DATASHEET - ETR4-51-W

Part no.

EL-Nummer (Norway)

No.

Timing relay, star-delta, 50 ms, 1W, 3-60s, 400VAC



ETR4-51-W Catalog No. 031885 Alternate Catalog XTTR6A60S51N

4110007



Delivery program

Product range			ETR4 timing relays
Basic function			Timer relays
Function			Star-delta switching
			Changeover contact with a changeover time of 50 ms Fixed timing function
Number of changeover contacts			1
Time range			3 - 60 s
Time range			3 - 60 s
Rated operational current			
AC-14			
380 V 400 V 415 V	le	А	3
			Value applies starting with release 001.
AC-15			
220 V 230 V 240 V	le	А	3
380 V 400 V 415 V	le	А	3
			Value applies starting with release 001.
Voltage range	U _{LN}	V	400 V AC, 50/60 Hz
Width		mm	22.5
$A1 \qquad 17 \\ 1 \\$			

Terminal marking according to EN 50042

Technical data

General			
Standards			Standard IEC/EN 61812 VDE 0435
Lifespan, mechanical			
AC operated	Operations	x 10 ⁶	30
DC operated	Operations	x 10 ⁶	30
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 ²	

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DC11 LR - 4 msImage: main sector of the sector				
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LR max. 15 msAA24 VAA5LR max. 50 msAA2CorrectAAAACorrectAAAANoteAAAAMax. fuse, make contactsAAAAMax. fuse, break contactAAAAMax. fuse, break con	DC-11			
2 VeAAI/A max.50mAAAI/A max.60mAAAI/A max.60mAAAMar.00mAAA	Note			Making and breaking conditions to DC13, time constant as stated
If max 50 msA12L/R max 50 msImportA12Conv. thermal currentImportAAANotAAAANotAAAAAMax. fuse, make contactsAAAAAMax. fuse, break contactsAAA	L/R max. 15 ms		A	
Normal currentHereAreAreAreNorman current protocols devices 2007 200 Mark 1990 Mark 19	24 V	۱ _e	A	1.5
Note Max. fuse, make contacts A g6U Max. supplied directly from mains or transformer > 1000 VA Max. fuse, make contacts A g6U G A g6U G Max. overcurrent protective device, 220/230 V V R2-B4/1-H1 ABC ABC A g6U A g6U ABC ABC A g6U A g6U ABC	L/R max. 50 ms		A	1.2
Note Men supplied directly from mains or transformer > 1000 VA Max. fuse, make contacts A gGU A		I _{th}	A	6
Max. fuse, make contacts A g6/gl A g6/gl G Max. fuse, break contacts A g6/gl A g6/gl G Max. overcurrent protective device, 220/230 V Ve Type K2-B4/1-HI Magnet systems Ve Ve Ve Rated operational voltage Ve Ve Ve AC Face 40 Rated frequency AC Face Ve Ve Tolerance AC operated min. Face Ve Ve Power consumption Fick-up AC Ve Ve Pick-up AC Ve Ve Ve Sealing AC Va 5.5 Duty factor % DF 10 Max.mun operating frequency Ke % DF				
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Tolerance AC operated max. x U _c 1.1 Power consumption K K Pick-up AC VA 0.5 Sealing AC VA 0.5 Duty factor % DF 10 Maximum operating frequency G Max	Rated frequency AC		Hz	47 - 63
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Power consumptionPower consumptionPower consumptionPower consumptionPower consumptionVA0.5Pick-up ACVAVA0.5VA0.5Duty factorVA% DF10VAV	Tolerance AC operated max.		x U _c	1.1
Pick-up ACVA0.5Sealing ACVA0.5Duty factor% DF10Maximum operating frequencyOps/h400	Power consumption			
Duty factor % DF 100 Maximum operating frequency Ops/h 4000			VA	0.5
Maximum operating frequency Ops/h 4000	Sealing AC		VA	0.5
	Duty factor		% DF	100
Minimum command time	Maximum operating frequency		0ps/h	4000
	Minimum command time			

AC		ms	50
Repetition accuracy (deviation)		%	≦ 0.5
Recovery time (after 100% time delay)		ms	70
Contact changeover time	t _u	ms	50
Electromagnetic compatibility (EMC)			
Electrostatic discharge (ESD)			
annlied standard			IEC/ENI 61000-4-2

