

Timer relays – BT-SERIES

Installation timer relays

- Screw or tension clamp connection
- LED status indicator Input: voltage present
Output: output active
- Approvals

508 EN 61812-1 IEC 60947-5-1 IEC 60664-1 EN 55011	22.2 Nr. 14 IEC 60664-1 EN 61812-1 IEC 60947-5-1 EN 50082-2
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Type designation:

- B** = Building
- T** = Timer
- R** = Response Delay
- TT** = Two Times
- M** = Multifunction, 8 ranges
- MF** = Multifunction, 4 ranges
- DS** = Delta, Star
- S** = Screw
- Z** = Tension

Input		Contacts hard gold plated
Rated voltage		24 ... 230 V AC, 50/60 Hz, 24 ... 48 V DC
Voltage tolerance		85 ... 100 % of rated voltage
Breaking voltage		Max. 2.4 V AC/V DC
Power consumption per type	V AC	21 ... 33 VA at 230 V
	V DC	0.6 ... 1.3 W at 24 V
Reset time		Min. 0.1 s (BTDS: 0.5 s)
Insulation		
Insulation resistance		100 M Ω min, at 500 V DC
Insulation test voltage		
	between input and output, to enclosure	2000 V AC, 50/60 Hz, 1 min
	between non-adjacent contacts	1000 V AC, 50/60 Hz, 1 min
Ingress protection class		IP30, terminal block IP20
Output		
Contact/contact material		1 change-over contact (BTDS 2 NOC) / AgNi 90/10
Switch output		5A at 250 V AC, resistive load (cos ϕ = 1)
Service life	mechanical min.	10 ⁷ switching cycles (no load, 1800/h)
	electrical min.	10 ⁶ switching cycles (5A at 250 V AC, resistive load at 1800/h)
Time range		0.10 s ... 120 h
Repetition accuracy		\pm 1 %
Other data		
Flammability class as per UL 94		V-2
Ambient temperature/storage temperature		-10 ... +55 °C / -25 ... +65 °C (without condensation)
Clamping range (nominal/min/max)	mm ²	
Length x width x height	mm	80.0 x 17.5 x 73.0

Accessories

Designation	Type	Qty.	Order No.
Locking and adjusting key	BT Lock Pen	1	8659840000

Multifunction relay with control input (BTM)

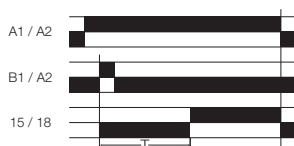
Ordering data

Connection system	Type	Qty	Order No.
Screw connection	BTM-S	1	8647700000
Tension clamp	BTM-Z	1	8647710000

Functions

Function A – on-delay

Connect power supply (A1/A2). When the input signal (B1/A2) is applied, the on-delay lasting for the set time T starts. The output R (15/18) connects the load at the end of the set time. To reset, the power supply has to be switched off.



Function B – pulse emitter (starting at normal position)

Connect power supply (A1/A2). After applying the input signal (B1/A2), output R (15/18) switches the load synchronously and alternately between the normal and operated positions within the set time T. In this function, the cycle starts at the normal position.



Function B2 – pulse emitter (starting at operated position)

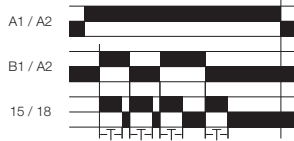
Connect power supply (A1/A2). After applying the input signal (B1/A2), output R (15/18) switches the load synchronously and alternately between the normal and operated positions within the set time T. In this function, the cycle starts at the operated position.



Function C – interval time-delay

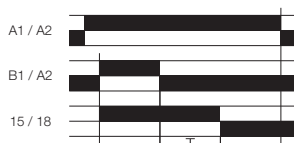
Connect power supply (A1/A2). After applying the input signal (B1/A2), output R (15/18) connects the load for the set time T. Output R (15/18) switches the load off again at the end of time T.

After switching off the input signal (B1/A2), output R (15/18) connects the load again for the set time T. Output R (15/18) switches the load off again at the end of time T.



