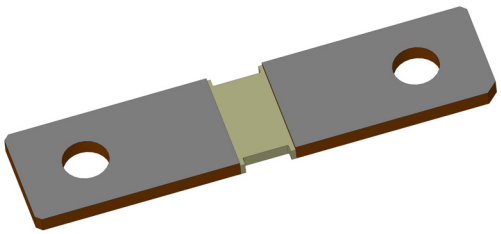
ISABELLENHÜTTE
Innovation by Tradition

ISA-WELD® // PRECISION RESISTORS

BAS // SIZE 8420 (METRIC)



Features

- Up to 36 W permanent power
- Continuous current load up to 350 A (0.1 mOhm)
- High pulse power rating
- Max. fastening torque 10 Nm
- Shunt available with tinned or untinned terminals
- Further versions with various dimensions upon request
- AEC-Q200 qualified (automotive version "A")

RoHS

Applications

- Current sensor for EBM (Electronic Battery Management) in motorcars, trucks, forklifts, hybrid and electric vehicles
- Current sensing in bus bars
- Current sensing in welding equipments

Technical data[1]

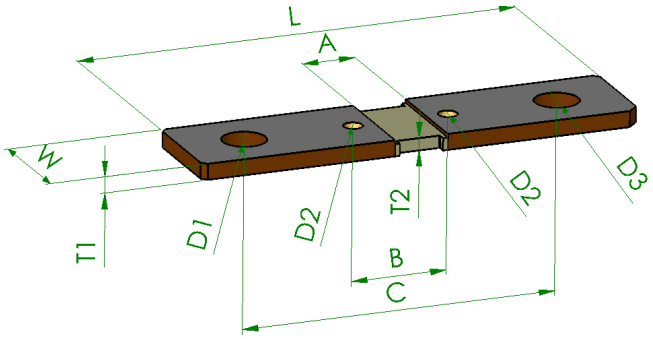
Resistance values	**mOhm**	0.035 / 0.05 / 0.1 / 0.2 / 0.5
Tolerance	**%**	5
Temperature coefficient (20-60 °C)	**ppm/K**	from 0 ± 50
Applicable temperature range	**°C**	-40 to +170
Power rating $P_{70\,°C}$	**W**	up to 36
Internal heat resistance (R_{thi})	**K/W**	from 1.0
Thermal EMV (0-100 °C)	**µV/K**	**0.6** (MANGANIN®) / **1** (ZERANIN®30)
Inductance	**nH**	<3
Stability (Nominal load) deviation after 2,000 h T_K = Terminal temperature		<0.5 % (T_K = 110 °C) <1.0 % (T_K = 140 °C)

[1]For detailed information see table on page 2

Packaging Information

140 pcs. per tube for automotive version „A"
100 pcs. sealed in plastic bags evacuated and refilled with dry nitrogen for non automotive version

Mechanical dimensions [mm] // Z-YJ-328a



type	A	B	C	D1	D2	D3	L	T1	T2	W
BAS-M-R0001-E-5.0	10.1 ±0.5	-	60 ±0.2	Ø8.3 ±0.1	-	Ø8.3 ±0.1	84 ±0.2	3 ±0.15	2.3 ±0.2	20 ±0.1
BAS-M-R0001-AE-5.0	10.1 ±0.5	-	60 ±0.2	Ø8.3 ±0.1	-	Ø8.3 ±0.1	84 ±0.2	3 ±0.15	2.3 ±0.2	20 ±0.15
BAS-M-R0001-L-5.0	10.1 ±0.5	-	51 ±0.2	Ø8.3 ±0.1	-	Ø8.3 ±0.1	68 ±0.2	3 ±0.15	2.3 ±0.2	20 ±0.1
BAS-M-R0001-R-5.0	10.1 ±0.5	18.2 ±0.1	60 ±0.2	Ø8.3 ±0.1	3.62 ±0.08	Ø8.3 ±0.1	84 ±0.2	3 ±0.15	2.3 ±0.2	20 ±0.1
BAS-M-R00005-AE-5.0	5.2±0.3	-	60 ±0.2	Ø8.3 ±0.1	-	Ø8.3 ±0.1	84 ±0.2	3 ±0.15	2.3 ±0.2	20 ±0.15

Further versions available

Type	Value [mΩ]	R_{thi} [K/W]	TCR [ppm/K]	$P_{70\,°C}$	$P_{140\,°C}$
BAS-Z-R000035	0.035	1.0	0 ± 100	36 W	30 W
BAS-M-R00005	0.05	1.5	0 ± 100	36 W	20 W
BAS-M-R0001	0.1	2.0	0 ± 50	36 W	15 W
BAS-M-R0002	0.2	3.0	0 ± 50	24 W	10 W
BAS-M-R0005	0.5	7.0	0 ± 50	10 W	4 W

