

single / double output
up to 3 Watt

DC/DC converters
with isolation



- **Input voltage range up to > 1:6**
- **PCB-mountable**
(Base plate with distance to the PCB [Soldering cone])
- **ON-OFF-application (Option)**
- **Input C-L-C-Filter**
- **NEW:**
optional in open build up / same Pin-out

for Telecommunications / Automotive applications /
Industrial applications / Railway applications

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Series MRI · S / B



Main Points:

Output: [especially double output]

- Accuracy absolute $0 \div +2\%$
- Regulation factor $\Sigma(U_{in} + I_{out} + T_U) < \pm 2\%$
- Ripple 40 mV_{pp}
- Spikes typically 100 mV_{pp} (100 KHz)
- Response time $\Delta I = 50\% \leq 250$ [50] μs
- Short circuit current limiting
- Outputs 20% dyn. overload applicable
- No-load-, over-load protected
- Option: unsymmetrical outputs
- For A- and B-Pinning:
Outputs isolated in-between each other
- For C- und D-Pinning:
Outputs not isolated in-between each other
- Option: C-Pinning in open build-up with
isolated Outputs in-between each other

Input:

- ON-OFF-application (D-Pinning)
- Input-current-spike filter
- Noise suppression (Application)

General:

- Isolation test voltage 500 V_{AC} 1 Min
- Ambient temperature -25°C / +70°C,
Option H: -40°C / +85°C
- Derating 2% / °C >60°C
- Convection cooled
- Weight approx. 14 g
- Housing material: Noryl GV
- Dimension: 31,8 x 20,5 x 10,6 mm³
- Tantalum- and multiple-layer-capacitors
used
- Constant ripple over T_U
- Other standard pin-assignments
On request

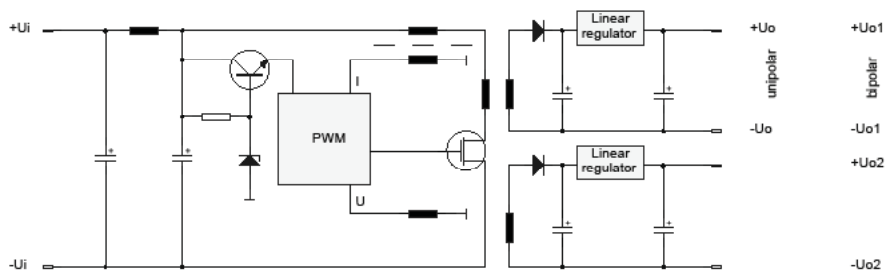
<u>U_{in}</u>	<u>U_{out1}·U_{out2}</u>	<u>I_{out1}·I_{out2}</u>	Model-
V	V	mA	number
7 - 35 6-38V dyn	5,1	400	MRI·S 02·05·400
	12	200	MRI·S 02·12·200
	15	160	MRI·S 02·15·160
	24	100	MRI·S 02·24·100
	5,1·5,1	200·200	MRI·B 02·05·200
	12·12	100·100	MRI·B 02·12·100
	15·15	80·80	MRI·B 02·15·080
9 - 35 8-42V dyn	5,1	500	MRI·S 20·05·500
	12	250	MRI·S 20·12·250
	15	200	MRI·S 20·15·200
	24	120	MRI·S 20·24·120
	5,1·5,1	200·200	MRI·B 20·05·200
	12·12	125·125	MRI·B 20·12·125
	15·15	100·100	MRI·B 20·15·100
19 - 80	5,1	500	MRI·S 50·05·500
	12	250	MRI·S 50·12·250
	15	200	MRI·S 50·15·200
	24	125	MRI·S 50·24·125
	5,1·5,1	200·200	MRI·B 50·05·200
	12·12	125·125	MRI·B 50·12·125
	15·15	100·100	MRI·B 50·15·100
(H)	-40°C up to +85°C		Additional charge

