DATASHEET - ETR4-11-A



No.

Timing relay, 1W, 0.05s-100h, 24-240V50/60Hz, 24-240VDC, on-delayed



ETR4-11-A Part no. Catalog No. 031882 Alternate Catalog XTTR6A100HS11B **EL-Nummer** 4133307 (Norway)

Delivery program

Product range			ETR4 timing relays
Basic function			Timer relays
Function			On-delayed
			Fixed timing function
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 1.5 - 300 s 1.5 - 300 min 1.5 - 30 h 5 - 100 h
Rated operational current			
AC-14			
300 V	le	А	3
380 V 400 V 415 V	le	A	3
			Value applies starting with release 001.
AC-15			
220 V 230 V 240 V	l _e	А	3
300 V	le	А	3
380 V 400 V 415 V	l _e	A	3
			Value applies starting with release 001.
Voltage range	U _{LN}	V	24 - 240 V AC, 50/60 Hz 24 – 240 V DC
Width		mm	22.5
Terminal marking according to EN 50042			

Technical data Conorol

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		5	
Terminals			IP20
Weight		kg	0.1
Terminal capacities		mm ²	
			4 (05 05)
Solid		mm ²	1 x (0.5 - 2.5) 2 x (0.5 - 1.5)
Flexible with ferrule		mm ²	1 x (0.5 - 2.5) 2 x (0.5 - 1.5)
Solid or stranded		AWG	1 x (20 - 14)
Contacts			1000
Rated impulse withstand voltage	U _{imp}	V AC	4000
Rated impulse withstand voltage	U _{imp}	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	U _e	V AC	300
Rated operational voltage	U _e	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 $\cos \varphi = 0.3220 \text{ V}$		A	50
DC-11 L/R - 40 ms		x l _e	1.1
Breaking capacity			
AC-14 $\cos \varphi = 0.3440 \text{ V}$		A	3
AC-15 $\cos \varphi = 0.3220 \text{ V}$		A	3
DC-11 L/R - 40 ms		x l _e	1.1
Rated operational current	l _e	A	
AC-14			
	l _e	٨	3
380 V 400 V 415 V	l _e	A	
			Value applies starting with release 001.
AC14			
440 V	l _e	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		A	
24 V	le	A	1.5
L/R max. 50 ms		А	1.2
Conv. thermal current	I _{th}	А	6
Short-circuit rating without welding			
Note			When supplied directly from mains or transformer > 1000 VA
Max. fuse, make contacts		A gG/gL	6
Max. fuse, break contacts		A gG/gL	6
Max. overcurrent protective device, 220/230 V		Туре	FAZ-B4/1-HI
Magnet systems			
Rated operational voltage	U _e	V	
AC			24 - 240

