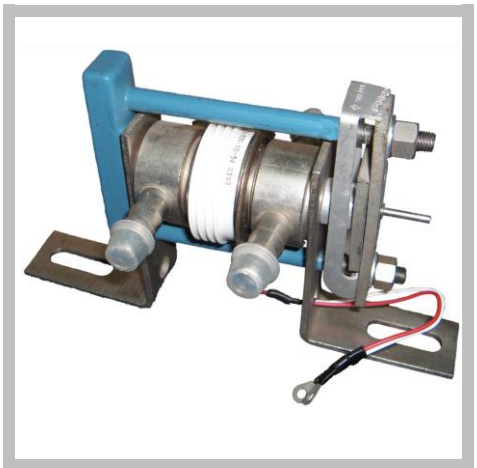
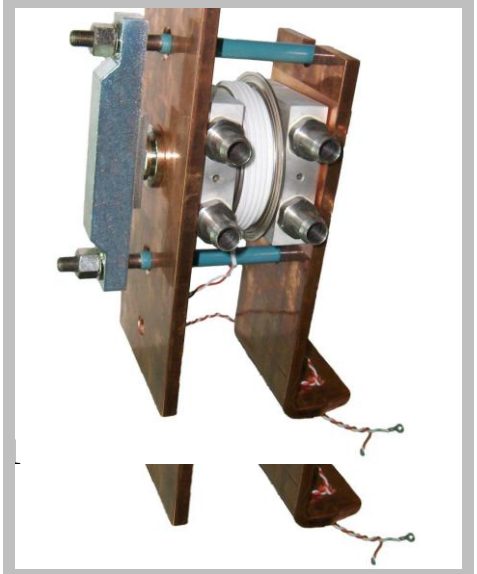
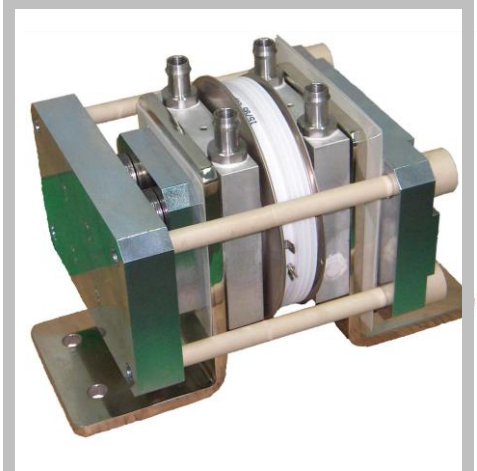
# THYRISTOR MODULE – M2T…W



**POWER BLOCK – photo1**



**POWER BLOCK – photo2**



**POWER BLOCK – photo 3**

## SINGLE-ELEMENT THYRISTOR POWER BLOCK WITH WATER COOLED HEATSINK

### Characteristics:

- single-element thyristor power module with water cooled heat sink
- water cooling

### Application:

- rectifiers, inverters, power supplies
- DC power controllers
- power contactors
- soft-starter

### Options:

- clamping in K-1 (photo 1)
- camping in K-2 special option (photo 2)
- camping in K-5 special option (photo 3)
- thermal protection
- RC system
- fuse

### Selection of power blocks:

Depending on the load of power block there are used different semiconductors. Size of the applied semiconductor is specified in Table 1.

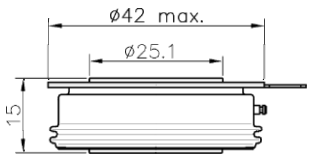
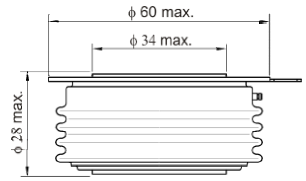
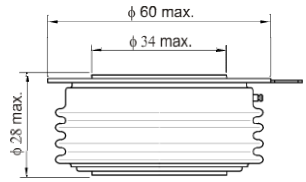
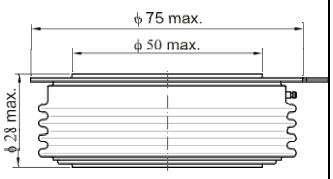
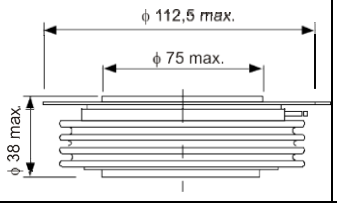
### Working conditions:

