

ABB i-bus® KNX

Thermoelectric Valve Drive, 24 V

TSA/K 24.2, 2CDG 120 050 R0011



Product Description

The Thermoelectric Valve Drive is used to open and close valves in Heating, Ventilating and Air-Conditioning (HVAC) systems.

The device can be controlled (2-point output or pulse width modulation) with the Electronic Switch Actuator ES/S, with the Valve Drive Actuator VAA/S or VAA/A, with a Fan Coil Actuator FCA/S or with the Electronic Relay ER/U in combination with the Universal Interface US/U and a Room Thermostat.

The snap-on mounting on valves or in heating/cooling circuit distributors will be established by Valve Adapters VA/Z.

ABB i-bus® KNX

Thermoelectric Valve Drive, 24 V

TSA/K 24.2, 2CDG 120 050 R0011

Technical Data

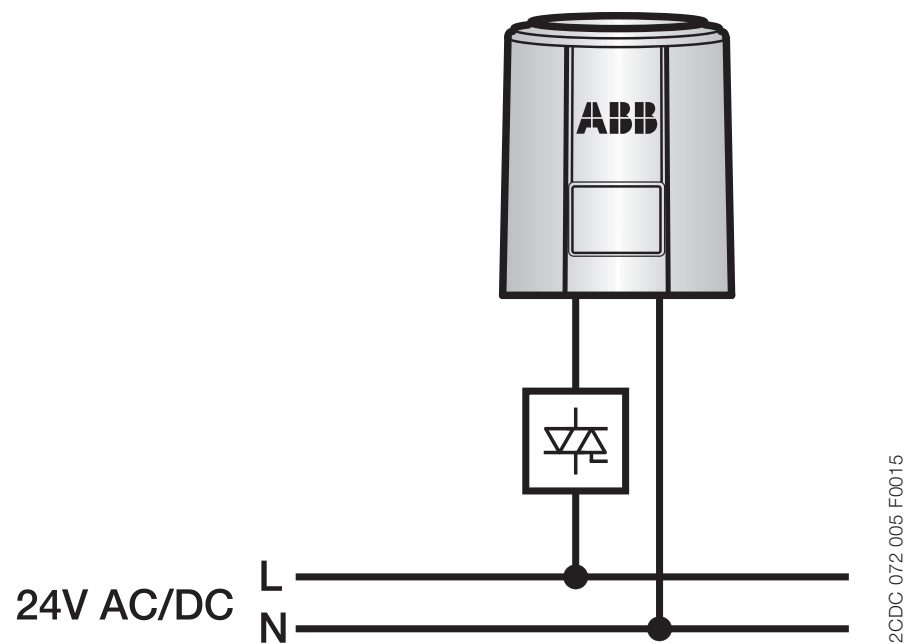
Version	Normally Closed First-Open function	NC Enables heating or cooling operation during the car-cass construction phase even when the electric wiring of the single room control is not yet complete.
Power supply	Operating Voltage Operating current Max. inrush current Operating power	24 V AC/DC, + 20%...- 10%, 0 – 60 Hz 47 mA < 300 mA during 2 min. max. 1 W
Connection	Connection cable (pluggable) Length	2 x 0.75 mm², light grey 1 m
Operating and display elements	Function display	Displays whether the valve is opened or closed. Blue ring is visible when valve is open.
Valve drive mechanic	Actuator travel Actuator force Closing and opening times	4 mm 100 N ± 5% Approx. 3 min.
Ambient temperature range	Fluid Environment Storage	0 °C ... + 100 °C 0 °C ... + 60 °C - 25 °C ... + 60 °C
Design	Compact device for placing on valve bases	
Housing	Dimensions (H x W x D) Material Colour	59.1 x 44.4 x 58.4 mm Plastic Light grey, RAL 7035
Mounting	Snap-on mounting Installation positions	Via Valve Adapter VA/Z 360° (vertical and horizontal recommended)
Type of protection	IP 54 (in all installation positions)	According to DIN EN 60529
Protection class	II	According to DIN EN 61140
Weight	0.1 kg	
CE-norm	According to EN 60730	

