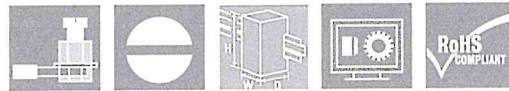
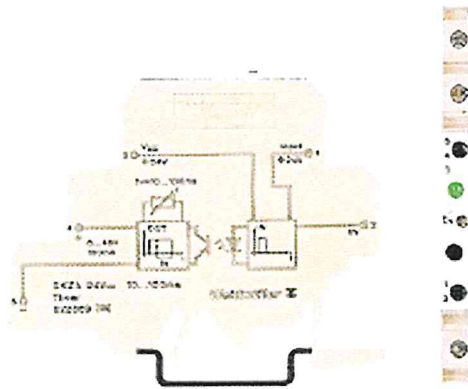


**DK-SERIES**  
**DKZA DK5 24VDC 10-100MS**

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 16  
 D-32758 Detmold  
 Germany  
 Fon: +49 5231 14-0  
 Fax: +49 5231 14-292083  
 www.weidmueller.com



At just 6 mm wide, all components of the DKZ range of minicouplers have an extremely narrow design. Four or five screw connections with a nominal cross-section of 4 mm<sup>2</sup> are available. The DKZ range of timing relays are suitable for many different applications and are preferred for extending pulses in automation engineering.

**General ordering data**

Delivery status	This article will no longer be available in the future.
Available until	2018-12-31
Type	DKZA DK5 24VDC 10-100MS
Order No.	8228690000
Version	DK-SERIES, Time module, Off-delay, , No. of contacts: 1, NO contact, Rated control voltage: 24 V DC $\pm 20\%$ , Continuous current: 0.1 A, Screw connection
GTIN (EAN)	4008190193928
Qty.	10 pcs(s).

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**Technical data****Dimensions and weights**

Width	6 mm	Width (inches)	0.236 inch
Height	77 mm	Height (inches)	3.031 inch
Depth	62 mm	Depth (inches)	2.441 inch
Net weight	23 g		

**Temperatures**

Humidity	40 °C / 93 % rel. humidity, no condensation	Operating temperature, max.	50 °C
Operating temperature, min.	-25 °C	Storage temperature, max.	85 °C
Storage temperature, min.	-40 °C	Operating temperature	-25 °C...50 °C
Storage temperature	-40 °C...85 °C		

**Input**

Rated control voltage	24 V DC ± 20 %	Rated current DC	Approx. 11 mA
Power rating	260 mW	Min. pulse duration	2 ms
Time ranges	0.01 s - 0.1 s		

**Output**

Max. switching voltage, DC	48 V	Continuous current	0.1 A
Switch-off delay	10 ... 100 ms (adjustable)	Max. switching current	100 mA

**Contact data**

Contact type	1 NO contact (Transistor)
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**General data**

Version	Off-delay	Mounting rail	TS 32, TS 35
Test button	No	Mechanical switch position indicator	No
Open sides	right	Colour	Beige

**Insulation coordination**

Rated voltage	300 V	Surge voltage category	IV
Pollution severity	2	Dielectric strength input - output	4 kV <sub>eff</sub>
Creepage and clearance distance input - output	≥ 5.5 mm	Impulse withstand voltage	6 kV

**Further details of approvals / standards**

Standards	DIN EN 50178
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**Connection data**

Wire connection method	Screw connection	Clamping range, rated connection	4 mm <sup>2</sup>
Clamping range, min.	0.5 mm <sup>2</sup>	Clamping range, max.	4 mm <sup>2</sup>
Wire connection cross section AWG, min.	AWG 22	Wire connection cross section AWG, max.	AWG 12
Wire cross-section, solid, min.	0.5 mm <sup>2</sup>	Wire cross-section, solid, max.	4 mm <sup>2</sup>
Wire connection cross-section, finely stranded, min.	0.5 mm <sup>2</sup>	Wire connection cross section, finely stranded, max.	4 mm <sup>2</sup>
Blade size	0.4 x 2.5 mm		

