

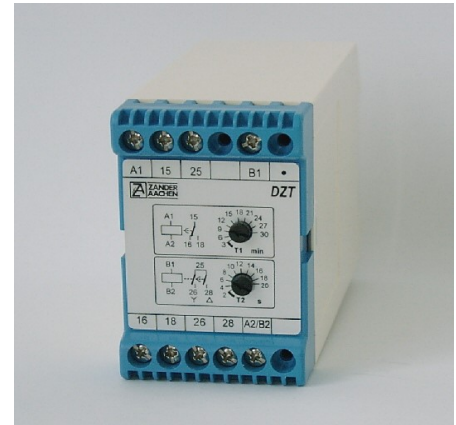
## Operating Instructions

### Correct Use

**DZT combines two from each other independently working timer in one housing: one On-Delay-Timer, one Star-Delta-Timer. The DZT controls time depending machine and plant operations, e.g. for compressors. The integrated Star-Delta-Timer is used to activate a Star-Delta protective combination as a start-up controller for three-phase motors.**

- in one housing
- On-Delay-Timer 0,2-30 min
- Additional Star-Delta-Timer
- Adjustable start-up time for star operation
- Defined dwell time between star operation and delta-mode
- Compact housing
- High switching capacity

### Features



### Function

DZT combines two from each other independently working timer in one housing:

1. On-Delay-Timer
2. Star-Delta-Timer.

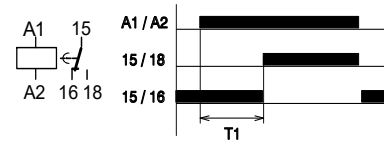
Both functions can be operated completely independently. The control of the On-Delay-Timer is activated by the connections A1 and A2, the Star-Delta Timer is activated by B1 and B2. The common N-line is attached at the combined connection A2/B2.

The compact design characterizes this device. The fitting is for DIN rail 35mm according to DIN EN 50022.

#### 1. On-Delay-Timer (A1-A2)

The time laps begins with applying the operating voltage to A1-A2. After the adjusted time delay **T1** elapsed, the relay switches and opens the contacts 15-16 (switching from 15-16 to 15-18).

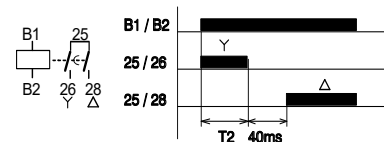
This operating condition remains as long as the operating voltage is applied to A1 and A2. With the removal of the operating voltage the contacts switches back to 15-16.



On-Delay-Timer (T1: 0.2-30 min)

#### 2. Star-Delta-Timer (B1-B2)

After applying the operating voltage to B1-B2 the contact 25-26 (star mode) switches on firstly for the duration of the adjusted time **T2**. Afterwards the contacts 25-26 and 25-28 are open for **40ms** (dwell time). After this dwell time the contact 25-28 (delta-mode) switches on. This condition remains as long as the operating voltage is applied to B1-B2. With the removal of the operating voltage the contacts 25-26 and 25-28 switches off.



Star-Delta-Timer (T2: 0.3-20 s)

### Safety Precautions



- Installation and operation must be carried out by qualified personnel only.
- The electrical installation must be performed after disconnecting the device and the machine from the mains supply.
- The wiring must be carried out according to the instructions of this operating manual, or the safety function may be lost.
- Opening the device, any manipulation of the device and the avoidance of the safety facilities are not permitted.
- All relevant safety regulations and standards must be

attended to.

- Non-observance of the safety regulations may cause death, severe injuries or substantial damage to property.

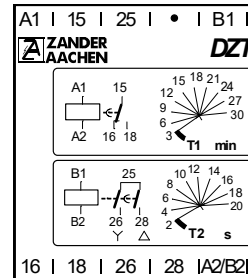
## Operating Instructions

### Installation

As per EN 60204-1, the device is intended for installation in control cabinets with a minimum degree of protection of IP54. It is mounted on a 35 mm DIN rail according to DIN EN 60715 TH35.

