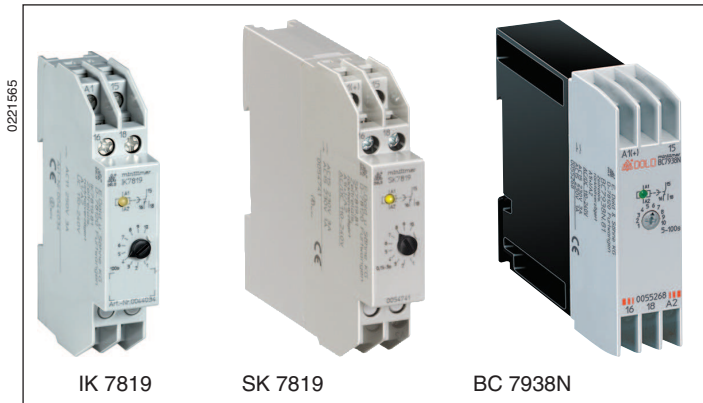


MINITIMER

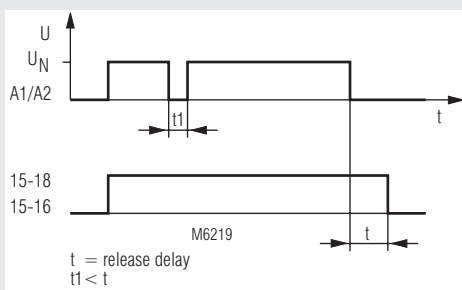
Timer, Release Delay

IK 7819, SK 7819, BC 7938N



- According to IEC/EN 61 812-1
- 1 changeover contact
- Delay of 0.05 ... 300 s
- Wide voltage range
- Repeat accuracy $\leq 1\%$
- Without auxiliary voltage
- LED indicator for operation
- Devices available in 3 enclosure versions:
 - IK 7819: depth 58 mm, with terminals at the bottom for installation systems and industrial distribution systems according to DIN 43 880
 - SK 7819, BC 7938N: depth 98 mm, with terminals at the top for cabinets with mounting plate and cable duct
- IK/SK 7819: width 17.5 mm
- BC 7938N: width 22.5 mm

Function Diagram



Approvals and Markings



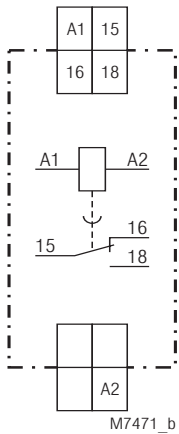
Application

Time-dependent controllers

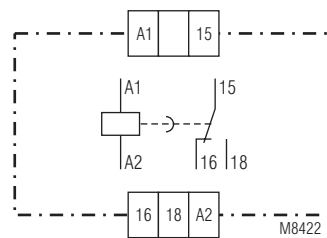
Notes

A change of the settings for time range will be valid immediately. Please note, that a change of time range or time setting during elapse of time can lead to unintended switching of the output contacts.

Circuit Diagrams



IK/SK 7819.81



BC 7938N.81

Connection Terminals

Terminal designation	Signal designation
A1	L / +
A2	N / -
15, 16, 18	Changeover contact

Technical Data	
Time ranges:	0.05 ... 1 s 0.15 ... 3 s 0.5 ... 10 s 1.5 ... 30 s 5 ... 100 s 15 ... 300 s
Time setting:	infinite on relative scale
Recovery time:	100 ms
Repeat accuracy:	≤ 1 % of end of scale value
Min. on-time at time range 15 ... 300 s:	AC/DC 24 V - 300 ms AC/DC 42 V - 250 ms AC/DC 80 V - 200 ms
Temperature influence:	< 0.1 % / K

Input

Nominal voltage U_N:	AC/DC 24 V AC/DC 42 ... 60 V AC/DC 110 ... 240 V
--	--

Voltage range:

for AC/DC 24 V: with 48 % residual ripple with ≤ 10 % residual ripple	AC / DC 20.5 ... 27 V DC 20.5 ... 30 V
for AC/DC 42 ... 60 V: with 48 % residual ripple with ≤ 10 % residual ripple	AC / DC 30 ... 66 V DC 30 ... 80 V
with AC/DC 110 ... 240 V: with 48 % residual ripple with ≤ 10 % residual ripple	AC / DC 60 ... 264 V DC 60 ... 300 V
Release voltage:	> 10 % U_N