Accessory

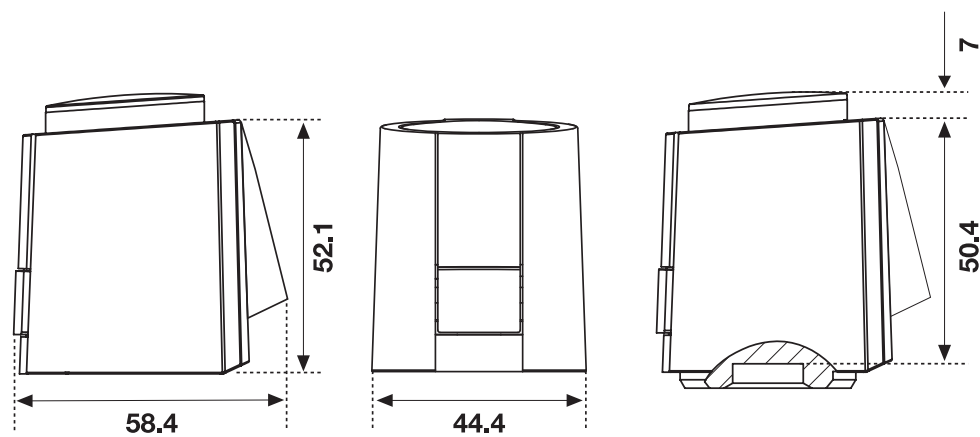
Type	Model
VA/Z 10.1	Valve Adapter (M 30 x 1.5) for Dumser, Chronatherm, Vescal, KaMo
VA/Z 50.1	Valve Adapter (M 30 x 1.5) for Honeywell, Reich, Cazzaniga, Landis & Gyr., MNG
VA/Z 78.1	Valve Adapter (Flange) for Danfoss RA
VA/Z 80.1	Valve Adapter (M 30 x 1.5) for Heimeier, Herb, Onda, Schlösser (from 93), Oventrop

ABB i-bus® KNX
Thermoelectric Valve Drive, 24 V
TSA/K 24.2, 2CDG 120 050 R0011

Circuit diagram



Dimension drawing



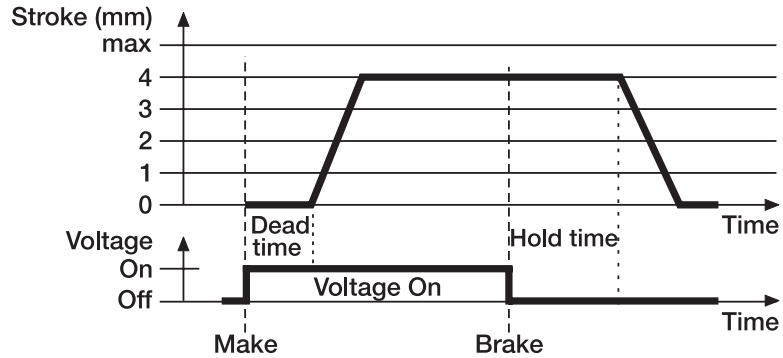
9AKK108469A8430

ABB i-bus® KNX

Thermoelectric Valve Drive, 24 V

TSA/K 24.2, 2CDG 120 050 R0011

Characteristic curves



2CDC 072 329 F0205

Mounting and Installation

Generally all installation positions are possible for practical use. Preferred installation positions of the valve drive are vertical and horizontal. An upside-down position may reduce product life through special circumstances (e.g. contaminated water).

The valve adaptation occurs via the Valve Adapter VA/Z. Those are available for the most common valve bases and heating circuit distributors. See also **Accessory**.

In its delivery state the valve drive is normally open due to the First-Open function. This enables heating operation during the carcass construction phase even when the electric wiring of the single room control is not yet complete. When commissioning the system at a later date, the First-Open function is automatically unlocked by applying the operating voltage (> 6 min.) and the valve drive is fully operable.

Calculation of maximum cable length (copper cable) for 24 V rated voltage:

$$L = K \times A / n$$

- A Conductor cross-section in mm²
- n Number of valve drives
- K Constant (269 m/mm²)
- L Cable length in m

We recommend the following wires for installation a 24 V system:

Bell wire:	J-Y(ST)Y	0.8 mm ² up to 45 m
Light plastic-sheated cable:	NYM	1.5 mm ² up to 136 m
Flat webbed building wire:	NYIF	1.5 mm ² up to 136 m

Transformer:

A safety isolating transformer according to EN 60335 must always be used. Transformer dimensioning results from the making capacity of the valve drives:

$$P_{\text{Transformer}} = 6W \times n$$

n Number of valve drives

ABB i-bus® KNX

Thermoelectric Valve Drive, 24 V

TSA/K 24.2, 2CDG 120 050 R0011

Important notes
Installation and commissioning of the device may only be carried out by trained electricians. The relevant standards, directives, regulations and instructions must be observed when planning and implementing the electrical installation.
Protect the device against moisture, dirt and damage during transport, storage and operation!
Do not operate the device outside the specified technical data (e.g. Temperature range)!

Cleaning

Should the device become soiled, it may be cleaned with a dry cloth. If this does not suffice, a cloth lightly moistened with soap solution may be used.

On no account should caustic agents or solvents be used.

Maintenance

The device is maintenance free. Should damage have occurred, e.g. due to transport or storage, no repairs should be carried out.

The warranty expires if the device is opened!



ABB STOTZ-KONTAKT GmbH
Eppelheimer Straße 82
69123 Heidelberg, Germany
Telefon: +49 (0)6221 701 607
Telefax: +49 (0)6221 701 724
E-Mail: knx.marketing@de.abb.com

Further Information and Local Contacts:
www.abb.com/knx

© Copyright 2024 ABB. We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB AG does not accept any responsibility whatsoever for potential errors or possible lack of information in this document. We reserve all rights in this document and in the subject matter and illustrations contained therein.
Any reproduction, disclosure to third parties or utilization of this contents - in whole or in parts - is forbidden without prior written consent of ABB AG.