

BKJU.436610.011



- **Completely replace power-supply modules MDM7.5-P series on dimensions and purpose of conclusions and have the improved characteristics**
- **Working temperature range from -60°C to +125°C**
- **High power density**
- **High reliability**
- **Single and multi-output models**
- **Output voltage regulation**
- **Short circuit protection, overvoltage and thermal protection**
- **Remote on/off**
- **Coefficient of efficiency 82%**
- **Small size, low-profile**
- **Metal case**
- **Cooling by free air convection or a heat sink using**
- **Galvanic isolated outputs**

**Ordering information**

**MR 10 D - 24 S 12 U T**

- ① ② ③ ④ ⑤ ⑥ ⑦ ⑧
- ① - Mistral Series
  - ② - Maximum output power, W (limiting capacity is designated on the case for the given standard size, stipulated at the order)
  - ③ - Voltage transformation class  
D - DC/DC
  - ④ - Nominal input voltage  
12 VDC (10,5...18) VDC  
24 VDC(18...36) VDC  
27 VDC(17...36) VDC  
48 VDC(36...75) VDC
  - ⑤ - Output channels quantity  
S - one  
D - two  
T - three
  - ⑥ - Nominal output voltage, VDC (two numbers on channel)
  - ⑦ - Embodiment  
U - reinforced aluminium frame with flanges  
S - thin-walled stamped case
  - ⑧ - Operating temperature range  
M - -60°C...+85°C  
T - -60°C...+125°C

**Single-output models**

Module	Input voltage range	Output power	Output voltage	Maximal output current
MR10D-12S05-UM	10,5...18 VDC	10 W	5 VDC	2 A
MR10D-12S15-UM			15 VDC	0,66 A
MR10D-12S27-UM			27 VDC	0,37 A
MR10D-24S05-UM	18...36(40) VDC	10 W	5 VDC	2 A
MR10D-24S15-UM			15 VDC	0,66 A
MR10D-24S27-UM			27 VDC	0,37 A
MR10D-27S05-UM	17...36(80) VDC	10 W	5 VDC	2 A
MR10D-27S15-UM			15 VDC	0,66 A
MR10D-27S27-UM			27 VDC	0,37 A
MR10D-48S05-UM	36...75 VDC	10 W	5 VDC	2 A
MR10D-48S15-UM			15 VDC	0,66 A
MR10D-48S27-UM			27 VDC	0,37 A

**Dual-output models**

Module	Input voltage range	Output power	Output voltage	Maximal output current
MR10D-12D0512-UM	10,5...18 VDC	10 W	5 VDC / 12 VDC	1 A / 0,42 A
MR10D-12D0515-UM			5 VDC / 15 VDC	1 A / 0,33 A
MR10D-12D1515-UM			15 VDC / 15 VDC	0,33 A / 0,33 A
MR10D-24D0512-UM	18...36(40) VDC	10 W	5 VDC / 12 VDC	1 A / 0,42 A
MR10D-24D0515-UM			5 VDC / 15 VDC	1 A / 0,33 A
MR10D-24D1515-UM			15 VDC / 15 VDC	0,33 A / 0,33 A
MR10D-27D0512-UM	17...36(80) VDC	10 W	5 VDC / 12 VDC	1 A / 0,42 A
MR10D-27D0515-UM			5 VDC / 15 VDC	1 A / 0,33 A
MR10D-27D1515-UM			15 VDC / 15 VDC	0,33 A / 0,33 A
MR10D-48D0512-UM	36...75 VDC	10 W	5 VDC / 12 VDC	1 A / 0,42 A
MR10D-48D0515-UM			5 VDC / 15 VDC	1 A / 0,33 A
MR10D-48D1515-UM			15 VDC / 15 VDC	0,33 A / 0,33 A

**Triple-output models**

Module	Input voltage range	Output power	Output voltage	Maximal output current
MR10D-12T051212-UM	17...36 VDC	10 W	5 VDC / 12 VDC / 12 VDC	1 A / 0,21 A / 0,21 A
MR10D-24T051212-UM	18...36(40) VDC	10 W	5 VDC / 12 VDC / 12 VDC	1 A / 0,21 A / 0,21 A
MR10D-27T051212-UM	17...36(80) VDC	10 W	5 VDC / 12 VDC / 12 VDC	1 A / 0,21 A / 0,21 A
MR10D-48T051212-UM	36...75 VDC	10 W	5 VDC / 12 VDC / 12 VDC	1 A / 0,21 A / 0,21 A

- ★ By request can be delivered modules with non-standard output voltage 3 to 80VDC and with maximal output current to 2A.
- ★ Modules with working temperature range from -60 to +125 are issued only in the strengthened cases (an index "U" in a designation).