Nominal consumption

for AC/DC 24 V:	0.05 VA / W
for AC/DC 60 V:	0.12 VA / W
for AC/DC 240 V:	0.4 VA / W

Nominal frequency:

50/60 Hz

Frequency range:

± 5 %

Switch-on current

for AC/DC 24 V: 0.6 A

for AC/DC 60 V: 0.7 A

for AC/DC 240 V: 1.1 A

Output

Contacts:	1 changeover contact
Contact material:	AgNi
Measured nominal voltage:	AC 250 V DC see limit curve for arc-free operation
Thermal current I_{th}:	5 A
Switching capacity to AC 15	
NO contact:	3 A / AC 230 V IEC/EN 60 947-5-1
NC contact:	1 A / AC 230 V IEC/EN 60 947-5-1
Electrical life	IEC/EN 60 947-5-1
to AC 15 at 1 A, AC 230 V:	≥ 1.5 x 10 ⁵ switching cycles
Permissible switching frequency	72 000 switching cycles / h
Short circuit strength	
max. fuse rating:	4 A gL IEC/EN 60 947-5-1
Mechanical life:	> 10 ⁸ switching cycles

Technical Data	
General Data	
Operating mode:	Continuous operation
Temperature range:	
Operation:	- 20 ... + 60 °C
Storage:	- 25 ... + 65 °C
Relative air humidity:	95 % at 40 °C
Altitude:	< 2.000 m
Clearance and creepage distances	
rated impulse voltage / pollution degree:	4 kV / 2 (basis insulation) IEC 60 664-1 III
Overvoltage category:	
Insulation test voltage, type test:	2.5 kV; 1 min
EMC	
Electrostatic discharge:	6 kV (contact) IEC/EN 61 000-4-2 8 kV (air) IEC/EN 61 000-4-2
HF-irradiation	
80 MHz ... 1 GHz:	12 V / m IEC/EN 61 000-4-3
1 GHz ... 2.7 GHz:	10 V / m IEC/EN 61 000-4-3
Fast transients	
IK / SK 7819:	4 kV IEC/EN 61 000-4-4
BC 7938N:	2 kV IEC/EN 61 000-4-4
Surge voltages between wires for power supply	
IK/SK 7819:	2 kV IEC/EN 61 000-4-5
BC7938N:	1 kV IEC/EN 61 000-4-5
between wire and ground	
IK/SK 7819:	4 kV IEC/EN 61 000-4-5
BC7938N:	2 kV IEC/EN 61 000-4-5
HF-wire guided:	10 V IEC/EN 61 000-4-6
Interference suppression:	Limit value class B EN 55 011
Degree of protection	
Housing:	IP 40 IEC/EN 60 529
Terminals:	IP 20 IEC/EN 60 529
Housing:	Thermoplastic with V0 behaviour according to UL subject 94
Vibration resistance:	Amplitude 0.35 mm frequency 10 ... 55 Hz IEC/EN 60 068-2-6 20 / 060 / 04 IEC/EN 60 068-1
Climate resistance:	
Terminal designation:	EN 50 005
Wire connection:	DIN 46 228-1/-2/-3/-4
Cross section	
IK/SK 7819:	2 x 2.5 mm ² solid or 2 x 1.5 mm ² stranded ferruled
BC 7938N:	1 x 4 mm ² solid or 2 x 1.5 mm ² stranded ferruled 1 x 2.5 mm ² stranded ferruled (isolated)
Stripping length:	10 mm
Wire fixing:	
IK/SK 7819:	Flat terminals with self-lifting clamping piece IEC/EN 60 999-1
BC 7938N:	Plus-minus terminal screws M3.5 Box terminal with wire protection
Fixing torque:	0.8 Nm
Mounting:	DIN rail IEC/EN 60 715
Weight	
IK 7819:	70 g
SK 7819:	89 g
BC 7938N:	105 g

EMC

Electrostatic discharge: 6 kV (contact) IEC/EN 61 000-4-2
8 kV (air) IEC/EN 61 000-4-2

