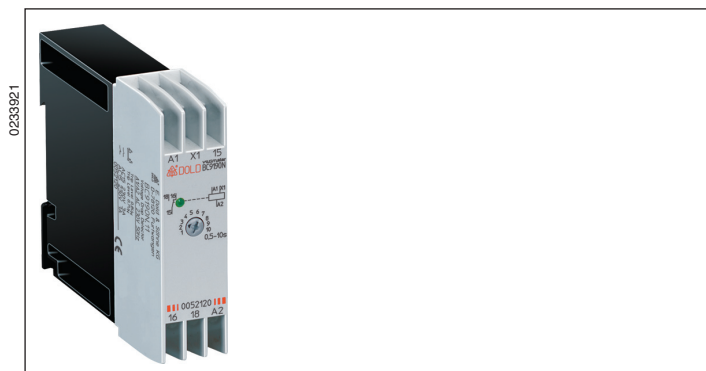
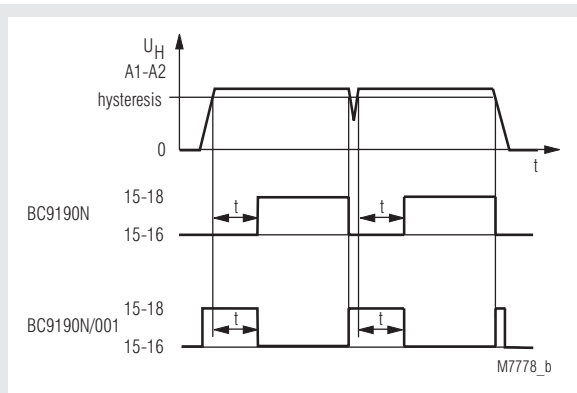


VARIMETER Voltage Drop Detector BC 9190N



- According to IEC/EN 60 255, DIN VDE 0435-303
- Fast detection of undervoltage and phase failure in AC voltage systems
- Detects voltage drops (reaction time ≤ 20 ms)
- Response value 0.8 or 0.7 U_N selectable by wire link
- Without auxiliary supply
- De-energized on trip
- LED indicator for contact position
- Adjustable operate delay after return of voltage
- As option adjustable fleeting on make pulse after return of voltage (variant BC 9190N.11/001)
- 1 changeover contact
- Wire connection: also 2 x 1.5 mm² stranded ferruled (isolated), DIN 46 228-1/-2/-3/-4 or 2 x 2.5 mm² stranded ferruled DIN 46 228-1/-2/-3/-4
- Width 22.5 mm

Function Diagram



Approvals and Marking

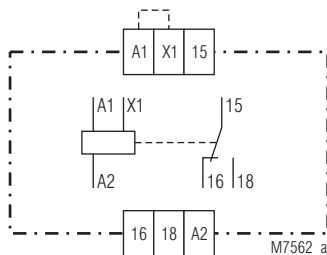


Applications

Monitoring of voltage systems to detect auto reclosing as e.g. generated by the energy supplier in the case of flash-overs or switching procedures. It is possible that in control circuits some of the devices are reset during auto reclosing and some not. Because of this uncontrollable situations may occur.

By detecting these fast auto reclosings and addition of a certain time delay at reclosing the OFF-time is lengthened and every device has the time to reset. The circuit goes into a defined OFF-state and is automatically reset after the adjusted time delay or by manual reset if the automatic reset is disabled by an external circuit (see Connection Examples).

Circuit Diagram



Function

If the BC 9190N detects a voltage drop below 0.8 or 0.7 of U_N the yellow LED goes off and the relay de-energises (fault condition). The setting of the response value 0.7 U_N is done by linking terminal X1 to A1. Without link the response value is 0.8 U_N .

If the voltage returns to normal (2 % Hysteresis above response value) the output relay energises after the time delay t and the yellow LED switches on (good condition).

The BC 9190N.11/001 energises the output relay immediately after the voltage returns for an adjustable pulse time. After the time delay the relay is de-energized.

Indication

LED: on when output relay activated (contacts 15-18 are closed)

Notes

The BC 9190N is designed for mains frequency of 50 Hz. It can also be operated on 60 Hz but the response values are reduced to approx. 0.75 and 0.65 U_N .

Technical Data

Time Circuit

Time ranges:	0.05 ... 1 s	15 ... 300 s
	0.15 ... 3 s	1.5 ... 30 min.
	0.5 ... 10 s	0.15 ... 3 h
	1.5 ... 60 s	0.5 ... 10 h
Time setting:	stepless 1:20	
Recovery time:	≤ 20 ms	
Repeat accuracy:	≤ 0.5 % + 10 ms	
Voltage influence:	≤ 1 %	
Temperature influence:	≤ 0.25 % / K	

Input

Nominal voltage U_N:	AC 110 V, AC 230 V
Overload:	1.15 U_N
Nominal consumption:	2.5 VA
Nominal frequency:	50 Hz
Frequency range:	± 5 % f_N
Response value	
without bridge X1-A1:	0.8 U_N
with bridge X1-A1:	0.7 U_N
Hysteresis:	approx. 2 %

Output

Contacts:	
BC 9091N.11:	1 changeover contact
Thermal current I_{th}:	4 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
Short circuit strength	
max. fuse rating:	4 A gL IEC/EN 60 947-5-1
Mechanical life:	10 ⁸ switching cycles

General Data

Operating mode:	Continuous operation	
Temperature range:	- 20 ... + 60°C	
Clearance and creepage distances		
rated impuls voltage / pollution degree	4 kV / 2	IEC 60 664-1
EMC		
Electrostatic discharge:	8 kV (air)	IEC/EN 61 000-4-2
HF irradiation:	10 V/m	IEC/EN 61 000-4-3
Fast transients:	2 kV	IEC/EN 61 000-4-4
Surge voltages between		
wires for power supply:	1 kV	IEC/EN 61 000-4-5
between wire and ground:	2 kV	IEC/EN 61 000-4-5
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 IEC/EN 60 068-2-6 frequency 10 ... 55 Hz	
Climate resistance:	20 / 060 / 04	IEC/EN 60 068-1
Terminal designation:	EN 50 005	
Wire connection:	1 x 4 mm ² solid or 1 x 2.5 mm ² stranded ferruled (isolated) or 2 x 1.5 mm ² stranded ferruled (isolated) DIN 46 228-1/-2/-3/-4 or 2 x 2.5 mm ² stranded ferruled DIN 46 228-1/-2/-3/-4	
Wire fixing:	Flat terminals with self-lifting clamping piece IEC/EN 60 999-1	

Technical Data

Mounting:	DIN rail	IEC/EN 60 715
Weight:	80 g	

Dimensions

Width x height x depth:	22.5 x 84 x 97 mm
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Standard Type

BC 9190N.11	AC 230 V	0.5 ... 10 s
Article number:		
• Adjustable operate delay	0.5 ... 10 s	
• Output:	1 changeover contact	
• Nominal voltage U_N :	AC 230 V	
• Time range:	0.5 ... 10 s	
• Width:	22.5 mm	

Variant

BC 9190N.11/001	with fleeting on make function
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Ordering example for variant

BC 9091N	.11	/	—	—	AC 230 V	50 Hz	0.5 ... 10 s
							Time delay
							Nominal frequency
							Nominal voltage
							Variant, if required
							Contacts
							Type