dec def and finderance AC operated min. Hz 4 - 6 3 Tolerance AC operated min. KL KL 85 Tolerance AC operated max. 1 1 Tolerance DC operated max. KL KL Tolerance DC operated max. KL KL Tolerance DC operated max. KL KL Power consumption K	DC			24 - 240
Inderance AC operated min.Image: Subject of a state				
Toterance AC operated max.Image: Second				
Tolerance DC operated max. Kup 7 Tolerance DC operated max. kup 1 Procus parameted max. kup 1 Procus parameted max. kup 1 Procus parameted max. kup 2 Procus parameter parame				
Inderace DC operated max.Image: Number of the second s	Tolerance AC operated max.			1.1
Power consumption Power consumption Power consumption Power consumption VA 2 Pick-up AC VA 2 Consumption VA 2 Sealing AC VA 0 VA 2 Pick-up DC VA VA 1 Consumption Sealing DC VA VA 0 Consumption VA 0 Duty factor VA 0 VA 0 Consumption VA Consumption VA Consumption VA Consumption VA Consumption VA Consup Consup Consup Consumption VA <td< td=""><td>Tolerance DC operated min.</td><td></td><td>x U_c</td><td>0.7</td></td<>	Tolerance DC operated min.		x U _c	0.7
Pick-up AC VA 2 Sealing AC VA 2 Pick-up DC VA 3 Sealing AC V 18 DC V 10 Sealing DC 00 00 Duty factor 00 00 Maximum operating frequency 00 00 Maximum command time 00 00 AC 00 00 00 Pock-up (diviation) 00 00 00 Repetition accursery (diviation) 00 00 00 Repetition accursery (diviation) 00 00 00 Repetition accursery (diviation) 00 00 00 Contact Changeover time (datar 100% time delay) 00 00 00 Electromagnetic compatibility (EMC) Image: Standard Image: Standard 00 Air discharge Image: Standard Image: Standard Image: Standard Image: Standard Air discharge Image: Standard Image: Standard Image: Standard Image: St	Tolerance DC operated max.		x U _c	1.1
Sealing AC VA 2 Pick-up DC W 18 Sealing DC W 18 Dury factor V 18 Dury factor V 10 Maximum operating frequency V 10 Minimum command time M 10 AC M M DC ms 50 Reportion accuracy (divisition) V M Reportion accuracy (divisition) V M Recording terre MOMS find delay) M M Contact changeover time (dire 100% time delay) M M Retorder Compatibility (EMC) M M Electromagnetic Compatibility (EMC) Electromagnetic fields (RF) Electromagnetic fields (RF) applied standard M M S	Power consumption			
Pick-up DC V 18 Seding DC V 18 Duty factor V 18 Maximum operating frequency Ops/ 4000 Maximum command time Ops/ 4000 AC mm 50 DC mm 50 Repetition accuracy (deviation) mm 50 Repetition accuracy (deviation) mm 70 Repetition accuracy (deviation) fm 70 Repetition accuracy (deviation) fm 70 Repetition accuracy (deviation) <td< td=""><td>Pick-up AC</td><td></td><td>VA</td><td>2</td></td<>	Pick-up AC		VA	2
Sealing DCImage: sealing DCImage: sealing DCImage: sealing DCImage: sealing DCImage: sealing DCImage: sealing DCDury factorSo FOO <t< td=""><td>Sealing AC</td><td></td><td>VA</td><td>2</td></t<>	Sealing AC		VA	2
Duty factorImage: Single s	Pick-up DC		W	1.8
Maximum operating frequency Mode Mode Mainum command time Mode Image Mode AC ns 50 Image So Reportion accuracy (deviation) % 30 Image So Image So Image So Image Image So Image So Image Image So Image Image Image Image So Image	Sealing DC		W	1.8
Minimu command time Image: Minimu command time AC ms 50 BC ms 30 Repetition accuracy (deviation) % 50.5 Recovery time (after 100% time delay) ms 70 Contact changeover time tu ms 4 Electromagnetic compatibility (EMC) ms 4 Electromagnetic compatibility (EMC) ms 4 applied standard ms 6 applied standard ms 6 applied standard ms 8 applied standard ms 1000 MHz: 10 applied standard ms 10000 MHz: 10 applied standard ms Supplied bis: 1 applied standard ms 10000 MHz: 10 applied standard ms 10000 MHz: 10 applied standard ms Supplie cabl	Duty factor		% DF	100
AC ns solution DC ns 30 Repetition accuracy (deviation) % 30 Recovery time (after 100% time delay) ms 70 Contact changeover time tu ms 40 Electromagnetic compatibility (EMC) FCENDE FCENDE Electrostatic discharge (SD) ms FCENDE FCENDE applied standard MK 8 8 applied standard MK 8 1000-4-3 applied standard MK 8 1000-4-3 applied standard MK 8 1000-4-3 Burst MK 8 1000 MHz: 10 14 - 2 GHz: 3 Ruto interference suppression MK Signal cables: 1 </td <td>Maximum operating frequency</td> <td></td> <td>Ops/h</td> <td>4000</td>	Maximum operating frequency		Ops/h	4000