Creation date July 16, 2018 9:39:00 PM CEST

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**Technical data****Classifications**

ETIM 3.0	EC001439	ETIM 4.0	EC001669
ETIM 5.0	EC001439	ETIM 6.0	EC001439
UNSPSC	30-21-19-17	eClass 5.1	27-14-23-10
eClass 6.2	27-14-23-10	eClass 7.1	27-37-17-90
eClass 8.1	27-37-16-05	eClass 9.0	27-37-16-05
eClass 9.1	27-37-16-05		

**Product information**

Descriptive text technical data	For mounting on TS 32/35 rail
Descriptive text accessories	End plate AP DK5 8268870000

**Approvals**

Approvals



ROHS	Conform
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**Downloads**

Engineering Data	<a href="#">EPLAN, WSCAD</a>
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# Installation timer

The electronic timer from the BT product range offers ideal solutions for industrial applications.

**The BT product range provides the following functions:**

- Pick-up delay (BTR)
- Pulse emitter (BTTT)
- Multifunction with control input (BTM)
- Multifunction without control input (BTMF)
- Star-delta change-over

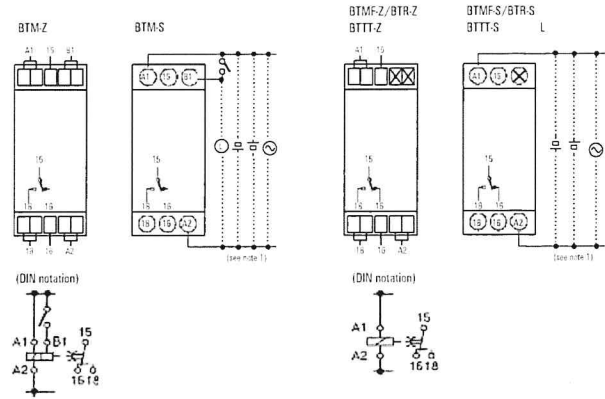
**E**

**Time ranges and power supplies for timer**

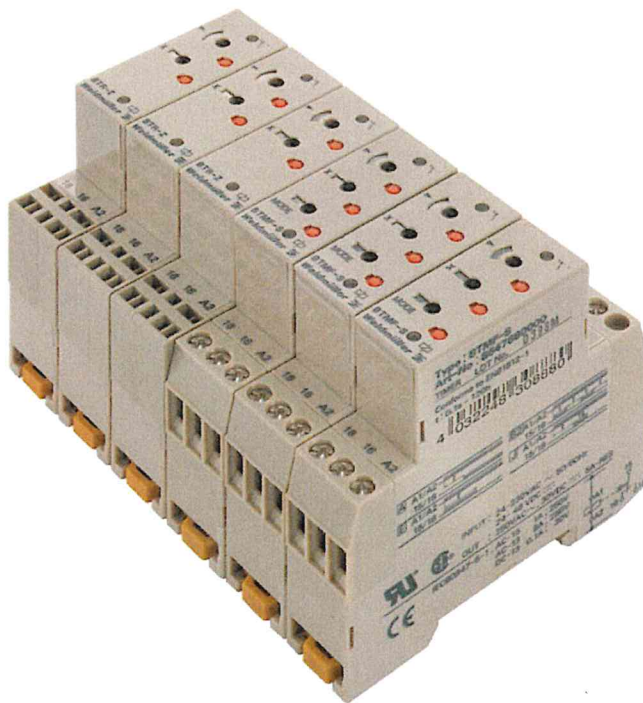
Using the central button, you can select the functions of the modules over either 4 or 8 time ranges.

The multi-voltage supply range offers a wide bandwidth for industrial use (see technical data).

**Connection of the timer**



- Note:
1. Pole numbers are not necessary for DC voltage supply.
  2. The contact symbol of BTM is marked with as it provides several operating modes and differs from the delayed contacts of conventional timer.