Single-element power blocks with water cooling are assigned to work in power electronic inverter systems:

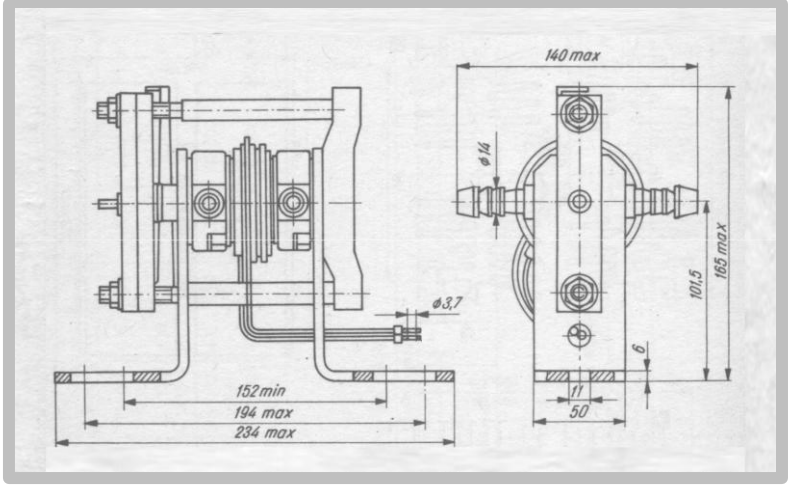
- temperature of cooling water on entry: $5^0$C do $30^0$C for temperature of ambient air not lower than $-10^0$C;
- atmospheric pressure: 860hPa – 1060hPa;
- cooling water: resistivity not lower than $5x10^5$ Ω·cm, pH: 5 – 8 and hardness not higher than 80mg $CaO/dm^3$

### Configuration:

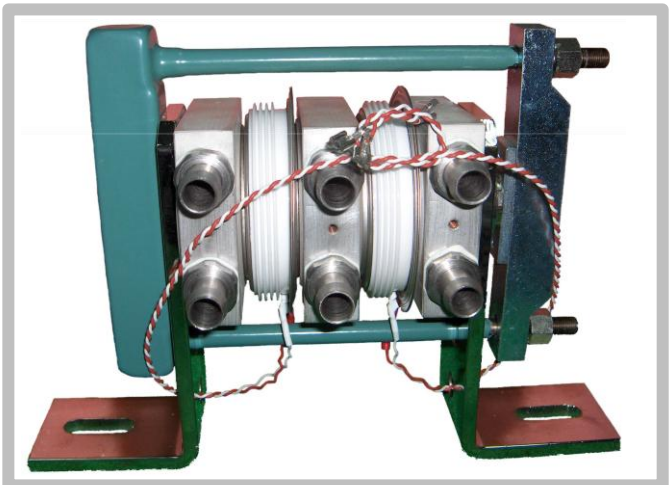
## Table 1. Technical parameters

| Type of module | Average current of semiconductor $I_{T(AV)}$ [A] | Repetitive peak reverse voltage of semiconductor $U_{DRM}$, $U_{RRM}$ [V] | Non-repetitive surge current $I_{TSM}$ [A] | Dimensions of applied semiconductor [mm] | Mass of block [kg] |
|---|---|---|---|---|---|
| **M2T75W** | 650…960 | 400…2200 | 8000…12000 |   | 1,4 |
| **M2T7W** | 450…650 | 400…2400 | 7000…10000 |   | 1,6 |
| **M2T8W** | 630…1000 | 400…8500 | 10000…24000 |   | 1,6 |
| **M2T9W** | 1000…2000 | 400…7500 | 20000…42000 |   | 3,2 |
| **M2T11W** | 1000…3200 | 400…7200 | 27000…65000 |   | 9,8 |