applied standard IEC/EN 61000-4-2 Air discharge KV 8 Contact discharge KV 6 Electromagnetic fields (RFI) IEC/EN 61000-4-3 IEC/EN 61000-4-3 applied standard V/m 80 - 1000 MHz: 10 3.2 - 2.7 GHz: 1 IEC/EN 61000-4-3 Radio interference suppression V/m 80 - 1000 MHz: 10 3.2 - 2.7 GHz: 1 IEC/EN 61000-4-3 Burst KV KV Supply cables: 2 Signal cables: 1 according to IEC/EN 61000-4-4 Supply cables: 2 Signal cables: 1 according to IEC/EN 61000-4-5 Immunity to line-conducted interference to (IEC/EN 61000-4-4) V V I			
Contact discharge KV 6 Electromagnetic fields (RFI) FM FM applied standard FC/EN 61000-4-3 FC/EN 61000-4-3 Radio interference suppression Sol - 1000 MHz: 10 1.4 - 2 GHz: 3 2.0 - 2.7 GHz: 1 Sol - 1000 MHz: 10 1.4 - 2 GHz: 3 2.0 - 2.7 GHz: 1 Burst KV Supply cables: 2 Signal cables: 1 according to IEC/EN 61000-4-4 power pulses (Surge) KV (symmetrical) according to IEC/EN 61000-4-5	applied standard		IEC/EN 61000-4-2
Electromagnetic fields (RFI) applied standard applied standard IEC/EN 61000-4-3 IEC/EN 61000-4-3 Radio interference suppression Burst Burst power pulses (Surge) IEC/EN 61000-4-3 IEC/EN 61000-4-5	Air discharge	kV	8
applied standardIEC/EN 61000-4-3applied standardV/m80 - 1000 MHz: 10 1.4 - 2 GHz: 3 2.0 - 2.7 GHz: 1Radio interference suppressionImage: Comparison of the suppression of the supervision of the supervisi	Contact discharge	kV	6
V/m80 - 1000 MHz: 10 1.4 - 2 GHz: 3 2.0 - 2.7 GHz: 1Radio interference suppression60 - 60 EN 55011, Class B (conducted) EN 55011, Class B (radiated)Burst60 - 60 EN 55011, Class B (radiated)power pulses (Surge)61 - 60 EN 61000-4-5	Electromagnetic fields (RFI)		
Image: second	applied standard		IEC/EN 61000-4-3
Burst Supply cables: 2 Signal cables: 1 according to IEC/EN 61000-4-4 power pulses (Surge) Control of the section o		V/m	1.4 - 2 GHz: 3
power pulses (Surge) 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	I _n	А	6
Heat dissipation per pole, current-dependent	P _{vid}	W	1.4
Equipment heat dissipation, current-dependent	P _{vid}	W	0
Static heat dissipation, non-current-dependent	P _{vs}	W	0.5
Heat dissipation capacity	P _{diss}	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.

The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

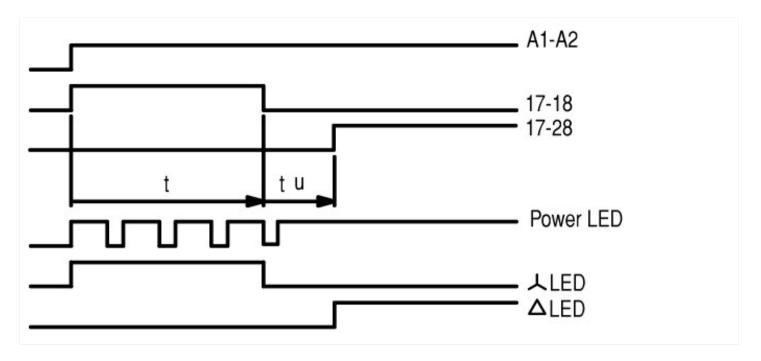
Technical data ETIM 7.0

Relays (EG000019) / Timer relay (EC001439)				
Electric engineering, automation, process control engineering / Low-voltage switch technology / Relay and socket / Timed relay (ecl@ss10.0.1-27-37-16-05 [AKF092013])				
Type of electric connection		Screw connection		
Function delay-on energization		No		
Function delay on de-energization		No		
Function floating contact on energization		No		
Function floating contact on de-energization		No		
Function star-delta		Yes		
Function pulse shaping		No		
Function flashing, starting with pause, fixed time		No		
Function flashing, starting with pulse, fixed time		No		
Clock function, starting with pause, variable		No		
Clock function, starting with pulse, variable		No		
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	400 - 400		
Rated control supply voltage Us at AC 60HZ	V	400 - 400		
Rated control supply voltage Us at DC	V	0 - 0		
Voltage type for actuating		AC		
Nominal current	А	3		
Time range	s	3 - 60		
Number of outputs, undelayed, normally closed contact		0		
Number of outputs, undelayed, normally open contact		1		
Number of outputs, undelayed, change-over contact		0		
Number of outputs, delayed, normally closed contact		0		
Number of outputs, delayed, normally open contact		1		
Number of outputs, delayed, change-over contact		0		
Outputs, reversible delayed/undelayed		No		
With semiconductor output		No		
Suitable for DIN rail (top hat rail) mounting		Yes		
Suitable for front mounting		No		
Width	mm	23		
Height	mm	83		
Depth	mm	103		

Characteristics

Flow diagram for timing functions

LED legend	
	Time not running, contact 15 – 18 closed
	Time running, contact 15 – 18 closed
	Time running, contact 15 – 18 not closed
(1) A2/A1 linked (2) A2/A1 not linked	
51 Star-delta	



Dimensions