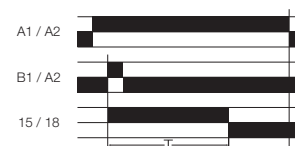
Function D – off-delay function

Connect power supply (A1/A2). After applying the input signal (B1/A2), output R (15/18) connects the load. The time delay T begins after the input signal (B1/A2) has been switched off. At the end of time T, output R (15/18) switches the load off again.



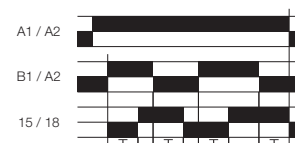
Function E – passing make function

Connect power supply (A1/A2). After applying the input signal (B1/A2), output R (15/18) connects the load immediately. At the end of the set delay time T, output R (15/18) switches the load off again.



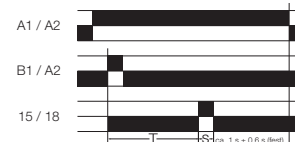
Function G – on and off-delay function

Connect power supply (A1/A2). Time delay T begins after applying the input signal (B1/A2). At the end of this time, output R (15/18) connects the load (on-delayed). After the input signal (B1/A2) has been switched off again, the output switches the load off again after the set time (off-delayed).



Function J – on-delay with pulse

Connect power supply (A1/A2). Time delay T begins after applying the input signal (B1/A2). At the end of this time, the output R (15/18) connects the load for 1 second.



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Multi-function relay without control input (BTMF)

Timer relay (BTR)

Ordering data

Connection system	Type	Qty	Order No.
Screw connection	BTMF-S	1	8647680000
Tension clamp	BTMF-Z	1	8647690000

Ordering data

Connection system	Type	Qty	Order No.
Screw connection	BTR-S	1	8647720000
Tension clamp	BTR-Z	1	8647730000

C

Functions

Function A – on-delay function

When the input signal (A1/A2) is applied, the on-delay lasting for the set time T starts. The output R (15/18) connects the load at the end of the set time. To reset, the power supply has to be switched off.



Functions

Function A – on-delay

When the power supply is connected (A1/A2), the on-delay lasting for the set time T starts. The output R (15/18) connects the load at the end of the set time.



Function B2 – pulse emitter (starting at operated condition)

After applying the input signal (A1/A2), output R (15/18) switches the load synchronously and alternately between the normal and operated positions within the set time T. In this function, the cycle starts at the operated position.



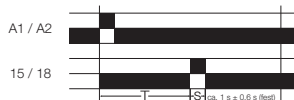
Function E – passing make function

After applying the input signal (A1/A2), output R (15/18) connects the load immediately. At the end of the set delay time T, output R (15/18) switches the load off again.



Function J – on-delay with pulse

Time delay T begins after applying the input signal (A1/A2). At the end of this time, the output R (15/18) connects the load for 1 second.



Timer relay (BTTT)

Timer relay (BTDS)

Ordering data

Connection system	Type	Qty	Order No.
Screw connection	BTTT-S	1	8647740000
Tension clamp	BTTT-Z	1	8647750000

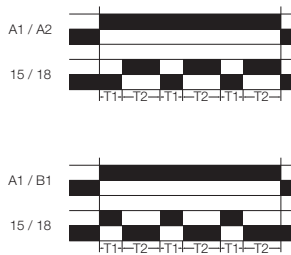
Ordering data

Connection system	Type	Qty	Order No.
Screw connection	BTDS-S	1	8647660000
Tension clamp	BTDS-Z	1	8647670000

Functions

Function BTTT – pulse emitter

When the power supply is connected (A1/A2), the repeat cycle begins with two independently adjustable times. The standard setting is to start at the normal position. A bridge between connections A1 and A2 allows the module to start at the operated position.



Functions

Star-delta changeover

After connecting the power supply, output R1 (17/18) connects immediately. At the end of time T1, output R1 (17/18) switches off and time T2 starts. At the end of time T2, output R2 (27/28) connects. After switching off the power supply, output R2 (27/28) switches off.