### Technical specifications according to BKJU.436610.011

#### Input specifications

Input voltage range/ transitional deviation, 1 sec	12 VDC 10,5...18VDC/ 10,5...18VDC
	24 VDC 18...36VDC/17...37,8VDC
	27 VDC 17...36VDC/17...80VDC
	48 VDC 36...75VDC/36...84VDC
Input filter	P-type

#### Output specifications

Output voltage trimming range (for single-, dual-output execution with same voltage)	±5%
Output voltage total instability	
- for single-output execution (Inom 10 – 100%)	±4% (index "M") ±6% (index "T")
- for multi-output execution (Inom 10 – 100%)	±4% for out1 ±7% for out2&3 (index "M") ±6% for out1 ±10% for out2&3 (index "T")
- for multi-output execution with distinction voltage ≥20%	±4% for out1 ±14% for out2&3 (index "M") ±6% for out1 ±14% for out2&3 (index "T")
Pulsations ripple (peak-to-peak)	<2% Uout.nom.
Overload protection level**	>120% Iout.nom.
Short circuit protection level**	>150 % Iout.nom., autorepair
Overvoltage protection level**	>120 % Uout.nom.
Remote on/off	Off: 0...1,1VDC or connection of output «ON» and «- IN», I≤5 mA

#### General specifications

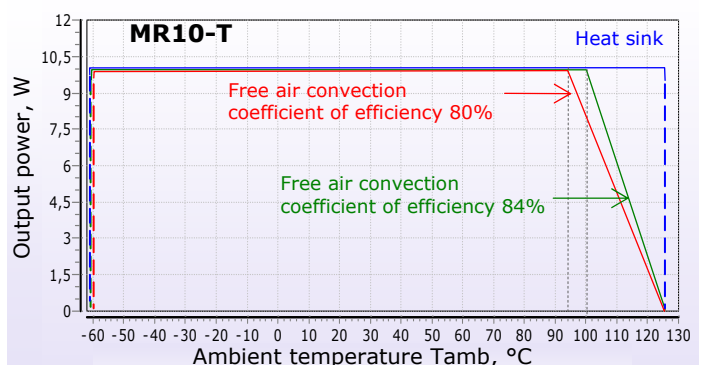
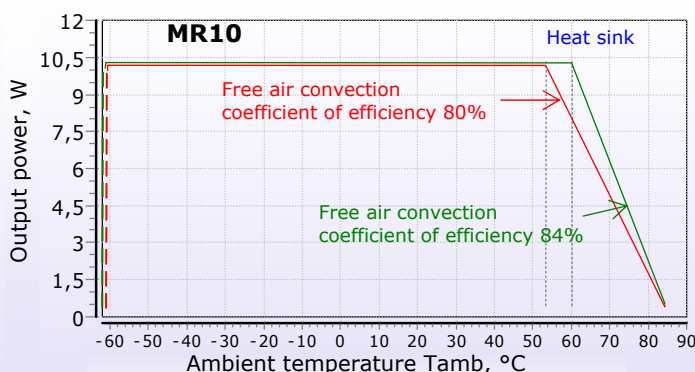
Temperature	- high working of case	- 60 °C...+85 °C (index "M") - 60 °C...+125 °C (index "T")
	- storage	- 60 °C...+85 °C (index "M") - 60 °C...+125 °C (index "T")
	<sup>1</sup> - power loss (free air convection)	See diagram (red, green lines)
Without power loss with radiator use (provided that Tcase. The module does not exceed the maximal value) see blue curve		
Efficiency		82 %
Thermal resistance case - environment		12,5 °C/Watt
Conversion frequency		150 kHz
Isolation	- voltage in/out: in/case: out/case:	~ 355 VDC, 50 Hz
	Insulation resistance @ 500VDC	≥20 Ohm
External factors stability	- high humidity	100% @ 35°C
	EMC standard	EN 55022, class A
	Safety standard	IEC/ EN 60950
Time to failure		> 2 400 000 hours @ +25°C
Cooling		Free air convection or heat sink using
Case material		Metal

\* All specifications are reduced for normal climatic conditions, Uin.nom, Iout.nom, if it is not specified differently.

