

Eaton 031891

Catalog Number: 031891

Eaton Moeller® series ETR4 Timing relay, 1W, 0.05s-100h, multi-function, 24-240VAC/DC

General specifications

Product Name	Catalog Number
Eaton Moeller® series ETR4 Timing relay	031891
	EAN
	4015080318910
Product Length/Depth	Product Height
103 mm	83 mm
Product Width	Product Weight
23 mm	.11 kg
Certifications	Model Code
CSA File No.: 012528	ETR4-69-A
VDE 0435	
UL 508	
CSA-22.2 No. 14	
IEC/EN 61000-4-3	
Standard IEC/EN 61812	
IEC/EN 60947-5-1	
IEC/EN 61000-4-2	
UL File No.: E29184	
UL	
UL Category Control No.: NKCR	
CE	
CSA	
CSA Class No.: 3211-03	
IEC/EN 61812-1	

Features & Functions

Electric connection type

Screw connection

Functions

Flashing, pulse initiating

On- and Off-delayed

Pulse generating

Adjustable timing function

Outputs, reversible delayed/undelayed

Off-delayed

Pulse forming

Delay on de-energization

Multi-functional

Fleeting contact on energization

Clock function, starting with pause, variable

Clock function, starting with pulse, variable

On-delayed

Delay-on energization

Flashing, starting with pulse, fixed time

Fleeting contact on de-energization

Flashing, starting with pause, fixed time

Pulse shaping

General

Degree of protection

IP20

Terminals: IP20

Lifespan, mechanical

30,000,000 Operations (DC operated)

30,000,000 Operations (AC operated)

Mounting position

As required

Number of contacts (change-over contacts)

1

Overvoltage category

III

Pollution degree

2

Product category

ETR4 timing relays

Rated impulse withstand voltage (Uimp)

4000 V AC

6000 V AC

Shock resistance

4 g, Make contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 20 ms

Suitable for

DIN rail (top hat rail) mounting

Terminal capacity

1 x (0.5 - 2.5) mm², flexible with ferrule

1 x (20 - 14) AWG, solid or stranded

2 x (0.5 - 1.5) mm², flexible with ferrule

1 x (0.5 - 2.5) mm², solid

2 x (0.5 - 1.5) mm², solid

Time range - min

.05 s

Time range - max

360000 s

Type

Timer relay

Voltage type

Climatic environmental conditions

Ambient operating temperature - min

-25 °C

Ambient operating temperature - max

60 °C

Ambient operating temperature (enclosed) - min

25 °C

Ambient operating temperature (enclosed) - max

45 °C

Ambient storage temperature - min

45 °C

Ambient storage temperature - max

85 °C

Climatic proofing

Damp heat, constant, to IEC 60068-2-78

Damp heat, cyclic, to IEC 60068-2-30

Electro magnetic compatibility

Air discharge

8 kV

Burst impulse

2 kV, Supply cable

According to IEC/EN 61000-4-4

1 kV, Signal cable

Contact discharge

6 kV

Electromagnetic fields

3 V/m at 1.4 - 2 GHz (according to IEC EN 61000-4-3)

10 V/m at 80 - 1000 MHz (according to IEC EN 61000-4-3)

1 V/m at 2.0 - 2.7 GHz (according to IEC EN 61000-4-3)

Immunity to line-conducted interference

10 V (according to IEC/EN 61000-4-6)

Radio interference class

Class B (EN 55011, radiated)

Class B (EN 55011, conducted)

Surge rating

2 kV, symmetrical, power pulses (Surge), EMC

Electrical rating

Conventional thermal current I_{th} of auxiliary contacts (1-pole, open)

6 A

Mains voltage tolerance

24 – 240 V DC

24 - 240 V AC (at 50/60 Hz)

Nominal current

3 A

Rated breaking capacity

3 A at AC-15 ($\cos \phi = 0.3$ 220 V)

3 A at AC-14 ($\cos \phi = 0.3$ 440 V)

1.1 x I_e (DC-11 L/R - 40 ms)

Rated making capacity

1.1 x I_e (DC-11 L/R - 40 ms)

48 A (AC-14 $\cos \phi = 0.3$ 400 V)

50 A (AC-15 $\cos \phi = 0.3$ 220 V)

Rated operational current (I_e)

3 A at AC-14, 380 V 400 V 415 V

1.5 A at DC-11, 24 V

3 A at AC-15, 380 V 400 V 415 V

4 kV, asymmetrical, power pulses (Surge), EMC
According to IEC/EN 61000-4-5, power pulses (Surge), EMC

3 A at AC-15, 300 V
3 A at AC-15, 220 V 230 V 240 V
1.2 A at DC-11, L/R max. 50 ms
3 A at AC-14, 440 V
3 A at AC-14, 300 V (NC)

Rated operational voltage (Ue) at AC - max
440 V

Safe isolation

250 V AC, Between auxiliary contacts, According to EN 61140
250 V AC, Between coil and auxiliary contacts, According to EN 61140

Short-circuit protection rating

Max. 6 A gG/gL, fuse, Without welding, Contacts
Max. 6 A gG/gL, Fuse, Short-circuit rating without welding, Contacts

Magnet system

Command time

30 ms, DC
50 ms, AC

Contact changeover time

4 ms

Duty factor

100 %

Operating frequency

4000 Operations/h

Pick-up voltage

0.7 - 1.1 V DC x U_c
0.85 - 1.1 V AC x U_c

Power consumption

2 VA at AC (Pick-up power)
1.8 W at DC (Pick-up power)
2 VA at AC (Sealing power)
1.8 W at DC (Sealing power)

Rated control supply voltage (U_s) at AC, 50 Hz - min

24 V

Rated control supply voltage (U_s) at AC, 50 Hz - max

240 V

Rated control supply voltage (U_s) at AC, 60 Hz - min

24 V

Design verification

Equipment heat dissipation, current-dependent P_{vid}

0 W

Heat dissipation capacity P_{diss}

0 W

Heat dissipation per pole, current-dependent P_{vid}

1.4 W

Rated operational current for specified heat dissipation (I_n)

6 A

Static heat dissipation, non-current-dependent P_{vs}

1.8 W

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 Resist. of insul. mat. to abnormal heat/fire by internal elect. effects

Meets the product standard's requirements.

10.2.4 Resistance to ultra-violet (UV) radiation

Meets the product standard's requirements.

Rated control supply voltage (Us) at AC, 60 Hz - max

240 V

Rated control supply voltage (Us) at DC - min

24 V

Rated control supply voltage (Us) at DC - max

240 V

Recovery time

70 ms (after 100 % time delay)

Repetition accuracy

≤ 0.5 % (deviation)

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.

10.9.2 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.

Resources

3D models

[DA-CS-etr4_69](#)

[DA-CD-etr4_69](#)

Brochures

[EMR6 - EMT6 - ETR4 brochure](#)

Catalogs

[Product overview for machinery](#)

Drawings

[2527DIM-3](#)

[250X003](#)

[eaton-electronic-timers-relay-etr4-timing-relay-dimensions.eps](#)

[eaton-timers-contactor-etr4-timing-relay-dimensions.eps](#)

[eaton-general-m22-symbol.eps](#)

[0000SPC-180](#)

[2527DRW-20](#)

[eaton-electronic-timers-relay-etr4-timing-relay-3-d-drawing-002.eps](#)

User guides

[IL04910001Z](#)

Wiring diagrams

[eaton-timers-relay-etr2-timing-relay-wiring-diagram.eps](#)

[250S006](#)

[eaton-timers-relay-etr2-timing-relay-wiring-diagram-002.eps](#)

[250S007](#)