### Electrical Connection

- A1-A2 are the operating voltage contacts to control the On-Delay timer.
- B1-B2 are the operating voltage contacts to control the Star-Delta Timer.
- The combined N-Conductor for A1/B1 will be connected to the combined terminals A2 and B2.
- External contact fuses (6A slow blow or 8A fast blow) must be provided.
- Conductor cross section must not exceed 2,5mm<sup>2</sup>.
- If the DZT has no function after commissioning, it must be returned unopened to the manufacturer. Open the DZT invalidate the warranty.



Connections

**A1:** Power Supply timer 230 V  
**B1:** Power Supply Star-Delta-Timer 230 V  
**A2 /B2:** Common N-line for A1,B1  
 15-16-18: Contact Timer  
 25-26-28: Contact Star-Delta-Timer

### Maintenance

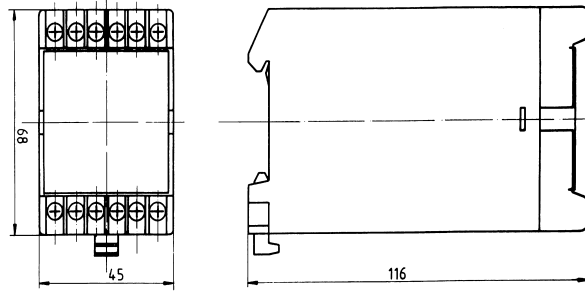
Once per month, the device must be checked for proper function and for signs of tampering

The device is otherwise maintenance free, provided that it was installed properly.

### Techn. Data

Operating voltage	AC 230 V, 50-60 Hz
Residual ripple	+ 10 / - 15%
<b>Timer A1-A2/B2:</b>	
Time range T1	0.2-30 min
Power consumption	0.35 VA
<b>Star-Delta-Timer B1-A2/B2:</b>	
Time range T2:	0.3-20 s
Dwell time	approx. 40 ms (min. 30 ms/ max. 50 ms)
Power consumption	0.35 VA
Repeat accuracy	+/- 0,5%
Reclose readiness	< 50 ms when switched on
Switching capacity	AC 250 V: max. 6 A, max. 1500 VA DC 24 V: 2 A
Contact life	mechanical 2 x 10 <sup>7</sup> operations
Temperature dependence	0,1% /°C
External contact fuses	6 A slow blow oder 8 A fast blow
Max. line cross section	2.5 mm <sup>2</sup>
Test voltage	2.5kV (Control Voltage / contact)
Dielectric strength	4 kV (DIN VDE 0110-1)
Rating insulation voltage	250 V
Temperature range	-20 <sup>0</sup> - + 60 <sup>0</sup> C (dew-free)
Mounting	DIN-rail mounting DIN EN 50022-35
Protection	Mounting IP40, Terminals IP20
Weight	approx. 230 g
Installation position	any

Dimension  
Drawing



Order No

Order No. 410909

DZT AC230V

### **Konformitätserklärung** EC Declaration of Conformity

**Hersteller:** H. ZANDER GmbH & Co. KG  
**Producer:** Am Gut Wolf 15 • 52070 Aachen • Deutschland

**Produktgruppe:** Stern-Dreieck-Zeitrelais  
**Product Group:** Star Delta Timer

**Produkt Name**  
Product Name

DZT

**Die Produkte stimmen mit den Vorschriften folgender Europäischer Richtlinien überein:**  
The products conform with the essential protection requirements of the following European directives:

**2014/35/EU** : Niederspannungsrichtlinie  
2014/35/EU : Low-voltage directive

**2011/65/EU** : RoHS Richtlinie  
2011/65/EU : RoHS directive

**2014/30/EU** : EMV Richtlinie  
2014/30/EU : EMC directive

**Die Übereinstimmung der bezeichneten Produkte mit den Vorschriften der o.a. Richtlinie wird, falls anwendbar, nachgewiesen durch die vollständige Einhaltung folgender Normen:**  
If applicable, the conformity of the designated products is proved by full compliance with the following standards:

**EN 61439-1:2011**                      **EN 60664-1:2007**                      **EN 60947-1:2007 + A1:2011 + A2:2014**  
**EN 60947-5-1:2017**                      **EN 61000-6-2:2005**                      **EN 61000-6-3:2007 + A1:2011**  
**EN 61812-1:2011**                      **IEC 63000:2018**

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Aachen, den 14.05.2019

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