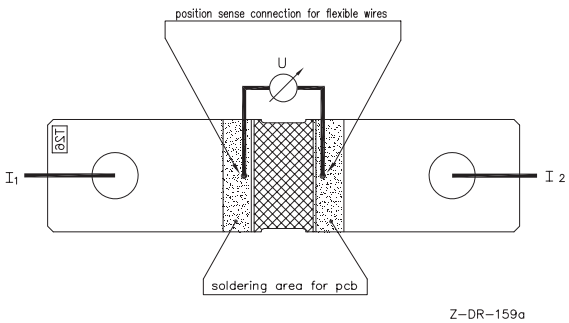
Abbrevation type: M=MANGANIN®, Z=ZERANIN®30

Ordering code example

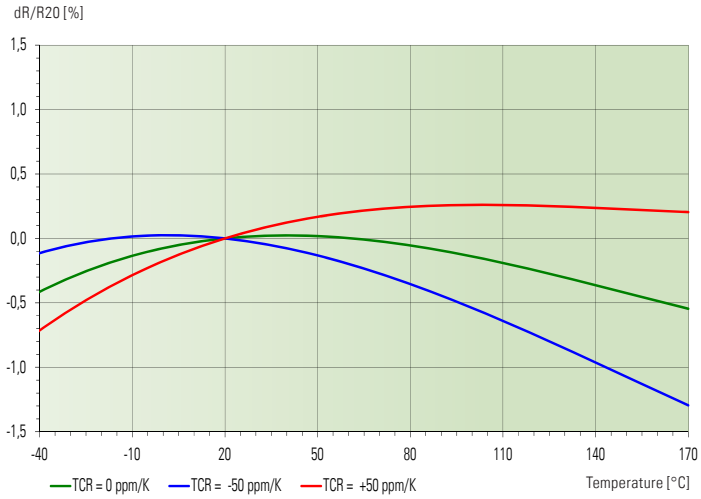
BAS - M - R0001 - A E - 5.0

- Tolerance
- Version // **E**=standard, **EU**=standard untinned
- Automotive version
- Resistance value [Ohm] / „R" represents decimal point
- Material (MANGANIN®)
- Type

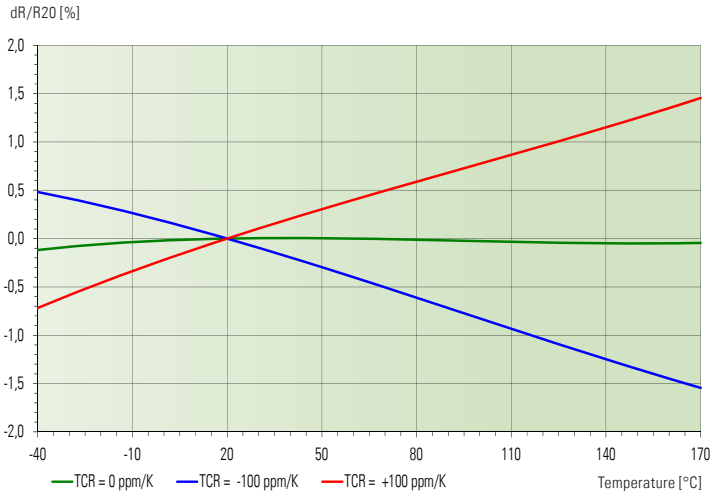
Connection diagram



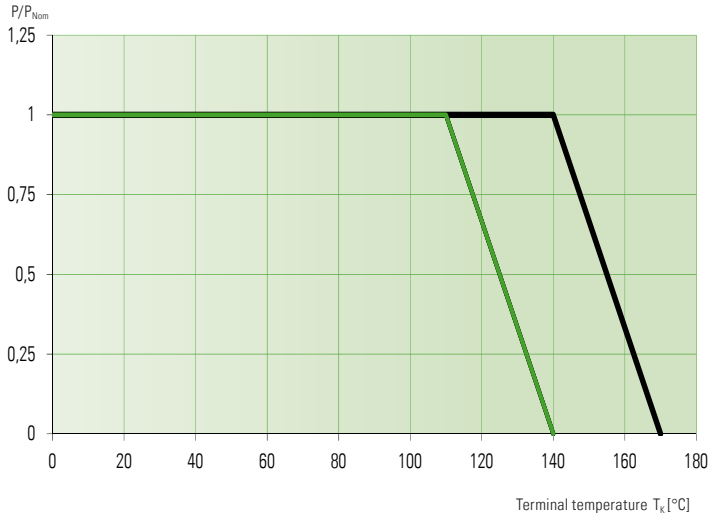
Temperature dependence of the electrical resistance of MANGANIN® resistors