HF-irradiation

80 MHz ... 1 GHz: 12 V / m IEC/EN 61 000-4-3
1 GHz ... 2.7 GHz: 10 V / m IEC/EN 61 000-4-3

Fast transients

IK / SK 7819: 4 kV IEC/EN 61 000-4-4
BC 7938N: 2 kV IEC/EN 61 000-4-4

Surge voltages

between wires for power supply
IK/SK 7819: 2 kV IEC/EN 61 000-4-5
BC7938N: 1 kV IEC/EN 61 000-4-5

between wire and ground

IK/SK 7819: 4 kV IEC/EN 61 000-4-5
BC7938N: 2 kV IEC/EN 61 000-4-5
HF-wire guided: 10 V IEC/EN 61 000-4-6

Interference suppression:

Limit value class B EN 55 011

Degree of protection

Housing: IP 40 IEC/EN 60 529
Terminals: IP 20 IEC/EN 60 529

Housing:

Thermoplastic with V0 behaviour according to UL subject 94
Vibration resistance: Amplitude 0.35 mm frequency 10 ... 55 Hz IEC/EN 60 068-2-6
20 / 060 / 04 IEC/EN 60 068-1

Climate resistance:

Terminal designation:

Wire connection:

DIN 46 228-1/-2/-3/-4
Cross section
IK/SK 7819: 2 x 2.5 mm² solid or
2 x 1.5 mm² stranded ferruled
BC 7938N: 1 x 4 mm² solid or
2 x 1.5 mm² stranded ferruled
1 x 2.5 mm² stranded ferruled (isolated)
Stripping length: 10 mm

Wire fixing:

IK/SK 7819: Flat terminals with self-lifting clamping piece IEC/EN 60 999-1
BC 7938N: Plus-minus terminal screws M3.5
Box terminal with wire protection

Fixing torque:

0.8 Nm

Mounting:

DIN rail IEC/EN 60 715

Weight

IK 7819: 70 g

SK 7819: 89 g

BC 7938N: 105 g

Dimensions

Width x height x depth

IK 7819: 17.5 x 90 x 58 mm

SK 7819: 17.5 x 90 x 98 mm

BC 7938N: 22.5 x 84 x 98 mm

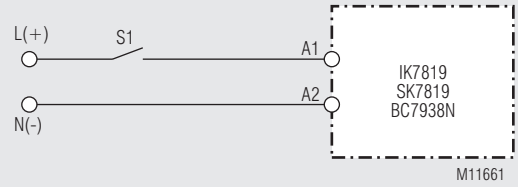
Standard Type

IK 7819.81 AC/DC 110 ... 240 V 0.15 ... 3 s
 Article number: 0044645
 • Output: 1 changeover contact
 • Nominal voltage U_N : AC/DC 110 ... 240 V
 • Time range: 0.15 ... 3 s
 • Width: 17.5 mm

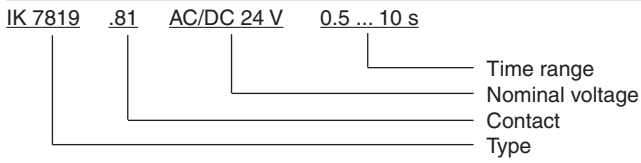
SK 7819.81 AC/DC 110 ... 240 V 0.15 ... 3 s
 Article number: 0054741
 • Output: 1 changeover contact
 • Nominal voltage U_N : AC/DC 110 ... 240 V
 • Time range: 0.15 ... 3 s
 • Width: 17.5 mm

BC 7938N.81 AC/DC 110 ... 240 V 0.5 ... 10 s
 Article number: 0055774
 • Front color grey, with box terminals
 • Output: 1 changeover contact
 • Nominal voltage U_N : AC/DC 110 ... 240 V
 • Time range: 0.5 ... 10 s
 • Width: 22.5 mm

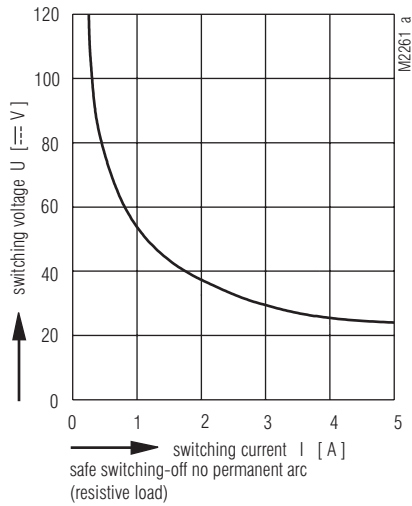
Connection Example



Ordering Example



Characteristic



Limit curve for arc-free operation

