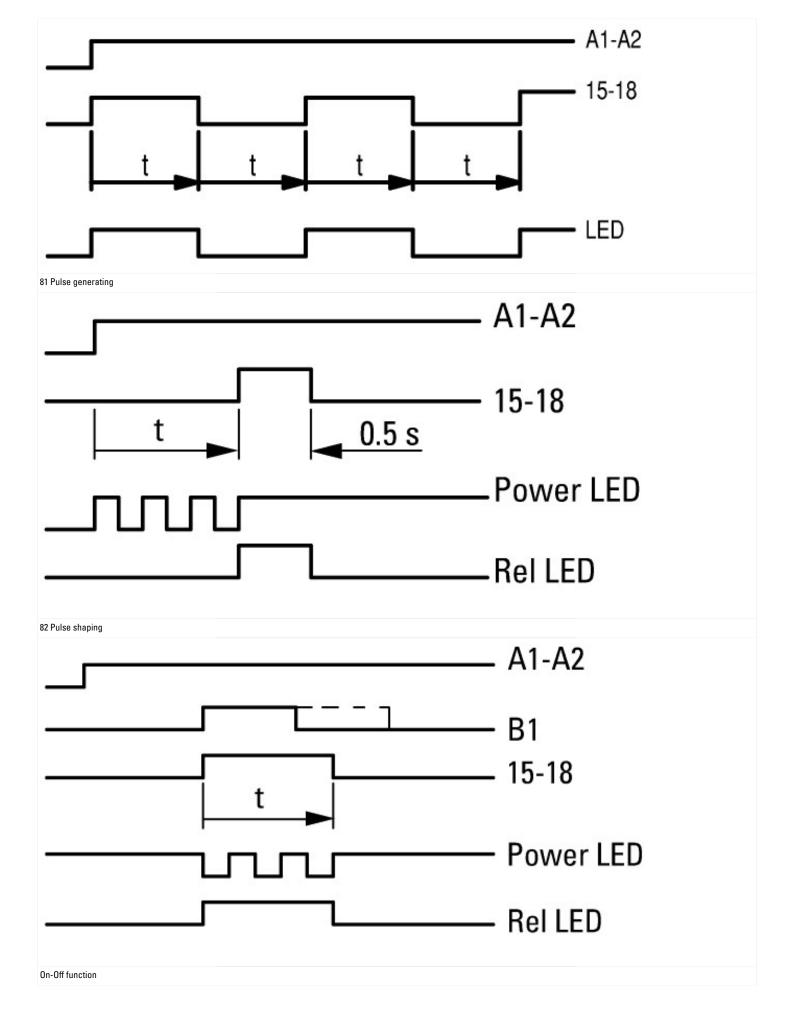
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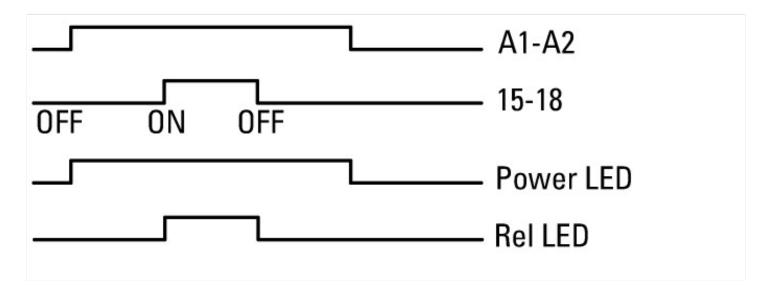
1 A2/A1 linked 2 A2/A1 not linked

11 On-delayed

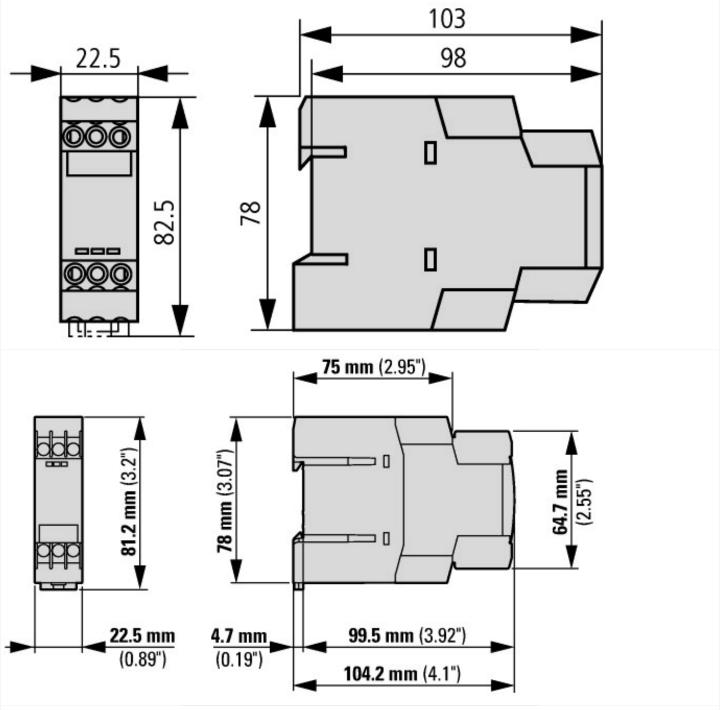








**Dimensions** 



Applies to release 001 and higher