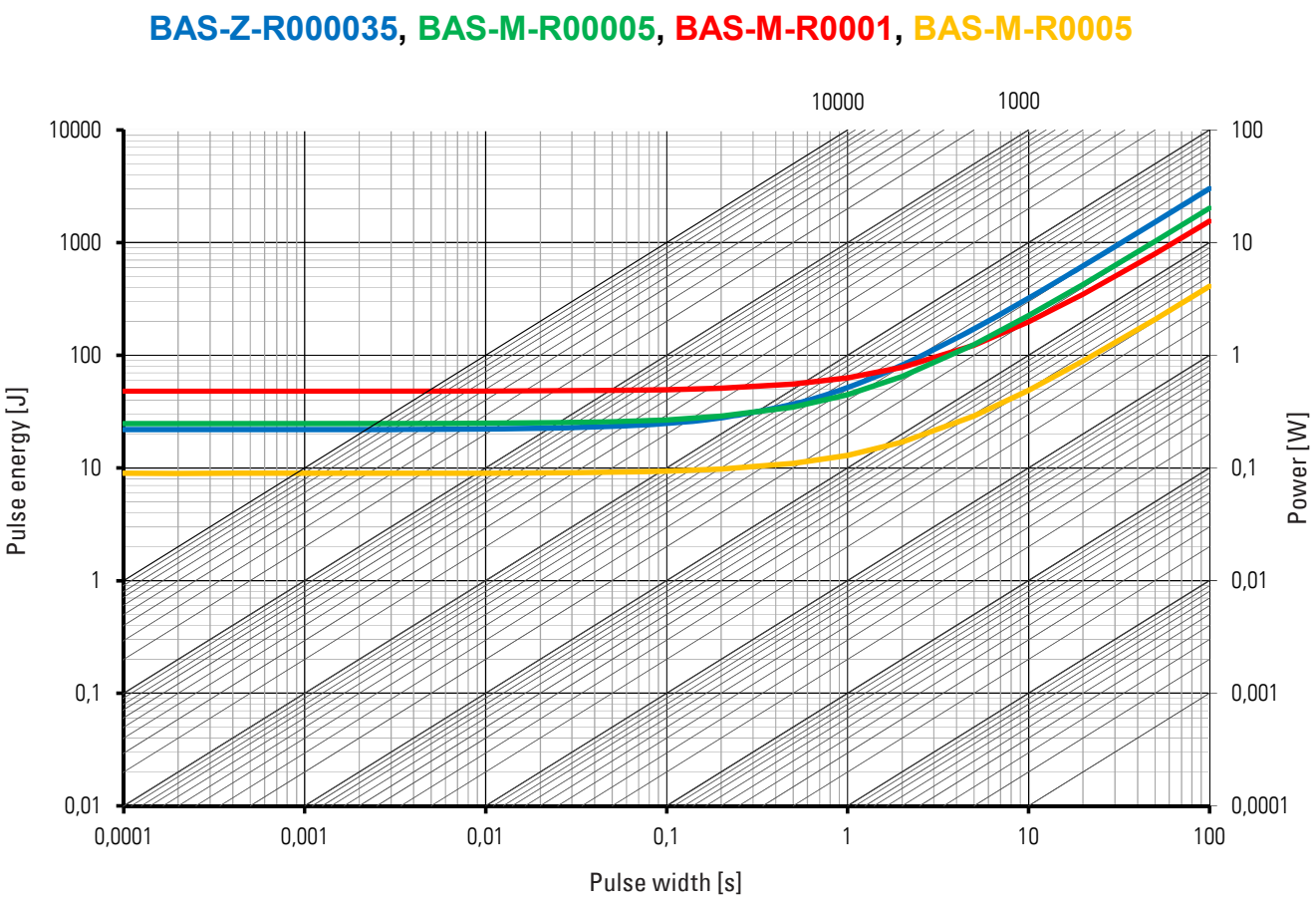
Temperature dependence of the electrical resistance of ZERANIN® resistors



Power derating curve



Maximum pulse energy respectively pulse power for permanent operation (TK=140°C)



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