**Time ranges**

Display of time scale	Time ranges
0.1 s	0.1 to 1.2 s
1 s	1 to 12 s
0.1 min	0.1 to 1.2 min
1 min	1 to 12 min
0.1 h	0.1 to 1.2 h
1 h	1 to 12 h
10 h	10 to 120 h

Note:  
If the rotary button for time adjustment is set to "0", the output will be switched without delay.

**Choosing the time range**

The time range is chosen by turning the rotary switch for the ON-time scale and OFF-time scale. The time scales are visible in the display to the left of the rotary switch in the following order: 0.1 s, 1 s, 0.1 m, 1 m, 0.1 h, 1 h.

Note:  
The time scales "1 s" and "0.1 h" are given twice. Both adjustments represent the same time scale.

**Locking/unlocking of selectors and time setting dial**

The rotary switches for the ON/OFF time adjustment and the option selector for the time scale can be locked with the locking key.

This pen-style special tool is available separately. To lock either rotary switches or the option selector, simply insert the locking key into the keyhole bottom right of the rotary switch/option selector and turn it clockwise until the button/switch is totally covered by the red cover. To unlock, simply turn the key in the opposite direction.

**Connection system**

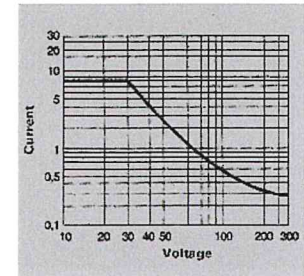
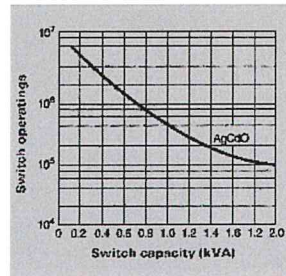
The units offers the following connection technologies:

**Screw connection**

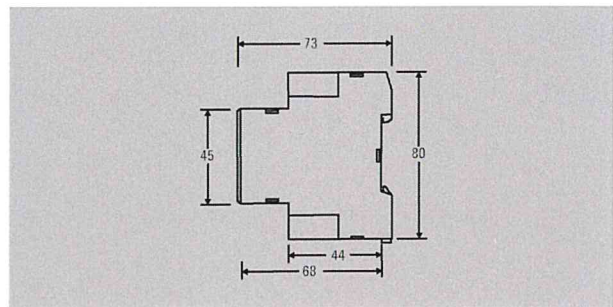
- 2 x 1.5 mm<sup>2</sup> with wire end ferrule,
- 2 x 2.5 mm<sup>2</sup> without wire end ferrule

**Tension clamp connection**

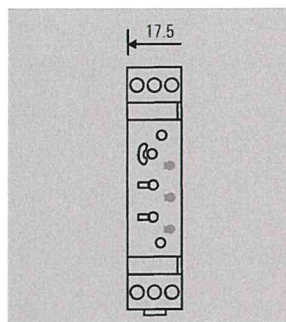
- 2 x 1.5 mm<sup>2</sup> with wire end ferrule,
- 2 x 1.5 mm<sup>2</sup> without wire end ferrule



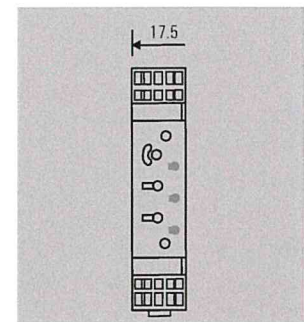
**Dimensions**



**Screw connection**



**Tension clamp connection**



**BT-SERIES – Timer**

**Installation timer**

- Screw or tension clamp connection
  - LED status indicator
  - Approvals
- |               |                 |
|---------------|-----------------|
| Input:        | voltage present |
| Output:       | output active   |
| 508           | 22.2 Nr. 14     |
| EN 61812-1    | IEC 60664-1     |
| IEC 60947-5-1 | EN 61812-1      |
| IEC 60664-1   | IEC 60947-5-1   |
| EN 55011      | EN 50082-2      |