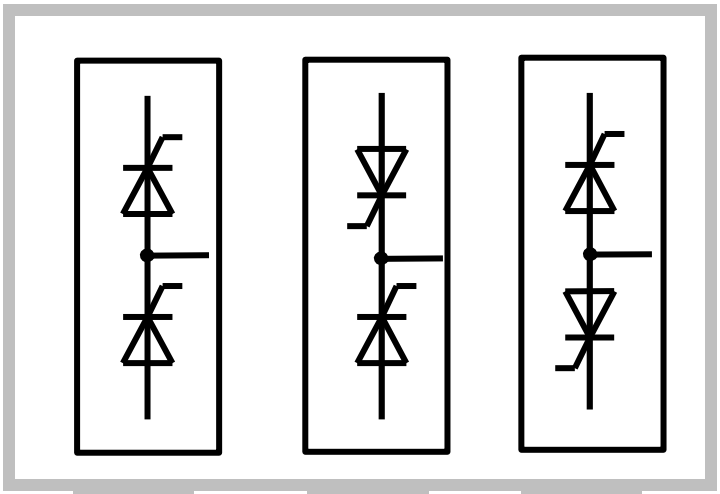
## Scheme of power blocks — type M2T..W



# DOUBLE-THYRISTOR MODULE – M2C…W



**POWER BLOCK – photo1**



**M2C** **M2K** **M2A**

## DOUBLE-ELEMENT THYRISTOR POWER BLOCK WITH WATER COOLING HEATSINK

**Characteristics:**

- double-element thyristor power module in water cooled heat sink
- water cooling.

**Application :**

- rectifiers, inverters, power supplies
- DC power regulators
- power contactors
- soft-starter

**Options:**

- standard version (photo 1)
- with bus bars
- with black anodized heatsink
- thermal protection
- RC system
- fuse
- forced cooling

**Selection of power blocks:**

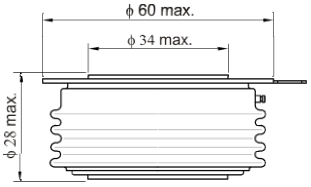
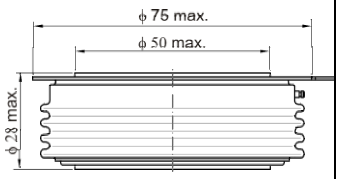
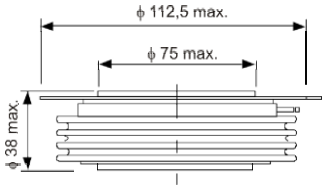
Depending on the load of power block there are used different semiconductors.
Size of the applied semiconductor is specified in Table 1.

**Working conditions:**

Double-element power blocks are assigned to work in power electronic inverter systems:

- temperature of cooling water on entry: $5^0$C – $30^0$C for temperature of ambient air not lower than $-10^0$C;
- atmospheric pressure: 860hPa – 1060hPa;
- cooling water: resistivity not lower than $5x10^5$ Ω·cm, pH: 5 – 8 and hardness not higher than 80mg CaO/$dm^3$

## Table 1. Technical parameters

| Type of module | Average current of semiconductor $I_{T(AV)}$ [A] | Repetitive peak reverse voltage of semiconductor $U_{DRM}$, $U_{RRM}$ [V] | Non-repetitive surge current $I_{TSM}$ [A] | Dimensions of applied semiconductor [mm] | Mass of block [kg] |
|---|---|---|---|---|---|
| **M2C7W** | 450…650 | 400…2400 | 7000…10000 |  | 3,2 |
| **M2C8W** | 630…1000 | 400…8500 | 10000…24000 |  | 3,6 |
| **M2C9W** | 1000…2000 | 400…7500 | 20000…42000 |  | 6,9 |
| **M2C11W** | 1000…3200 | 400…6000 | 27000…65000 |  | 19,0 |

## Scheme of power blocks — type M2C..W