Modification costs for possible changes above values: On request

MRI·S/B 12.XX.XXX (U_{in} 6 - 22 V), 24.XX.XXX (U_{in} 14,4 - 38 V) or 60.XX.XX (U_{in} 36 - 76 V)
unsymmetrical outputs (voltage, current) On request

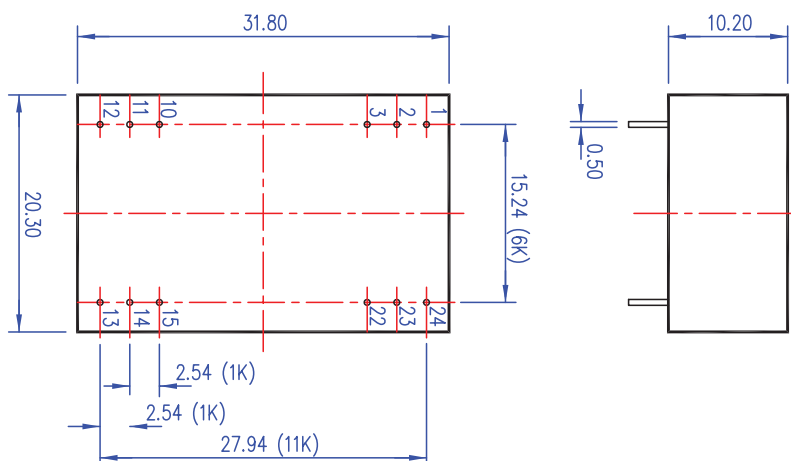
Modules of the **MRI.S** and **MRI.B** series are ideal for the use with long supply cables in industrial and battery networks because of the wide input voltage range and the high efficiency at low loads.

The converter's behaviour is controlled in all operational situations because of the used switching technology. This includes the no-load and the short circuit situation. Special effort was put in the realisation of low no-load currents. The proportional high share of SMD-components and special tantalum- / multiple-layer capacitors lead to a converter's high functional live. The high component compactness has been improved by the use of multilayer-PCBs and the output sided ripples as well as the spikes have been reduced.



Pin-assignment MRI-S (single output)

	Pinning			
	A	B	C	D
+Ui	1/24	1/24	22/23	23/24
-Ui	12/13	12/13	2/3	1/2
+Uo	11/14	11/14	14	13/14
-Uo	10/15	10/15	16	11/12
Inhibit	---	---	---	3
BER	---	---	---	15



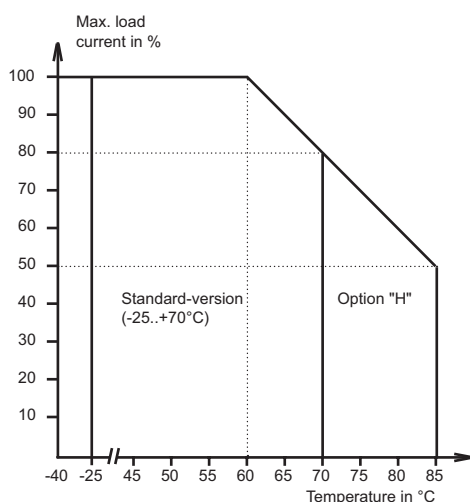
Pin-assignment MRI-B (double output)

	Pinning			
	A	B	C	D
+Uin	1/24	1/2	22/23	23/24
-Uin	12/13	23/24	2/3	1/2
+Uo1	11/14	15	14	13
-Uo1	10/15	10	16	14
+Uo2	3/22	11	9	11
-Uo2	2/23	13	11	12
Inhibit	---	---	---	3

A-/B-pinning with outputs isolated in-between each other
C-/D-pinning only available as $\pm$ -voltage with a common $0V_{out}$
(C-Pinning: Pin 9-16 connected = $0V_A$ / D-Pinning: Pin 11-14 connected = $0V_A$)

C-pinning in open build-up optionally
outputs isolated in-between each other

Derating-curve



Application Noise suppression/EMC