**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

<b>Input</b>	<b>Contacts hard gold plated</b>
Rated voltage	24 ... 230 V AC, 50/60 Hz, 24 ... 48 V DC
Voltage tolerance	85 ... 110 % of rated voltage
Breaking voltage	Max. 2.4 V AC/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)
<b>Insulation</b>	
Insulation resistance	100 MΩ 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
<b>Output</b>	
Contact/contact material	1 change-over contact (BTDS 2 NOC) / AgNi 90/10
Switch output	5 A at 250 V AC, resistive load (cos φ=1)
Service life	mechanical min. 10 <sup>7</sup> switching cycles (no load, 1800/h) electrical min. 10 <sup>7</sup> switching cycles (5A at 250 V AC, resistive load at 1800/h)
Time range	0,10 s...120 h
Repetition accuracy	± 1 %
<b>Other data</b>	
Flammability class as per UL94	V-2
Ambient temperature/storage temperature	-10...+55 °C / -25...+65 °C (without condensation)
Humidity	35...85 % rel. humidity, no condensation
Clamping range (nominal/min/max)	mm <sup>2</sup>
Depth x Width x Height	mm 73.0 x 17.5 x 80.0

**Accessories**

Designation
Locking and adjusting key

Type	Qty.	Order No.
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

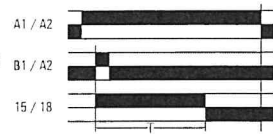
Function A – on-delay

Connect power supply (A1/A2). When the input signal (B1/A2) is applied, the set time T begins to delay. After the time has expired, the output R (15/18) disconnects the load. To reset, the input signal needs to be switched off.



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.



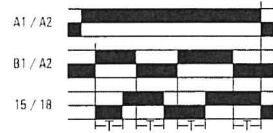
Function B – pulse emitter (starting at normal position)

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.



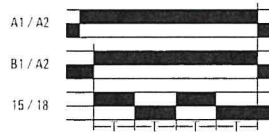
Function G – on and off-delay function

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).



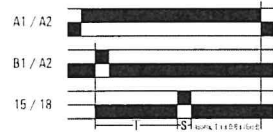
Function B2 – pulse emitter (starting at operated position)

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.



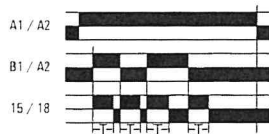
Function J – on-delay with pulse

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.



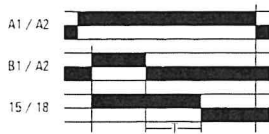
Function C – interval time-delay

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.



**BT-SERIES – Timer**

**Multi-function relay without control input (BTMF)**



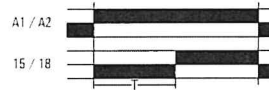
**Ordering data**

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

**Functions**

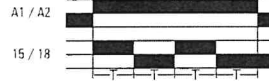
**Function A – on-delay**

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.



**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 (BTR)**



**Ordering data**

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

**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.





Timer (BTTT)



Ordering data

Connection system	Type	Qty.	Order No.
Screw connection	BTTT-S	1	8647740000

Timer (BTDS)



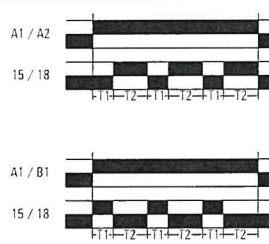
Ordering data

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

Functions

Function BTTT - pulse emitter

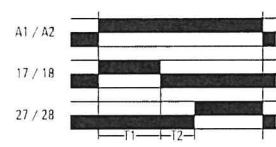
When the power supply is connected (A1/A2), the repeat cycle begins with two independently adjustable times. The standard setting is to start at the normal position. A bridge between connections A1 and A2 allows the module to start at the operated position.



Functions

Star-delta chageover

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.



Timer

E