\*\* Parameters are help and cannot be used at long-term work, excess of the maximal target current, at work outside of a range of working temperatures, at work of the module with target voltage over a range of adjustment

#### Power loss diagram (index «M»)

#### Power loss diagram (index «T»)

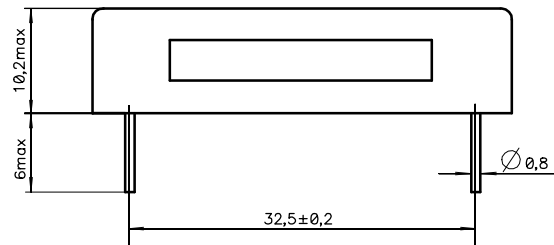
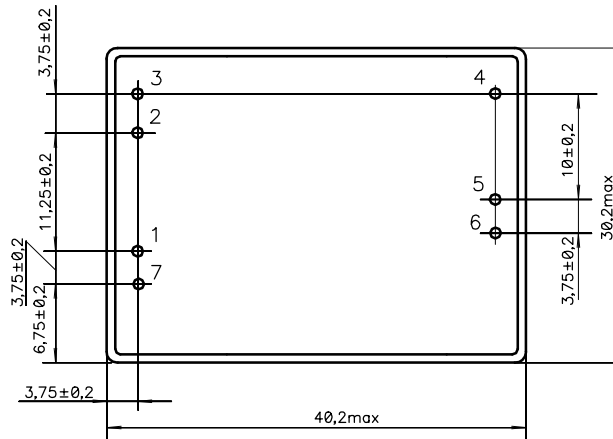


\* The inclined site of a red and green curve specifies that the module works in a mode with maximal Tcase (index «M» +85°C; index «T» +125°C).

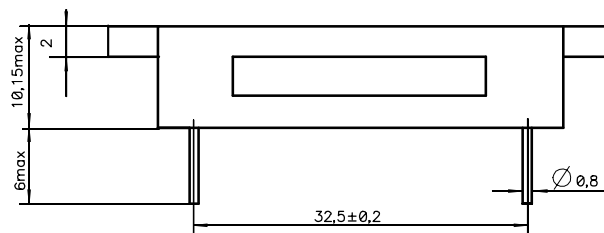
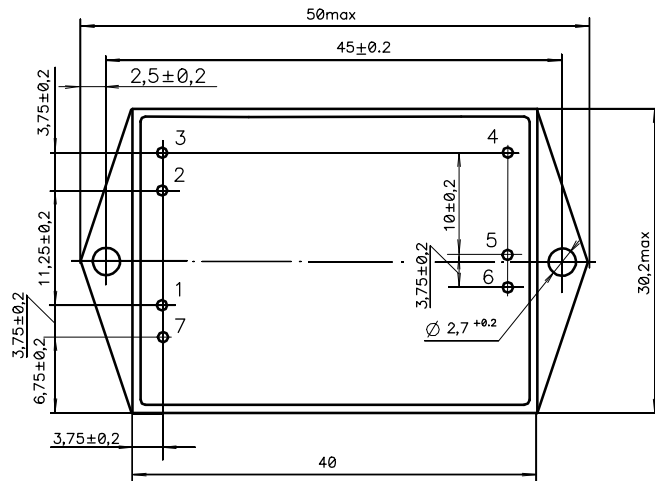
#### Output settings

Nº pin	1	2	3	4	5	6	7	8	9	10
Single-output	+ IN	- IN	ON	- out	+ out	trim	Case	-	-	-
Dual-output	+ IN	- IN	ON	- out 2	- out 1	+ out 1	+ out 2	Case	-	-
Triple-output	+ IN	- IN	ON	- out 3	+ out 3	- out 2	+ out 2	- out 1	+ out 1	Case