DCNBNB30Repetition accuracy (deviation)NB5.5Recovery time (after 10% time delay)VNDContact changeover timeVNDContact changeover timeVNDApplied standardMDMDAir dischargeMDMDContact discharge (ESD)MDMDAir dischargeMDMDContact dischargeMDMDEletromagnetic fields (RFI)MDSapplied standardMDMDapplied standardMDMDBurstNDSBurstSuphr cables: 2 Signal cables: 1 according to EC/EN 61000-4-5power pulses (Surge)Suphr cables: 2 Signal cables: 1 	Minimum command time			
Repetition accuracy (deviation) Second (deviation)	AC		ms	50
Recovery time (after 100% time delay) is recovery time is 70 Contact changeover time tu ms 4 Electromagnetic compatibility (EMC) Image: Standard Standard Image: Standard Standard Standard Image: Standard Standard Standard Image: Standard Standard Standard Standard Image: Standard Standard Standard Standard Standard Standard Standard Image: Standard St	DC		ms	30
Contact changeover time tutor ms 4 Electromagnetic compatibility (EMC) Electrostatic discharge (ESD) IEC/EN 61000-4-2 applied standard IEC/EN 61000-4-2 IEC/EN 61000-4-2 Air discharge KV 8 Contact discharge KV 6 Electromagnetic fields (RFI) IEC/EN 61000-4-3 applied standard IEC/EN 61000-4-3 applied standard IEC/EN 61000-4-3 Bapplied standard IEC/EN 61000-4-5	Repetition accuracy (deviation)		%	≦ 0.5
Electromagnetic compatibility (EMC) Electrostatic discharge (ESD) Image: Standard applied standard Image: Standard Air discharge Image: Standard Contact discharge Image: Standard Image: Standard Image: Standard applied standard Image: Standard Burst Image: Standard Burst Standard power pulses (Surge) Image: Standard	Recovery time (after 100% time delay)		ms	70
Electrostatic discharge (ESD) Image: Surge (ESD) <t< td=""><td></td><td>t_u</td><td>ms</td><td>4</td></t<>		t _u	ms	4
applied standard EC/EN 61000-4-2 Air discharge KV 8 Contact discharge KV 6 Electromagnetic fields (RFI) EC/EN 61000-4-3 applied standard IEC/EN 61000-4-3 Radio interference suppression KV 80 - 1000 MHz: 10 14 - 2 GHz: 3 20 - 2.7 GHz: 1 Burst NS5011, Class B (conducted) NS5011, Class B (radiated) IN 55011, Class B (radiated) power pulses (Surge) KV Supplic calles: 1 according to IEC/EN 61000-4-5	Electromagnetic compatibility (EMC)			
Air discharge kV 8 Contact discharge KV 6 Electromagnetic fields (RFI) FC/EN 61000-4-3 applied standard Monthal Standard Image: Suppression V/m 80 - 1000 MHz: 10 14 - 2 GHz: 3 20 - 2.7 GHz: 1 Radio interference suppression V/m 80 - 1000 MHz: 10 14 - 2 GHz: 3 20 - 2.7 GHz: 1 Burst Supply cables: 2 Signal cables: 1 according to IEC/EN 61000-4-4 power pulses (Surge) KV Supply cables: 1 according to IEC/EN 61000-4-5	Electrostatic discharge (ESD)			
Contact discharge KV 6 Electromagnetic fields (RFI) FM FM applied standard FM FE/EN 61000-4-3 Radio interference suppression FM S0 - 1000 MHz: 10 1.4 - 2 GHz: 3 2.0 - 2.7 GHz: 1 Burst FM FM Supply cables: 2 Signal cables: 1 according to IEC/EN 61000-4-4 power pulses (Surge) FM Supply cables: 2 Signal cables: 1 according to IEC/EN 61000-4-5	applied standard			IEC/EN 61000-4-2
Electromagnetic fields (RFI) Image: Flectromagnetic fields (RFI) applied standard Image: Flectromagnetic fields (RFI) applied standard Image: Flectromagnetic fields (RFI) Burst Image: Flectromagnetic fields (RFI) Burst Supply cables: 2 Signal cables: 1 according to IEC/EN 61000-4-3 power pulses (Surge) Image: Flectromagnetic fields (RFI)	Air discharge		kV	8
applied standard IEC/EN 61000-4-3 Image: standard	Contact discharge		kV	6
V/m80 - 1000 MHz: 10 1.4 - 2 GHz: 3 2.0 - 2.7 GHz: 1Radio interference suppressionEN 5501, Class B (conducted) EN 55011, Class B (radiated)BurstKVSupply cables: 2 Signal cables: 1 according to IEC/EN 61000-4-4power pulses (Surge)KV (symmetrical) 4 kV (asymmetrical) according to IEC/EN 61000-4-5	Electromagnetic fields (RFI)			
Image: Participation of the section	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 second			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