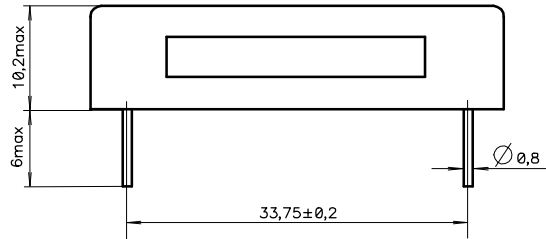
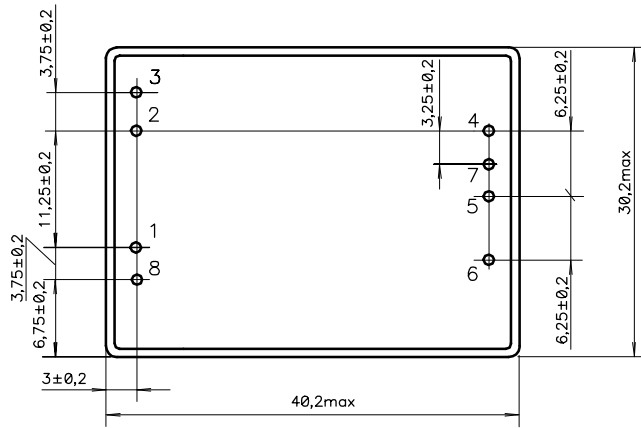
**MR10-S not flanged case (only index "M")**



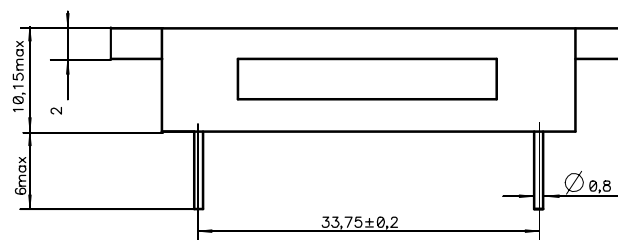
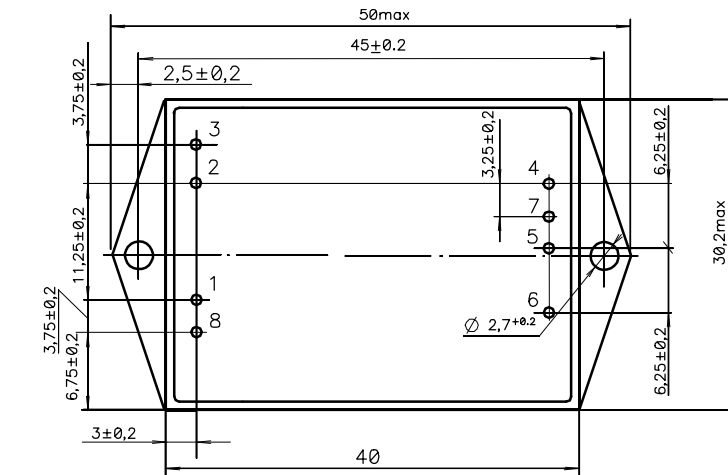
**MR10-S case with flanges**



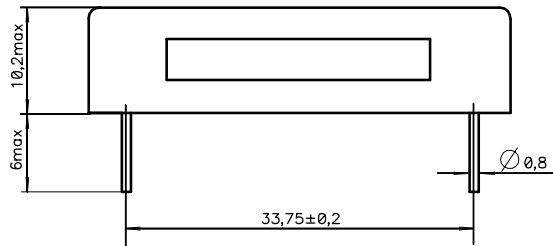
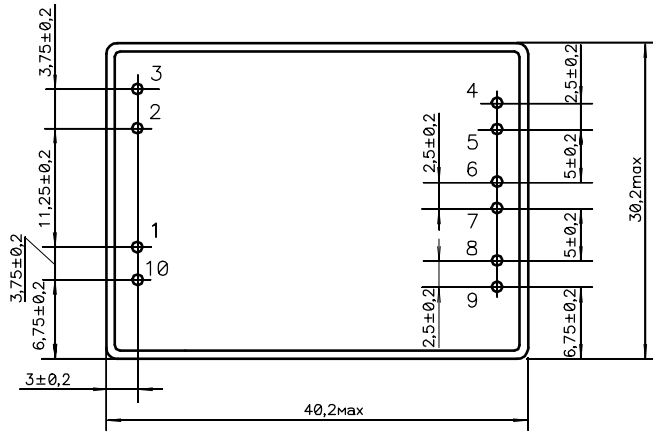
**MR10-D not flanged case (only index "M")**



**MR10-D case with flanges**



**MR10-T not flanged case (only index "M")**



**MR10-T case with flanges**