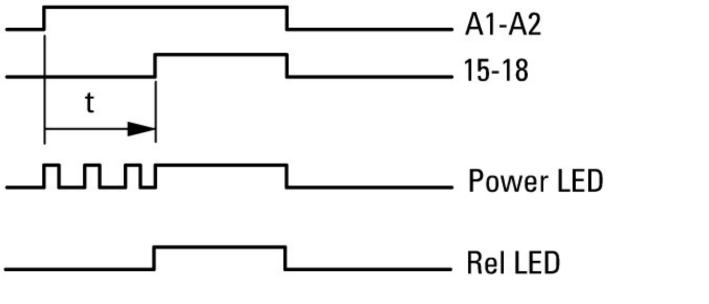
Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	6
Heat dissipation per pole, current-dependent	P _{vid}	W	1.4
Equipment heat dissipation, current-dependent	P _{vid}	W	0
Static heat dissipation, non-current-dependent	P _{vs}	W	1.8
Heat dissipation 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.

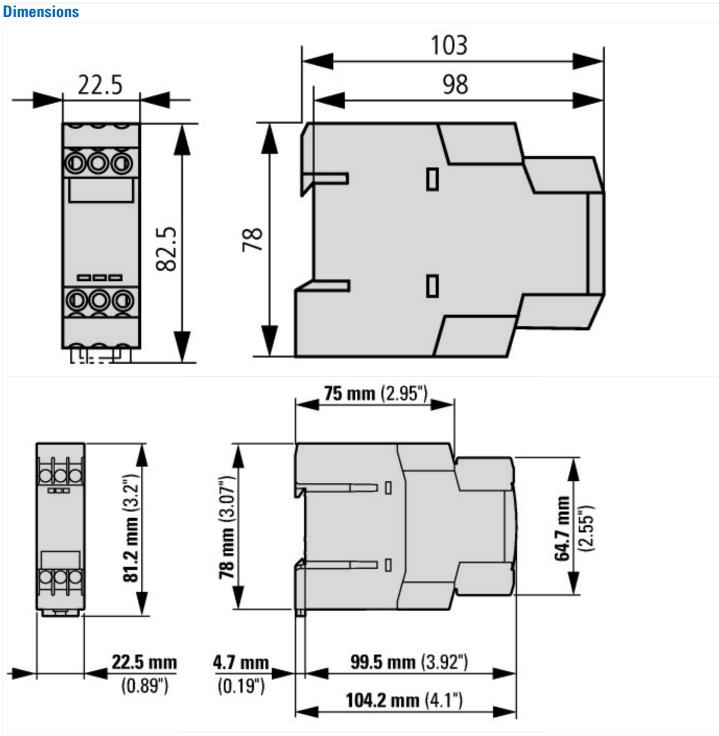
10.2.7 Inscriptions	Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES	Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances	Meets the product standard's requirements.
10.5 Protection against electric shock	Does not apply, 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.
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 switc	h 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			No
Function floating contact on energization			No
Function floating contact on de-energization			No
Function star-delta			No
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	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		А	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			1
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	82
Depth		mm	103

Approvals	
Product Standards	IEC/EN 61812-1; IEC/EN 60947-5-1; UL 508; CSA-22.2 No. 14; CE marking
UL File No.	E29184
UL Category Control No.	NKCR
CSA File No.	12528
CSA Class No.	3211-03
North America Certification	UL listed, CSA certified
Degree of Protection	IEC: IP20, UL/CSA Type: -
LED legend	
	Time not running, contact 15 – 18 closed
	Time not running, contact 15 – 18 closed Time running, contact 15 – 18 closed
	-
	Time running, contact 15 – 18 closed
	Time running, contact 15 – 18 closed
	Time running, contact 15 – 18 closed
 ① A2/A1 linked ② A2/A1 not linked	Time running, contact 15 – 18 closed





Applies to release 001 and higher